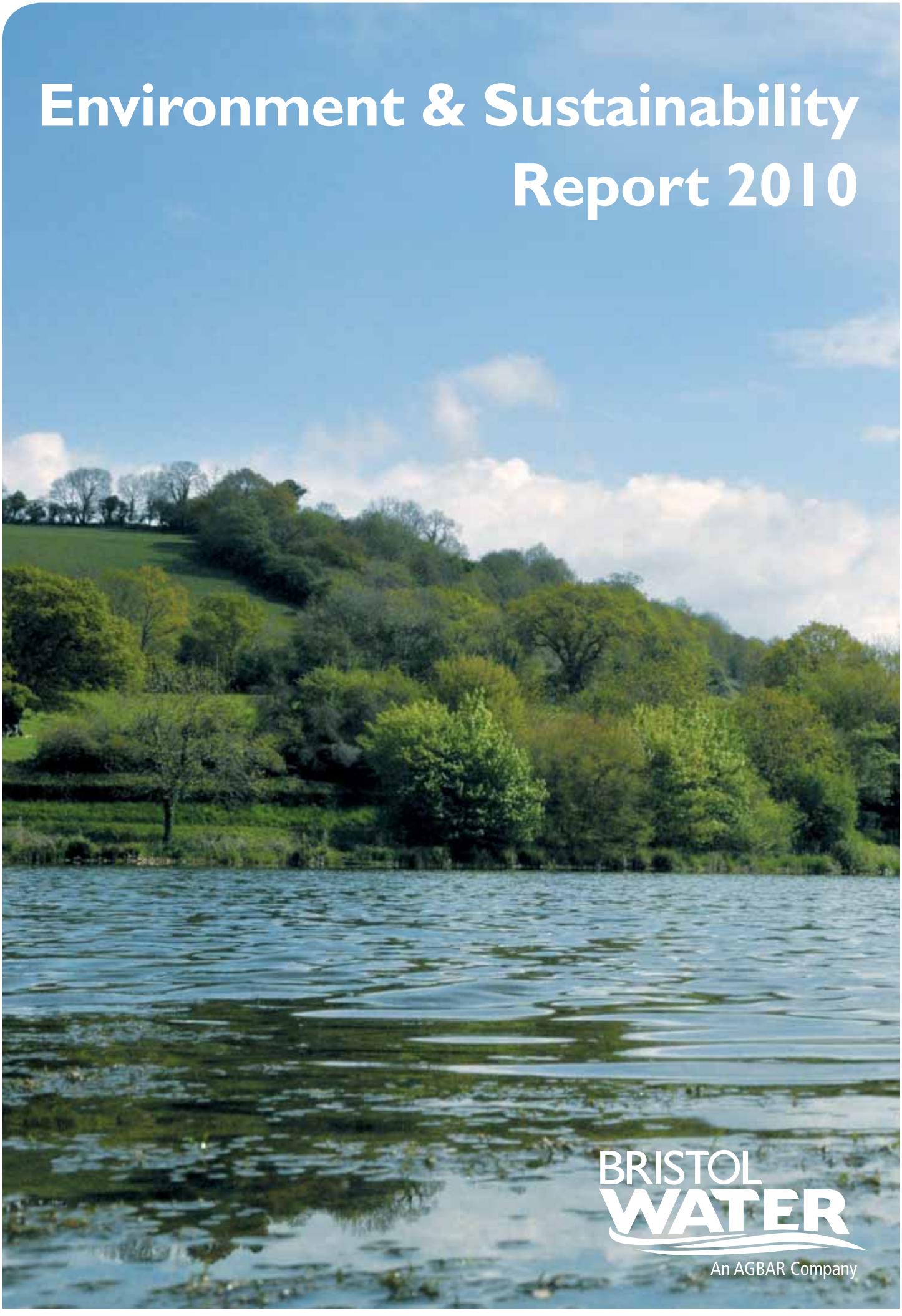
Environment & Sustainability Report 2010



BRISTOL WATER

An AGBAR Company

Contents

Background

Since 1846, the water supply to Bristol has been provided by Bristol Water, which has since 2006 been a wholly-owned subsidiary of Agbar Group. In 2010, Agbar integrated with Suez Environment, one of the largest water companies in the world. Good environmental management is a high priority throughout the business group.

Bristol Water provides water to just over a million people, in an area covering approximately 1,000 square miles (2,400 square kilometres). The principal water sources used for Bristol are the Mendip lakes and the Gloucester-Sharpness canal, although springs and wells also provide an important source of good-quality water. Bristol Water provides water supply: sewerage services are provided by other water companies such as Wessex Water, Thames Water and Severn Trent Water.

About Bristol Water

Area of supply
2,400 square kilometres

Number of properties supplied
506,600

Length of mains
6,664 kilometres

Population served
1,154,000

Average daily supply
278 million litres

Sources
68 (including reservoirs, rivers, springs, wells and boreholes)

Raw water reservoirs
14 (the largest, Chew Lake, can hold 20,460 million litres)

Sites of Special Scientific Interest owned
Three major areas amounting to 15 discrete SSSI units, all in Favourable status

Treatment works
16 (output ranges from 2 million litres/day at Tetbury to 165 million litres/day at Purton)

Pumping stations
164

Covered storage reservoirs
139 (the largest, Pucklechurch, can hold 115 million litres)

Total land owned
1483.5 ha (just under 15 square kilometres in total)

"We will provide a highly reliable supply of water of excellent quality, delivered in a sustainable and affordable way."

Luis Garcia
Chief Executive

We believe that water supply is an environmental business. Bristol Water needs a clean and healthy environment for the source of our water, and the water we provide to our customers needs to be taken, treated and supplied in ways which are environmentally responsible.

Water is an essential part of the natural world and is such a crucial part of our lives that there is no possibility of simply "doing without". Each of us needs water and always will, and this use of water can have an effect on the environment. At Bristol Water, we want to be open about all the impacts that our business can have, because by measuring, understanding and controlling these impacts we can make sure that we carry out our own responsibilities in the most sustainable way possible. We believe we have a duty to understand the wider effect of everything we do.

Of course, these effects can also be positive: the Mendip lakes were created solely for the purpose of water supply, but are now an internationally important area for wildlife and rare plants. Equally, by using energy efficiently and by helping our customers understand more about the way they use water, we believe that we can be part of the solution to the challenges facing us all in the future. Solving these challenges will be about teamwork: we feel very much that we are part of an environmental team, together with our customers, voluntary bodies, academic establishments and environmental regulators such as Natural England and the Environment Agency.

Working with industry organisations such as Water UK, we have identified the most important environmental impacts which we need to measure, and these are reported on a monthly basis throughout the Company. They are listed in the table below and are explained in this report.

