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OUR 7 OUTCOMES







DRINKING WATER OF CHOICE

The quality, sustainability and availability of our water makes it the drinking water of choice

- Customers trust that our drinking water meets the highest standards, looks and tastes good
- Invest in efficient and sustainable water treatment to improve drinking water
- Ensure our drinking water is available to everyone

99.93%

COMPLIANCE WITH DRINKING WATER STANDARDS

In 2023, Guernsey Water provided 4,383 megalitres of safe and high quality drinking water (over 4 times the volume of St Saviours Reservoir) to its customers.

Protecting public health with clean, fresh, wholesome drinking water is vitally important to Guernsey Water and in 2023 we conducted 7,069 laboratory analyses on compliance samples taken at water treatment works, service reservoirs and in the distribution system. These samples verify that the water produced at treatment works and supplied to customers complies with the

standards set out in the regulations we follow as best practice.

Many more samples were analysed both in laboratories and onsite for operational reasons over and above these compliance samples, providing additional checks and monitoring of the performance of our assets.

The quality of water supplied was excellent with 99.93% of 7,069 analyses meeting the prescribed standards. The achievement of such a high compliance figure is due to the collective technical expertise of our staff that covers all aspects of the science and engineering of the public water supply.

Safe, clean drinking water is vital to public health and the wellbeing of our island. This is even more important in the face of significant challenges to drinking water supplies from the impacts of climate change on the quality and availability of water resources. It is essential that good quality drinking water, and the investment by Guernsey Water necessary to achieve it, is maintained into the future.

2023 Water Quality Key Performance Indicators

- ✓ Achieve 99.5% compliance for Prescribed Concentration or Values (PCVs) at Water Treatment Works
- ✓ Achieve 99% compliance for PCVs at service reservoirs
- ✓ Achieve 99% compliance for Maximum Admissible Concentrations at customer taps

Guernsey Water has achieved its 2023 water quality targets, however, the work we are doing to improve water quality continues. Guernsey Water continues to provide safe, high quality drinking water to the satisfaction of its customers.

There are a small number of occasions where water quality does not meet the high standard we expect and our customers deserve. We will continue to investigate and strive to eliminate these to further improve the quality of Guernsey's public drinking water supplies.

Tests taken from Guernsey Water's 3 operational treatment works, 3 service reservoirs, water tower and 1 water supply zone show that 99.93% of the 7,069 analyses met all national and European Union standards.

This shows a slight decrease in compliance compared to the 2022 figure, which was 99.98%. Each of the five compliance failures detected in 2023 were thoroughly investigated and operational improvements were made to reduce the likelihood of further failures in the future.

Guernsey Water is regulated by the Director of Environmental Health and Pollution Regulation (DEHPR), with the current standard by which water quality is measured taken from England and Wales in the form of The Water Supply (Water Quality) Regulations, 2018. The regulations set out the parameters to be analysed for (Appendix A) and the required frequency of testing.

STEPHEN LANGLOIS
MANAGING DIRECTOR

SUMMARY

Guernsey Water samples raw and treated water to be tested for chemical, bacteriological and aesthetic quality in line with the requirements of the Water Supply (Water Quality) Regulations 2018. To monitor risk to water quality, our programme of treated water sampling involves testing at treatment works, storage reservoirs and at customer taps. All risks to water quality from catchment to customer are monitored and proactively managed via the Water Safety Planning approach, which has been utilised since 2016.

In 2023 our sampling programme identified two exceedances of prescribed limits; one at each of St Saviours and Kings Mills Water Treatment Works (WTWs), while Juas WTW was 100% compliant with regulations. Both exceedances at WTWs were for the turbidity parameter, were fully investigated and their causes determined not to have impacted microbiological or chemical quality of the water - this was supported by the results of other analyses. Overall compliance at the WTWs was 99.97%, a slight reduction versus 2022 at 99.98%.

Sampling at Treated Water Service Reservoirs (SRs) identified a single exceedance of regulations at each of Forest Road West, East and Tower SRs. Each of these exceedances were for a single coliform, were fully investigated and did not re-occur on repeat or downstream samples. Compliance at Frie Plaidy SR was 100%. Overall compliance at the SRs was 99.29%, compared to 100% in 2022.

