

# Portsmouth Water Ltd Activity Report 2007/08

incorporating the Conservation, Recreation and Access Report 2007/08 and information from the Water Quality Report 2007 his Activity Report sets out the standards of service we provided to our customers in the 2007/08 year and also looks at our principal activities over the past year.

The Company is delighted to have celebrated its 150th anniversary in the 2007/08 reporting year and I am very pleased to be able to report again this year that our customers continue to receive a high level of service in terms of pressure of mains water, interruptions to supply, responding to billing queries, dealing with complaints, meter reading and answering the telephone. All these key aspects of our service qualify for the highest possible rating by Ofwat, the Government's water industry regulator.



It is also very pleasing to report that Ofwat's 2006-07 Report on water and sewerage service unit costs and relative efficiencies once again cited Portsmouth Water as one of only five water companies in England and Wales to achieve leading band A status for both operating and capital maintenance efficiency. For our customers, this means that they continue to receive the best value for money in the country; it is a credit to our staff that we continue to maintain this position.

In 2007 water quality remained of the highest quality with 99.98 % of our water samples meeting the prescribed concentration or value (PCV) designated in the Water Quality Regulations.

Portsmouth Water customers have for many years enjoyed very high standards of drinking water quality and customer service, together with the lowest charges for water supplies in England and Wales and during the year the Company published it's 25 year strategic

statement entitled Sustainable Water Supplies for the Future. The statement sets out how the company will maintain safe, secure and reliable supplies whilst maintaining or improving the service it provides to customers. Challenges for the future include, increased demand for water, climate change, environmental considerations and affordability. The Company believes it can meet these challenges and the aspirations of customers by continuing to follow the key principles that have guided it throughout its long history together with a sustainable and innovative approach to its activities. The statement will inform the Company's five year business plan which will be used by the industry Regulator to determine prices for the five years from 2010.

To ensure customers continue to enjoy secure and reliable water supplies whilst maintaining a balance with the environment the company has prepared, for public consultation, a draft water resources management plan. The plan adopts a 'twin track' approach of encouraging demand management and water resource measures and includes, amongst other scheme proposals, the justification for a new winter storage reservoir at Havant Thicket. During the year much detailed work has been undertaken. As part of the public consultation process an exhibition was held at three locations and in excess of 850 people took the opportunity to view the company's proposals. We are now assessing the formal feedback received which will be utilised by the Company to prepare more detailed plans for the reservoir. A preferred option will be developed and an environmental impact assessment undertaken together with further ecological studies to support a planning application expected in 2009.

In 2005/06, we let contracts, with a total value £11m, to Trant Construction Ltd for three membrane filtration plants, at our River Itchen, Soberton and Fishbourne water treatment works. When complete, these will provide treatment to reduce the risk of cryptosporidium in treated water supplies. The River Itchen scheme was commissioned in June 2007 and formally opened as part of the company 150th anniversary celebrations on 13 July 2007 by Dr Richard Sturt of the Consumer Council for Water. The Soberton and Fishbourne plants are scheduled for completion in the summer of 2008.

For the third consecutive year, the Company has been awarded the prestigious Gold Award for Health & Safety by the Royal Society for the Prevention of Accidents (RoSPA). This reflects credit on all staff for their efforts in this essential aspect of our work.

N.J. Roadnight Managing Director

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#### Advice and Information

Helpful AdviceInformation About Your Water Supply

Front Cover: Portsmouth Water Head Office Bedhampton

The Water Services Regulatory Authority (Ofwat) collects information on water company performance on an annual basis. The data is published in a series of reports and used by Ofwat to measure companies' overall performance.

Our performance in all these areas falls in Ofwat highest categories.

In 2007/08, only 66 properties experienced water pressure that was less than Ofwat's DG2 reference level of service, equivalent to 15 metres mains pressure. This means that only 2.2 in 10,000 of the 299,400 properties in our supply area receive inadequate pressure. The 2007/08 performance improves upon the already high level of service provided in previous years; the Company will continue to improve the service and reduce the properties experiencing pressure below the reference level. The small number of affected properties are generally located on higher ground relatively close in elevation to the service reservoir supplying their water. Our level of service is classified by Ofwat as 'Good'.





Interruptions to supply usually result from burst mains, which can sometimes take a number of hours to repair, especially if the water main concerned is of large diameter or is in a location where repair is obstructed. No property experienced an interruption of their water supply in excess of 12 hours, which is the reference time period for Ofwat's DG3 level of service for interruptions to supplies. This level of service is classified by Ofwat as 'Good'.



This level of service is classified by Ofwat as 'Good'





Mains flushing in Copythorn Rd, Portsmouth

Interruptions to Supply (DG3)



A burst main being repaired

#### **Billing Contacts (DG6)**



The Company dealt with 187,127 contacts from customers regarding their water bills, compared with 174,774 in 2006/07. A summary of our performance in handling contacts during 2007/08 is shown below and maintains the previous year's high level of service, which is classified by Ofwat as 'Good'.

Dealt With in:-	Number	Percentage	Tabl
5 working days or less	187,118	99.99	
6 to 10 days	6		
More Than 10 working days	3		
TOTAL	187,127	100.00	

Our service is classified by Ofwat as 'Good'

#### Written Complaints (DG7)



The number of written complaints received increased from 156 in 2006/07 to 175 in 2007/08. While one complaint is too many, this performance indicates that fewer than 1 in 1700 of the Company's customers found cause to complain to us in writing about any aspect of our service. This is one of the lowest levels of complaints to water companies in England and Wales. Every complaint is treated seriously and is investigated individually to identify the cause. A separate company complaint review board, chaired by a Director, meets monthly to assess our responses, evaluate the effectiveness of corrective action taken and to recommend improvements if needed. Response times are shown in the table below. Our service in this area is classified by Ofwat as 'Good'.

Dealt With:-	Number	Percentage	Table B
within 10 working days	175	100	
In more than 20 Days	0	0	
TOTAL	175	100	

Our service in this area is classified by Ofwat as 'Good'

#### Meters Read (DG8)

The Company issued 47,312 metered accounts in the year. Within the year, no customers failed to receive only an estimated bill. This performance is classified by Ofwat as 'Good'.

This performance is classified by Ofwat as 'Good'



#### Telephone Contact (DG9)

The Company received 180,221 telephone calls from customers in the year, an increase of some 7,967 on the previous year. 628 callers received an 'all lines busy' response and 7,515 calls were abandoned. Our service in this area is classified by Ofwat as 'Acceptable' (there is no 'Good' category for telephone contact).