Year	2007	2008	2009	2010
Carbon footprint (tonnes)	47,643 (2006/2007 result)	47,406 (2007/2008 result)	42,100 (2008/2009 result)	45,361 (2009/2010 result)
Water supplied (millions of litres)	104,515	103,843	103,291 (2008/2009 result)	102,760 (2009/2010 result)
Leakage (millions of litres per day)	53.56 (2006/2007 result)	52.87 (2007/2008 result)	53.57 (2008/2009 result)	52.78 (2009/2010 result)
Environmental convictions	0	0	0	0
Drinking Water quality (compliance with UK standards: calendar year information)	99.98%	99.97%	99.97%	99.97%
Chemicals used (tonnes)	13,351	11,732	11,445	10,991
Total energy used (kWh)	83,387,972	75,810,168	77,820,569	79,843,707
Miles travelled in Company vehicles	3,003,538	3,224,346	3,272,124	3,172,740
SSSI in Favourable status	100%	100%	100%	100%

Data for leakage and carbon footprint are reported for the financial year as this is the reporting period legally required by our regulator, Ofwat.

Being a customer of Bristol Water

As customers, most of us give little thought to our water supply but there are times when we pay more attention – normally because something unexpected happens. This section gives more information on what it means to be one of our customers.

Leakage

In 2009/2010 our rate of leakage was 52.78 million litres per day, 0.79 million litres per day less than in 2008/2009. This is 19% of the water we put into supply.

When people talk about water companies, one of the main topics of conversation is water leakage – and why it happens at all. This is a far more complex subject than may appear and it deserves a proper explanation: Bristol Water is a centre of excellence in leakage management, and staff from the Company have carried out leakage consultancy work across the world, with contracts in North America, South-East Asia and Eurasia.

Bristol Water also benefits from the parent company's experience in leakage management across the globe, with Agbar providing leakage management in China, Africa, North America, South America and Europe.

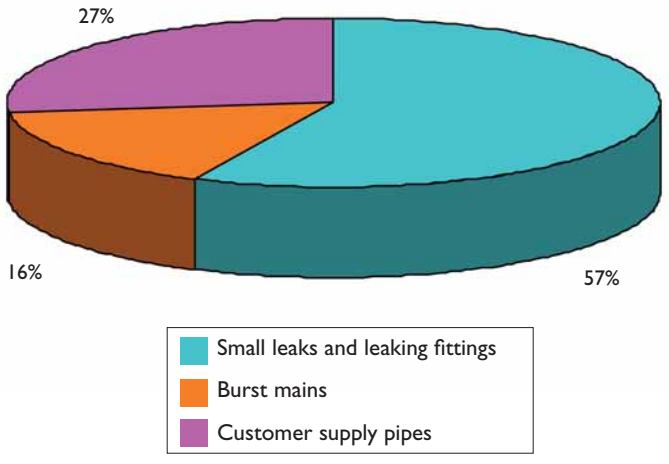
Why do water mains leak?

We have a network of 6,664 kilometres of water mains, with tens of thousands of fittings and joints. Most of these water mains are made out of cast iron. Over a quarter of these are more than a hundred years old, and some joints and fittings can leak as the ground around them moves. In 2010, a very cold January - and the coldest December since records began - led to an increase in burst mains and required huge efforts by our staff to carry out repairs in very difficult conditions. However, although large burst mains often get a lot of public attention, most leaks are very small, normally due to "weeping" joints and although these small leaks are important they can be extremely difficult to find. Leakage management therefore has to focus on two areas: preventing leaks from happening in the first place; and finding them quickly where they do.

Where do leaks occur?

The chart below shows where these leaks happen. Only a small proportion of water is lost from what most people would recognise as a "burst water main", although the number of these was higher in 2010 than 2009 due to the cold weather in both January and December.

Leakage in the Bristol Water supply area



visit our website for more details - **www.bristolwater.co.uk**

Preventing leaks

The first way we prevent leaks is management of mains water pressure. If pressure can be reduced without causing problems for our customers, we can reduce the number of leaks (because we reduce stress on the water mains) and the amount of water lost from each leak (the higher the pressure, the more water is lost per leak). This is done carefully – if we reduce pressure without proper management then customers at the top of a hill could lose their water supply when the people at the bottom of the hill turn on the tap. Resolving this requires complex computer mapping systems with sophisticated mathematical modelling of pressure, flow and customer demand, and it has been a real success. Even though we have reduced the pressure in our water network, the number of customers who experience low water pressure has fallen in the last six years by more than 85%, to just 68 properties. At present, we have active pressure management for 50% of the properties in our supply area, and we are looking to extend this.

Of course, leaks can be prevented by replacing the water main. All water mains eventually get replaced because no asset can last forever, but replacing over six thousand kilometres of water main would come at immense social, financial and environmental cost so we must target areas where mains replacement will give the greatest benefit. One of our key regulatory duties is to identify and meet the "sustainable economic level of leakage" – this is the point where the work necessary to achieve further reduction in leakage would have a greater social and environmental impact than the leakage itself. Impacts considered include the social disturbance caused by road works; the financial cost of investigation and replacement work; the carbon footprint of transport and materials used in investigation and repair work; and the environmental value (including the carbon footprint) of the water lost. The level of leakage in the Bristol area has for the last ten years been controlled just below the sustainable level of leakage.

The "sustainable economic level of leakage" does not mean we would ever fail to repair a burst main, but it is used to guide the complex process needed to find and repair small background leaks.

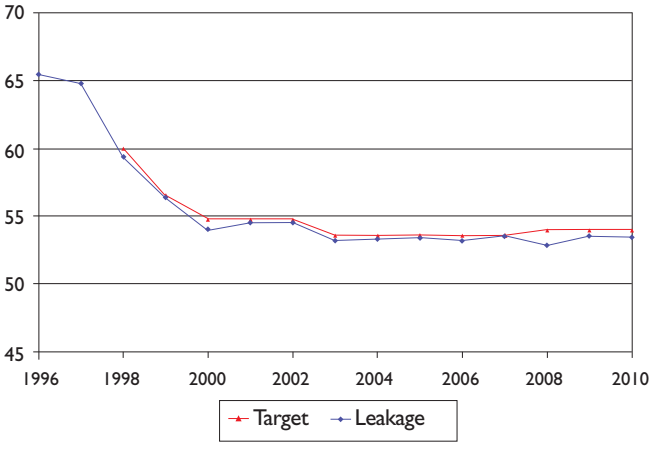
Finding water leaks

The flow of water to 98.5% of the properties we supply is monitored continuously using computer systems and any unusual flows are immediately detected. Continuous monitoring is also provided for some large commercial water users to help them control their water use and identify any leakage on their own sites. Where we do identify a leak, these are repaired within two days (for large leaks) and three days (for small leaks).

More than one quarter of the leakage from the water supply system occurs from the supply pipe, the small-diameter pipe from the water main in the road. Although this is the responsibility of the householder, where leaks are readily accessible we may offer a free leakage detection and first-time repair service for domestic customer pipes, and a subsidised repair charge for a second leak.