Sampling of the distribution zones has been carried out on a monitoring basis since the Covid-19 outbreak as pandemic mitigation measures made fulfilling the requirements for compliance purposes unfeasible. During Q1 sampling was taken at business locations, after which our routine random sampling returned to domestic properties following a reduced assessment of risk to staff and the public from the activity.

Monitoring samples at customer taps identified five exceedances of the bacteriological limits stipulated by the water quality regulations; three single- coliform detections at taps which did not repeat and had no determinable cause, and a high-level detection of E. coli and coliforms at another. Guernsey Water's investigation into the domestic property E. Coli and coliforms detection included a plumbing inspection and identified a serious issue with the internal plumbing. Recommendations for resolution were made to the customer. Further sampling after the remedial works confirmed that the customer's water was safe and good to drink.

Since 2021 Guernsey Water has installed water refill units in public areas to provide plastic-free drinking water free of charge; at the end of 2023 there were eight active refill units which provided over 14,000 litres of safe drinking water to the public. Throughout the year there were three single-coliform detections at refill units with no significant risk highlighted by resampling.

Raw water is closely monitored to safeguard the quality of drinking water, with testing carried out on streams and raw water reservoirs. The results of these analyses allow us to select which streams we collect and when, to minimise the risk to stored water before treatment.

As the impacts of climate change and increasing demand for water from future customers manifest it will be essential to continue to monitor and act upon the results of raw water pollution to maximise volumes available for collection. Regulatory changes around pesticides and PFAS substances are also likely to require additional monitoring and risk management to ensure continued compliance.

In addition to testing for the purposes of drinking water quality assessment, 2023 was the first full year of raw water pesticide monitoring since the implementation of the Environmental Pollution (Water Pollution) Ordinance 2022, which introduced specific permissible limits of pesticides in streams for individual pesticides, glyphosate and total pesticides. Guernsey Water worked with the Director of Environmental Health and Pollution Regulation, whose jurisdiction the new ordinance falls under, to share monitoring data and knowledge to investigate instances of pesticide pollution under the new legislation.

SUMMARY CONTINUED

From 1st January 2023 a ban on amateur use of glyphosate products came into effect on Guernsey. Pesticide sampling in 2023 identified a decrease in average glyphosate concentrations in streams and reservoirs by approximately half compared to the five-year preban average, with more densely populated Northern catchments in particular decreasing by a significant magnitude. These initial results support the water quality reasoning for the introduction of the ban, however it will be important for Guernsey Water to continue monitoring for glyphosate in the years to come, as well as for other pesticides should Islanders seek to use alternative products.

Levels of PFAS substances such as perfluorooctane sulphonate (PFOS) have been monitored regularly on Guernsey since 2007 to track historic contamination of several catchment areas in the south of the island.

Guernsey Water has worked with the Director of Environmental Health and Pollution Regulation and other States of Guernsey Departments to actively reduce PFOS levels found in raw water by treatment of stream water from affected catchments, removal and containment of contaminated soils and construction of stream divert structures to enable source selection.

These approaches have been successful in reducing PFOS concentrations in raw water reservoirs and drinking water, with the maximum PFOS concentration detected at St Saviours Reservoir in 2023 at 0.0504µg/L [parts per billion], slightly lower than the 2022 maximum of 0.0535µg/L.

The maximum level of treated water PFOS was $0.0429\mu g/L$, a slight decrease versus the 2022 maximum of $0.0524\mu g/L$. In 2021 the Drinking Water Inspectorate published tiered guidance and actions relating to

PFAS substances and Guernsey's final water supply points fall within Tier 2. Tier 2 guidance advises the water undertaker to continue monitoring for PFOS and to ensure control measures are up-to-date; actions which Guernsey Water has carried out for several years.



"Drinking water is vital for public health so we strive to provide safe, clean water at all times and in 2023 our water quality was excellent."