We endeavour to answer all calls promptly by a member of staff. Automatic queuing systems are not used.

Rainfall

Between April 2007 and March 2008, the rainfall recorded at Head Office Havant exceeded the 30-year average in the months of May, June, July, November, January and March. The summer of 2007 was significantly wetter than average. A dry autumn was followed by a variable winter. In the whole 12-month period to March 2008, the total rainfall was 702 mm, compared with the 30-year average of 753 mm.



#### **Groundwater Levels**



Ford in Pigeon House Lane, off Portsdown Hill

The Company has monitored the groundwater level at Idsworth Well, Rowlands Castle, for many years since the well is unaffected by abstraction and is representative of groundwater conditions in the South Downs chalk. Around 85% of Portsmouth Water's abstractions are from underground sources and so groundwater levels are critical to maintaining supplies.

At the start of the 12-month period beginning in April 2007, ground water levels were 4.1 metres above the 30-year average. Following above average rainfall in May, June, July there was a fairly unusual phenomenon of substantial summer time recharge resulting in groundwater levels some 3.4 metres above the October long term average. This summer time recharge was last seen, but to a lesser extent, in 1968. By the end of March 2008 after variable winter rainfall levels, ground water levels were just 0.2 metres below the 30-year average. The unusual rainfall pattern in 2007 and dry winter of 2005 may be associated with climate change demonstrating the need for a robust water resources strategy.



#### Abstraction



Groundwater in chalk adits at Maindell source, Fareham, 1954

#### **Service Reservoirs**



During construction of Farlington No.8 service reservoir

Abstraction from the Company's various sources in 2007/08 was as shown in the table below:-

			Tuble C
Source	Туре	Licenced Annual Abstraction (Million Litres)	Actual 2007/08 Abstraction (Million Litres)
Northbrook	Boreholes }	7487	5370
Lower Upham	Borehole }		66
West Street	Boreholes	3327	3110
West Meon	Boreholes	160	21
River Itchen	River	16636	8567
Maindell	Wells & Adits	2491	191
Soberton	Wells & Adits }	3294	13
Newtown	Borehole }		3
Worlds End	Boreholes	8295	4145
Lovedean	Boreholes	4148	2319
Havant & Bedhampton	Springs	42732	20003
Walderton	Boreholes	9955	5895
Woodmancote	Boreholes	1364	538
Fishbourne	Wells	3741	158
Funtington	Wells & Adits	2920	1893
Lavant	Boreholes }	9950	5488
Brickkiln	Boreholes }		1188
Eastergate	Well/Borehole }		2982
Westergate	Boreholes }		2311
Slindon	Boreholes }	10358	445
Aldingbourne	Boreholes }		2529
TOTALS		126858	67235

Abstraction is drawn from three groups of sources, the River Itchen Works which treats surface water, the boreholes and wells which abstract groundwater from the underground chalk and the Farlington Works which treats spring water from Havant and Bedhampton.

The Company's largest source utilises water from a group of natural springs at Havant and Bedhampton. Water from the springs is treated at Farlington Water Treatment Works and provides up to 40% of the Company's requirements.

The nature of the chalk aquifer of the South Downs ensures that at many sites high quality water is produced which requires only minimal treatment.

Short-term local storage of treated water is provided in underground service reservoirs. Most are fully enclosed reinforced concrete structures. Their functions are to economise on pumping by evening out daily peaks and troughs in demand and to provide a consistent pressure in the distribution system. In addition they provide security of supply in the event of plant, power or source failure.

Table D

Service Reservoir Site	Number of Reservoirs	Capacity (Million Litres)	Top Water Level (Metres above Ordnance Datum)
Appledown	1	2.10	173.97
Canada	1	0.10	155.45
Catherington	1	5.00	133.30
Clanfield	2	14.54	161.54
Farlington	5	173.24	44.64
Fir Down	2	5.91	140.51
Fort Southwick	1	4.54	124.66
George	1	8.78	87.88
Highdown	1	3.00	129.27
Hoads Hill	3	71.38	59.44
Lavant	3	57.24	70.83
Littleheath	2	31.84	51.82
Nelson	1	44.66	90.00
Racton	2	33.62	67.06
Shedfield	1	16.06	80.56
Street End	2	5.29	117.65
West Meon	2	1.11	151.28
Whiteways Lodge	1	4.8	114.00
TOTAL	32	483.21	

#### Treated Water Distributed



Graph 5





Booster Pumps

The annual average treated water distributed rose slightly from 179.1 million litres per day (Ml/d) in 2006/07 to 180.1 Ml/d in 2007/08. These figures exclude the volume provided via the bulk supply to Southern Water.

Peaks in weekly distribution input are usually triggered by periods of hot weather combined with low rainfall and generally experienced in June, July and August. The higher than average rainfall experienced in the months of May June and July in 2007 saw significantly lower demands for water such that the peak week for 2007 occurred at the end of April. This low level of demand during a wet summer was last experienced in 1968.



Soberton filtration building



leak detection work in progress

#### Leakage



Leakage levels rose marginally from 29.2 Ml/d in 2006/07 to 29.6 Ml/d in 2007/08 and may be partially attributed to the very low temperatures recorded in January 2008 which resulted in a high incidence of burst mains, some of which were not visible above ground, and required active detection to locate and repair.

Total leakage has fallen by more than 40% compared to the 1990/91 level, largely due to:-

- the determined efforts of leakage detection and repair staff
- the Company's continued drive to replace old corroded water mains and services
- the introduction of pressure control to reduce excessive pressures in mains and services

The Company will continue to make reductions in leakage where they are shown to be economic.



Inspector installing leak location sensors

**Burst Mains** 



A fragment of corroded cast iron main



The number of burst mains experienced in 2007/08 was 311, compared to 362 that occurred in 2006/07. Overall the number of bursts were down even though a higher than average level of bursts were recorded in January 2008 caused by low temperatures. Overall the Company's network remains in a serviceable condition owing to its long-established programme of mains renewals.



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#### Water Consumption



It is very important to have a reliable and sound means of determining the average water consumption for each person living in households in the Company's area of supply. This is a fundamental measure that helps to explain how water is used and also forms a basis on which to forecast future demand for water.