Of course, we also need your help. If you do notice a water leak, we will be able to find and repair it more quickly if you tell us, so call our LeakLine number on **0800 801011**

Leakage in the Bristol Water area since 1996

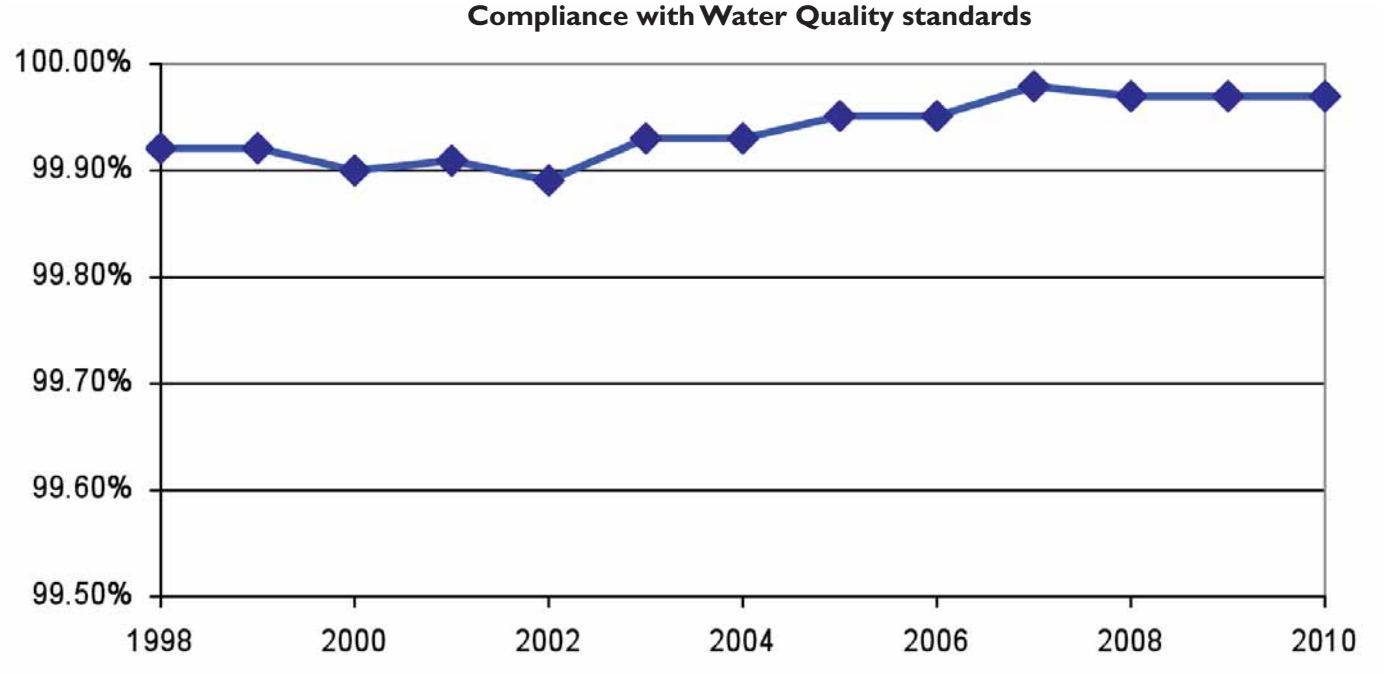


In 2010 99.97% of the tests we carried out met the required standards - the same as 2009 and 2008.

Water Quality

The quality of tap water across the UK is extremely high, and we can be proud of this. Tap water has a tiny environmental impact per litre when compared with bottled water, and a water supply which is safe and tastes good means we can all choose the sustainable option when we need a drink. But the quality must be good. This section gives details of our test results and some of the work we do to make sure this is the case.

In England, the EU Drinking Water Directive is implemented through the Water Supply (Water Quality) Regulations 2000, and the regulator responsible for drinking water is the Drinking Water Inspectorate (DWI). The water supply in Bristol is tested in accordance with the requirements of the DWI and the results are shown in the graph below.



Of the few tests in 2010 which did not meet the required standards, many of these were due to iron from iron water mains. Over the past 10 years we have spent more than £70m to improve or replace these water mains and over the next five years we plan to spend £84m on an ongoing programme of water mains improvements.

We have however detected metaldehyde, a chemical used for slug control by farmers and in domestic gardens, in some of our surface water sources. Although this has always been far less than the level which could cause any health effect, we still want to ensure that it does not enter these watercourses. Since we first detected it through our routine monitoring programmes, we have been working with farmers and chemical suppliers to establish better ways to control its use and we are now increasing this activity. In 2011 and the coming years we will carry out intensive surveys of our catchment areas, with support provided to farmers in the area on the best way to prevent pollution. This will involve free training, calibration of equipment, free advice on pest control and free advice on Environmental Stewardship schemes.

In 2010 we received joint highest ranking in the water industry for customer satisfaction where customers contacted us by telephone, based on surveys carried out by our regulator Ofwat. Our own research shows that 97% of customers who contacted us in 2010 felt that our customer service was good or very good, compared with 96% in 2009

Good customer service is very important to us and has been a source of pride at Bristol Water for many years. In the area we supply, our research indicates that customers think we perform better than any other utility supplier.

We carry out independent monitoring of how our customers view us, calling 1000 customers at random each year. Few of these customers will ever have contacted us directly, so this is an important opportunity for us to discover more about how they feel we are performing. In 2010, 85% of these customers felt that our performance was good or very good, a slight improvement on our survey score of 84% in 2009.

In 2010 we received 318,794 general contacts from our customers, mostly by phone and usually about the water bill. We gave a full response to 100% of these queries within 10 days. Customers also contact us for other reasons and in 2010 we received a total of 2,707 written complaints. We gave a full response to all but four of these letters within 10 days of receiving them.

The comments below are just a sample of the letters and phone calls we received from our customers in 2010 to thank us for exceptional customer service.

"At the recent Meeting of Mark Parish Council, a number of residents complimented your contractors recently employed to renew the water mains in Blackford Road and Kingsway. They worked throughout the difficult weather conditions and finished the job ahead of schedule. They were also helpful and courteous to local residents"

"I would like to pass on my appreciation for your staff working so promptly in such cold conditions . It was a very neat job in such horrible conditions and no ice was left on the road."

"When I found out I had lead pipes you came out the next day to test, then called me to advise of the result. I spoke to your Water Quality Scientist this morning who was extremely helpful, I sent my online application in this morning and we have now arranged for a Technical Liaison Officer to come to site tomorrow to meet with the company who are installing the replacement pipe. Your customer service is of the highest standard that I have ever received from any organisation, you are to be congratulated."

In 2010, we recorded 117,980 visits to our sites, up 12.5% from 2009, when we recorded 104,817 visits.