DAFFYD GRIFFITHS, WATER QUALITY RISK MANAGER

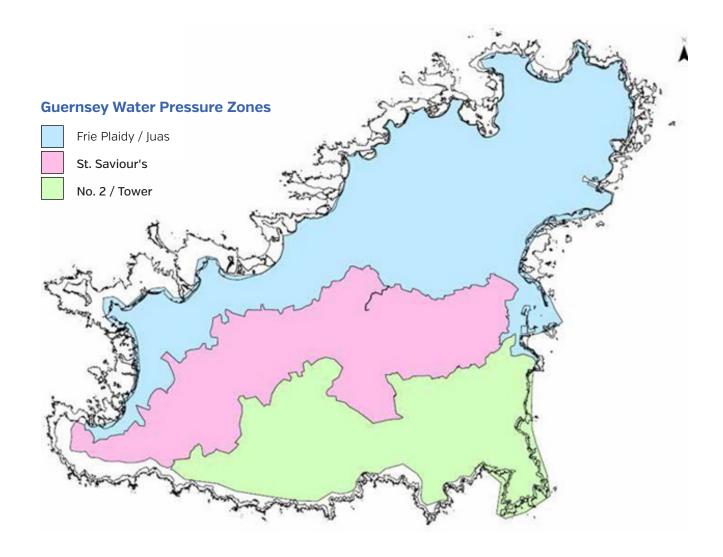


INTRODUCTION

Treated Water

Guernsey Water operates using current Drinking Water Inspectorate regulations and guidance as best practice. This requires us to meet very high standards to satisfy our Regulator, the Director of Environmental Health and Pollution Regulation. Guernsey Water has 3 water treatment works (WTWs), 4 service reservoirs (SRs) including the water tower and a single water supply zone.

The general rationale of water movement in Guernsey is: St Saviours WTW supplies water to No.2 East and West tanks at Forest Road SR, from which water is pumped into the Water Tower and onto the Tower Supply Zone (green in image below) or direct to No.2 Supply Zone (pink). Juas WTW (or Kings Mills WTW when Juas is offline) supplies water direct into Juas / Frie Plaidy Supply Zone (blue) and into Frie Plaidy SR.



2023 COMPLIANCE SUMMARY

Below is a breakdown of the compliance for 2023, as measured against The Water Supply (Water Quality) Regulations (2018).

Water Treatment Works

	St. Saviour's	Juas	Kings Mills	Total
No of Breaches	1	0	1	2
No of Passes	1844	1483	2395	6645
No of Samples	1845	1483	2396	6647
% Compliance	99.95%	100%	99.96%	99.97%

Service Reservoirs & Water Tower

	No. 2 East	No. 2 West	Frie Plaidy	Tower	Total
No of Breaches	1	1	0	1	3
No of Passes	105	105	104	105	419
No of Samples	106	106	104	106	422
% Compliance	99.06%	99.06%	100%	99.06%	99.29%

Distribution Zones

	Single Zone
No of Breaches	5
No of Passes	945
No of Samples	950
% Compliance	99.47% (not included in overall % during 2023)

Overall Total - all parameters

	Total	
No of Breaches	5	
No of Passes	7064	
No of Samples	7069	
% Compliance	99.93%	

Tables 1 to 11 have the breakdown of drinking water quality in the detailed format used by water companies in England and Wales and annually reported by the Drinking Water Inspectorate (DWI).

