

Performance Tables and Data

These tables provide a summary of the monitoring that Scottish Water has undertaken for the reporting year 2017 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 2017 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)	~47,000 km
Number of Water Treatment Works	238
Number of Service reservoirs	972
Number of Water Supply Zones	286
Population served	4,997,796
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	25,801	22	0.09	20
Colony counts after 3 days at 22°C	No abnormal change	25,772	-	-	-
Colony counts after 48 hrs at 37°C	No abnormal change	25,772	-	-	-
<i>Cryptosporidium</i> *	n/a	9,087	44	0.48	20
<i>E. coli</i>	0 number/100ml	25,801	1	0.01	1
Nitrite	0.1 mg NO ₂ /l	2,853	0	0.00	0
Residual disinfectant - free	n/a	25,804	-	-	-
Residual disinfectant - total	n/a	25,804	-	-	-
Turbidity	1 NTU	7,060	10	0.14	9
Radon	100 Bq/l (action level)	183	1	0.50	1

* Data presented for *Cryptosporidium* relates to the number of detections of oocysts – these are not failing tests

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

Coliform Bacteria	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Number of tests	25,801	26,021	24,866	26,814	26,888	27,305	28,792	29,097	30,997	31,488	32,534
Number containing coliforms	22	33	16	40	17	33	49	44	30	76	33
Percentage containing coliforms	0.09	0.13	0.06	0.15	0.06	0.12	0.17	0.15	0.10	0.24	0.10
<i>E. coli</i>											
Number of tests	25,801	26,021	24,865	26,814	26,888	27,304	28,794	29,097	30,997	31,487	35,534
Number containing faecal coliforms	1	2	0	2	1	3	5	8	6	10	10
Percentage containing faecal coliforms	0.01	0.01	0.00	0.01	0.00	0.01	0.02	0.03	0.02	0.03	0.03

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

Nitrite	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Number of tests	2,853	2,801	2,836	2,856	2,824	2,790	2,910	2,859	2,993	3,028	3,128
Number of tests exceeding standard	0	3	0	0	0	0	1	3	4	2	3
Percentage of tests exceeding standard	0	0.11	0.00	0.00	0.00	0.00	0.03	0.10	0.13	0.07	0.09
Turbidity											
Number of tests	7,060	7,127	7,150	7,347	7,298	7,331	7,745	7,855	8,123	8,250	8,514
Number of tests exceeding standard	10	10	10	13	12	10	24	28	26	33	71
Percentage of tests exceeding standard	0.14	0.14	0.14	0.18	0.16	0.14	0.31	0.36	0.32	0.4	0.83

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

<i>Cryptosporidium</i>	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Number of tests	9,087	9,737	9,483	8,851	8,300	8,739	8,919	9,386	10,386	11,002	11,393
Number of samples containing <i>Cryptosporidium</i> oocysts	44	87	84	124	118	217	378	312	409	471	927
% of samples containing <i>Cryptosporidium</i> oocysts	0.48	0.89	0.89	1.40	1.42	2.48	4.24	3.32	3.94	4.28	8.14
Number of treatment works sampled for <i>Cryptosporidium</i>	234	238	238	241	252	267	264	270	281	292	300
Number of treatment works with one or more containing oocysts	20	28	26	51	43	77	91	88	93	87	138
% of treatment works with one or more samples containing oocysts	8.55	11.76	10.92	21.16	17.06	28.84	34.47	32.59	33.10	29.79	46.00

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	50,048	68	0.14	62
<i>E. coli</i>	0 number/100ml	50,048	5	0.01	5
Colony counts after 3 days at 22°C	No abnormal change	50,027	-	-	-
Colony counts after 48 hrs at 37°C	No abnormal change	50,027	-	-	-
Residual disinfectant - free	n/a	50,056	-	-	-
Residual disinfectant - total	n/a	50,056	-	-	-

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

Coliform Bacteria	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Number of tests	50,048	50,323	49,575	51,533	51,523	52,226	51,952	49,877	53,001	55,104	56,277
Number containing coliforms	68	53	63	104	73	109	122	106	137	137	127
% containing coliforms	0.14	0.11	0.13	0.20	0.14	0.21	0.23	0.21	0.26	0.25	0.23
E Coli											
Number of tests	50,048	50,323	49,573	51,533	51,591	52,226	51,952	49,877	53,001	55,102	56,277
Number containing faecal coliforms	5	4	5	2	5	7	13	9	12	11	16
% containing faecal coliforms	0.01	0.01	0.01	0.00	0.01	0.01	0.03	0.02	0.02	0.02	0.03

Table 8 – Quality of water at consumers’ taps

Parameter	Prescribed Concentration or Value PCV	No. of tests	No. of tests failing	% of tests failing	No. of zones failing
1,2 Dichloroethane	3.0 µg/l	1589	0	0.00	0
2,4,-Db	0.1 µg/l	792	0	0.00	0
2,4-D	0.03 µg/l	700	0	0.00	0
Aldrin	0.1 µg/l	20	0	0.00	0
Aluminium	200 µg Al/l	5008	5	0.10	5
Ammonium	0.50 mg NH ₄ /l	5041	1	0.02	1
Antimony	5.0 µg Sb/l	1483	0	0.00	0
Arsenic	10 µg As/l	1479	0	0.00	0
Asulam	0.1 µg/l	238	0	0.00	0
Atrazine	0.1 µg/l	498	0	0.00	0
Benzene	1.0 µg/l	1569	0	0.00	0
Benzo 3,4 Pyrene	0.010 µg/l	1493	0	0.00	0
Boron	1.0 mg B/l	1489	0	0.00	0
Bromate	10 µg BrO ₃ /l	1494	0	0.00	0
Cadmium	5.0 µg Cd/l	1479	0	0.00	0
Chloride	250 mg Cl/l	1490	0	0.00	0
Chlortoluron	0.1 µg/l	312	0	0.00	0
Chromium	50 µg Cr/l	1479	0	0.00	0
Clostridium perfringens	0 number/100ml	5013	1	0.02	1
Coliform Bacteria	0 number/100ml	14037	34	0.24	23
Colony Counts After 3 Days At 22@°C	No abnormal change	5049	0	0.00	0
Colony Counts After 48 Hours At 37@°C	No abnormal change	5047	0	0.00	0
Colour	20 mg/l Pt/Co	5038	0	0.00	0
Conductivity	2500 µS/cm at 20oC	5039	0	0.00	0
Copper	2.0 mg Cu/l	1479	1	0.07	1
Cyanide	50 µg CN/l	1489	0	0.00	0
Cypermethrin	0.1 µg/l	552	0	0.00	0

