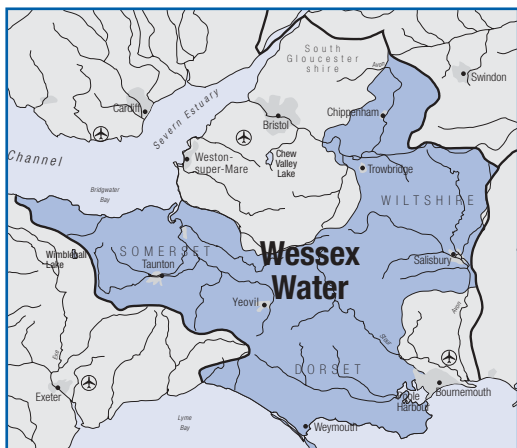


24 Wessex Water Services Limited

Overall Water Quality supplied by Wessex Water Services Limited in 2002

- A total of 163,599 tests were carried out on samples taken by Wessex Water Services in 2002.
- Of these tests, 99.93% complied with the Regulations.



Company Information

Amount of Water Supplied:	385 MI/d
Consumers Supplied:	1.2 million
Areas of Supply:	Dorset, the majority of Somerset, and parts of Wiltshire, Hampshire and Devon
Water Composition:	20% from rivers and reservoirs 80% from boreholes and aquifers
Treatment Works:	95
Service Reservoirs:	315
Km of Mains:	10,800
Water Supply Zones:	98

Water Quality at Treatment Works, in Service Reservoirs and in Water Supply Zones

To be wholesome, water must comply with the standards for the parameters set out in the Water Supply (Water Quality) Regulations 1989. In 2002, the Company carried out a total of 163,599 tests on samples taken at water treatment works, from service reservoirs and in water supply zones and of these, 99.93% complied with the relevant water quality standards set down in the Regulations. A list of the parameters, the relevant standards and their significance can be found at the beginning of this section.

Water Quality leaving Treatment works

	2002	2001	2000
Number of water treatment works	95	90	93
COLIFORMS			
Total number of tests	11,144	10,528	10,735
– number containing coliforms	7	8	8
– % containing coliforms	0.06%	0.08%	0.07%
Treatment works with coliforms detected	7	8	7
– % of all works with coliforms detected	7.37%	8.89%	7.53%
FAECAL COLIFORMS			
Total number of tests	11,162	10,530	10,743
– number containing faecal coliforms	1	1	2
– % containing faecal coliforms	0.01%	0.01%	0.02%
Treatment works with faecal coliforms detected	1	1	2
– % of all works with faecal coliforms detected	1.05%	1.11%	2.15%

Failures of the coliform and faecal coliform standards at six works in 2002 were considered trivial. Failure of the total coliform standard at a seventh works was considered unlikely to recur. Differences over the last three years in the number of treatment works, and in the number of tests carried out on samples from treatment works, in which coliforms or faecal coliforms were detected were not considered significant.

In 2002, 515 regulatory samples for *Cryptosporidium* were taken at five sites. Very low numbers of oocysts were detected in 11 samples from five sites. All results were well below the treatment standard and there were no reported outbreaks of cryptosporidiosis.

Water Quality in Service Reservoirs

	2002	2001	2000
Number of service reservoirs	315	320	325
COLIFORMS			
Total number of tests	16,839	16,903	17,129
– number containing coliforms	25	33	25
– % containing coliforms	0.15%	0.20%	0.15%
Service reservoirs with coliforms detected	21	29	19
Service reservoirs with coliforms detected in more than 5% of tests	1	0	2
– % of all service reservoirs	0.32%	0.00%	0.62%
FAECAL COLIFORMS			
Total number of tests	16,858	16,904	17,134
– number containing faecal coliforms	6	7	5
– % containing faecal coliforms	0.04%	0.04%	0.03%
Service reservoirs with faecal coliforms detected	5	6	5
– % of all service reservoirs with faecal coliforms detected	1.59%	1.88%	1.54%

There was a failure of the coliform standard at one service reservoir. However, the Company has taken action to prevent the failure recurring. Failures of the faecal coliform standard at four service reservoirs were considered trivial. Enforcement action was initiated for the failure of the faecal coliform standard at the remaining service reservoir. Differences over the last three years in the number of service reservoirs, and in the number of tests carried out on samples from service reservoirs, in which coliforms or faecal coliforms were detected were not considered significant.