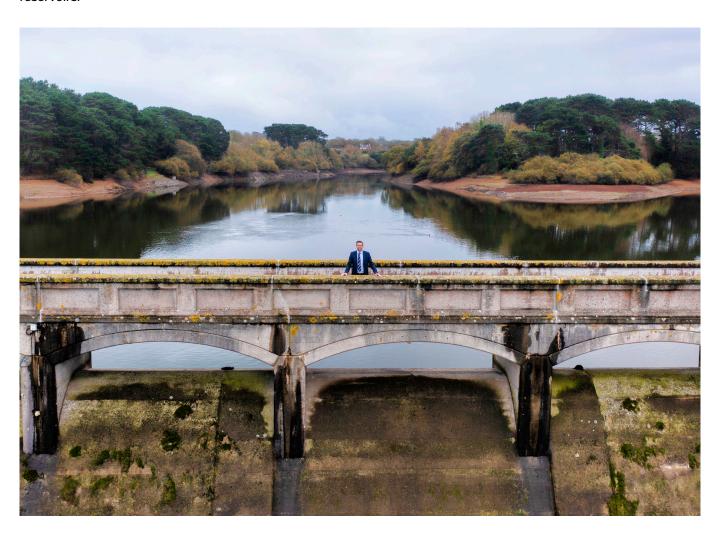
Raw Water

Guernsey Water historically managed the legislation concerning pollution of the catchment area, wherein deficiencies of water quality that could affect drinking water were subject to strict limits on discharges to the environment. This responsibility has now been moved to fall under the jurisdiction of the Director of Environmental Health and Pollution Regulation, as a result Guernsey Water now works closely with DEHPR to maintain its own compliance with the Environmental Pollution (Water Pollution) Ordinance 2022 and to investigate issues which affect our stored water resources.

Raw water quality is closely monitored with analyses of streams and stored water in quarries and reservoirs. Raw water quality determines if water is collected and stored; in turn stored water is transferred to water treatment works based on water quality parameters to ensure that high quality water is supplied to our customers.

Nitrate levels in some streams are at the upper acceptable limit but through careful blending and storage, levels are reduced to ensure compliance with the prescribed limit of 50 mg/l for the provision of wholesome drinking water.

Tables 12 and 13 show the raw water quality that was observed in 2023 in the Island's various streams and storage reservoirs.



TREATED WATER SUMMARY

Treated Water 2023 Data Summary Tables

Tables 1-11 contain a summary of results of treated water monitoring undertaken by Guernsey Water in 2023. Notes relating to interpretation of the tables:

The tables below show the maximum and minimum levels detected over the year. The symbol < indicated that the results was less that the limit of detection of the analytical method used. The symbol > indicated that the result was above the recording range of the analytical method used.

Table 1: Quality of water leaving treatment works - Directive requirements

Parameter	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum	Maximum	No. of WTWs with failures
Nitrite	0.1 mg NO ₂ /l	14	0	<0.03	<0.034	0
TOTAL	-	14	0	-	-	-

Table 2: Quality of water leaving treatment works - National requirements

Parameter	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum	Maximum	No. of WTWs with failures
Coliform Bacteria	0 number/100ml	614	0	0	0	0
E. coli	0 number/100ml	614	0	0	0	0
Cryptosporidium	oocysts <1 in 10 litres	6	0	<0.00283	<0.08347	0
TOTAL	-	1234	0	-	-	-

Table 3: Quality of water leaving treatment works - Additional monitoring requirements

Indicator Parameter	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum	Maximum
Colony Counts After 3 Days At 22°C	No abnormal change	611	0	0	9
Turbidity	1 NTU	607	2	0.01	1.65
TOTAL	-	1218	2	-	-

Table 4: Quality of water leaving service reservoirs - National requirements

Parameter	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum	Maximum	No. of reservoirs failing standard
Coliform Bacteria	0 number/100ml	212	3	0	1	3
E. coli	0 number/100ml	212	0	0	0	0
TOTAL		424	3	-	-	-

Table 5: Quality of water leaving service reservoirs - National requirements

Indicator Parameter	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum	Maximum
Colony Counts After 3 Days At 22°C	No abnormal change	212	0	0	92
TOTAL	-	212	0	0	-

Table 6a: Quality of water leaving bulk supply points - European Standards

Indicator Parameter	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum	Maximum	No. of supply points failing standard
1,2 Dichloroethane	3 μg/L	8	0	0.00	0.00	0
Benzene	1 μg/L	8	0	0.00	0.00	0
Boron	1000 μg B/L	8	0	76	107	0
Bromate	10 μg Br03/L	8	0	0.20	0.80	0
Cyanide	50 μg CN/L	29	0	<1.2	1.20	0
Fluoride	1.5 mg F/L	8	0	0	0	0
Mercury	1 μg Hg/L	29	0	<0.04	<0.06	0
Tetrachloroethene / Trichloroethene	10 μg/L	8	0	0	0	0
TOTAL	-	106	0	-	-	-

Table 6b: Quality of water leaving bulk supply points - European Standards (pesticides)