In the Company's supply area, there are some 440 householders who have a meter fitted to their property to measure water consumption, but who pay their water bill on an unmeasured basis. From a questionnaire provided to each householder, the Company is given information about the type of house, the number of occupants and the water appliances installed.

The Company collects water consumption data and the results for 2007/08 are presented in the graphs below. The consumption figures include all water use in the property including drinking, washing and garden watering.



This graph above shows how consumption varied according to the type of property. Occupants of detached houses, semi detached and Terraced houses for 2007/08 have similar consumption. In previous years detached houses often demonstrated higher consumption due most probably to garden watering. The wet summer of 2007 appears to have influenced consumption patterns. Purpose-built flats have consumption that is higher than terraced houses, possibly because they are fitted with a wider range of water-using appliances. Converted flats also have a higher than expected consumption per head.





More significant still is graph 10, which shows the substantial differences in personal water consumption according to the number of occupants in a property. Single person households in our survey used 216 litres per day, while each person in a household of 6 occupants used 106 litres per day. The Company average was 159 litres per person per day. For occupancies between 1 and 6, consumption decreased as occupancy rate increased. The reason for these differences is primarily that domestic appliances such as washing machines are used on full loads, whereas in single person households, appliances tend to be used on part-loads. In addition, garden watering is of course divided among the greater number of occupants and has more significant impact on personal consumption as occupancy falls.

These differences have very important implications for future water use, because the number of single person households has increased in recent years and is likely to continue to do so, as more people choose to live alone for personal or social reasons as well as a rising a divorce rate. With this increase will come increased water consumption and abstraction, adding to pressures on the environment.

This key factor adds more weight to the need for water efficiency in households to be addressed by the Government through planning and building regulations and statutory design standards for water using appliances. It remains to be seen whether the recent initiative of the Code for Sustainable Homes will receive enough voluntary support to have an impact upon personal consumption.

#### Water Efficiency

It is important that water is used wisely and efficiently to ensure that no adverse effects on the environment result from unnecessary abstraction. A number of initiatives were carried out during the year and are described below. It remains the Company's view that, despite these initiatives, significant savings from water efficiency will not occur unless regulations for the planning and design of new houses are modified to make water efficiency a statutory obligation upon new housing developments as well as manufacturers of water-using appliances such

#### **Cistern Devices**

as washing machines and dishwashers.

In 2007/08 approximately 10,400 'Save-a-Flush' bags were issued to individual customers, Councils and schools. These simple devices comprise perforated bags containing a gel which, when the bag is placed in a toilet cistern, absorbs water and expands to a volume of 1 litre, then at each flush, 1 litre of water is saved.

In 2007/08 Chichester District Council provided a special pack for Estate Agents to issue to customers when they move house. The pack contained advice on energy efficiency and Portsmouth Water provided 'Save-a-Flush' bags and a water efficiency leaflet.



'Save-a-flush' bags



Customer information on water meters

# Measured Customers

In addition to those who were sent the Company Newsletter, 3,734 meter optants also received a 'Saving Water at Home' information pamphlet as part of their start-up pack. This ensures that the customers most likely to benefit from water efficiency are reminded of the advantages of saving water.

#### Free Supply Pipe Replacement

When leaks are identified on a supply pipe, the customer is offered a number of options. One is for the leak to be repaired free of charge by Portsmouth Water. Another is to engage a Contractor to repair or replace the entire supply pipe at their cost. The Company has undertaken 358 free repairs this year.

#### Water Audits

Each year Portsmouth Water produces a Company Newsletter which is sent to all household customers. It is delivered by hand with other free newspapers as it is believed to be more effective than including the information with the bill. The Newsletter contained an article on saving water in the garden and information on the 'Water Trail' at Staunton Country Park in Havant. Additionally the Company provided 5,234 household water audit information packs.

Our leaflet 'Saving Water in Your Business' was sent to approximately 15,900 non-household properties in 2006/07 and will be sent again in 2008/09.

#### Water Regulations Inspections

In 2007/08 the Water Regulation Staff inspected 310 commercial premises to ensure water was not being wasted or at risk of contamination. If they see examples of waste, such as dripping taps or overflows, they recommend improvements and provide a copy of our Self Audit leaflet. They do not conduct a separate water audit unless specifically requested as many larger organisations have already carried these out for themselves. In the past non-household demand has fallen partly because the economic situation has driven companies to be more efficient in their use of water.



The Company has developed a 'Dry' garden at the entrance to their Head Office. In 2006 Portsmouth Water was one of a group of companies which sponsored three show gardens at BBC Gardeners World Live. One of the designers, who won a Bronze Medal, was asked to re-design the Head Office entrance as part of Portsmouth Water's 150th Anniversary Celebration. Plans and photographs of the Drought Tolerant Garden are shown on Portsmouth Water's website and used to promote efficient use of water in the garden.



Inspecting plumbing for water regulation compliance



Drought Tolerant Garden

#### **Other Initiatives**

Portsmouth Water uses local radio and newspaper interviews to spread the water efficiency message whenever possible. This is also the case with talks to local groups and societies and for school visits. Portsmouth Water welcomes parties to its Visitor Centres at the River Itchen and Farlington Water Treatment Works.



In other water efficiency initiatives Portsmouth Water has:-

- a) Worked with Hampshire County Council and the George Staunton Country Park to produce an education facility for schools and colleges. This will link in with further work on Havant Thicket Winter Storage Reservoir which will be located nearby.
- **b)** Worked with Hampshire County Council and West Sussex County Council on the Water Festivals at Romsey and Arundel.
- c) Supported the Government's 'Envirowise' organisation and provided their website address on the 'Saving Water in Your Business' leaflet.
- **d)** Supported the UK Water Industry's 'Waterwise' initiative and the ongoing work with the Government's Water Saving Group.



**New Connections** 

There were 1,861 new connections to our mains in 2007/08. The graph below illustrates that this activity is lower than normal, a level last seen in 2001.



#### **Membrane Filtration Plants**



Mains Rehabilitation in Portsmouth

#### Nitrate Reduction

In 2005/06, we let contracts of total value £11m to Trant Construction Ltd for three membrane filtration plants, at our River Itchen, Soberton and Fishbourne water treatment works. These plants will provide treatment to reduce the risk of cryptosporidium in treated water. The River Itchen scheme was commissioned in June 2007 and formally opened as part of the company's 150th anniversary celebrations on 13 July 2007 by Dr Richard Sturt of Consumer Council for Water. The Soberton and Fishbourne plants are scheduled for completion in the summer of 2008.

