

Performance Tables and Data

These tables provide a summary of the monitoring that Scottish Water has undertaken for the reporting year 2018 and reported to the Drinking Water Quality Regulator for Scotland (DWQR) and Scottish Ministers. Tables are also provided which show comparative performance over a number of years. These tables are published as part of DWQR's Annual Report on the Quality of Public Drinking Water Supplies in Scotland 2018 which is available on our website at www.dwqr.scot. The number of assets for which monitoring was required are shown in Table 1.

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Table 1 – Summary Asset Information

Summary Information	
Length of Water Mains (km)	48,781 km
Number of Water Treatment Works	238
Number of Service Reservoirs	975
Number of Water Supply Zones	300
Population served	5,369,823
Volume of water supplied	1.8 billion litres per day

Table 2 – Quality of Water leaving water treatment works

Parameter	Prescribed Concentration or Value PCV	No. of tests	No. of tests failing	% of tests failing	No. of works failing
Coliform bacteria	0 number/100ml	25,538	24	0.09	23
Colony counts after 3 days at 22°C	No abnormal change	24,571	-	-	-
Colony counts after 48 hrs at 37°C	No abnormal change	24,593	-	-	-
<i>Cryptosporidium</i>	n/a No Regulatory standard	8,764	35	0.40	23
<i>E. coli</i>	0 number/100ml	25,538	0	0.00	0
Nitrite	0.1 mg NO ₂ /l	2,980	0	0.00	0
Residual disinfectant - free	n/a	25,542	-	-	-
Residual disinfectant - total	n/a	25,543	-	-	-
Turbidity	1 NTU	6,859	9	0.13	9

Table 3 – Microbiological quality of water leaving treatment works – comparative performance

Coliform Bacteria	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Number of tests	25,538	25,801	26,021	24,866	26,814	26,888	27,305	28,792	29,097	30,997	31,488
Number containing coliforms	24	22	33	16	40	17	33	49	44	30	76
Percentage containing coliforms	0.09	0.09	0.13	0.06	0.15	0.06	0.12	0.17	0.15	0.10	0.24
<i>E.coli</i>											
Number of tests	25,538	25,801	26,021	24,865	26,814	26,888	27,304	28,794	29,097	30,997	31,487
Number containing faecal coliforms	0	1	2	0	2	1	3	5	8	6	10
Percentage containing faecal coliforms	0	0.01	0.01	0.00	0.01	0.00	0.01	0.02	0.03	0.02	0.03

Table 4 – Chemical quality of water leaving treatment works – comparative performance

Nitrite	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Number of tests	2,980	2,853	2,801	2,836	2,856	2,824	2,790	2,910	2,859	2,993	3,028
Number of tests exceeding standard	0	0	3	0	0	0	0	1	3	4	2
Percentage of tests exceeding standard	0	0	0.11	0.00	0.00	0.00	0.00	0.03	0.10	0.13	0.07
Turbidity											
Number of tests	6,859	7,060	7,127	7,150	7,347	7,298	7,331	7,745	7,855	8,123	8,250
Number of tests exceeding standard	9	10	10	10	13	12	10	24	28	26	33
Percentage of tests exceeding standard	0.13	0.14	0.14	0.14	0.18	0.16	0.14	0.31	0.36	0.32	0.4

Table 5 – *Cryptosporidium* detections at treatment works – comparative performance

<i>Cryptosporidium</i>	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Number of tests	8,764	9,087	9,737	9,483	8,851	8,300	8,739	8,919	9,386	10,386	11,002
Number of samples containing <i>Cryptosporidium</i> oocysts	35	44	87	84	124	118	217	378	312	409	471
% of samples containing <i>Cryptosporidium</i> oocysts	0.4	0.48	0.89	0.89	1.40	1.42	2.48	4.24	3.32	3.94	4.28
Number of treatment works sampled for <i>Cryptosporidium</i>	238	234	238	238	241	252	267	264	270	281	292
Number of treatment works with one or more samples containing oocysts	23	20	28	26	51	43	77	91	88	93	87
% of treatment works with one or more samples containing oocysts	9.66	8.55	11.76	10.92	21.16	17.06	28.84	34.47	32.59	33.10	29.79