Parameter	Prescribed Concentration or Value	Count of times detected	Tests Failed	Minimum	Maximum	No. of supply points failing standard
2,4-D	0.1 μg/L	0	0	<0.011	<0.011	0
Atrazine	0.1 μg/L	0	0	<0.004	<0.006	0
Atrazine Desethyl	0.1 μg/L	0	0	<0.004	<0.005	0
Atrazine Desisopropyl	0.1 μg/L	0	0	<0.008	<0.009	0
Bentazone	0.1 μg/L	0	0	<0.005	<0.005	0
Bromoxynil	0.1 μg/L	0	0	<0.001	<0.001	0
Carbendazim	0.1 μg/L	0	0	<0.005	<0.025	0
Chloridazon	0.1 μg/L	0	0	<0.020	<0.050	0
Chlorpyriphos Ethyl	0.1 μg/L	0	0	<0.008	<0.008	0
Clopyralid	0.1 μg/L	7	0	< 0.011	0.028	0
Cyanazine	0.1 μg/L	0	0	<0.004	<0.007	0
Dicamba	0.1 μg/L	0	0	< 0.012	<0.012	0
Diflufenican	0.1 μg/L	0	0	<0.009	<0.009	0
Diuron	0.1 μg/L	0	0	<0.08	<0.040	0
Endrin	0.1 μg/L	0	0	<0.012	<0.012	0
Fenpropimorph	0.1 μg/L	0	0	<0.010	<0.010	0
Fluroxypyr	0.1 μg/L	1	0	<0.008	0.009	0
Glyphosate	0.1 μg/L	0	0	<0.005	<0.005	0
МСРА	0.1 μg/L	1	0	<0.006	0.006	0
MCPP (Mecoprop)	0.1 μg/L	0	0	<0.009	<0.009	0
Methabenzthiazuron	0.1 μg/L	0	0	<0.005	<0.006	0
Metoxuron	0.1 μg/L	0	0	<0.006	<0.007	0
Propazine	0.1 μg/L	0	0	<0.005	<0.005	0
Propiconazole	0.1 μg/L	0	0	<0.007	<0.009	0
Simazine	0.1 μg/L	0	0	<0.005	<0.005	0
Tebuconazole	0.1 μg/L	0	0	<0.005	<0.006	0
Terbuthylazine	0.1 μg/L	0	0	<0.005	<0.005	0
Terbutryn	0.1 μg/L	10	0	<0.005	0.008	0
Triclopyr	0.1 μg/L	1	0	<0.016	0.017	0
Aldrin	0.03 μg/L	0	0	<0.008	<0.008	0
Dieldrin	0.03 μg/L	0	0	<0.009	<0.009	0
Heptachlor	0.03 μg/L	0	0	<0.005	<0.005	0
Heptachlor epoxide	0.03 μg/L	0	0	<0.005	<0.007	0
Pendimethalin	0.1 μg/L	2	0	<0.009	0.017	0
Pesticides - Total Substances	0.5 μg/L	14	0	0.005	0.045	0
Total	-	36	0	-	-	0

Table 7: Quality of water leaving bulk supply points - National Standards

Indicator Parameter	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum	Maximum	No. of supply points failing standard
Tetrachloromethane	3 μg/L	8	0	<0.16	<0.16	0
TOTAL	-	8	0	-	-	0

Table 8: Quality of water leaving bulk supply points - Additional Monitoring Requirements

Indicator Parameter	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum	Maximum	No. of supply points failing standard
Clostridium Perfringens	0 number/100ml	13	0	0	0	0
Conductivity	2500 μS/cm	129	0	485	833	0
Radioactivity - Gross Alpha	0.1 Bq/L	3	0	<0.021	<0.021	0
Radioactivity - Gross Beta	1 Bq/L	3	0	0.110	0.149	0
Radioactivity - Tritium	100 Bq/L	3	0	<5	<5	0
Total Organic Carbon (TOC)	No abnormal change	124	0	1.30	5.70	0
TOTAL	-	275	0	-	-	-