#### Soberton filtration plant

Since 1997 there have been a number of incidents of discoloured water in Portsmouth, affecting substantial numbers of customers. After completion of investigations, such as hydraulic modelling and sampling, it was established that this was due to the deposition of iron sediment in some larger trunk mains. A rehabilitation scheme, valued at £1.8m, was designed and this involved a number of different techniques such as mains replacement, provision of flushing facilities and, in some cases, abandonment of mains. A contract with Durkin & Sons Ltd started in October 2005 and is now largely complete; post project appraisal is now in progress.

Work has begun on a scheme to reduce the concentration of nitrate in water supplied to customers from our Northbrook Water Treatment Works at Bishop's Waltham, Hants. On occasions in the past, the nitrate content at Northbrook has risen to a level close to the permitted maximum concentration. The proposed scheme involves laying an 11-kilometre long main to enable water from Northbrook to be pumped direct to service reservoirs at Hoads Hill, Wickham. Here the water will be blended with treated water from other sources with lower nitrate content. Ecological surveys have been completed along the proposed route of the main and pipeline construction has commenced in a phased manner. **Borehole Remedials and** 

Improvements

The works are nearing completion.

At our Westergate source, near Fontwell, a new borehole

has been drilled to improve security of supplies, while retaining abstraction within the existing licensed limits.



Construction of Westergate Borehole head works

The company operates 22 water abstraction sources and as part of the company's water resources plan we are progressively completing CCTV surveys of the boreholes to determine a maintenance and replacement strategy for the longer term.

Local Mains and Services Renewals During the year, the Company replaced 26.89 Km of mains and associated service pipes throughout its area. The work is necessary owing to the structural deterioration and increased burst frequency that results in some parts of the Company's area of supply. In such areas, where old iron mains are laid in clay soils, they are prone to bursting either as a result of ground movement or corrosion.

'Trenchless' mainlaying techniques are used by Portsmouth Water to renew mains wherever they are economical and practical. One method used is directional drilling, while another method that avoids the disruption that comes from digging up the road is pipe bursting of old cast iron mains. This necessitates first laying a temporary overground main to maintain supplies to customers. The old cast iron main is taken out of service and then a heavy steel arrowhead-shaped swage is pulled through it, causing it to split. As the steel swage is pulled through the old main, a new polyethylene main of similar size is drawn through behind it. The new main is then flushed, swabbed, disinfected and brought into service. This technique was employed at a scheme in Hunston, near Chichester, which commenced in March 2007.



Butt fusion welding in progress



Butt fusion welding equipment for jointing polyethylene pipes



Mains renewals in Murray Road, Horndean

Havant Thicket Winter Storage Reservoir Despite efforts to manage future demand for water, our current projections show that a new resource will be required by about 2020. The lowest cost solution is to build a winter storage reservoir on land close to Havant known as Havant Thicket. This is part of our 'twin-track' approach to balancing supply with demand. An approach in which new resources are developed whilst water efficiency measures are also put in place.

The reservoir is expected to hold more than 8 million cubic metres of water, surplus water from the Company's Havant & Bedhampton Springs being filled with during the winter. The stored water would then be used during dry summers to augment the supplies to the Farlington Works. Overall the reservoir is expected to measure approximately one mile by half a mile.

Havant Thicket Winter Storage Reservoir (continued)

Bedhampton Spring

An aerial impression of what the reservoir may look like

As well as providing a substantial new water resource to meet growing demand, the project offers a number of exciting opportunities for creating new freshwater habitats, education facilities and recreation opportunities, such as walking, cycling, horse riding, bird-watching and fishing.

During the year we have continued to work with our Stakeholder Group. The group provides an essential role in the development of the Havant Thicket Winter Storage scheme and ensures the views, ideas and advice of a wide range of customer's, local residents and national organisations are taken into account during the design and planning stages of the scheme. The group comprises of the same organisations as last year with the addition of Leigh Park Community Board. The Stakeholder Group met twice in 2007/08 reporting, amongst other issues, upon the conclusion of the Langstone and Chichester Harbours Wintering Bird Survey, and Havant Thicket site Dormouse Survey.

A summary of key project activities over the past year are as follows:

- An Engineering specialist consultant 'Arup' was appointed in July 2007 to carry out an Environmental Impact Assessment and Planning Study leading to a proposed planning submission in 2009.
- 2) The company has a statutory obligation to prepare a Water Resources Management Plan for public consultation. The plan sets out the company's ability to maintain security of supply for the next 25 years, the final solution identified a 'twin track' approach of both demand management and resource development measures which over the long term will continue to maintain supplies whilst minimising costs to customers and the environment. The final solution proposed in the draft plan consists of:
  - In 2010/11 beginning a 25 year programme of Compulsory Metering for all domestic households, where practicable.
  - Instigating a promotional Water Efficiency Programme to all customers starting in 2010/11.
  - The development of a Farlington Wash Water Recovery Plant by 2011/12.
  - Initiating a Leakage Savings Programme to achieve a new target by 2014/15.
  - Developing additional Boreholes at Lavant and Brickkiln Water Treatment Works within the currently licensed abstraction limits by 2014/15.
  - Promoting a programme of Retrofit Fitting of Dual Flush Devices in toilets from 2015/16.
- 3) Three local public exhibitions were held and a consultation document provided to inform local residents, the wider public, and other local & national stakeholders. The object of the consultation process was to inform and gain feedback from a wide range of stakeholders and to take into account their views during the design and planning stages of the scheme. The exhibitions and consultation process was widely advertised and resulted in excess of 850 people visiting the exhibitions.
- 4) Creation and ongoing development of a dedicated web site to provide up to date information about the Havant Thicket Winter Storage Reservoir <u>www.havantthicketreservoir.co.uk</u>
- 5) Engaging with local schools and Colleges. Pupils from 3 local primary schools, Community Sports College and Technology College also visited the exhibition.

The next Steps on the project are:

- Consideration and evaluation of the feedback from the consultation process, including further detailed discussion with the stakeholder group and other appropriate bodies prior to developing a preferred scheme.
- Preparation of preferred scheme, with sufficient detail to prepare for a planning approval submission in 2009.
- Continuation of the Environmental Impact Assessment to support the planning application in 2009.
- Continuation of detailed ecological site surveys, particularly Dormice, Bats, and Reptiles.
- Continuation of over wintering bird surveys in Langstone Harbour.

