

6. SUPPORTING INFORMATION

6.1 Public Supply Performance Tables

Table 7 Summary of Scottish Water Assets

Summary Asset Information	
Loch and Reservoir Sources	183
River Sources	171
Spring and Borehole Sources	87
Length of Water Mains (miles)	30,287
Water Treatment Works	233
Storage Points	967
Water Supply Zones	282
Water supplied per day	1.8 billion litres

Table 8 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	25,854	18	0.07	12
Colony counts after 3 days at 22°C	No abnormal change	25,224	0	0	0
Colony counts after 48hrs at 37°C	No abnormal change	25,225	0	0	0
<i>Cryptosporidium</i> *	N/A - no regulatory standard	5,213	6	0.12	5
<i>E. coli</i>	0 number/100ml	25,854	1	0.00	1
Nitrite	0.1mg NO ₂ /l	3,282	0	0	0
Residual disinfectant - free	N/A - no regulatory standard	14,834	0	0	0
Residual disinfectant - total	N/A - no regulatory standard	14,824	0	0	0
Turbidity	1NTU	7,139	5	0.07	3

**Cryptosporidium* has no regulatory standard but water must not contain any parasite at a value that would pose a risk to human health. There were 46 detections of *Cryptosporidium* oocysts in the final water at WTW of which 6 were reported as water quality failures under the terms set out by DWQR in Information Notice 2016/1.

Table 9 Microbiological quality leaving WTW

Coliform Bacteria	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Number of tests	25,854	25,619	25,538	25,801	26,021	24,866	26,814	26,888	27,305	28,792	29,097
Number containing coliforms	18	32	24	22	33	16	40	17	33	49	44
Percentage containing coliforms	0.07	0.12	0.09	0.09	0.13	0.06	0.15	0.06	0.12	0.17	0.15
<i>E. coli</i>	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Number of tests	25,854	25,619	25,538	25,801	26,021	24,865	26,814	26,888	27,304	28,794	29,097
Number containing faecal coliforms	1	3	0	1	2	0	2	1	3	5	8
Percentage containing faecal coliforms	0.00	0.01	0	0.01	0.01	0.00	0.01	0.00	0.01	0.02	0.03

Table 10 Chemical quality leaving WTW

Nitrite	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Number of tests	3,282	3,250	2,980	2,853	2,801	2,836	2,856	2,824	2,790	2,910	2,859
Number of tests exceeding standard	0	0	0	0	3	0	0	0	0	1	3
Percentage of tests exceeding standard	0	0	0	0	0.11	0	0	0	0	0.03	0.10
Turbidity	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Number of tests	7,139	7,026	6,859	7,060	7,127	7,150	7,347	7,298	7,331	7,745	7,855
Number of tests exceeding standard	5	8	9	10	10	10	13	12	10	24	28
Percentage of tests exceeding standard	0.07	0.11	0.13	0.14	0.14	0.14	0.18	0.16	0.14	0.31	0.36

Table 11 *Cryptosporidium* oocysts in water leaving WTW

<i>Cryptosporidium</i>	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Number of tests	5,213	9,101	8,764	9,087	9,737	9,483	8,851	8,300	8,739	8,919	9,386
Number of samples containing <i>Cryptosporidium</i> * oocysts	46	38	35	44	87	84	124	118	217	378	312
% of samples containing <i>Cryptosporidium</i> oocysts	0.88	0.40	0.40	0.48	0.89	0.89	1.40	1.42	2.48	4.24	3.32
No. of WTW sampled for <i>Cryptosporidium</i>	229	230	238	234	238	238	241	252	267	264	270
No. of WTW with one or more samples containing oocysts	8	11	23	20	28	26	51	43	77	91	88
% of WTW with one or more samples containing oocysts	0.15	4.78	9.66	8.55	11.76	10.92	21.16	17.06	28.84	34.47	32.59

**Cryptosporidium* has no regulatory standard but water must not contain any parasite at a value that would pose a risk to human health. There were 46 detections of *Cryptosporidium* oocysts in the final water at WTW of which 6 were reported as water quality failures under the terms set out by DWQR in Information Notice 2016/1.

