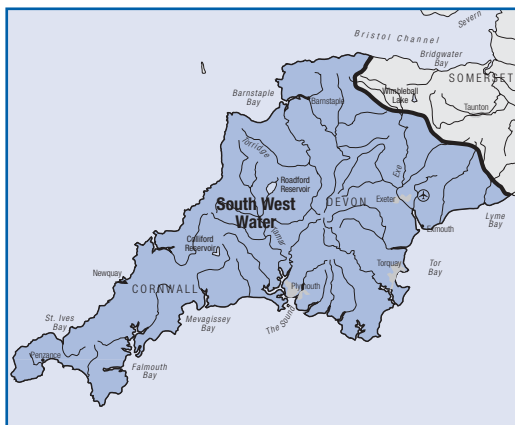


17 South West Water Limited

Overall Water Quality supplied by South West Water Limited in 2002

- A total of 172,739 tests were carried out on samples taken by South West Water Limited in 2002.
- Of these tests, 99.92% complied with the Regulations.



Company Information

Amount of Water Supplied:	445 MI/d
Consumers Supplied:	1.5 million
Areas of Supply:	Devon and Cornwall
Water Composition:	90% from rivers and reservoirs 10% from boreholes and aquifers
Treatment Works:	34
Service Reservoirs:	336
Km of Mains:	15,000
Water Supply Zones:	81

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 172,739 tests on samples taken at water treatment works, from service reservoirs and in water supply zones and of these, 99.92% 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	34	35	36
COLIFORMS			
Total number of tests	7,592	8,217	8,085
– number containing coliforms	2	10	10
– % containing coliforms	0.03%	0.12%	0.12%
Treatment works with coliforms detected	1	7	10
– % of all works with coliforms detected	2.94%	20.00%	27.78%
FAECAL COLIFORMS			
Total number of tests	7,593	8,221	8,086
– number containing faecal coliforms	0	0	1
– % containing faecal coliforms	0.00%	0.00%	0.01%
Treatment works with faecal coliforms detected	0	0	1
– % of all works with faecal coliforms detected	0.00%	0.00%	2.78%

The Inspectorate is monitoring the situation at one works where there were failures of the coliform standard. There were no failures of the faecal coliform standard at any works. There has been a significant decrease since 2001 in the number of treatment works and tests taken from treatment works in which total coliforms were detected. All other differences were not considered significant.

In 2002, 4,556 regulatory samples for *Cryptosporidium* were taken at 14 sites. Very low numbers of oocysts were detected in 22 samples from nine 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	336	339	351
COLIFORMS			
Total number of tests	17,978	18,194	18,495
– number containing coliforms	20	44	35
– % containing coliforms	0.11%	0.24%	0.19%
Service reservoirs with coliforms detected	18	43	30
Service reservoirs with coliforms detected in more than 5% of tests	2	0	2
– % of all service reservoirs	0.60%	0.00%	0.57%
FAECAL COLIFORMS			
Total number of tests	17,986	18,218	18,510
– number containing faecal coliforms	1	5	5
– % containing faecal coliforms	0.01%	0.03%	0.03%
Service reservoirs with faecal coliforms detected	1	5	5
– % of all service reservoirs with faecal coliforms detected	0.30%	1.47%	1.42%