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Annual Report on Conservation, Recreation and Access

Conservation	The Company's total licensed area of supply covers 868 sq km of an attractive part of Southern England between the South Downs and the coastal areas of Hampshire and West Sussex. It includes the historic cities of Portsmouth and Chichester, and the popular holiday resorts of Bognor Regis, Selsey and Hayling Island. The harbours of Portsmouth, Langstone, Chichester and Pagham have a number of important environmental designations under the EU Habitats Directive and are popular water activity venues.
Biodiversity Action Plan - Policy and Practice	The Company's policy is to conserve and enhance the natural environment of its land and water areas and to preserve historic buildings and equipment, so far as is consistent with the primary duty of providing a sufficient supply of wholesome water at reasonable cost. Where possible the Company explores opportunities to encourage recreational use.
	The Company has a long history of good practice in consultation and development in an area with many important wildlife sites and with landscape appreciated by residents and a large number of visitors. When new structures and buildings are required, the Company's policy is to ensure that, by careful design and landscaping, they blend into their surroundings. We continue to give full consideration to the environmental aspects of all our activities throughout our area of supply.
Sustainable Procurement	- In procuring goods and services, the Company's practices are as follows:-
	<ol> <li>The environmental impact of new capital schemes are investigated as appropriate and sensitive sites are either avoided or mitigation measures carried out, subject to independent ecological advice.</li> </ol>
	2) New capital schemes are designed and constructed so as to blend with their existing surroundings as far as is economic and practicable.
	3) Opportunities for environmental enhancement are taken where it is economic and practicable to do so.
	4) The potential archaeological impact of new capital schemes is investigated prior to commencement of work and monitored during implementation, subject to independent advice.
	5) Recycling or re-use of excavated materials is carried whenever economic and practicable.
	6) All vehicles used have diesel engines with Euro IV reduced emissions.
	7) Diesel fuel has a low sulphur content, with benefits to exhaust emissions.
	8) Timber used is from replanted forests.
	9) 85% of reinstatement material is recycled.
	10) We ensure that our pipe suppliers have suitable policies for control of pollution, resource management and material selection.
Other Environmental Projects	A study into the <b>sustainability of abstraction from the River Itchen</b> was undertaken to establish whether Habitats Directive species were adversely affected by the activities of Portsmouth Water and Southern Water services, the study was concluded in 2007/08.
	The outcome for the abstraction licence at Gaters Mill, the point of abstraction for the River Itchen Water Treatment Works, is a reduction in summer monthly abstraction or peak deployable output, and imposition of a minimum residual flow or 'hands off' flow condition which restricts abstraction from the river when flow falls to a specified level, together with an annual licence reduction. The implications of the sustainability reductions have been included in the company's draft water resources plan as submitted to the Secretary of State in March 2008.
	<b>Chichester and Langstone Harbours</b> are Special Protection Areas (SPAs) under the Habitats Directive. A study into the sustainability of abstraction from the Company's West Sussex sources was undertaken to establish whether wading birds were adversely affected by the activities of the water company, the study was concluded in 2007/08.



Annual Report on Conservation, Recreation and Access

	Other Environmental Projects (continued)	The outcome of the Habitats Directive for the abstraction licence at Havant and Bedhampton Springs is the application of a minimum residual flow condition to the Hermitage Stream and 'Hampshire Lavant' which is likely to reduce the peak drought output of the spring's source. The peak and annual abstraction licensed quantities remain unaffected.					
		The outcome of the Habitats Directive for the Fishbourne source is the imposition of an autumnal restriction which limits weekly abstractions but would not affect the peak drought output of the site. Fishbourne together with a further group of five abstraction sites will have an aggregated licence with an annual abstraction of 15% less than the sum of the individual licence. As there are no further restrictions to the group there will be no impact upon peak deployable outputs.					
J.	Looking SW across Langston Harbour	Whilst the Habitats Directive outcomes have been published for the Chichester and Langstone Harbours the company intends to continue the existing studies of over wintering bird behaviour in the Harbours as part of the ecological studies associated with the Havant Thicket Winter Storage Reservoir.					
	Havant Thicket	Construction of a winter storage reservoir at Havant Thicket is part of the Company's 'twin track' approach of both demand management and resource development measures which over the long term will continue to maintain supplies whilst minimising costs and charges to customers.					
		The reservoir is needed by 2020 and a planning submission is anticipated in 2009 for which baseline ecological surveys have been completed. Further ecological studies are in progress and planned to provide supporting evidence for the Environmental Impact Assessment required supporting the planning application.					
		<ul> <li>Notable species found in the proposed site include:</li> <li>Dormice, seven species of Bat, Adder, Slow worms, Lizards</li> <li>Many birds enjoy the habitat, including a number of Red and Amber listed species, notably the Nightjar, Skylark, Song Thrush, Reed Bunting and Marsh Tit.</li> </ul>					
	Recycling of Surplus Excavated Material	Maintenance of the Company's underground pipe network generates waste material, which in the past has been placed in an inert waste tip owned by the Company. Existing tipped material and future waste material is now being reprocessed to extract secondary aggregates and a high quality sub base material produced for reinstatement of the company's excavation work in the highway.					
	Amenities and Recreation	<b>Staunton Country Park</b> , in conjunction with Portsmouth Water launched a 'Water is Life' Trail for visitors as part of the education programme. The Trail continues to attract large number of visitors and reported to be successful by Staunton Country Park.					
		The Water Trail can either be guided or self-guided and is designed to help educate children and parents visiting the Park about the importance of water as a resource and encourage them to be more water efficient. The Trail takes the form of a walk within the park searching for water information boards.					
	Shoveler, possible visitor to HTWSR	The 'Water Is Life' education programme provides school children of all ages the opportunity to learn about the world of water by completing practical tasks using resources provided by Portsmouth Water. The Company provides children at Key Stage 2 and 3 with water 'information boxes' containing a number of hands on experiments and activity sheets to assist the process of learning about the importance of water.					
		<b>The Country Parks at Havant Thicket</b> (in the Staunton Country Park) and Highwood Reservoir (in the Itchen Valley Country Park) are open to the general public and managed by Local Authorities. At other sites there is limited access by public footpaths and bridleways.					
		At the <b>Clanfield Service Reservoirs</b> site, The Hampshire Astronomical Society has for many years operated a number of observatories for the benefit of its members. Small groups of members of the public are able to visit by prior arrangement with the Society.					
		Portsmouth Water's <b>River Itchen Water Treatment Works</b> and <b>Farlington Water</b> <b>Treatment Works</b> are available for educational visits by schools, universities and other organised groups.					