Table 12 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	49,476	54	0.11	50
Colony counts after 3 days at 22°C	No abnormal change	48,206	0	0	0
Colony counts after 48hrs at 37°C	No abnormal change	48,209	0	0	0
<i>E. coli</i>	0 number/100ml	49,476	6	0.01	6
Residual disinfectant - free	N/A - no regulatory standard	49,538	0	0.00	0
Residual disinfectant - total	N/A - no regulatory standard	49,538	0	0.00	0

Table 13 Microbiological quality leaving SR

Coliform Bacteria	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Number of tests	49,476	49,625	49,093	50,048	50,323	49,575	51,533	51,523	52,226	51,952	49,877
Number containing coliforms	54	72	66	68	53	63	104	73	109	122	106
% containing coliforms	0.11	0.15%	0.13%	0.14%	0.11%	0.13%	0.20%	0.14%	0.21%	0.23%	0.21%
<i>E.coli</i>	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Number of tests	49,476	49,625	49,094	50,048	50,323	49,573	51,533	51,591	52,226	51,952	49,877
No. containing faecal coliforms	6	6	2	5	4	5	2	5	7	13	9
% containing faecal coliforms	0.01	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.03%	0.02%

Table 14 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 2020	% Compliance in 2019	% Compliance in 2018
Key Parameters							
Bacteria							
Coliform Bacteria	0 number/100ml	14,832	20	18	99.87	99.75	99.72
<i>E. coli</i>	0 number/100ml	14,832	2	2	99.99	99.99	99.98
<i>Clostridium perfringens</i>	0 number/100ml	5,185	0	0	100.00	99.94	99.96
Total bacteria		34,849	22	18	99.94	99.88	
Metals							
Aluminium	200µg Al/l	5,213	2	2	99.96	100.00	99.89
Iron	200µg Fe/l	5,213	21	16	99.60	99.29	99.34
Lead (10)	10µg Pb/l	772	2	2	99.74	99.53	99.06
Manganese	50µg Mn/l	5,213	15	13	99.71	99.81	99.69
Nickel	20µg Ni/l	772	7	7	99.09	99.93	99.87
Total metals		17,183	47	35	99.73	99.70	
Other key parameters							
Colour	20mg/l Pt/Co	5,238	0	0	100.00	100.00	100.00
Hydrogen ion (pH)	6.5-9.5 pH	5,248	1	1	99.98	99.98	99.91
Nitrite	0.5mg NO ₂ /l	2,752	0	0	100.00	99.98	99.89
Odour	No abnormal change	5,247	0	0	100.00	99.90	99.91
Radon	100Bq/l	3,106	0	0	100.00	100.00	95.12
Taste	3 dilutions	5,243	0	0	100.00	99.96	99.98
Total Trihalomethanes	100µg/l	1,478	1	1	99.93	99.80	99.50
Turbidity	4 NTU	5,249	1	1	99.98	99.98	99.95
Total other key parameters		33,561	3	3	99.99	99.95	