Table 9: Quality of water at consumer's tap (zones) - European Standards¹

Indicator Parameter	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum	Maximum	No. of zones with failures
Antimony	5 μg Sb/L	8	0	0.320	1.550	0
Arsenic	10 μg As/L	8	0	0.25	0.36	0
Benzo(a)pyrene	0.01 μg/L	8	0	0	0	0
Cadmium	5 μg Cd/L	8	0	0	0	0
Chromium	50 μg Cr/L	8	0	0	0	0
Copper	2000 μg Cu/L	8	0	8	204	0
E. Coli	0 number/100ml	162	1	0	>201	1
Enterococci	0 number/100ml	8	0	0	0	0
Lead	10 μg Pb/L	8	0	0	3	0
Nickel	20 μg Ni/L	8	0	1	2	0
Nitrate	50 mg NO3/L	8	0	10	30	0
Nitrite	0.5 mg NO2/L	8	0	0	0	0
Polycyclic aromatic hydrocarbons (PAHs)	0.1 μg/L	8	0	0	0	0
Selenium	10 μg Se/L	8	0	0	1	0
Trihalomethanes (THMs)	100 μg/L	8	0	25	91	0
TOTAL	-	274	1	-	-	-

'During 2023 the results of sampling at consumers' taps have been discounted from the statistics contributing to overall compliance. Consumer tap samples were unable to be sampled from domestic properties for part of the year due to pandemic mitgation measures - for the early part of 2023 only business locations were sampled, therefore distribution zones data for the whole year is treated as monitoring. Sampling of water quality from domestic properties resumed in April 2023 following a reduced perception of risk to staff and the public from the activity.

Table 10: Quality of water at consumer's tap (zones) - National Standards

Indicator Parameter	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum	Maximum	No. of zones with failures
Aluminium	200 μg Al/L	52	0	15.00	168.00	0
Colour	20 mg/L Pt/Co scale	54	0	<5	<5	0
рН	6.5 - 9.5 pH value	54	0	6.70	7.45	0
Iron	200 μg Fe/L	53	0	5	36	0
Manganese	50 μg Mn/L	53	0	0.45	12.80	0
Organoleptic Taste	3 at 25°C dilution number	52	0	0	1	0
Organoleptic Odour	3 at 25°C dilution number	51	0	0	1	0
Sodium	200 mg Na/L	8	0	57	67	0
Turbidity	4 NTU	54	0	0.18	0.32	0
TOTAL	-	432	8	-	-	-

Table 11: Quality of water at consumer's tap (zones) - Additional Monitoring Requirements

Indicator Parameter	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum	Maximum
Ammonium	0.5 mg NH4/L	52	0	0.01	0.36
Coliform Bacteria	0 number / 100ml	162	3	0	>201
Colony Counts after 72 hours at 22°C	No abnormal change	197	0	0	294
Conductivity	2500 μS/cm	54	0	518	650
TOTAL	-	465	3	-	-

RAW WATER SUMMARY

Raw Water 2023 Data Summary Tables

Tables 12-17 contain a summary of results of raw water monitoring undertaken by Guernsey Water in 2023.

Notes relating to interpretation of the tables:

The tables below show the maximum and minimum levels detected over the year. The symbol < indicated that the results was less that the limit of detection of the analytical method used. The symbol > indicated that the result was above the recording range of the analytical method used.

Table 12: Quality of water in Island streams - Monitoring

Indicator Parameter	Units of Measure	Total number of tests	Minimum	Maximum
Conductivity	μS/cm	179	321	46400
Nitrate	mg NO3/L	175	0.1	62.5
Ammonia	mg NH4/L	163	0.01	1.20
Phosphate	mg P/L	169	0.04	8.00
Coliforms	number / 100ml	178	10	100,000
E.Coli	number / 100ml	177	0	100,000
Enterococci	number / 100ml	177	10	7,800
TOTAL	-	1218	-	-

Table 13: Quality of stored water in quarries and reservoirs - Monitoring

Indicator Parameter	Units of Measure	Total number of tests	Minimum	Maximum
рН	pH value	50	6.70	9.77
Conductivity	μS/cm	55	480	705
Tot.Oxid.Nitrogen	mg NO3/L	45	0.07	64.90
Ammonium	mg NH4/L	44	0.01	1.90
Nitrite	mg NO2/L	19	0.040	13.90
Chloride	mg Cl/L	44	59	111
Colforms	number / 100ml	54	0	2100
E. Coli	number / 100ml	54	0	740
Enterococci	number / 100ml	54	0	1400
Total Organic Carbon (TOC)	mg C/L	50	1.8	17
TOTAL	-	469	-	-