Water quality regulations are in place to ensure that public water supplies are safe to drink.

- 1. There are 58 standards in the Water Supply (Water Quality) Regulations 2000 covering microbiological, chemical and physical parameters.
- 2. Standards apply at customers' taps.
- 3. Additional standards apply at treatment works and reservoirs.
- 4. Supply areas are divided into zones serving not more than 100,000 people from single or very similar sources.
- 5. Water quality information is recorded by supply zone. Portsmouth Water has 13 supply zones.
- 6. Relaxations, temporary or permanent may be granted by the Secretary of State but not for parameters considered to have implications for health.
- 7. Where it is evident that a standard is infringed regularly, remedial work must be put in hand to rectify the situation, usually by means of an Undertaking.

- 8. Results of compliance analyses must be kept on a public register available to all members of the public.
- 9. Annual reports must be prepared and circulated to local authorities, health authorities and government departments within six months of the years' end.
- 10. The results of all compliance analyses are supplied monthly to the Drinking Water Inspectorate.
- 11. The Chief Inspector of the DWI produces an Annual Report containing a section on each company.
- 12. Local authorities must be satisfied with the sufficiency and wholesomeness of water supplies.
- 13. Local authorities have an independent public health role.



Water Quality Standards





In 2007 Portsmouth Water carried out a total of 18035 determinations against the 1998 European Drinking Water Directive parameters and additional UK national parameters in samples taken at our treatment works, service reservoirs and customers' taps in Supply Zones. Of these 99.98% (99.96% in 2006) met the prescribed standards. There were just three failures and each was individually investigated in order to identify any cause.

Directive & National Parameters	No. of Tests	No. of Failures	% Meeting the Standards
Treatment Works	4,277	0	100
Service Reservoirs	3,118	0	100
Supply Zones	10,640	3	99.97
Total	18,035	3	99.98

The Water Supply (Water Quality) Regulations 2000 require the company to report against indicator parameters as well as directive and national parameters. Our performance against all parameters is outlined below.

#### Microbiological Quality

# of samples from treatment works and reservoirs complied with the regulations

The microbiological standards for drinking water are based upon analyses for the presence of coliforms, a highly ubiquitous group of bacteria which are normally not pathogenic and which make excellent indicator organisms. Because they occur so widely in the natural environment and are extremely sensitive to modern detection methods, there are occasional spurious results often due to the difficulty in

achieving a thorough sterilisation of some taps used for sampling. All positive results are separately investigated to identify any cause, as well as the need for any remedial works, to ensure the integrity of the supply.

For **Treatment Works** 100% of the samples were compliant with the microbiological standards with none of them containing coliform bacteria.

For all the Company's **Service Reservoirs**, as for treatment works, 100% of the samples were clear of coliform bacteria.

Of the samples taken from customers' taps in **Supply Zones**, 99.42% met the coliform standard. There were 10 exceedences of the coliform indicator value from customers' taps with one of those ten samples containing E.coli. Each failure was thoroughly investigated with the customers' taps being identified as the source of the contamination in 9 of the 10 cases. In the 10th case no definitive cause could be found and as a result enhanced monitoring took place to ensure that the quality of water in the distribution network was satisfactory.

#### Physical and Chemical Quality

In 2007 13,793 analyses were carried out on such samples and of these **999.99%** met the standards or

met the standards of Specification

All the samples taken from customers' taps in zones for physical and chemical analysis required by the compliance monitoring programme are randomly selected by a computer program. Physico-chemical analysis consists of Directive, National and Indicator determinands. In 2007, 13,793 analyses were carried out on such samples and of these 99.99% (2 failures) met the standards or specifications.

When a result exceeds the standard, indicator value or specification, a resample is taken as soon as possible after the result is known. All exceedences initiate an investigation into the cause and, where appropriate, action is taken to remedy the situation. In some instances remedial work may be of a longer-term nature and will need to be planned and budgeted. In such cases the Company will enter into a formal Undertaking agreed with the Secretary of State by which the remedial work is carried out to an agreed timetable.

Explanations of the failures that occurred in 2007 are as follows:

#### Lead

In one zone there was one exceedence of the lead standard of  $25\mu g/l$  at a level of  $121\mu g/l$ . An inspection of the property concerned revealed the presence of lead plumbing which proved to be the cause of the failure. The remedy in cases such as this is the replacement of the lead plumbing.

#### Iron

There was one exceedence of the standard for iron of 200µg/l at a level of 233µg/l. An internal inspection of this property revealed the presence of an electrolytic water conditioner (designed for use on the hot water supply) plumbed into the main incoming cold supply. This conditioner had some internal iron components which were corroding; removal of the conditioner remedied the situation.

Cryptosporidium monitoring	The Water Supply (Water Quality) Regulations 2000 require compliance with a treatment standard of less than 1 oocyst per 10 litres of water. To demonstrate compliance with this standard, water companies had to carry out risk assessments at all sources. Those considered at 'significant risk' of containing cryptosporidium were required to have DWI approved sampling equipment installed and continuous monitoring instigated. During 2007 a total of 633 compliance and operational samples were taken for cryptosporidium analysis. In only 3 were very low levels of cryptosporidium detected. All results were below the regulatory standard.
Technical Audit by the Drinking Water Inspectorate	A single audit of Portsmouth Water by the Drinking Water Inspectorate in 2007 covered: • Progress with the AMP4 Improvement Schemes.
	There was just the one recommendation made.
Other Quality Issues	New Water Mains, Repairs and Connections. All new water mains are tested for leaks before being sterilised. Following sterilisation, microbiological samples from each hydrant are examined in the Company's Laboratory and only if these are satisfactory is the new main commissioned. In the event of a failure the main is not assigned to service until a further three samples (taken on separate days) are shown to be clear and receive Laboratory approval. Whenever the inside of a water main is exposed to the outside elements for any reason, it is disinfected and a water sample is sent to the Laboratory for microbiological analysis. As with new mains, one sample containing coliforms requires a further three consecutive, clear samples before receiving Laboratory approval.
	<b>Public Register</b> . A record of all compliance sample results over the previous five years can be inspected during normal working hours in the public register, which is situated at the Company's Head Office in Havant. Customers can obtain water quality information for their water supply zone from the register, without charge, by contacting the Water Quality Department or by visiting the company's website on www.portsmouthwater.co.uk .
	<b>Enquiries and Complaints</b> . Enquiries and complaints concerning water quality are handled by the Water Quality Department in the first instance. If a visit or samples are required, an appointment will be made for a staff member to call. If the situation requires immediate action, such as discoloured water, an Inspector will be sent the same day. Staff will take water samples, usually from the kitchen tap. In all cases the Company will provide the customer with written information concerning the laboratory analysis, along with any findings.
	Portsmouth Water also has a policy of providing free analysis with a written report to all customers who are concerned about lead levels.