Parameter	Prescribed Concentration or Value (PCV)	Total No. of Samples	No. Failed Samples	No. Zones with Failures	% Compliance in 2020	% Compliance in 2019	% Compliance in 2018
Other Parameters							
1,2 Dichloroethane	3µg/l	1,477	0	0	100.00	100.00	100.00
Aldrin	0.1µg/l	0	0	0	N/A	-	-
All Other Individual Pesticides	0.1µg/l	4,606	0	0	100.00	99.98	100.00
Ammonium	0.5mg NH ₄ /l	5,249	0	0	100.00	100.00	100.00
Antimony	5µg Sb/l	1,454	0	0	100.00	100.00	100.00
Arsenic	10µg As/l	1,454	0	0	100.00	100.00	100.00
Benzene	1µg/l	1,478	0	0	100.00	100.00	100.00
Benzo 3,4 Pyrene	0.01µg/	1,498	0	0	100.00	100.00	99.94
Boron	1mg B/l	1,487	0	0	100.00	100.00	100.00
Bromate	10µg BrO ₃ /l	1,486	0	0	100.00	100.00	100.00
Cadmium	5µg Cd/l	1,454	0	0	100.00	100.00	100.00
Chloride	250mg Cl/l	1,483	0	0	100.00	100.00	100.00
Chromium	50µg Cr/l	1,454	0	0	100.00	100.00	100.00
Conductivity	2500µS/cm at 20°C	5,249	0	0	100.00	100.00	100.00
Copper	2mg Cu/l	772	0	0	100.00	100.00	100.00
Cyanide	50µg CN/l	1,485	0	0	100.00	100.00	100.00
Dieldrin	0.1µg/l	0	0	0	N/A	100.00	100.00
Enterococci	0 number/100ml	1,487	1	1	99.93	99.93	100.00
Fluoride	1.5mg F/l	1,486	0	0	100.00	100.00	100.00
Gross alpha activity*	0.1Bq/l	1,572	0	0	100.00	100.00	99.94
Gross beta activity*	1Bq/l	1,534	0	0	100.00	100.00	100.00
Heptachlor	0.03µg/l	0	0	0	N/A	-	100.00
Heptachlor epoxide	0.1µg/l	0	0	0	N/A	100.00	100.00

Parameter	Prescribed Concentration or Value (PCV)	Total No. of Samples	No. Failed Samples	No. Zones with Failures	% Compliance in 2020	% Compliance in 2019	% Compliance in 2018
Mercury	1µg Hg/l	1,487	0	0	100.00	100.00	100.00
Nitrate	50mg NO ₃ /l	2,752	0	0	100.00	100.00	100.00
Nitrite/Nitrate formula	<1mg/l	2,752	0	0	100.00	100.00	100.00
PAH - Sum of 4 Substances	0.1µg/l	1,516	0	0	100.00	100.00	100.00
Pesticides - Total Substances	0.5µg/l	1,138	0	0	100.00	100.00	100.00
Selenium	10µg Se/l	1,454	0	0	100.00	100.00	100.00
Sodium	200mg Na/l	1,487	0	0	100.00	100.00	100.00
Sulphate	250mg SO ₄ /l	1,487	0	0	100.00	100.00	100.00
Tetrachloroethene/Trichloroethene	10µg/l	1,478	0	0	100.00	100.00	100.00
Tetrachloromethane	3µg/l	1,478	0	0	100.00	100.00	100.00
Total other parameters		52,088	1	1	100.00	99.996	
Scotland total		137,681	73	52**	99.95	99.92	99.91

* 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 15 Water Quality Consumer Contacts Received by Scottish Water

Contact Category	Number of Contacts					% Change on 2019	Contact rate per 10,000 population				
	2020	2019	2018	2017	2016		2020	2019	2018	2017	2016
Appearance											
Discoloured Water	12,989	6,623	6,062	4,710	6,056	96%	24.2	12.3	11.3	9.4	12.1
Aerated (Milky) Water	1,660	882	1,072	1,195	1,173	88%	3.1	1.6	2.0	2.4	2.4
Particles in Water	553	365	455	551	610	52%	1.0	0.7	0.8	1.1	1.2
Organisms in Water	40	33	38	39	68	21%	0.1	0.1	0.1	0.1	0.1
Taste and Odour											
Chlorine	985	578	738	747	996	70%	1.8	1.1	1.4	1.5	2.0
Metallic	356	358	349	430	484	-1%	0.7	0.7	0.6	0.9	1.0
Solvent/Fuel Taste/Smell	31	21	36	61	46	48%	0.1	0.0	0.1	0.1	0.1
Musty/Earthy	621	639	712	908	682	-3%	1.2	1.2	1.3	1.8	1.4
TCP/Chemical Taste/Smell	525	302	367	340	331	74%	1.0	0.6	0.7	0.7	0.7
Other contact about Water Quality											
Illness due to Water	286	240	287	258	213	19%	0.5	0.4	0.5	0.5	0.4
Other Contact	96	617	8	0	0	-84%	0.2	1.1	0.0	0.0	0.0
Total Contacts about Water Quality	18,142	10,658	10,124	9,239	10,659	70%	33.8	19.9	18.9	18.5	21.3