Access & recreation

This figure includes anglers; birdwatchers; customers visiting our tea shop & restaurant at Chew Valley Lake; and visitors to our open days at our Visitor Centre at Blagdon Lake. Previous surveys indicate that the total figure for casual visitors is probably about 400,000, but our recorded figures do give us an indication of trends, and visitor numbers have increased since the wet summer of 2009 led to reduced numbers of visitors.

As a large landowner in a beautiful part of the country, Bristol Water is able to offer some fantastic opportunities for recreation. Chew Valley Lake and Blagdon Lake are internationally famous fisheries, and our nature trails and picnic areas at the lakes attract hundreds of families every weekend. Our Visitor Centre at Blagdon is a popular, and free, destination for thousands of people every summer, and we also provide education trips for schools so pupils can learn more about the water cycle, water saving and the water environment.

The table below shows the recreation facilities provided by Bristol Water.

	Chew Valley Lake	Blagdon Lake	Cheddar Reservoir	Barrow Tanks	Blagdon Visitor Centre	Chew Magna Reservoir	Cheddar Clay Pits	Litton Lakes
Water Activities								
Trout fishing	●●	●●		●●		●●●		●●
Coarse fishing			●●				●●●	
Sailing	●●●		●●●					
Other Activities and Facilities								
Car parking	●	●	●	●●	●●	●●●	●●●	●
Bird watching	●●	●●	●	●●	●●			
Bird hides	●●	●●						
Picnic area	●●*	●			●●			
Tea shop/ restaurant	●				●●			
Nature trails and walking	●	●	●		●●			

● Facility freely available

●● Permit required or restricted opening season – please contact us for details

●●● Access restricted to club members

*** Parking charges apply from April 1st to Sept 30th**

Here is a brief update on the recreation opportunities we provide.

Angling

The Mendip lakes are famous across Europe as a trout fishery, and in recent years Chew Valley Lake has become internationally famous for its huge pike – pike anglers were once again camping in the snow this year, to get an early start! Our angling web pages receive thousands of hits per week and are the most popular part of our company website.

Picnic and play

The picnic areas at Chew Valley Lake attract about a quarter of a million visitors per year and are particularly popular with young families. In order to provide something new, we have constructed a junior play area with "stepping stone" logs, swing bridges, a climbing wall and more. Mainly constructed of timber so that it blends well into this rural location, the play area is designed to be exciting and challenging for children aged 5 to 11 years.

Blagdon Visitor Centre

A listed building over a hundred years old, Blagdon pumping station has for the last fifteen years also served as a visitor centre, attracting thousands of visitors each year. As well as watching a working beam engine, visitors can feed trout which will later be stocked into our lakes, learn about the history of water supply and all about water saving technology, have a picnic or some home-made cake and enjoy nature walks throughout the grounds.

Wild about Chew

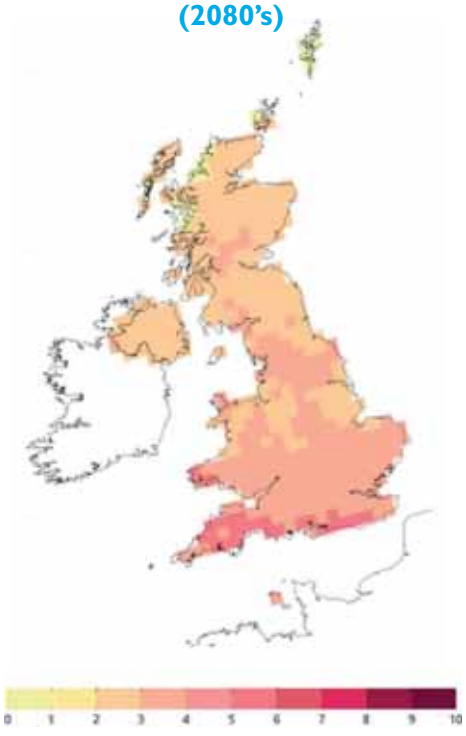
As well as our programme of open days at Blagdon, we have for several years run a very successful nature day at Chew Valley Lake, bringing together all the different partner organisations involved so they can explain the part they play in the local environment. It's a very full event, with Wildlife Trusts, angling organisations, local and national nature conservation groups and children's games (including our own invention, the otter-holt maze!)

Climate Change & our Carbon footprint

Our carbon footprint in 2009/2010 was 45,361 tonnes. In 2008/2009 our carbon footprint was 42,100 tonnes and in 2007/2008 it was 47,406 tonnes.

Climate change is real. The science of climate change is under constant development, but it is clear that some change to our climate is now inevitable. Current projections from the Met. Office indicate that we can expect a significant reduction in rainfall and an increase in average temperature over the next 20 years, becoming progressively more serious with time. Summers are likely to become hotter and drier, whilst winters will become milder and wetter.

Projected change in temperature (°C) (2080's)



Projected change in summer rainfall (%) (2080's)

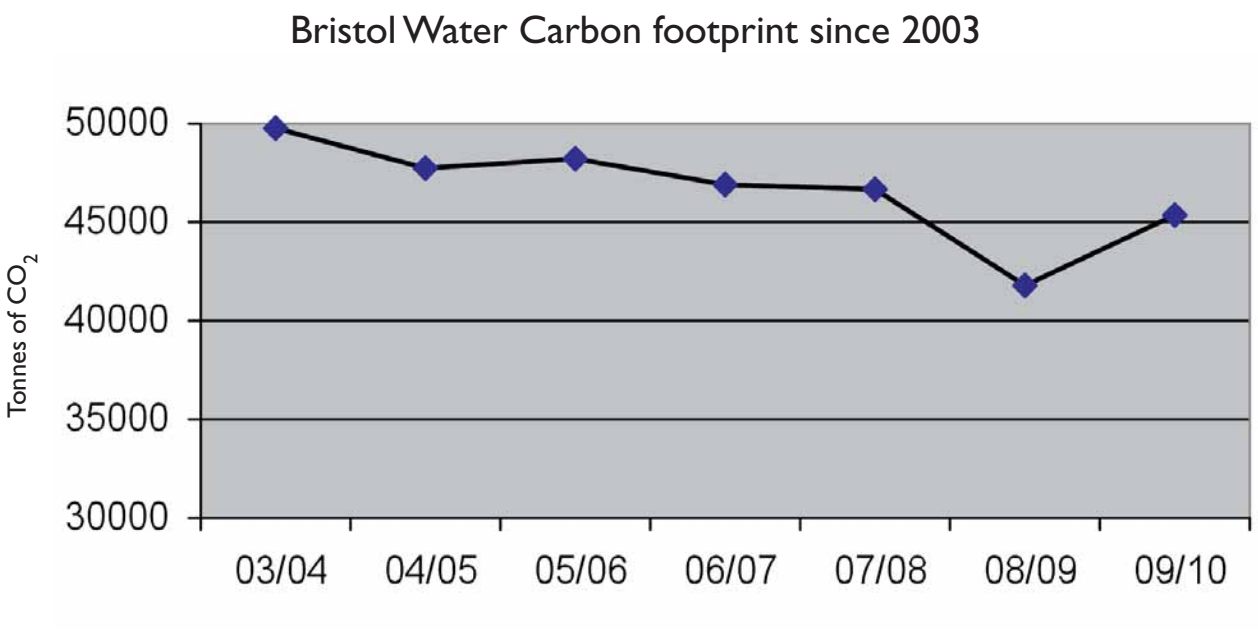
Although climate change will be a great challenge, it is not too late for us to tackle it, and as a water company we have two areas of responsibility in dealing with climate change. First, we have to adapt. The projected changes in climate are likely to cause an increased demand for water, yet reduce the amount of water which can be taken safely from the environment. Our long-term plans for water resource management include studies into likely population change and the way our customers may change how they use water, together with studies into future availability of water from the environment. We continue to play an active part in the research organised through industry bodies such as Water UK.