Table 6 – Quality of water leaving service reservoirs

Parameter	Prescribed Concentration or Value PCV	No. of tests	No. of tests failing	% of tests failing	No. of reservoirs failing
Coliform Bacteria	0 number/100ml	49,093	66	0.13	62
<i>E. coli</i>	0 number/100ml	49,094	2	0.00	2
Colony counts after 3 days at 22°C	No abnormal change	47,053	-	-	-
Colony counts after 48 hrs at 37°C	No abnormal change	47,172	-	-	-
Residual disinfectant - free	n/a	49,021	-	-	-
Residual disinfectant - total	n/a	49,018	-	-	-

Table 7 – Quality of water leaving service reservoirs – comparative performance

Coliform Bacteria	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Number of tests	49,093	50,048	50,323	49,575	51,533	51,523	52,226	51,952	49,877	53,001	55,104
Number containing coliforms	66	68	53	63	104	73	109	122	106	137	137
% containing coliforms	0.13	0.14	0.11	0.13	0.20	0.14	0.21	0.23	0.21	0.26	0.25
<i>E Coli</i>											
Number of tests	49,094	50,048	50,323	49,573	51,533	51,591	52,226	51,952	49,877	53,001	55,102
Number containing faecal coliforms	2	5	4	5	2	5	7	13	9	12	11
% containing faecal coliforms	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.03	0.02	0.02	0.02

Table 8 – Quality of water at consumers’ taps

Parameter	Prescribed Concentration or Value PCV	Total No. of Samples	No of Failed Samples	No. of Zones with Failures	2018% Compliance	2017 % Compliance	2016 % Compliance
Key Parameters							
Coliform Bacteria	0 number/100ml	15,100	42	33	99.72	99.76	99.74
E. coli	0 number/100ml	15,100	3	3	99.98	99.99	99.99
Colour	20 mg/l Pt/Co	5,454	0	0	100.00	100.00	100.00
Turbidity	4 NTU	5,457	3	3	99.95	99.96	99.98
Hydrogen ion (pH)	6.5 (min) 9.5 (max)	5,457	5	5	99.91	99.88	99.98
Aluminium	200 µg Al/l	5,422	6	5	99.89	99.90	99.98
Iron	200 µg Fe/l	5,422	36	29	99.34	99.38	99.54
Manganese	50 µg Mn/l	5,422	17	15	99.69	99.78	99.80
Lead (10)	10 µg Pb/l	1,590	15	14	99.06	99.05	99.13
Total Trihalomethanes	100 µg/l	1,597	8	7	99.50	99.56	99.47
Other Parameters							
1,2 Dichloroethane	3.0 µg/l	1,595	0	0	100.00	99.76	100.00
Aldrin	0.1 µg/l	0	0	0	-	99.99	100.00
All Other Individual Pesticides	0.1 µg/l	9,822	0	0	100.00	99.96	100.00
Ammonium	0.50 mg NH ₄ /l	5,456	0	0	100.00	99.96	99.98
Antimony	5.0 µg Sb/l	1,590	0	0	100.00	99.88	100.00
Arsenic	10 µg As/l	1,590	0	0	100.00	99.90	100.00
Benzene	1.0 µg/l	1,623	0	0	100.00	99.38	100.00
Benzo 3,4 Pyrene	0.010 µg/l	1,594	1	1	99.94	99.78	99.93
Boron	1.0 mg B/l	1,586	0	0	100.00	99.05	100.00
Bromate	10 µg BrO ₃ /l	1,588	0	0	100.00	99.56	100.00
Cadmium	5.0 µg Cd/l	1,590	0	0	100.00	100.00	100.00
Chloride	250 mg Cl/l	1,591	0	0	100.00	100.00	100.00
Chromium	50 µg Cr/l	1,592	0	0	100.00	100.00	100.00
Clostridium perfringens	0 number/100ml	5,423	2	2	99.96	99.98	99.88
Conductivity	2500 µS/cm at 20°C	5,457	0	0	100.00	100.00	100.00