Other Quality Issues (continued)

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#### Summary of Monitoring in 2007

There were no authorised departures of any standards during 2007. Columns on the following tables that are headed "Maximum" and "Minimum" contain figures for the 1 percentile and 99 percentile sample results except where less than 100 samples were taken, when the figures are the actual maximum and minimum results.

ZONES - 2007							
Directive Parameter	Standard	No. Tests	Tests Failed (%)	Minimum	Maximum	No. of zones with failures	
1,2 Dichloroethane	3 µg/l	112	0	<0.1	<0.1	0	
Antimony	5 µg/l	115	0	<0.1	0.4488	0	
Arsenic	10 µg/l	115	0	<0.3	0.7	0	
Benzene	1 µg/l	112	0	<0.03	<0.0387	0	
Benzo(a)pyrene	0.01 µg/l	113	0	<0.001	0.00444	0	
Boron	1 mg/l	113	0	0.00728	0.3837	0	
Bromate	10 µg/l	112	0	<0.8	1.474	0	
Cadmium	5 µg/l	113	0	<0.01	1.0418	0	
Chromium	50 µg/l	113	0	<0.1	11.774	0	
Copper	2 mg/l	113	0	<0.01	1.374	0	
Cyanide	50 µg/l	112	0	<0.4	1.1	0	
E Coli	0/100 ml	1712	1	0	0	1	
Enterococci	0/100 ml	113	0	0	0	0	
Fluoride	1.5mg/l	115	0	0.06648	0.5354	0	
Lead	25 µg/l	118	1	<0.2	101.659	1	
Mercury	1 µg/l	111	0	<0.04	0.3404	0	
Nickel	20 µg/l	113	0	<0.1	17.914	0	
Nitrate	50 mg/l	113	0	17.7355	40.727	0	
Nitrite	0.5 mg/l	113	0	<0.005	0.00733	0	
Nitrate/Nitrite Formula	≤ 1	113	0	0.356246	0.81624	0	
PAH (sum of 4)	0.1 µg/l	113	0	0	0.02906	0	
Pesticides (individual)	0.1 µg/l	3503	0			0	
Pesticides (Total)	0.5 µg/l	113	0	0	0.0936	0	
Selenium	10 µg/l	115	0	<0.3	5.2212	0	
Tetra/Trichloroethene	10 µg/l	112	0	0	0.3061	0	
Trihalomethanes	100 µg/l	112	0	2.2025	99.1249	0	
TOTAL		7932	2			2	
National Parameter	Standard	No. Tests	Tests Failed (%)	Minimum	Maximum	No. of zones with failures	
Aluminium	200 µg/l	317	0	<1	44.87	0	
Colour	20 mg/l	318	0	<1	<2.081	0	
рН	6.5 - 10 pH	281	0	6.8928	7.7172	0	
Iron	200 µg/l	296	1	<3	62.926	1	
Manganese	50 µg/l	253	0	<0.1	1.79	0	
Odour	3@25 deg DN	300	0	0	0	0	
Taste	3@25 deg DN	362	0	0	0	0	
Sodium	200 mg/l	113	0	8.1138	18.5368	0	
Tetrachloromethane	3 µg/l	112	0	<0.04	0.1461	0	
Turbidity	4 NTU	356	0	<0.1	0.8972	0	
TOTAL		2708	1	-	-	1	

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ZONES - 2007 continued								
Indicator Parameter	Indicator Value	No. Tests	No. >0	Minimum	Maximum	No. of zones with failures		
Ammonium	0.5 mg/l	281	0	<0.04	0.04804	0		
Chloride	250 mg/l	113	0	6.003	35.883	0		
Clostridium perfringens	0/100ml	243	0	0	0	0		
Coliform Bacteria	0/100ml	1712	10	0	0	6		
Colony Counts @ 22deg	Co. spec	578	0	0	15	0		
Colony Counts @ 37deg	Co. spec	578	0	0	16	0		
Conductivity	2500 µS/cm	281	0	456	587.39	0		
рН	6.5 - 10 pH	281	0	7.0674	7.6413	0		
Radioactivity -Gross Alpha	<0.1 Bq/l	112	0	<0.027	0.06579	0		
Radioactivity -Gross Beta	<1 Bq/l	112	0	<0.042	0.21752	0		
Radioactivity -Tritium	100 Bq/l	112	0	<4	<4	0		
Residual Disinfectant - Free	Co. spec	1729	0	0.08	0.494	0		
Residual Disinfectant - Total	Co. spec	1729	0	0.12	0.53	0		
Sulphate	250 mg/l	113	0	9.765	34.142	0		
ТОС	Co. spec	115	0	0.4	2.474	0		
TOTAL		8089	10	-	-	6		

#### SERVICE RESERVOIRS 2007

National Parameter	Standard	No. Tests	<b>No.</b> >0	Minimum	Maximum	No. of reservoirs failing standard
Coliforms	0/100 ml	1,559	0	0	0	0
E.Coli	0/100 ml	1,559	0	0	0	0
TOTAL		3,118	0			

Indicator Parameter	Indicator Value	No. tests	No. > Spec	Minimum	Maximum
Colony Counts 22 deg	Co. Spec	1559	0	0	22
Colony Counts 37 deg	Co. Spec	1559	0	0	24
Free Chlorine Residual	Co. Spec	1579	0	0.11	0.5
<b>Total Chlorine Residual</b>	Co. Spec	1579	0	0.14	0.59
Total		6276	0		

TREATMENT WORKS - 2007							
Directive Parameter	Standard	No. Tests	No. >Std	Minimum		Maximur	n No. Works With Failures
Nitrite	0.1 mg/l	289	0	< 0.005		0.00962	0
TOTAL		289	0				
National Parameter	Standard	No. Tests	No. >Std	Minimum		Maximun	n No. Works With Failures
Coliforms	0/100ml	1992	0	0		0	0
E.coli	0/100ml	1996	0	0		0	0
TOTAL		3988	0				
Indicator Parameter	Indicator Valu	ue No. Test	s No. >Spec	(%)	Min	imum	Maximum
Colony Counts 22 deg	Co. Spec	1378	0			0	3
Colony Counts 37 deg	Co. Spec	1378	0		0		8

### Work in the Community, Personnel and Training, Health and Safety

Water Bottles for Schools

The Company has continued to promote the benefits to children of drinking water and as part of our 'Water for Health' initiative we have offered, a drinking water bottle at subsidised cost for every child in a local primary, infant and junior school.