Our second responsibility is in managing our own carbon footprint – this section of the report explains the steps we are taking to do this and what we have achieved so far.

Since 2003 - long before there was any requirement for water companies to do so - we have reported our carbon footprint, in line with best-practice carbon accounting methods. In 2007, staff at Bristol Water began work to reduce CO_2 emissions by a target of 50% by 2050 against a 1990 baseline, and we are active participants in the Carbon Reduction Commitment, a Government scheme which began in 2010.

What is a "carbon footprint"?

CO_2 and other gases known as "greenhouse gases" play a vital role in life on earth, as they help our atmosphere to retain the sun's heat. However, global use of fossil fuels for vehicle fuel, electricity generation and heating has produced greenhouse gases at a rate which cannot be absorbed by the natural environment, leading to global warming. To tackle this, we need to understand the amount of greenhouse gases which are generated, or linked with, our activities: this is known as a carbon footprint. As with other areas in climate change science, the methods used to calculate this have changed in recent years as better-quality information becomes available, but for consistency the graph below uses the same calculation method for each year.



Why did our carbon footprint go up in 2009 / 2010?

Although it may not have felt like it, the weather in 2009 and 2010 was much drier than the previous years - and December 2010 was the driest for almost a century. Reduced rainfall means that our choices on water source are more limited, and we may need to use more water from sources that require more energy to treat and supply. However, we are still able to minimise our carbon footprint by ensuring that we manage our energy-intensive equipment to be as efficient as possible, and because of this we have been accredited with the Carbon Trust Standard for all our business operations, the top standard for carbon management in the UK.

In 2010 we used 79,844,000 kWh of electricity. In 2009 we used 77,820,569 kWh.

Action on carbon

Energy

Fossil fuels are burned in order to generate electricity and we accept the part we play in creating this demand. We believe that the single most effective thing we can do to control our carbon footprint is to manage and wherever possible reduce the amount of energy we use, because 94% of our carbon footprint comes from electricity use.

We work constantly on operating methods that reduce our energy use – for instance, using water from the Mendip lakes requires less energy than water taken from the River Severn, although these sources of water are not as readily available in a dry season. We have also increased our automatic monitoring of energy use. Following an installation programme throughout 2010, we now have automated energy monitoring equipment at every site with a significant energy consumption, and the information this generates is used in computer modelling systems which provide guidance and information to operators at our sites, enabling them to ensure the systems operate in the most efficient way possible.

In 2010 our staff travelled 3,173,000 miles in Bristol Water vehicles. This is 99,000 miles less than in 2009, when our staff travelled 3,272,000 miles in Bristol Water vehicles.

Travel

Other than electricity use, most of our carbon footprint comes from travel. Our fleet of vehicles covers more than 3 million miles per year, with staff carrying out essential maintenance and improvement work on equipment distributed across an area of 2,400 square kilometres. With over 400 staff, more than a million customers and a supply network of 6,664 kilometres, travel and maintenance is unavoidable - and may increase as we carry out the work required to improve our water mains and pumping systems.

The key with travel is therefore to ensure that journeys are made as efficiently as possible. We have invested in hybrid and alternative-fuel vehicles, and a Green Fleet Review carried out with Energy Saving Trust in 2009 indicated we are close to best practice on fleet management and vehicle selection, so the remaining factor is how we use our vehicles. To address this, in 2010 we carried out a successful driver competition where we challenged staff to improve their fuel efficiency, and this encouraged our staff to improve their fuel efficiency by an average of nearly 3%, saving a total of over 4,000 litres of fuel. Following this successful competition, we commissioned the Energy Saving Trust to provide driver training to our top-mileage staff, with the very first driver training session being taken by our Chief Executive, Luis Garcia. Early indications are encouraging, and we will provide information on the outcome of this training programme in next year's report.

Non-car travel to work

We provide cycle facilities (showers, changing facilities, safe cycle storage and lockers) and we promote car-sharing and walking to work.

Finally, as Bristol Water is a wholly-owned subsidiary of Agbar (Aguas de Barcelona), we have many Spanish staff. International travel is minimised by teleconferencing and web communication, but some is unavoidable although this accounts for less than one-quarter of one percent of Bristol Water's carbon footprint. We do however consider it important, and in order to reduce the overall impact of this travel we pay for UN-certified carbon emission reduction offsets, the highest standard of carbon offset available.

In 2010 we used 11,000 tonnes of water treatment chemicals, 400 tonnes less than in 2009 when we used 11,400 tonnes.

Chemical use

One important field for carbon accounting is the idea of embedded carbon emissions, or "supply chain carbon". Most of us are familiar with the idea of "food miles", where we may choose apples grown locally rather than those which have been flown in from the other side of the world. The same idea applies with construction materials – one example would be concrete, where the grade and source of concrete and amount of steel used for reinforcement will all have an impact on the CO_2 emissions generated when the raw materials are produced and installed.

Another example of this is our use of chemicals: water treatment requires a large amount of chemicals, each of which will have a different carbon footprint associated with its production and use. We are working with the Chemical Industries Association and other suppliers to determine the carbon footprint of our supply chain impacts, and will include this information in our carbon footprint reports once it is available.

Biodiversity

100% of the Sites of Special Scientific Interest owned and managed by Bristol Water are in "favourable" condition and have been for more than ten years. This is the best performance in the UK water industry.

As with a term like "carbon footprint", the word "biodiversity" can be used by different people to mean different things. In its literal sense, it indicates the range of different species to be found in a particular area. In this report we use it in its broader sense to mean all plants, insects and wildlife and how they relate to each other.

The key to a healthy range of different species is for them to have somewhere to live, and we are particularly careful with the wide range of wildlife habitat we own and manage. This totals almost fifteen square kilometres, much of it in some of the most beautiful countryside in the UK and we have developed our own knowledge and management for these habitats over a long period. As a result of this and because most of the land we manage has not been subject to the increasing pressure of modern agriculture, this land has become more and more important for biodiversity. This report gives summary information on some of the recent work we have done on biodiversity management.