Parameter	Prescribed Concentration or Value PCV	Total No. of Samples	No of Failed Samples	No. of Zones with Failures	2018% Compliance	2017 % Compliance	2016 % Compliance
Copper	2.0 mg Cu/l	1,590	0	0	100.00	99.93	100.00
Cyanide	50 µg CN/l	1,584	0	0	100.00	100.00	100.00
Dieldrin	0.1 µg/l	5	0	0	100.00	100.00	100.00
Enterococci	0 number/100ml	1,589	0	0	100.00	100.00	99.93
Fluoride	1.5 mg F/l	1,590	0	0	100.00	100.00	100.00
Heptachlor	0.03 µg/l	1	0	0	100.00	100.00	100.00
Heptachlor epoxide	0.1 µg/l	33	0	0	100.00	100.00	100.00
Mercury	1.0 µg Hg/l	1,583	0	0	100.00	100.00	100.00
Nickel	20 µg Ni/l	1,590	2	2	99.87	99.93	99.60
Nitrate	50 mg NO ₃ /l	2,641	0	0	100.00	100.00	100.00
Nitrite	0.5 mg NO ₂ /l	2,641	3	3	99.89	99.58	99.71
Nitrite/Nitrate formula	< 1 mg/l	2,641	0	0	100.00	100.00	100.00
Odour	No abnormal change	5,459	5	5	99.91	99.96	99.88
PAH - Sum of 4 Substances	0.1 µg/l	1,594	0	0	100.00	100.00	99.93
Pesticides - Total Substances	0.5 µg/l	1,934	0	0	100.00	100.00	100.00
Radon	100 Bq/l	41	2	2	95.12	99.55	98.84
Selenium	10 µg Se/l	1,590	0	0	100.00	100.00	100.00
Sodium	200 mg Na/l	1,586	0	0	100.00	100.00	100.00
Sulphate	250 mg SO ₄ /l	1,586	0	0	100.00	100.00	100.00
Taste	3 dilutions	5,456	1	1	99.98	99.98	99.90
Tetrachloroethene/Trichloroethene (sum of the two substances)	10 µg/l	1,611	0	0	100.00	100.00	100.00
Tetrachloromethane	3 µg/l	1,623	0	0	100.00	100.00	100.00
Scotland		148,086	151	92	99.90	99.91	99.91

Table 9 – Water quality related consumer contacts received by Scottish Water

Contact Category	Number of Contacts				% Change on 2017	Contact rate per 10,000 population			
	2018	2017	2016	2015		2018	2017	2016	2015
Appearance									
Discoloured Water	6,062	4,710	6,056	6,160	28.7	11	9.4	12.1	12.3
Aerated (Milky) Water	1,072	1,195	1,173	1,802	-10.3	2	2.4	2.4	3.6
Particles in Water	455	551	610	498	-17.4	1	1.1	1.2	1.0
Organisms in Water	38	39	68	59	-2.6	0	0.1	0.1	0.1
Taste and Odour									
Chlorine	738	747	996	774	-9.0	1	1.5	2.0	1.5
Metallic	349	430	484	441	-18.8	1	0.9	1.0	0.9
Solvent/Fuel Taste/Smell	36	61	46	368	-41.0	0	0.1	0.1	0.7
Musty/Earthy	712	908	682	607	-21.6	1	1.8	1.4	1.2
TCP/Chemical Taste/Smell	367	340	331	336	7.9	1	0.7	0.7	0.7
Other contact about Water Quality									
Illness due to Water	287	258	213	200	11.2	1	0.5	0.4	0.4
Other Contact	8	0	0	0	800.0	0	0.0	0.0	0.0
Total Contacts about Water Quality	10,124	9,239	10,659	11,245	9.6	19	18.5	21.3	22.5