



## Drinking Water Quality Summary - November 2016

Hunter Water provides safe and reliable drinking water to over half a million customers in the Lower Hunter. The drinking water we supply is routinely tested throughout our water supply systems. Results are based on samples representative of water supplied to customers' taps. Results for microbiological and key physical/chemical parameters are summarised below:

### Whole of Hunter Water

#### Whole of Hunter Water - key health analytes

Analyte	Units of measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)		% of E. coli results < 1 over the last 12 months	Met performance standard
<i>E. coli</i>	MPN/100mL	Should not be detected in 100mL	At least 98% of test results <1		100.00%	Yes
Analyte	Units of Measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	95th Percentile over the last 12 months	Met performance standard
Fluoride	mg/L	1.5	95th percentile of test results less than respective ADWG health guideline value	0.99	1.02	Yes
Chlorine	mg/L	5		0.63	1.33	Yes
Copper	mg/L	2		0.005	0.016	Yes
Lead	mg/L	0.01		0.001	0.001	Yes
Manganese	mg/L	0.5		0.006	0.011	Yes
Trihalomethanes	mg/L	0.25		0.088	0.163	Yes

#### Whole of Hunter Water - PFOS & PFOA

Analyte	Units of measure	US EPA health advisory guideline value	Performance standard (assessment over previous 12 months)*	% of results < 0.07 over the last 12 months	% of results < 0.002 (limit of reporting) over the last 12 months	Met performance standard
PFOS + PFOA	µg/L	0.07	100% of test results <0.07	100%	93.43%	Yes

#### Whole of Hunter Water - key aesthetic analytes

Analyte	Units of Measure	ADWG aesthetic guideline value	Performance standard (assessment over previous 12 months)	Average for Month	12 month average result	Met performance standard
Iron	mg/L	0.3	Average of test results less than respective ADWG aesthetic guideline value	0.029	0.028	Yes
Aluminium	mg/L	0.2		0.062	0.059	Yes
Copper	mg/L	1		0.005	0.005	Yes
Zinc	mg/L	3		0.004	0.005	Yes
Turbidity	NTU	5		0.3	0.3	Yes
True colour	HU	15		5	5	Yes
pH	pH units	6.5-9.2	Average of test results between 6.5 - 9.2 pH units	7.61	7.58	Yes

Brief explanation of key parameters:

[Key Physical, Chemical and Microbiological Parameters](#)

A 95th percentile is a statistical method to evaluate the long-term performance standard for Health-related analytes. Additional information is available in Section 10.3.2 and Information Sheet 3.3 of the Australian Drinking Water Guidelines 2011.

For more detail please refer:

[Australian Drinking Water Guidelines 2011](#)

Map showing water quality zones:

[Water Quality Zones at Hunter Water](#)

# Water Quality Zones

## Chichester Zone - key health analytes

Analyte	Units of Measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)		% of E. coli results < 1 over the last 12 months	Met performance standard
<i>E. coli</i>	MPN/100mL	Should not be detected in 100mL	At least 98% of test results <1		100.00%	Yes
Analyte	Units of Measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	95th Percentile over the last 12 months	Met performance standard
Fluoride	mg/L	1.5	95th percentile of test results less than respective ADWG health guideline value	0.94	0.97	Yes
Chlorine	mg/L	5		0.44	1.06	Yes
Copper	mg/L	2		0.001	0.016	Yes
Lead	mg/L	0.01		0.000	0.001	Yes
Manganese	mg/L	0.5		0.004	0.013	Yes
Trihalomethanes	mg/L	0.25		0.090	0.161	Yes

## Chichester Zone - PFOS & PFOA

Analyte	Units of measure	US EPA health advisory guideline value	Performance standard (assessment over previous 12 months)*	% of results < 0.07 over the last 12 months	% of results < 0.002 (limit of reporting) over the last 12 months	Met performance standard
PFOS + PFOA	µg/L	0.07	100% of test results <0.07	100.00%	97.22%	Yes