Parameter	Prescribed Concentration or Value PCV	No. of tests	No. of tests failing	% of tests failing	No. of zones failing
Diazinon	0.1 µg/l	6	0	0.00	0
Dicamba	0.03 µg/l	700	0	0.00	0
Dieldrin	0.1 µg/l	21	0	0.00	0
Diuron	0.1 µg/l	313	0	0.00	0
E. coli	0 number/100ml	14037	2	0.01	2
Enterococci	0 number/100ml	1491	0	0.00	0
Flumethrin	0.1 µg/l	554	0	0.00	0
Fluoride	1.5 mg F/l	1491	0	0.00	0
Gamma-HCH (Lindane)	0.03 µg/l	301	0	0.00	0
Heptachlor	0.03 µg/l	417	0	0.00	0
Heptachlor epoxide	0.1 µg/l	473	0	0.00	0
Hydrogen ion (pH)	6.5 (min) 9.5 (max)	5039	6	0.12	5
Iron	200 µg Fe/l	5007	31	0.62	25
Isoproturon	0.1 µg/l	336	0	0.00	0
Lead (10)	10 µg Pb/l	1479	14	0.95	13
Linuron	0.1 µg/l	313	0	0.00	0
Manganese	50 µg Mn/l	5008	11	0.22	9
MCPA	0.1 µg/l	792	3	0.38	2
MCPB	0.1 µg/l	792	0	0.00	0
MCPB(Mecoprop)	0.1 µg/l	792	1	0.13	1
Mercury	1.0 µg Hg/l	1490	0	0.00	0
Metaldehyde	0.1 µg/l	336	0	0.00	0
Metazachlor	0.1 µg/l	156	0	0.00	0
Metsulfuron	0.1 µg/l	156	0	0.00	0
Nickel	20 µg Ni/l	1479	1	0.07	1
Nitrate	50 mg NO ₃ /l	2403	0	0.00	0
Nitrite	0.5 mg NO ₂ /l	2404	10	0.42	5
Diazinon	0.1 µg/l	6	0	0.00	0

Parameter	Prescribed Concentration or Value PCV	No. of tests	No. of tests failing	% of tests failing	No. of zones failing
Nitrite/Nitrate formula	< 1 mg/l	2403	0	0.00	0
Odour	No abnormal change	5039	2	0.04	2
PAH - Sum of 4 Substances	0.1 µg/l	1493	0	0.00	0
Permethrin	0.1 µg/l	552	0	0.00	0
Pesticides - Total Substances	0.5 µg/l	2370	0	0.00	0
Propetamphos	0.1 µg/l	1015	0	0.00	0
Selenium	10 µg Se/l	1479	0	0.00	0
Simazine	0.1 µg/l	351	0	0.00	0
Sodium	200 mg Na/l	1489	0	0.00	0
Sulphate	250 mg SO ₄ /l	1489	0	0.00	0
Taste	3 dilutions	5040	1	0.02	1
Tetrachloroethene/Trichloroethene - Sum of 2 Substances	10 µg/l	1559	0	0.00	0
Tetrachloromethane	3 µg/l	1577	0	0.00	0
Thifensulfuron-methyl	0.1 µg/l	156	0	0.00	0
Total organic carbon	No abnormal change	1524	0	0.00	0
Total Trihalomethanes	100 µg/l	1581	7	0.44	4
Tribenuron-methyl	0.1 µg/l	156	0	0.00	0
Turbidity	4 NTU	5039	2	0.04	2

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

Contact Category	Number of Contacts				% Change on 2016	Contact rate per 10,000 population			
	2017	2016	2015	2014		2017	2016	2015	2014
Appearance									
Discoloured Water	4,710	6,056	6,160	9,278	-22.2	9.4	12.1	12.3	18.3
Aerated (Milky) Water	1,195	1,173	1,802	1,558	1.9	2.4	2.4	3.6	3.1
Particles in Water	551	610	498	515	-9.7	1.1	1.2	1.0	1.0
Organisms in Water	39	68	59	54	-42.6	0.1	0.1	0.1	0.1
Taste and Odour									
Chlorine	747	996	774	1,022	-25.0	1.5	2.0	1.5	2.0
Metallic	430	484	441	417	-11.2	0.9	1.0	0.9	0.8
Solvent/Fuel Taste/Smell	61	46	368	49	32.6	0.1	0.1	0.7	0.1
Musty/Earthy	908	682	607	616	33.0	1.8	1.4	1.2	1.2
TCP/Chemical Taste/Smell	340	331	336	352	2.7	0.7	0.7	0.7	0.7
Other contact about Water Quality									
Illness due to Water	258	213	200	151	21.1	0.5	0.4	0.4	0.3
Other Contact	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Total Contacts about Water Quality	9,239	10,659	11,245	14,012	-13.3	18.5	21.3	22.5	27.7