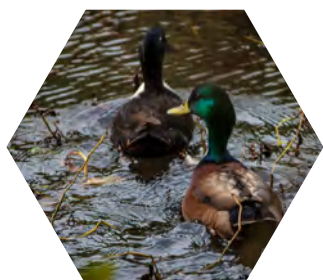
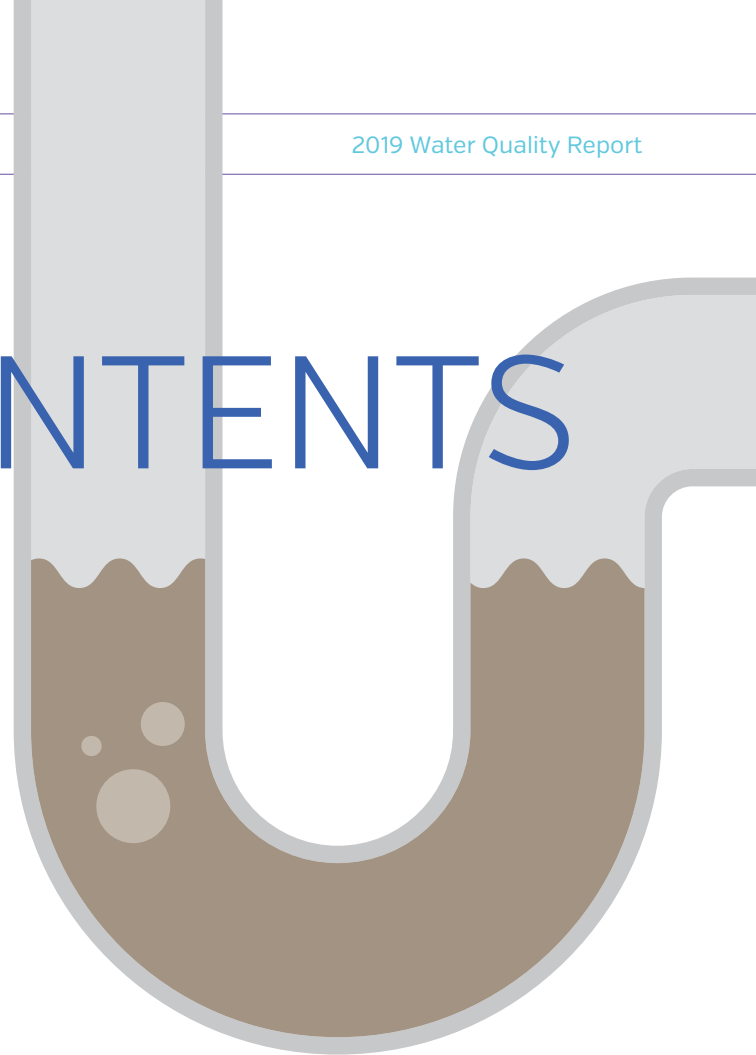


Guernsey Water
Water Quality Report

2019

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OUR 7 OUTCOMES





Our vision is focused on the value of our core business which is water and wastewater service provision.

“Customers always value the quality of our drinking water and the safe return of our wastewater to the environment.”



DRINKING WATER OF CHOICE

The quality, sustainability and availability of Guernsey water make 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

Our drinking water is available to everyone

99.85%

COMPLIANCE WITH DRINKING WATER STANDARDS

In 2019, Guernsey Water provided 4,695 mega litres of safe and high quality drinking water (over 4 times the volume of St Saviour Reservoir) to its customers.

Protecting public health with clean, fresh, wholesome drinking water is vitally important to Guernsey Water and in 2019 we conducted 7,475 laboratory analyses on compliance samples taken at water treatment works, service reservoirs and customer's taps. 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 99.85% of 7,745 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 ever 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.

2019 Water Quality Key Performance Indicators

- ✓ Achieve 99.5% compliance for Maximum Admissible Concentrations at water treatment works
- ✓ Achieve 99% compliance for Maximum Admissible Concentrations at service reservoirs
- ✓ Achieve 99% compliance for Maximum Admissible Concentrations at customer taps

Guernsey Water has achieved its 2019 water quality targets with overall compliance being slightly lower in 2019 than in 2018 as the work we are doing to address water quality continues. Guernsey Water continues to provide safe, high quality drinking water to the satisfaction of its customer's requirements. 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 customers' taps in 2 water supply zones show that 99.85% of the 7,475 analyses met all national and European Union standards.