Water Quality in Water Supply Zones

The table below shows the data for the key parameters and any other parameters where there was a failure of the standard. All other parameters were fully compliant.

Parameter	Total number of tests	Tests not meeting the prescribed concentration or value		Number of failures covered by Undertakings	Number of zones not complying with the standards		
		No	%		2002	2001	2000
Coliforms	4,892	8	0.16	0	0	0	0
Faecal coliforms	4,898	0	0.00	0	0	3	1
Colour	1,629	0	0.00	0	0	0	0
Turbidity	4,854	0	0.00	0	0	4	1
Odour	256	0	0.00	0	0	0	0
Taste	256	0	0.00	0	0	0	0
Hydrogen ion	4,854	0	0.00	0	0	0	0
Nitrate	4,419	5	0.11	4	2	6	2
Nitrite	4,503	2	0.04	0	2	3	0
Aluminium	1,355	0	0.00	0	0	1	0
Iron	3,199	25	0.78	11	21	10	11
Manganese	3,688	2	0.05	0	2	3	3
Lead	1,578	1	0.06	0	1	0	0
PAH	615	34	5.53	0	21	18	12
Trihalomethanes	338	0	0.00	0	0	0	0
Total pesticides	735	0	0.00	0	0	0	0
Atrazine	490	2	0.41	0	2	1	0
Simazine	490	0	0.00	0	0	1	0
Other pesticides	3,936	0	0.00	0	0	0	0
Benzo 3,4 Pyrene	615	1	0.16	0	0	0	0
Phosporus	195	1	0.51	0	1	1	0
All others	59,286	0	0.00	0	0	0	0
TOTAL	107,081	81	0.08%	15			

98 zones in 2002, 101 zones in 2001, 103 zones in 2000

The fifth column indicates the number of failures in zones already covered by legally binding undertakings given by the Company. These undertakings require remedial work to be carried out to ensure compliance with the individual standard.

The New Regulations

In 2002, the Company carried out monitoring for the six new parametric values set down in the new Water Supply (Water Quality) Regulations 2000. These Regulations come into force on 25 December 2003. The results are shown in the table below.

Parameter	Total number of tests	New standard	Tests not meeting the new standard
Benzene	342	1.0 µg/l	0
Bromate	379	10.0 µg/l	0
1,2 dichloroethane	342	3.0 µg/l	0
Nitrite (ex-water treatment works)	5,430	0.1 mg/l	1
<i>Clostridium perfringens</i>	219	0/100 ml	0
Enterococci	454	0/100 ml	0

Compliance data for 2002 has also been analysed against the revised standards and the results are shown in the following table.

Parameter	Total number of tests	Current standard	Number of tests not meeting current standard	Revised standard	Number of tests not meeting revised standard
Antimony	101	10.0 µg/l	0	5.0 µg/l	0
Arsenic	101	50.0 µg/l	0	10.0 µg/l	0
Boron	101	2.0 mg/l	0	1.0 mg/l	0
Copper	639	3.0 mg/l	0	2.0 mg/l	0
Lead	1,578	50.0 µg/l	1	25.0 µg/l ¹ 10.0 µg/l ²	10 35
Nickel	101	50.0 µg/l	0	20.0 µg/l	0
Nitrite (at consumers' taps)	4,503	0.1 mg/l	2	0.5 mg/l	0
PAH	615	0.2 µg/l	34	0.1 µg/l	0
Tetrachloroethene	337	30.0 µg/l	0	} 10.0 µg/l	0
Trichloroethene	337	10.0 µg/l	0		

Details of the new and revised standards, and the reasons for the revisions where applicable, can be found in chapter J "New Regulations and Associated Programmes of Work".

