

## 6. SUPPORTING INFORMATION

### 6.1 Public Supply Performance Tables

**Table 13** Summary of Scottish Water Assets

Summary Asset Information	
Loch and Reservoir Sources	184
River Sources	173
Spring and Borehole Sources	84
Length of Water Mains (miles)	30,287
Water Treatment Works	233
Storage Points	975
Water Supply Zones	285
Water supplied per day	1.6 billion litres

**Table 14** Quality of Water leaving WTW

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	25,619	32	0.12	28
Colony counts after 3 days at 22°C	No abnormal change	12,883	0	0.00	0
Colony counts after 48hrs at 37°C	No abnormal change	12,880	0	0.00	0
<i>Cryptosporidium</i> *	N/A - no regulatory standard	9,101	38	0.40	11
<i>E. coli</i>	0 number/100ml	25,619	3	0.01	3
Nitrite	0.1mg NO <sub>2</sub> /l	3,250	0	0.00	0
Residual disinfectant - free	N/A - no regulatory standard	25587	0	0.00	0
Residual disinfectant - total	N/A - no regulatory standard	25584	0	0.00	0
Turbidity	1NTU	7,026	8	0.00	6

\**Cryptosporidium* has no regulatory standard. There were 38 detections of *Cryptosporidium* oocysts in the final water at WTW of which 8 were reported as water quality failures under the terms set out by DWQR in Information Notice 2016/1.

**Table 15** Microbiological quality leaving WTW

<b>Coliform Bacteria</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>
Number of tests	25,619	25,538	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	32	24	22	33	16	40	17	33	49	44	30	76	33
Percentage containing coliforms	0.12	0.09	0.09	0.13	0.06	0.15	0.06	0.12	0.17	0.15	0.10	0.24	0.10
<b><i>E.coli</i></b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>
Number of tests	25,619	25,538	25,801	26,021	24,865	26,814	26,888	27,304	28,794	29,097	30,997	31,487	32,534
Number containing faecal coliforms	3	0	1	2	0	2	1	3	5	8	6	10	10
Percentage containing faecal coliforms	0.01	0	0.01	0.01	0.00	0.01	0.00	0.01	0.02	0.03	0.02	0.03	0.03

**Table 16** Chemical quality leaving WTW

<b>Nitrite</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>
Number of tests	3,250	2,980	2,853	2,801	2,836	2,856	2,824	2,790	2,910	2,859	2,993	3,028	3,182
Number of tests exceeding standard	0	0	0	3	0	0	0	0	1	3	4	2	3
Percentage of tests exceeding standard	0	0	0	0.11	0	0	0	0	0.03	0.10	0.13	0.07	0.09
<b>Turbidity</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>
Number of tests	7,026	6,859	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	8	9	10	10	10	13	12	10	24	28	26	33	71
Percentage of tests exceeding standard	0.00	0.13	0.14	0.14	0.14	0.18	0.16	0.14	0.31	0.36	0.32	0.40	0.83

**Table 17** *Cryptosporidium* oocysts in water leaving WTW

<i>Cryptosporidium</i>	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Number of tests	9,101	8,764	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	38	35	44	87	84	124	118	217	378	312	409	471	927
% of samples containing <i>Cryptosporidium</i> oocysts	0.40	0.40	0.48	0.89	0.89	1.40	1.42	2.48	4.24	3.32	3.94	4.28	8.14
No. of WTW sampled for <i>Cryptosporidium</i>	230	238	234	238	238	241	252	267	264	270	281	292	300
No. of WTW with one or more samples containing oocysts	11	23	20	28	26	51	43	77	91	88	93	87	138
% of WTW with one or more samples containing oocysts	4.78	9.66	8.55	11.76	10.92	21.16	17.06	28.84	34.47	32.59	33.10	29.79	46.00

\**Cryptosporidium* has no regulatory standard. There were 38 detections of *Cryptosporidium* oocysts in the final water at WTW of which 8 were reported as water quality failures under the terms set out by DWQR in Information Notice 2016/1.

**Table 18** Quality of Water leaving SR

Parameter	Prescribed Concentration or Value (PCV)	No. of tests	No. of tests failing	% of tests failing	No. of SR failing
Coliform bacteria	0 number/100ml	49,625	72	0.15	67
Colony counts after 3 days at 22°C	No abnormal change	24,698	0	0.00	0
Colony counts after 48hrs at 37°C	No abnormal change	24,665	0	0.00	0
<i>E. coli</i>	0 number/100ml	49,625	6	0.01	5
Residual disinfectant - free	N/A - no regulatory standard	49,612	0	0.00	0
Residual disinfectant - total	N/A - no regulatory standard	49,607	0	0.00	0