Perfluorooctane Sulfonate (PFOS)

PFAS (poly and perfluorinated alkyl substances) are a group of compounds, the basis of which are chains of carbon and fluorine atoms. The carbon-fluorine bond is very strong and so these compounds do not degrade easily in the environment. The predominant PFAS substance found on Guernsey is perfluorooctane sulfonate (PFOS) as a result of historic pollution from firefighting foams.

Since 2007 PFOS has been monitored in raw and treated water in accordance with guidance from the Drinking Water Inspectorate (DWI) who set the 'wholesomeness' value as 1.0 μ g/l. More recently, DWI have introduced three tiers levels at much lower concentrations (<0.01, 0.01-0.10, >0.1 μ g/L) with guidance for the appropriate level of risk assessment, sampling and mitigation measures that should take place based on PFAS substance concentrations. Guernsey Water's St Saviours reservoir and downstream supply zones fall into Tier 2 based on 2023's maximum detected PFOS concentration of 0.0504 μ g/L, and our monitoring complies with DWI's recommendations.

Guernsey Water has used its available water resources to manage the levels of PFOS in water supplied from St Saviours Reservoir. The tables below provide a breakdown of the levels of PFOS observed in 2023 in drinking water from St Saviours and Kings Mills water treatment works, St Saviour's reservoir and affected stream systems.

Table 14: Quality of water leaving treatment works - PFOS

Indicator Parameter	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum	Maximum
Perfluorooctane sulfonate (PFOS)	1.0 μg C ₈ HF ₁₇ O ₃ S/L	38	0	0.0161	0.0429
TOTAL		38	0	-	-

Table 15: Quality of water in St. Saviour's Reservoir - PFOS

Indicator Parameter	Prescribed Concentration or Value	Total number of tests	Minimum	Maximum
Perfluorooctane sulfonate (PFOS)	1.0 μg C ₈ HF ₁₇ O ₃ S/L	18	0.0271	0.0504
TOTAL		18	-	-

Table 16: Quality of water in Island streams - PFOS

Indicator Parameter	Prescribed Concentration or Value	Total number of tests	Minimum	Maximum
Perfluorooctane sulfonate (PFOS)	1.0 μg C ₈ HF ₁₇ O ₃ S/L	103	0.0045	3.6800
TOTAL		103	-	-

WATER CATCHMENT

2023 Water Catchment Area Nitrate Loadings

The 2023 nitrate loadings have been evaluated to produce a nitrate map showing the 95th percentile level of nitrates in each catchment area.

The Environmental Pollution (Water Pollution) Ordinance 2022 permitted discharge level is set at 42mg/L (as NO3) – this value has been set to ensure that nitrate loadings decrease over time. The nitrate drinking water limit as prescribed in The Water Supply (Water Quality) Regulations 2018 (as amended) is 50mg/L.