Biodiversity Action Plans

We have Biodiversity Action Plans for all our most important sites, produced by a specialist ecological consultancy and designed to link with the Bristol area Biodiversity Action Plan, which is managed by local government. The actions recommended in the plans are carried out by Bristol Water staff, contractors and through engagement with other landholders who work within the area, such as the farmers who graze animals on the land around the lakes. Actions include control of agrochemical use; grassland mowing and grazing regimes; targets for breeding bird populations and management of lake margins to create additional habitat.

Biodiversity Action Plan work

The dry weather of 2010 was not without some benefit to the environment: because the water level in the lakes was lower than has been the case for several years, we were able to carry out reedbed management, willow removal and habitat creation schemes which have not been possible when the lakes were at high water level. This work maintains the condition of the species-rich grasslands and prevents the natural water-reeds from being overtaken with willow trees that would otherwise overwhelm this delicate habitat. Some willows were retained to create extra habitat, but by making access to the water's edge easier for the bird species which frequent the lake, we can ensure it maintains its international importance for visiting birds.

visit our website for more details - **www.bristolwater.co.uk**

Plants

Flower meadows

Traditional wildflower meadows have declined in area by 97% in the UK in the last 60 years, but the meadows around Chew Valley Lake and Blagdon Lake are in excellent condition. Managed for traditional agriculture under strict tenancy agreements, these fields are mown in summer after flower seeds have been able to set and invertebrates allowed to lay eggs. The meadows are key to a restoration plan in the area called the Living Landscapes Project, operated by a national charity known as the Wildlife Trusts. They are also used as a training area for wildlife assessors and we hope to use some of the meadow grass from these fields as a natural and sustainable source of local wildflower seeds, to be applied for free to land in the area owned by other organisations who hope to improve their own meadows.

Mammals

Water Voles are endangered in the UK and populations have declined substantially in recent years. However, several Bristol Water sites have thriving populations, notably some at Cheddar Gorge which have proved very popular with tourists! Water voles are normally very shy creatures and not easily seen, but the voles in the ponds at Cheddar Gorge seem rather different. One of the main reasons for the decline in vole numbers in the UK has been predation by mink, but it seems that the visitors to this popular tourist spot discourage mink without upsetting the voles, who return the favour by coming out for their photographs to be taken.

The spring collection ponds at Cheddar Gorge are an important source of water so of course we have to balance the needs of the voles with the needs of the 150,000 people who receive this water, but it seems to be going well and we are working with Natural England and the local Wildlife Trust to see if there is anything else we can do to create further habitat for voles in the area.

Bats

Bats are increasingly viewed as an essential part of natural ecosystems because of the role they play in pollination and insect control. All bat species are protected at "European level" which means that they are internationally important, and many Bristol Water sites provide ideal habitat for bats, whether this is for hibernation in tunnels owned by the company or as foraging and roosting areas. In summer 2010, the BBC's One Show presenter Mike Dilger presented a special episode from Blagon Lake, showing the noctule bats at the site and their amazing hunting ability.

Survey of tunnel owned by Bristol Water, to check on access created for hibernating bats.

One Show filming

White-clawed crayfish

A species close to extinction in the UK, the white-clawed crayfish is endangered by competition from non-native species (mainly the Signal Crayfish, an American species introduced by fish farms) and a disease called crayfish plague. Although the Signal Crayfish can resist this disease it is, sadly, always fatal to our native white-clawed crayfish. However, because Bristol Water owns and operates many watercourses, we have been able to provide some stretches as "ark sites" where we can move threatened crayfish to a safe breeding site. This project has been carried out in collaboration with Bristol Zoo and Avon Wildlife Trust, and we are proud to say that it won the Green Apple "Gold" category for best Utility Industry project in 2010.

Snakes and amphibians

Some people may find them disconcerting, but snakes, newts, frogs and toads are an excellent indicator of the overall diversity and health of a habitat; and sadly, these species have been in decline in the UK for many years. Many visitors notice the ponds dotted around Chew Valley Lake and Blagdon Lake - although it may seem strange to have these when the lakes themselves give such a large area of open water habitat, they are there for a good reason. By providing protected areas such as these, amphibians and reptiles are provided with a sheltered habitat which allows for these protected species to live safely. We have even gone to the extent of building them homes called "hibernaculae" - stacks of half-buried twigs, roots and logs next to the ponds and marshy areas, where crevices and cracks present an ideal place to hibernate or shelter.

Fungi

Because we do not permit the application of pesticides and artificial fertilisers on land in wildlife sites, the diversity of fungi found is far greater than is seen in normal farmland. The fungus Guepinia helvelloides (right) may not seem particularly interesting, but at the Blagdon fungi survey in November 2010 it caused a great deal of excitement, because this is the first time it has ever been seen in the area.

Birds

Over the years, the sites we manage have become more and more important for birds, with the Mendip lakes having internationally important populations of species including shoveler and dabbling ducks. Bird-watchers at the lakes have recorded over 270 species, including unusual visitors such as a great bustard, the world's heaviest flying bird. Other significant visitors in 2010 included smew, merganser, mediterranean gulls, red kites, osprey, grasshopper warbler, ring ouzel, baltic gull, scaup, spotted sandpiper, sabines gull, lesser spotted woodpecker, cattle egret, glossy ibis, tree sparrow, velvet scoters, Franklins gull, ferruginous duck and honey buzzard - and this is just a sample. Reports from birdwatchers also help us to keep track of any other significant species at our sites, and for this reason we now know that otters are resident at Chew Valley Lake and are regular visitors at Cheddar and Blagdon.

Tern nesting islands at Chew Valley Lake

Common terns can breed at large reservoir sites away from the coast and to encourage this we have installed three small floating islands in a pool at the side of Chew Valley Lake. The islands are anchored on open water to provide protection from mammalian predators and are designed to float so that nests will not be flooded when the water level changes.

Some birds are seen in huge numbers. 10,000 swifts were counted at Chew in May and in autumn we were visited by roosting flocks of over 20,000 starlings, whilst in October a routine survey detected a further 13,052 birds of other species, the highest ever recorded at the lake.

Waste Management

In 2010 we sent 82% of our waste to recycling facilities, (72% in 2009). We sent 3,800 tonnes of waste to landfill in 2010: less than half the waste we sent to landfill in 2009 (8,700 tonnes).

As a large company, we produce normal office waste such as paper, packaging and waste electrical equipment. In addition to this, we produce other waste specific to the water industry. For instance, we produce offcuts of plastic and metal pipe, excavated material from trenches and wastes from drinking water treatment.

Good waste management is important to us and we work hard to follow the waste management principles of reduce; re-use; recycle.