**Table 19** Microbiological quality leaving SR

Coliform Bacteria	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Number of tests	49,625	49,093	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	72	66	68	53	63	104	73	109	122	106	137	137	127
% containing coliforms	0.15%	0.13%	0.14%	0.11%	0.13%	0.20%	0.14%	0.21%	0.23%	0.21%	0.26%	0.25%	0.23%
<i>E.coli</i>	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Number of tests	49,625	49,094	50,048	50,323	49,573	51,533	51,591	52,226	51,952	49,877	53,001	55,102	56,277
No. containing faecal coliforms	6	2	5	4	5	2	5	7	13	9	12	11	16
% containing faecal coliforms	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.03%	0.02%	0.02%	0.02%	0.03%

**Table 20** Parameters of Water Quality at Consumers' Taps

Parameter	Prescribed Concentration or Value (PCV)	Total No. of Samples	No. Failed Samples	No. Zones with Failures	% Compliance in 2019	% Compliance in 2018	% Compliance in 2017
<b>Key Parameters</b>							
<b>Bacteria</b>							
Coliform Bacteria	0 number/100ml	14,925	37	26	<b>99.75</b>	99.72	99.76
<i>E. coli</i>	0 number/100ml	14,925	2	2	<b>99.99</b>	99.98	99.99
<i>Clostridium perfringens</i>	0 number/100ml	5,217	3	3	<b>99.94</b>	99.96	99.98
<b>Total bacteria</b>		35,067	42		<b>99.88</b>		
<b>Metals</b>							
Aluminium	200µg Al/l	5,199	0	0	<b>100.00</b>	99.89	99.90
Iron	200µg Fe/l	5,199	37	21	<b>99.29</b>	99.34	99.38
Lead (10)	10µg Pb/l	1,499	7	6	<b>99.53</b>	99.06	99.05
Manganese	50µg Mn/l	5,199	10	10	<b>99.81</b>	99.69	99.78
Nickel	20µg Ni/l	1,500	1	1	<b>99.93</b>	99.87	99.93
<b>Total metals</b>		18,596	55		<b>99.70</b>		
<b>Other key parameters</b>							
Colour	20mg/l Pt/Co	5,249	0	0	<b>100.00</b>	100.00	100.00
Hydrogen ion (pH)	6.5-9.5 pH	5,254	1	1	<b>99.98</b>	99.91	99.88
Nitrite	0.5mg NO <sub>2</sub> /l	2,781	3	2	<b>99.98</b>	99.89	99.58
Odour	No abnormal change	5,256	5	5	<b>99.90</b>	99.91	99.96
Radon	100Bq/l	0	0	0	<b>100.00</b>	95.12	99.55
Taste	3 dilutions	5,255	2	2	<b>99.96</b>	99.98	99.98
Total Trihalomethanes	100µg/l	1,494	3	3	<b>99.80</b>	99.50	99.56
Turbidity	4 NTU	5,254	1	1	<b>99.98</b>	99.95	99.96
<b>Total other key parameters</b>		30,543	15		<b>99.95</b>		

Parameter	Prescribed Concentration or Value (PCV)	Total No. of Samples	No. Failed Samples	No. Zones with Failures	% Compliance in 2019	% Compliance in 2018	% Compliance in 2017
<b>Other Parameters</b>							
1,2 Dichloroethane	3µg/l	1,495	0	0	<b>100.00</b>	100.00	99.76
Aldrin	0.1µg/l	0	0	0	-	-	99.99
All Other Individual Pesticides*	0.1µg/l	4,798	1	1	<b>99.98</b>	100.00	99.96
Ammonium	0.5mg NH <sub>4</sub> /l	5,252	0	0	<b>100.00</b>	100.00	99.96
Antimony	5µg Sb/l	1,495	0	0	<b>100.00</b>	100.00	99.88
Arsenic	10µg As/l	1,500	0	0	<b>100.00</b>	100.00	99.90
Benzene	1µg/l	1,494	0	0	<b>100.00</b>	100.00	100.00
Benzo 3,4 Pyrene	0.01µg/	1,502	0	0	<b>100.00</b>	99.94	100.00
Boron	1mg B/l	1,501	0	0	<b>100.00</b>	100.00	100.00
Bromate	10µg BrO <sub>3</sub> /l	1,500	0	0	<b>100.00</b>	100.00	100.00
Cadmium	5µg Cd/l	1,500	0	0	<b>100.00</b>	100.00	100.00
Chloride	250mg Cl/l	1,503	0	0	<b>100.00</b>	100.00	100.00
Chromium	50µg Cr/l	1,497	0	0	<b>100.00</b>	100.00	100.00
Conductivity	2500µS/cm at 20°C	5,254	0	0	<b>100.00</b>	100.00	100.00
Copper	2mg Cu/l	1,501	0	0	<b>100.00</b>	100.00	99.93
Cyanide	50µg CN/l	1,499	0	0	<b>100.00</b>	100.00	100.00
Dieldrin	0.1µg/l	8	0	0	<b>100.00</b>	100.00	100.00
Enterococci	0 number/100ml	1,505	1	1	<b>99.93</b>	100.00	100.00
Fluoride	1.5mg F/l	1,500	0	0	<b>100.00</b>	100.00	100.00
Gross alpha activity**	0.1Bq/l	1,503**	0	0	<b>100.00</b>	99.94	99.87
Gross beta activity**	1Bq/l	1,503**	0	0	<b>100.00</b>	100.00	100.00
Heptachlor	0.03µg/l	0	0	0	-	100.00	100.00
Heptachlor epoxide	0.1µg/l	1	0	0	<b>100.00</b>	100.00	100.00