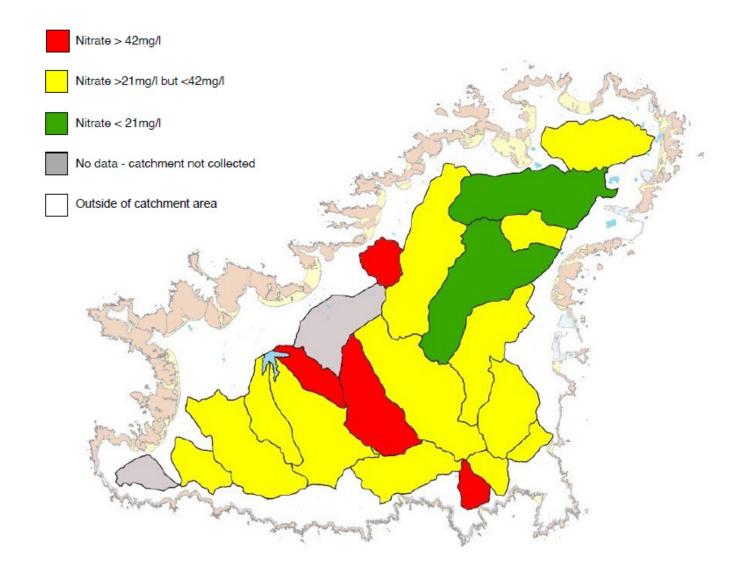


Table 17: Quality of water in Island streams - Nitrate

Catchment Area	5th Percentile (mg/L)	Mean (mg/L)	95th Percentile (mg/L)
Beau Vallee	15.5	23.0	34.1
Charroterie	17.8	22.5	25.8
Choffins	37.6	47.0	51.7
Cobo Stream	11.9	27.7	43.8
Douit du Moulin	9.0	22.2	30.2
Fauxquets	44.7	55.7	62.1
Fermain	23.3	31.2	36.9
Les Clercs	17.6	25.1	33.7
Les Nicolles	2.2	11.5	28.8
Marais Stream	2.1	6.0	9.7
Mare De Carteret	9.4	20.6	28.2
Moulin Huet	24.3	27.9	32.3
Padins	23.3	32.2	37.2
Petit Bot	17.0	28.2	36.9
Saints	25.3	32.2	43.6
Talbots	28.0	35.1	38.0
Vale Pond	2.4	6.1	10.9
Vielle Marais	1.4	8.8	24.4
Vrangue	14.1	20.4	25.1

APPENDIX A

Table 18: Listed parameters Guernsey Water samples for and prescribed concentration or values

Bacteriology Parameter	Prescribed Concentration or Value
Clostridium perfringens	0 number/100ml
Coliforms	0 number/100ml
Colony Count cfu /mL 22°C / 72 hr	No abnormal change
Cryptosporidium	oocyst >1 in 10 litres
E. coli	0 number/100ml
Enterococci	0 number/100ml

Chemistry Parameter	Prescribed Concentration or Value
1,2-Dichloroethane	3 μg/L
Aluminium	200 μg/L Al
Ammonium	$0.5~\mathrm{mg/L~NH_4}$
Antimony	5 μg/L Sb
Arsenic	10 μg/L As
Benxo(a)pyrene	0.01 μg/L
Benzene	1 μg/L
Boron	1000 μg/L B
Bromate	10 μg/L Br0 ₃
Cadmium	5 μg/L Cd
Chloride	250 mg/L Cl
Chromium	50 μg/L Cr
Colour	20 mg/L Pt/Co
Conductivity	2500 μS/cm
Cyanide	50 μg/L CN
Fluoride	1.5 mg/L F
Iron	200 μg/L Fe
Manganese	50 μg/L Mn
Mercury	1 μg/L Hg
Nitrate	50 mg/L N03
Nitrate / Nitrite Formula	1 mg/L NO ₂
Nitrite (treatment works)	0.1 mg/L NO ₂
Nitrite (consumers' tap)	0.5 mg/L NO ₂
Organoleptic Odour	3 at 25°C dilution number
Organoleptic Taste	3 at 25°C dilution number

Chemistry Parameter	Prescribed Concentration or Value
PAH Total	0.1 μg/L
рН	6.5 - 10.0
Radioactivity - Gross alpha	0.5 Bq/L
Radioactivity - Gross beta	1 Bq/L
Radon	100 Bq/L
Residual Disinfectant - Free Chlorine mg/L	No abnormal change
Residual Disinfectant - Total Chlorine mg/L	No abnormal change
Selenium	10 μg/L Se
Sodium	200 mg/L Na
Sulphate	250 mg/L SO ₄
Tetra/Trichloroethene	10 μg/L
Tetrachloromethane	3 μg/L
THMs Total	100 μg/L
Total Organic Carbon (TOC) mg/L C	No abnormal change
Tritium	100 Bq/L
Turbidity (treatment works)	1 NTU
Turbidity (consumer's tap)	4 NTU
Pesticides	
Aldrin	0.03 μg/L
Dieldrin	0.03 μg/L
Heptachlor	0.03 μg/L
Heptachlor epoxide	0.03 μg/L
Individual Pesticides	0.1 μg/L
Total Pesticides	0.5 μg/L



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