Reduce

Bristol Water is a founder member of the Achilles Utilities network, which audits suppliers for their environmental management. We work closely with all our suppliers to minimise the amount of packaging they use and to ensure that packaging can be returned and re-used, rather than being sent for recycling.

Our single biggest source of waste is excavated material – this accounted for 98% of our waste in 2010 and we have worked hard to reduce this, by using mains replacement techniques that do not require as much excavation (called "no-dig" techniques). In the last five years, over 80% of the water mains we have installed were laid using these techniques and in 2010 only 14% of the water mains laid were installed using traditional "open cut" methods. No-dig techniques are suitable for smaller diameter water mains but for large water mains such as those we will be installing over the next five years, suitable no-dig technology does not yet exist so we will be working closely with an organisation known as WRAP (Waste and Resources Action Programme) to ensure that waste management for these projects is as tightly controlled as possible and that we ensure that recycling rates are maximised.

Re-use

By separating the waste we produce, we can re-use much of it. One example is pallets: when in good condition they are re-used, and when damaged they are recycled. In 2009 we recycled 38.9 tonnes of timber, but in 2010 we have reduced this to 5.8 tonnes through strict management of our pallet storage.

Recycle

The amount of material recycled each year varies with specific projects, but the general aim should be a reduction in waste recycled, by re-using waste material or preventing waste from being created. In 2010 we recycled 8.8 tonnes of metals and 9.3 tonnes of plastics. In 2009 the figures were 45.3 tonnes and 14.8 tonnes respectively.

At Bristol Water we recycle excavated material, metals, plastics, wood, paper, cardboard, electrical equipment, batteries, tyres and waste oil. 69% of the aggregate we buy for construction and trench filling is from recycled material (compared with 51% in 2009) and we are working closely with the local highway authorities and other utilities through WRAP to establish how to increase this.

Dispose

Some waste does have to go to landfill although we are working on ways to reduce this. The amount of waste we sent to landfill in 2010 was less than half the amount in 2009 although this partly reflects a reduction in mainlaying activity - we have however worked very closely with our contract partners to ensure that as we begin our major programme of engineering works across the next four years, we minimise the amount of waste sent to landfill. Waste can however sometimes have a beneficial effect even if it is not recycled: waste produced by the water treatment process at Barrow treatment works has for the last few years been applied to land as a soil conditioner and soil analysis shows that this has had a beneficial effect on the land where it has been applied.

Unfortunately

Some people outside Bristol Water have a very different attitude to waste management. Although it is now thankfully uncommon, in 2010 we had another case of waste being fly-tipped at one of our sites, at a site of special scientific interest. We are installing CCTV at some of these sites to minimise the risk of it happening again and of course we have arranged for proper disposal of this waste, but it is always rather hard to take when it happens. We would encourage everyone to report suspected fly-tippers to the Environment Agency for investigation.

Water Efficiency

In 2009/2010, household customers in our supply area used an average of 145 litres each per day. This is slightly lower than the figure for 2008/2009, of 149 litres per person per day.

Most of us think of the UK as a wet country, and when a promised "barbecue summer" fails to arrive, many people find it can be hard to believe that saving water is important. After all, it is twenty years since Bristol Water last had to impose a hosepipe ban or any other restrictions on water use.

But the real story is more complex. Britain is (contrary to our national belief) one of the drier countries in the world, and the amount of water available per person is lower in the UK than every other country in the EU except Cyprus and Belgium. This was particularly true in 2010, when rainfall throughout the year was amongst the lowest ever recorded, - only two years in the previous century had lower levels of rainfall, and rainfall in December was only 20% of the average.

The way water is used cannot be controlled by the organisation which supplies it – all of us as water users are responsible for making sure that water use is as efficient as possible. We want to help our customers save water: in addition to our education centre and school visits programme, we provide free water-efficiency equipment on request to domestic customers, and for many businesses we provide a free water audit service to measure how much water (and how much money) they could save by being more water-efficient.

To get your own free water-saving equipment, log on to our website www.bristolwater.co.uk, choose the items you want, and they will be sent to you for free. If you are on a water meter, this equipment can help you save up to £100 on your utility bills - and if you are not, you can still save money because the equipment will help reduce the amount of hot water you need to use. Go on - you can't lose!

We hope that the facts and figures presented in this report make it clear why we all need to use water efficiently, no matter what the weather is doing. Even if water was a completely unlimited resource - and it is not - every litre supplied would still take energy and chemicals to produce and supply, and every litre of hot water used in the home requires energy to heat. Please do your bit to ensure this precious resource is used wisely.

The water efficiency message is one we communicate to our customers throughout the year

Finally, you may find the following tips useful around the home:

- Repair dripping taps as soon as possible
- Put a small bottle filled with water in the toilet cistern to reduce the amount of water used each time you flush
- Turn the tap off when cleaning your teeth
- Collect rainwater in a water butt for garden watering and washing your car
- Only use your washing machine or dishwasher when it is full
- Take a shower instead of a bath – and keep it short
- Use a bowl when washing up or preparing vegetables

Working with others

Working with environmental partners

Water is an underlying theme in so many environmental topics that there are many organisations and partners involved. The environmental challenges which face us require teamwork, because climate change, biodiversity management and prevention of pollution are complex issues and the best way to tackle them is to involve all the stakeholders affected. We are particularly fortunate in the Bristol Water area to have a strong team of external stakeholders, ranging from national Government and regulators to small local volunteer groups. These are a few of the projects we have worked on in 2010, and some information on our achievements.

Start Living

An innovative project launched by His Royal Highness the Prince of Wales, Start Living seeks to highlight the positive effect we can have on the environment and how a sustainable lifestyle can be enjoyable and fulfilling. Bristol Water was proud to support the launch of Start Living in Bristol, and at the launch event, our Chief Executive Luis Garcia met with the Prince to discuss water efficiency. We are now supporting the Royal Household with their own water efficiency work.

Festival of Nature

In 2010, Bristol Natural History Consortium held the Festival of Nature in central Bristol - over 15,000 people came to the event, which celebrated the natural environment in the UK and in the Bristol area in particular. As a key supporter of the event, we used this opportunity to increase public awareness of our water efficiency offers and the biodiversity work done by Bristol Water.

Wildlife Trusts

The Wildlife Trusts across the UK are key organisations in protecting the natural environment and at a local level are essential stakeholders in managing special environments such as local and national Nature Reserves. Our Nature Reserve at Chew Valley Lake is managed in partnership with Avon Wildlife Trust, and volunteers each year come to the site to work on reed cutting, coppicing timber and maintenance of the nesting islands we have created within the reserve for ground-nesting birds.

Training

Because the habitat owned and operated by Bristol Water is so well-managed and of such biodiversity importance, the sites are routinely used as training areas for undergraduate and postgraduate students; wildlife experts and surveyors. By allowing this access to special wildlife areas, we create a wider benefit from our own sites, because this helps increase the expertise available across the area on broader environmental management.