## Chichester Zone – key aesthetic analytes

Analyte	Units of Measure	ADWG aesthetic guideline value	Performance standard (assessment over previous 12 months)	Average for Month	12 month average result	Met performance standard
Iron	mg/L	0.3	Average of test results less than respective ADWG aesthetic guideline value	0.026	0.023	Yes
Aluminium	mg/L	0.2		0.059	0.049	Yes
Copper	mg/L	1		0.001	0.006	Yes
Zinc	mg/L	3		0.001	0.004	Yes
Turbidity	NTU	5		0.3	0.3	Yes
True colour	HU	15		5	5	Yes
pH	pH units	6.5-9.2	Average of test results between 6.5 - 9.2 pH units	7.60	7.62	Yes

## Grahamstown Zone - key health analytes

Analyte	Units of Measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	% of E. coli results < 1 over the last 12 months	Met performance standard
<i>E. coli</i>	MPN/100mL	Should not be detected in 100mL	At least 98% of test results <1		100.00%	Yes
Analyte	Units of Measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	95th Percentile over the last 12 months	Met performance standard
Fluoride	mg/L	1.5	95th percentile of test results less than respective ADWG health guideline value	1.00	0.99	Yes
Chlorine	mg/L	5		0.74	1.40	Yes
Copper	mg/L	2		0.002	0.011	Yes
Lead	mg/L	0.01		0.001	0.001	Yes
Manganese	mg/L	0.5		0.007	0.011	Yes
Trihalomethanes	mg/L	0.25		0.110	0.198	Yes

## Grahamstown Zone - PFOS & PFOA

Analyte	Units of measure	US EPA health advisory guideline value	Performance standard (assessment over previous 12 months)*	% of results < 0.07 over the last 12 months	% of results < 0.002 (limit of reporting) over the last 12 months	Met performance standard
PFOS + PFOA	µg/L	0.07	100% of test results <0.07	100.00%	90.14%	Yes

## Grahamstown Zone – key aesthetic analytes

Analyte	Units of Measure	ADWG aesthetic guideline value	Performance standard (assessment over previous 12 months)	Average for Month	12 month average result	Met performance standard
Iron	mg/L	0.3	Average of test results less than respective ADWG aesthetic guideline value	0.028	0.026	Yes
Aluminium	mg/L	0.2		0.064	0.073	Yes
Copper	mg/L	1		0.002	0.004	Yes
Zinc	mg/L	3		0.003	0.004	Yes
Turbidity	NTU	5		0.3	0.3	Yes
True colour	HU	15		5	5	Yes
pH	pH units	6.5-9.2	Average of test results between 6.5 - 9.2 pH units	7.59	7.54	Yes

## Water Quality Zones

### Lemon Tree Passage Zone - key health analytes

Analyte	Units of Measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	% of E. coli results < 1 over the last 12 months	Met performance standard
<i>E. coli</i>	MPN/100mL	Should not be detected in 100mL	At least 98% of test results <1		100.00%	Yes
Analyte	Units of Measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	95th Percentile over the last 12 months	Met performance standard
Fluoride	mg/L	1.5	95th percentile of test results less than respective ADWG health guideline value	1.02	1.00	Yes
Chlorine	mg/L	5		0.78	1.36	Yes
Copper	mg/L	2		0.018	0.035	Yes
Lead	mg/L	0.01		0.003	0.004	Yes
Manganese	mg/L	0.5		0.005	0.010	Yes
Trihalomethanes	mg/L	0.25		0.078	0.141	Yes

### Lemon Tree Passage Zone - PFOS & PFOA

Analyte	Units of measure	US EPA health advisory guideline value	Performance standard (assessment over previous 12 months)*	% of results < 0.07 over the last 12 months	% of results < 0.002 (limit of reporting) over the last 12 months	Met performance standard
PFOS + PFOA	µg/L	0.07	100% of test results <0.07	100.00%	91.67%	Yes

### Lemon Tree Passage Zone - key aesthetic analytes

Analyte	Units of Measure	ADWG aesthetic guideline value	Performance standard (assessment over previous 12 months)	Average for Month	12 month average result	Met performance standard
Iron	mg/L	0.3	Average of test results less than respective ADWG aesthetic guideline value	0.032	0.035	Yes
Aluminium	mg/L	0.2		0.043	0.039	Yes
Copper	mg/L	1		0.018	0.009	Yes
Zinc	mg/L	3		0.011	0.009	Yes
Turbidity	NTU	5		0.4	0.3	Yes
True colour	HU	15		5	5	Yes
pH	pH units	6.5-9.2		Average of test results between 6.5 - 9.2 pH units	7.58	7.58

