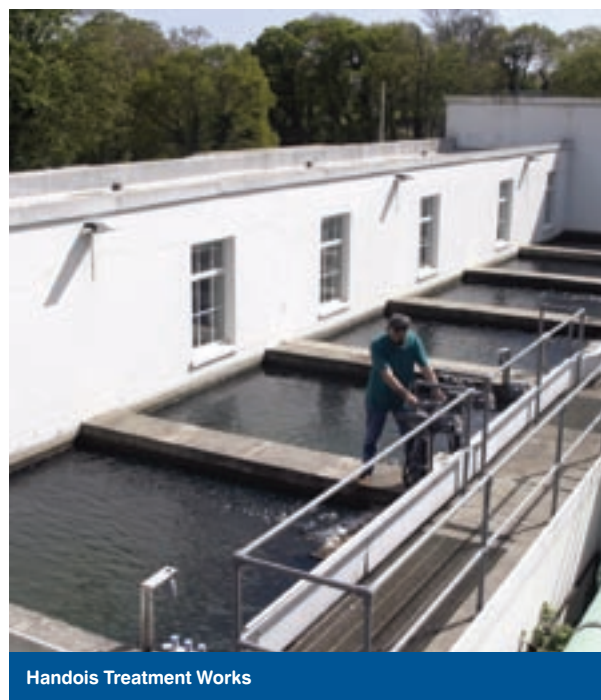


4 Treatment Works and Service Reservoir Performance

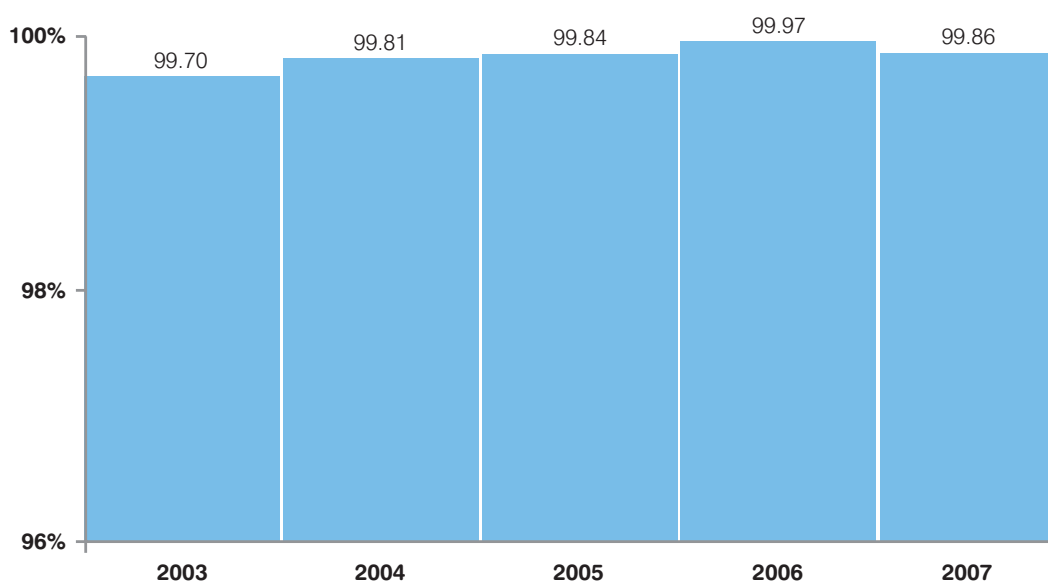
Jersey Water operates two treatment works located at Handois, St Lawrence and Augrès, Trinity. With the majority of water derived from surface water resources, full treatment of the water is required to produce high quality drinking water. A two-stage treatment process is used comprising; chemically assisted clarification, followed by filtration using a combination of sand and anthracite media.