There were failures of the coliform standard at two service reservoirs and the faecal coliform standard at one of these reservoirs. However, the Company has taken action to prevent the failures recurring. There has been a significant decrease since 2001 in the number of services reservoirs and tests taken from service reservoirs in which total coliforms were detected. All other differences 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	5,003	27	0.54	0	0	0	0
Faecal coliforms	5,005	1	0.02	0	1	1	2
Colour	2,751	0	0.00	0	0	0	0
Turbidity	2,751	0	0.00	0	0	2	1
Odour	920	0	0.00	0	0	0	0
Taste	919	0	0.00	0	0	0	0
Hydrogen ion	2,751	1	0.04	0	1	1	3
Nitrate	1,143	0	0.00	0	0	0	0
Nitrite	1,143	0	0.00	0	0	0	0
Aluminium	2,751	0	0.00	0	0	1	0
Iron	2,751	46	1.67	42	29	36	37
Manganese	2,751	7	0.25	5	4	9	8
Lead	517	3	0.58	0	3	2	2
PAH	489	32	6.54	20	14	17	11
Trihalomethanes	428	0	0.00	0	0	0	0
Total pesticides	1,534	0	0.00	0	0	0	0
2,4-D	1,457	0	0.00	0	0	11	0
Other pesticides	62,885	0	0.00	0	0	0	0
Benzo-3,4-pyrene	489	0	0.00	0	0	1	0
All others	18,596	0	0.0	0	0	0	0
TOTAL	117,034	117	0.10%	67			

81 zones in 2000, 2001 and 2002

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	229	1.0 µg/l	0
Bromate	397	10.0 µg/l	0
1,2 dichloroethane	229	3.0 µg/l	0
Nitrite (ex-water treatment works)	331	0.1 mg/l	0
<i>Clostridium perfringens</i>	190	0/100 ml	0
Enterococci	399	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	81	10.0 µg/l	0	5.0 µg/l	0
Arsenic	81	50.0 µg/l	0	10.0 µg/l	0
Boron	81	2.0 mg/l	0	1.0 mg/l	0
Copper	416	3.0 mg/l	0	2.0 mg/l	0
Lead	517	50.0 µg/l	3	25.0 µg/l ¹	7
				10.0 µg/l ²	32
Nickel	81	50.0 µg/l	0	20.0 µg/l	0
Nitrite (at consumers' taps)	1,143	0.1 mg/l	0	0.5 mg/l	0
PAH	489	0.2 µg/l	32	0.1 µg/l	0
Tetrachloroethene	428	30.0 µg/l	0	} 10.0 µg/l	0
Trichloroethene	428	10.0 µg/l	0		

Details of the new and revised standards, and the reasons for the revised standards 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
Review of plumbosolvency treatment and control programmes of work	January 2002
Unannounced inspection of laboratory analysing for <i>Cryptosporidium</i>	March 2002
Audit of regulatory <i>Cryptosporidium</i> sampler	March 2002
Audit of regulatory programmes of work	March 2002
Inspection of one water treatment works and one service reservoir	July 2002
Audit of response to selected consumer complaints	July 2002
Review of the distribution system undertaking	October 2002
Audit trails of ten test results	November 2002
Audit of regulatory sampler	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 the audit trails, the treatment works, sampling, distribution audit, plumbosolvency treatment for lead and the *Cryptosporidium* laboratory.

Incidents

The Inspectorate regarded five 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.

Four 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 notification, liaison and other procedures.

One incident assessment from 2002 remains under consideration.

Nature of incident	No. of incidents	Assessment completed affected	Area affected	Population potentially	
Supply of discoloured water	3	Yes	Wadebridge (February), Looe (February), Bideford (March)	9,000	
				4,000	
				30,000	
Visual/Chemical contamination of supplies (through raw water)	1	Yes	Wendron (April)	14,000	
Microbiological contamination of supplies	1	Yes	Heamoor (August)	1,375	

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)	St Columb Major water supply zone	Undertaking accepted

Undertakings and other Improvement Programmes

Water treatment works and service reservoirs

Eleven statements of intent to reduce the risk of *Cryptosporidium* breaching the treatment standards were due for completion during 2002. Five schemes were completed on schedule. A further three schemes were completed after minor delays during commissioning. Two schemes were delayed due to significant revision of the schemes and the remaining scheme was delayed because of a ground collapse on the site.

No other improvement programmes were due for completion during 2002.

Distribution

The ongoing distribution system undertaking has been progressing satisfactorily. During 2002, 390 km of mains have been renovated. The Company is required to renovate a further 4,789 km of mains by December 2010.

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 programmes is monitored by the Inspectorate and has been satisfactory.