Parameter	Prescribed Concentration or Value (PCV)	Total No. of Samples	No. Failed Samples	No. Zones with Failures	% Compliance in 2019	% Compliance in 2018	% Compliance in 2017
Mercury	1µg Hg/l	1,500	0	0	<b>100.00</b>	100.00	100.00
Nitrate	50mg NO <sub>3</sub> /l	2,782	0	0	<b>100.00</b>	100.00	100.00
Nitrite/Nitrate formula	<1mg/l	2,782	0	0	<b>100.00</b>	100.00	100.00
PAH - Sum of 4 Substances	0.1µg/l	1,502	0	0	<b>100.00</b>	100.00	100.00
Pesticides - Total Substances	0.5µg/l	1,158	0	0	<b>100.00</b>	100.00	100.00
Selenium	10µg Se/l	1,500	0	0	<b>100.00</b>	100.00	100.00
Sodium	200mg Na/l	1,504	0	0	<b>100.00</b>	100.00	100.00
Sulphate	250mg SO <sub>4</sub> /l	1,504	0	0	<b>100.00</b>	100.00	100.00
Tetrachloroethene/Trichloroethene	10µg/l	1,497	0	0	<b>100.00</b>	100.00	100.00
Tetrachloromethane	3µg/l	1,494	0	0	<b>100.00</b>	100.00	100.00
<b>Total other parameters</b>		53,528	2	2	<b>99.996</b>		
<b>Scotland total</b>		<b>137,783</b>	<b>114</b>	<b>66***</b>	<b>99.92</b>	99.91	<b>99.91</b>

\*One failure was recorded for MCPA.

\*\*Gross alpha and gross beta activity are not included in the Total other parameters or Scotland total figures and are not used to calculate the total compliance figure. This is because there is no PCV value for these variables. They form part of a monitoring program to detect any radionuclides in accordance with The Public Water Supplies (Scotland) Amendment Regulations 2017. The total number of samples including monitoring for radon, which is taken at WTW final water but applied across water supply zones.

\*\*\*A supply zone can fail for more than one parameter. This means that the total number of zones that failed for *at least* one parameter is less than the sum of the No. Zones with Failures column.

**Table 21** Water Quality Consumer Contacts Received by Scottish Water

Contact Category	Number of Contacts					% Change on 2018	Contact rate per 10,000 population				
	2019	2018	2017	2016	2015		2019	2018	2017	2016	2015
<b>Appearance</b>											
Discoloured Water	<b>6,623</b>	6,062	4,710	6,056	6,160	9%	12.3	11.3	9.4	12.1	12.3
Aerated (Milky) Water	<b>882</b>	1,072	1,195	1,173	1,802	-18%	1.6	2.0	2.4	2.4	3.6
Particles in Water	<b>365</b>	455	551	610	498	-20%	0.7	0.8	1.1	1.2	1.0
Organisms in Water	<b>33</b>	38	39	68	59	-13%	0.1	0.1	0.1	0.1	0.1
<b>Taste and Odour</b>											
Chlorine	<b>578</b>	738	747	996	774	-22%	1.1	1.4	1.5	2.0	1.5
Metallic	<b>358</b>	349	430	484	441	3%	0.7	0.6	0.9	1.0	0.9
Solvent/Fuel Taste/Smell	<b>21</b>	36	61	46	368	-42%	0.0	0.1	0.1	0.1	0.7
Musty/Earthy	<b>639</b>	712	908	682	607	-10%	1.2	1.3	1.8	1.4	1.2
TCP/Chemical Taste/Smell	<b>302</b>	367	340	331	336	-18%	0.6	0.7	0.7	0.7	0.7
<b>Other contact about Water Quality</b>											
Illness due to Water	<b>240</b>	287	258	213	200	-16%	0.4	0.5	0.5	0.4	0.4
Other Contact	<b>617</b>	8	0	0	0	7613%	1.1	0.0	0.0	0.0	0.0
<b>Total Contacts about Water Quality</b>	<b>10,658</b>	10,124	9,239	10,659	11,245	<b>5%</b>	19.9	18.9	18.5	21.3	22.5

\* From August 2018, Scottish Water have a new consumer contact system that categorises consumer contacts differently.





© Crown copyright 2020

Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

Published for the Drinking Water Quality Regulator for Scotland, August 2020.