Other surveys

Through the years, surveys and investigations carried out by wildlife experts at our sites have been a vital source of management information. These surveys include all types of wildlife and habitats, and we have been able to use them to inform our management plans for each site, identifying sensitive species and areas.

Innovative mains cleaning

Over time sediment can collect within the water mains network and cause discolouration in the water. Removing this sediment efficiently is often difficult, but an innovative technique developed by Bristol Water and Bristol University can be effective in some of the most awkward situations. The system uses a mix of ice, water and a harmless freezing-point depressant to create a thickened ice slurry that can remove sediment safely and without disturbing the water main. Now licensed globally to Agbar, the system is being developed for mains cleaning across the world.

Agbar has also developed a uniquely cost-effective device called the iMeter, to help water customers across the world understand their own water use and improve their water efficiency. The system operates as a "smart" metering system which enables water users to monitor their water use, controlling leakage and other water waste.

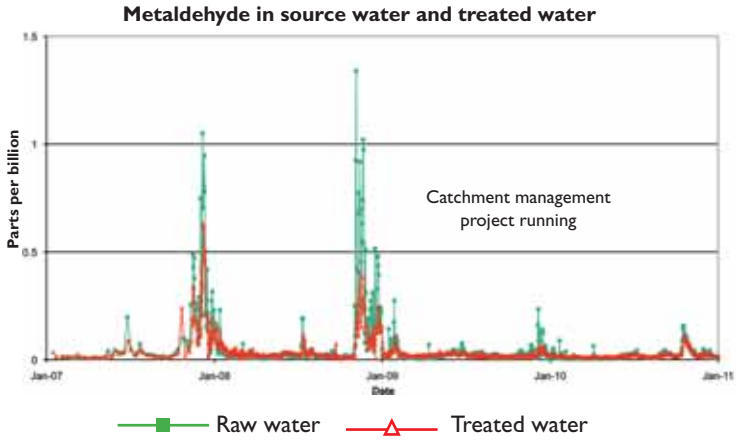
Catchment management

"Catchment area" is a term which describes the area around a water source, where rainfall naturally collects and feeds into the source. Catchment areas vary in size from a few square kilometres for small springs, to thousands of square kilometres for the River Severn, our largest single source of water. The way that land is managed in the catchment area can have an enormous effect on the quality of the water which it provides, although water quality problems do not normally occur because the landowner has been irresponsible – they tend to happen as a result of a combination of factors, leading to a phenomenon known as "diffuse pollution". This often comes from road and agricultural runoff, which can be from individual farms and even from individual fields.

Addressing the problem of diffuse pollution involves working with all the landholders in the area to identify where the problems originate and how they can be resolved. Over the last two years we have begun working in more detail on catchment management with a number of organisations, notably Natural England, the Environment Agency, the National Farmer's Union and the Farming & Wildlife Advisory Group. Following the success of these initial projects we have increased our work on catchment management to include intensive studies on water quality around key sites.

We believe that catchment management is good environmental management. If we can identify problems before they occur, we may avoid the need for new energy-intensive water treatment techniques and reduce the amount of chemicals required for water treatment, as well as improving the overall environmental quality of our water sources.

Since we began our catchment management project, we have worked with users of metaldehyde to develop improved application methods, better training for staff and free equipment calibration to ensure that over-dosing is avoided. We are also publicising the results of our surveys through a report distributed by the National Farmers' Union every two weeks, which will enable landholders to understand the effect of their own actions and how these can be modified in order to prevent pollution from happening.



Recognising others

There are many other organisations who show real commitment to good environmental management, and we want to play our part in recognising their efforts. This year, Bristol Water sponsored the Bristol Evening Post Green Business Award, which was presented to The Bristol Lido for their outstanding approach to sustainable business. Well done!

Verification

This report has not been subjected to a separate verification process, but the facts and figures presented are audited prior to being reported to our regulators. The table below shows the scrutiny this information receives and demonstrates that the information presented in this report is well-researched and complete.

Item	Checked by
Leakage	Verified by Atkins, independent auditors for external reporting, prior to submission to Ofwat and Consumer Council for Water (CCWater).
Water Quality	Verified by Drinking Water Inspectorate (DWI) and submitted to DWI, Ofwat, CCWater and local health Authorities.
Customer contacts	Verified by Atkins prior to submission to Ofwat and CCWater.
Access & Recreation	Information is from site visitor records retained by staff.
Carbon Footprint	Verified by Atkins prior to submission to Ofwat.
Energy use	Verified by Atkins prior to submission to Ofwat for carbon footprint calculation.
Travel	Verified by Atkins prior to submission to Ofwat for carbon footprint calculation. Also audited by Carbon Trust Standard Company and checked by Energy Saving Trust.
Embedded carbon emissions	Verified by Atkins prior to submission to Ofwat for 5-year business plan. Calculated according to best practice as defined by the industry bodies Water UK and UKWIR.
SSSI status	SSSI status is determined by Natural England and can be viewed on their website www.naturalengland.org.uk
Waste management	Information from waste management contract reports and waste transfer notes.
Water Efficiency	Verified by Atkins prior to submission to Ofwat and CCWater. The per person figure given in this report is an aggregate of data produced for Ofwat.

Environment Manager's statement

This has been a good year for Bristol Water's environmental performance. Winning the Green Apple Award for the part we have played in an important project to protect an endangered species is a highlight, but there are some other significant achievements that deserve a second mention. One is our carbon footprint management: although the dry weather of 2010 meant that we needed to use more electricity for water supply than in previous years, we have made energy use the subject of constant scrutiny throughout the company, and achieving the Carbon Trust Standard is an excellent demonstration of our commitment to ensure that our carbon footprint is tightly managed. Driver training and awareness has reduced our fuel use by over 4,000 litres, and the waste we sent to landfill dropped by more than 50% whilst the proportion of waste we sent for recycling rose by more than a third.

Catchment management is another good example of a successful collaborative approach on environmental management. Although the project is still at an early stage, our research indicates that the level of metaldehyde has dropped significantly in the watercourses where we are working with farmers and landholders. We still have much to learn about the catchment areas of these important water sources, but by working closely with landholders and environmental organisations we believe that we may also create wider biodiversity benefits as we grow to understand more about the plants, wildlife and habitat present on the land we own and manage and how this links to other land in the area.

Water is about more than getting a drink from the tap or doing the washing. It is part of our cultural heritage and the streams, rivers, lakes and springs of our countryside not only provide our drinking water, they also form an essential part of the landscape. As users of water we all have a responsibility to ensure that water is not wasted or polluted, but we also have the opportunity to enjoy the water environment for its own sake, and I am proud to be part of the team which makes this possible.

Environment Manager

BRISTOL WATER

An AGBAR Company

CARBON TRUST STANDARD

REDUCING CO2 YEAR ON YEAR