1 From 25.12.03

2 From 25.12.13

Company Audit and Inspection

The Company was inspected or audited by the Inspectorate or its appointed consultants on a number of occasions during 2002. Where relevant, report summaries are available in the 'Business and Technical' section of the Inspectorate's web site under 'Audit and Inspection'.

Audit or Inspection	Date
Audit of regulatory <i>Cryptosporidium</i> monitoring sites	Various dates throughout the year
Unannounced Inspection of laboratory analysing for <i>Cryptosporidium</i>	January 2002
Audit of epoxy lining procedures	January 2002
Audit of plumbosolvency treatment and control programmes	February 2002
Audit of progress with regulatory programmes of work	March 2002
Inspection of one water treatment works	July 2002
Review of the distribution system undertaking	September 2002
Audit of regulatory sampling arrangements	October 2002
Audit trails of ten test results	October 2002
Announced Inspection of laboratory analysing for <i>Cryptosporidium</i>	November 2002
Audit of <i>Cryptosporidium</i> sampling	November 2002
Audit of Membrane Integrity Testing	November 2002
Audit of response to selected consumer complaints	November 2002

A number of recommendations were made in respect of action required to avoid the risk of a breach of a regulatory duty. These recommendations were in relation to epoxy lining practice, plumbosolvency treatment and progress with other regulatory programmes of work, water treatment, sampling, the audit trails and the *Cryptosporidium* laboratory.

Incidents

The Inspectorate regarded two of the events notified during 2002 by the Company as incidents. For further details on the classification of incidents, see chapter C "Events affecting Water Quality" in Part 3.

Both of the incidents have been assessed by the Inspectorate. Each was of short duration and the Company has taken appropriate remedial action. A number of recommendations were made regarding GIS information records and valve procedures.

During the 2002 reporting period, assessment was also completed for one incident which occurred in 2001.

Nature of incident	No. of incidents	Assessment completed affected	Area affected	Population potentially	
Supply of discoloured water		1	Yes	Weymouth (January)	5,000
Loss of supplies		1	Yes	Broomfield (March)	210

Enforcement Action

The table below indicates areas where, in 2002, the Inspectorate considered taking enforcement action for regulatory breaches, and where an undertaking was submitted or where the Company took appropriate action.

Parameter/Area	Regulation breached	Location	Outcome
Iron	3(3)(c)	Cattistock zone	Undertaking accepted
Faecal coliforms	3(7)	South Hill Service Reservoir	Undertaking accepted

Undertakings and other Improvement Programmes

Water treatment works and service reservoirs

One undertaking was due for completion during 2002. This was to install treatment at Milborne St Andrew to remove nitrate. The programme was completed on schedule.

One Regulation 41 programme of work to meet the new and revised standards set down in the new Water Supply (Water Quality) Regulations 2000 was due for completion in 2002. This was to install treatment at Chipstable to remove arsenic. The programme was completed ahead of schedule.

Seven statements of intent to reduce the risk of *Cryptosporidium* breaching the treatment standards were due for completion during 2002. The programmes were completed on schedule except for two linked sites where delays were in part due to planning problems.

Two statements of intent for parameters other than *Cryptosporidium* were due for completion during 2002. These programmes were completed on schedule.

Distribution

The ongoing distribution system undertaking has been progressing satisfactorily. During 2002, 110 km of mains have been renovated. The Company is required to renovate a further 331 km of mains by December 2005.

Lead

The Company has a Regulation 41 programme of work to meet the revised standard for lead set down in the new Water Supply (Water Quality) Regulations 2000, which will come into force on 25 December 2003. Progress with the delivery of the programme is monitored by the Inspectorate and has been satisfactory.