### Anna Bay / Nelson Bay Zone - key health analytes

Analyte	Units of Measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	% of E. coli results < 1 over the last 12 months	Met performance standard
<i>E. coli</i>	MPN/100mL	Should not be detected in 100mL	At least 98% of test results <1		100.00%	Yes
Analyte	Units of Measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	95th Percentile over the last 12 months	Met performance standard
Fluoride	mg/L	1.5	95th percentile of test results less than respective ADWG health guideline value	1.01	1.03	Yes
Chlorine	mg/L	5		0.60	1.37	Yes
Copper	mg/L	2		0.003	0.014	Yes
Lead	mg/L	0.01		0.000	0.001	Yes
Manganese	mg/L	0.5		0.006	0.011	Yes
Trihalomethanes	mg/L	0.25		0.041	0.099	Yes

### Anna Bay / Nelson Bay Zone - PFOS & PFOA

Analyte	Units of measure	US EPA health advisory guideline value	Performance standard (assessment over previous 12 months)*	% of results < 0.07 over the last 12 months	% of results < 0.002 (limit of reporting) over the last 12 months	Met performance standard
PFOS + PFOA	µg/L	0.07	100% of test results <0.07	100.00%	100.00%	Yes

### Anna Bay / Nelson Bay Zone - key aesthetic analytes

Analyte	Units of Measure	ADWG aesthetic guideline value	Performance standard (assessment over previous 12 months)	Average for Month	12 month average result	Met performance standard
Iron	mg/L	0.3	Average of test results less than respective ADWG aesthetic guideline value	0.042	0.049	Yes
Aluminium	mg/L	0.2		0.073	0.069	Yes
Copper	mg/L	1		0.003	0.005	Yes
Zinc	mg/L	3		0.004	0.004	Yes
Turbidity	NTU	5		0.3	0.3	Yes
True colour	HU	15		5	5	Yes
pH	pH units	6.5-9.2		Average of test results between 6.5 - 9.2 pH units	7.63	7.54

## Water Quality Zones

### Gresford Zone - key health analytes

Analyte	Units of Measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	% of E. coli results < 1 over the last 12 months	Met performance standard
<i>E. coli</i>	MPN/100mL	Should not be detected in 100mL	At least 98% of test results <1		100.00%	Yes
Analyte	Units of Measure	ADWG health guideline value	Performance standard (assessment over previous 12 months)	Average for Month	95th Percentile over the last 12 months	Met performance standard
Chlorine	mg/L	5	95th percentile of test results less than respective ADWG health guideline value	0.42	0.90	Yes

### Gresford Zone - PFOS & PFOA

Analyte	Units of measure	US EPA health advisory guideline value	Performance standard (assessment over previous 12 months)*	% of results < 0.07 over the last 12 months	% of results < 0.002 (limit of reporting) over the last 12 months	Met performance standard
PFOS + PFOA	µg/L	0.07	100% of test results <0.07	100.00%	100.00%	Yes

### Gresford Zone - key aesthetic analytes

Analyte	Units of Measure	ADWG aesthetic guideline value	Performance standard (assessment over previous 12 months)	Average for Month	12 month average result	Met performance standard
pH	pH units	6.5-9.2	Average of test results between 6.5 - 9.2 pH units	7.96	8.02	Yes

\* PFOS and PFOA monitoring commenced in August 2016

## PFOS and PFOA Results for Hunter Water Source Waters

Analyte	Units of Measure	Guideline Value	Grahamstown WTP	Dungog WTP	Nelson Bay WTP	Anna Bay WTP	Lemon Tree Passage WTP	Gresford WTP
PFOS	µg/L	0.07 <sup>^</sup>	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
PFOA	µg/L	0.07 <sup>^</sup>	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

<sup>^</sup> The US EPA Guideline Value for drinking water is individual or combined concentrations of PFOA and PFOS below level of 0.07µg/L.