The Water Bottles for Schools offer has gone from strength to strength with over 20,000 delivered.

Community Talks

Employees continue to give community talks to local schools, colleges, clubs and groups such as Age Concern, Rotary and the Women's Institute. In the last year in excess of 50 presentations have been given. To cope with the increasing demand a community talk team has been set up using volunteers from different disciplines within the Company.

Personnel and Training

The Company employs 222 people and believes it recruits and retains the right people key to the successful performance of the business.

The Company are firmly committed to the development of its employees and that they all should have opportunities to reach their full potential and during the year, a number have studied for Degrees, HNC's, and NVQ's along with associated professional qualifications.

The Company fully supports the principle of Modern Apprenticeships and all new employees within the Customer Services department under the age of 25 complete the Modern Apprenticeship scheme which leads to a NVQ level 3 qualification.

The Company believes staff membership of professional bodies brings significant benefits. Staff are encouraged to be members of the Institution of Water Officers (IWO), a professional body whose purpose is to promote the advancement of knowledge within the water industry. The IWO organises meetings, seminars, technical visits and conferences, as well as a variety of social events. These activities provide a shop window for the latest technological developments in the industry and a forum for the discussion of major

topics. The Company encourages staff to attend and gain benefit for both their personal and professional development.

Staff Turnover, excluding retirees was 8.1% in 2007/08 (2006/07: 8.2%), which compares favourably with the national average which was 15.5% in 2006 (Source – EEF Absence and Rehabilitation Survey 2007).

Total absence (days per employee per year) has remained at just under 4.5. The figure of 4.48 compares with 4.38 for last year and is below the average for private companies of the same size at 7.2 (Source: CIPD: Annual Survey Report 2007)

Visitors to Havant Thicket Winter Storage Reservoir exhibition at Rowlands Castle

## Work in the Community, Personnel and Training, Health and Safety

# Festivals and FairsThe Company, once again, sponsored the Primary Schools Science Fair which is promoted by<br/>the Portsmouth and South East Hampshire Business and Education partnership. The three-day<br/>event held within the historic Dockyard and utilising the HMS Warrior and Action Stations to<br/>house the exhibitor's stands saw over 1,200 children from local schools visiting the exhibits.This year, the Company demonstrations, designed by the Water Quality Department, featured<br/>river life, the various filtration processes used in water treatment, sampling techniques and a<br/>short session on water conservation.The Company also played an active part in the Water Festivals of Hampshire and West Sussex.<br/>This involved a tour of the River Itchen membrane works, a week of water experiments for<br/>visitors at Staunton Country Park and a stand at Arundel promoting water efficiency.Health and SafetyHealth and safety of employees is fundamental to the success of the business and the

Health and safety of employees is fundamental to the success of the business and the Company is committed to achieving high standards across the organisation. It has been 5 years since the Company embarked on a mission to improve its health and safety culture.

Last year the Company implemented a number of campaigns and initiatives, aimed at increasing staff awareness of health and safety issues. These included vibration and audio assessments, poster campaigns, tool box talks along with training in safety awareness and manual handling.

The graph below portrays a positive picture in respect of the improvement in the Company's health and safety performance, notably a fall in total accidents from 80 in 1998 to less than 10 in 2007.





The efforts of all employees were rewarded in March 2008 when the Company received a RoSPA Gold Award for occupational health and safety for the third consecutive year.



Portsmouth Water has been supplying water to Portsmouth and the surrounding area since 1857. The area supplied by the Company extends through South East Hampshire and West Sussex from the River Meon in the West to the River Arun in the east encompassing 868 sq kilometres.

The Company provides high quality public water supplies to a domestic population of 662,000, as well as many important industries, large defence establishments and varied commercial businesses.

Our promise to all of our customers is 'We aim to supply drinking water of the highest quality, providing high levels of customer service and excellent value for money'



#### Advice and Information

#### Helpful Advice

Visits to treatment works, talks and film shows can be arranged for school parties and local organisations. Our helpful staff are always available to give advice by contacting the address and telephone numbers given below:

Portsmouth Water Ltd PO Box 8 West Street Havant, Hampshire PO9 1LG

Telephone Nos.	
General Enquiries	023 9249 9888 (8.30 am to 4.30 pm, Monday – Friday
Emergency Service	023 9247 7999 (24 hours)
<b>Unmeasured Account Enquiries</b>	023 9249 9666 (8.30 am to 4.30 pm, Monday – Friday
<b>Measured Account Enquiries</b>	023 9244 9090 (8.30 am to 4.30 pm, Monday – Friday
Water Quality Enquiries	023 9244 9083 (8.30 am to 4.30 pm, Monday – Friday
Facsimile	023 9245 3632

Website E-mail 023 9245 3632 www.portsmouthwater.co.uk head.office@portsmouthwater.co.uk

Information about your water supply



Site of the proposed Havant Thicket Winter Storage Reservoir



Gaters Mill, River Itchen

Portsmouth Water is one of the oldest water companies in the country having been incorporated in 1857.

#### • Our Water Sources

Our water, of high quality, is derived from the chalk of the South Downs and is abstracted from wells, boreholes, springs and the River Itchen.

The springs at Havant and Bedhampton are thought to be the largest group of springs used for public supplies in Europe.

#### • Statistics

We serve 286,000 homes and businesses in an area covering 868 square kilometres (335 square miles) from the River Meon in Hampshire to the River Arun in West Sussex.

Every day we supply around 180 million litres (40 million gallons) of water to a population of more than 662,000 people at the lowest cost in England and Wales.

#### • Our Distribution Network

Water is supplied to our customers through a network of over 3200 kilometres (1990 miles) of underground water mains and more than 280,000 individual service connections, all of which are continuously maintained by our distribution staff.



**Portsmouth Water Ltd**