Following treatment, the water is disinfected to ensure any remaining bacteria present in the water are removed before it passes into the supply distribution network and to our customers. The disinfection process is essential to ensure safe drinking water and is widely used in the western world for this purpose. Disinfection is carried out using a combination of chlorine and ammonia, which results in longer retention of chlorine levels in the water as it passes through the distribution network. The quantities of chemicals used in disinfection are infinitesimal, with levels being continuously monitored to ensure they are within acceptable aesthetic levels.



Handois Treatment Works

**Overall compliance with the water quality
Maximum Admissible Concentrations %**



4 Treatment Works and Service Reservoir Performance (continued)

The water quality regulations require two types of monitoring to be undertaken, these are designated as “check” and “audit” monitoring. Check monitoring is carried out on a frequent basis to ensure the treatment processes are operating as expected and the water in the distribution system is of an acceptable standard, whereas the audit monitoring is used to investigate the quality of water more thoroughly.

The results of the check monitoring of treated water leaving the treatment works, their respective Maximum Allowable Concentrations and compliance levels are shown in the following tables. The results from the audit monitoring programme can be found in the appendix.

Check Monitoring: Handois WTW

Substances and parameters	Max	Specific concentration or value (maximum) or state	% compliance
E.coli	0	0 per 100ml	100
Coliform bacteria	0	0 per 100ml	100
Colony counts	No abnormal change	No abnormal change	100
Nitrite	0.008	0.1 mg NO ₂ /l	100
Residual disinfectant	0.74	No value mg Cl ₂ /l	
Turbidity	0.49	4 NTU	100
Clostridium perfringens	1	0 per 100ml	98
Conductivity	545	2500 µS/cm at 20°C	100

Check Monitoring: Augrès WTW

Substances and parameters	Max	Specific concentration or value (maximum) or state	% compliance
E.coli	0	0 per 100ml	100
Coliform bacteria	0	0 per 100ml	100
Colony counts	No abnormal change	No abnormal change	100
Nitrite	0.008	0.1 mg NO ₂ /l	100
Residual disinfectant	0.56	No value mg Cl ₂ /l	
Turbidity	0.39	4 NTU	100
Clostridium perfringens	0	0 per 100ml	100
Conductivity	541	2500 µS/cm at 20°C	100

In order to ensure adequate treated water is available to meet peak demand periods in the morning and evening and exceptional hot summer days, enclosed storage reservoirs are provided within the distribution system.

The total storage capacity of the reservoirs is 18 ML, just below the average daily demand of 19.6 ML. There are two service reservoirs which are strategically located on high ground; situated at Westmount Road, St Helier and at Les Platons, Trinity.

4 Treatment Works and Service Reservoir Performance (continued)

The results of the check monitoring of treated water leaving the water storage reservoirs, their respective Maximum Allowable Concentrations and compliance levels are shown in the following tables.

The results from the audit monitoring programme can be found in the appendix.

Check Monitoring: Les Platons Service Reservoir, East Compartment

Substances and parameters	Max	Specific concentration or value (maximum) or state	% compliance
E.coli	0	0 per 100ml	100
Coliform bacteria	0	0 per 100ml (95% of samples)	100
Colony counts		No abnormal change	100
Clostridium perfringens	0	0 per 100ml	100
Conductivity	543	2500 μ S/cm at 20°C	100

Check Monitoring: Les Platons Service Reservoir, West Compartment

Substances and parameters	Max	Specific concentration or value (maximum) or state	% compliance
E.coli	0	0 per 100ml	100
Coliform bacteria	0	0 per 100ml (95% of samples)	100
Colony counts		No abnormal change	100
Clostridium perfringens	0	0 per 100ml	100
Conductivity	541	2500 μ S/cm at 20°C	100

Check Monitoring: Westmount Service Reservoir

Substances and parameters	Max	Specific concentration or value (maximum) or state	% compliance
E.coli	1	0 per 100ml	99.7
Coliform bacteria	4	0 per 100ml (95% of samples)	99.7
Colony counts		No abnormal change	100
Clostridium perfringens	0	0 per 100ml	100
Conductivity	540	2500 μ S/cm at 20°C	100