This shows a slight decrease in compliance compared to the 2018 figure, which was 99.91%.

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
GENERAL MANAGER

SUMMARY

In 2019 there was only one breach at any of the four water treatment works that were operational - Kings Mills, Longue Hougue, Juas and St Saviour. This was at Kings Mills and was due to a pollution incident.

Juas water treatment works came online in early 2019, after a period of parallel operation, Longue Hougue was decommissioned.

Compliance with bacterial standards at the Island's three service reservoirs was slightly lower than in 2018 at 99.23%, this was due to 3 low level bacterial detections at the service reservoirs at Forest Road. We continue to carry out a programme of works to improve the water storage at this site.

Supply zones (customer tap samples) had 7 failures in total; 6 were for bacteriological parameters and 1 was a Trihalomethane (THM) failure. Bacteriological parameters being present does not necessarily indicate ingress of contamination but they should be absent from treated water so their presence should always be investigated. THM's are disinfection by-products formed primarily by reactions between chlorine and organic matter (measured as Total Organic Carbon).

There are a number of factors which influence the formation of disinfection by-products and these include the type and concentration of disinfectant, the concentration of organic matter within the treated water, the temperature, pH and contact time/length of the distribution network. Work planned in our current business plan will address

THM issues going forward. The 6 bacteriological failures that were detected from customer's taps on further investigation and re-sampling were identified as being due to low chlorine levels in the system which resulted from prolonged periods of warm weather. This will continue to be a focus of our distribution management strategy going forward.

THM formation remains an area of focus and further work will be undertaken throughout our latest business planning period to further reduce these by operational and capital investment. The UK Drinking Water Inspectorate (DWI) is however clear that "at all times that actions taken to minimise disinfection by-product formation should not compromise the effectiveness of the disinfection process." Guernsey Water follows this guidance as best practice.

We regularly analyse for a wide range pesticides and of these only 32 were detected and Only one breach of the 0.1µg/l limit was observed, this was due to a pollution incident. We have continued to monitor our streams regularly for the presence of glyphosate which is regularly detected but at present remains a risk, and we will continue to monitor for this parameter in 2020 to ensure that the levels we find are of no concern to our treatment processes.

Perfluorooctane sulphonate (PFOS) has been monitored on a regular basis both in the raw water in St Saviour's Reservoir and treated water leaving St Saviour water treatment works. The maximum result detected in the treated water analysis was 0.0667µg/l (ppb) which is within Tier

1 (<0.3µg/l) of the guidance issued by the UK DWI on PFOS (http://dwi.defra.gov.uk/stakeholders/information-letters/2009/10_2009annex.pdf). This was slightly lower than the levels detected in 2018.

Categorisation as Tier 1 merely recognises that there may be a potential hazard which should as a minimum be considered by a risk assessment. Guernsey Water has gone much further than this to ensure the protection of drinking water quality by working closely with the DEHPR and other States of Guernsey Departments to actively reduce PFOS levels found in raw water through the treatment of stream water from affected catchments as well as the removal and containment of contaminated soils.

The affected catchments have also been closely monitored and measures put in place (such as stream divers) to minimise levels in raw waters. In 2019 the maximum detected PFOS concentration recorded in the raw water stored at St Saviour Reservoir was 0.0742µg/l, slightly lower than the 0.0854µg/l recorded in 2018.

There was a decrease in the maximum PFOS concentration detected in samples collected from streams, from 3.18µg/l in 2018 to 1.94µg/l in 2019. This was due to a combination of factors including the ongoing remedial works at the airport and the natural variation in rainfall.

There were a total of 11 water quality complaints from customers in 2019. The number of complaints regarding taste & odour were 9. Guernsey Water uses the same methodology for recording consumer contacts and enquiries regarding water quality as is used in England and Wales, whereby every contact is recorded and categorised to enable year on year comparison. This will remain an area of focus throughout our business planning period.

The implementation of Water Safety Planning in 2016, a proactive management system that aims to ensure clean, safe drinking water, continues to assist us in our aim of

consistently supplying high quality drinking water to our customers. The updating and development of these plans will be ongoing throughout our business plan period, mirroring the improvements in planning across Europe and the United Kingdom.



“Drinking water is vital for public health so we strive to provide safe, clean water at all times and in 2019 our water quality remained high.”

MARGARET MCGUINNESS,
WATER QUALITY RISK MANAGER






INTRODUCTION

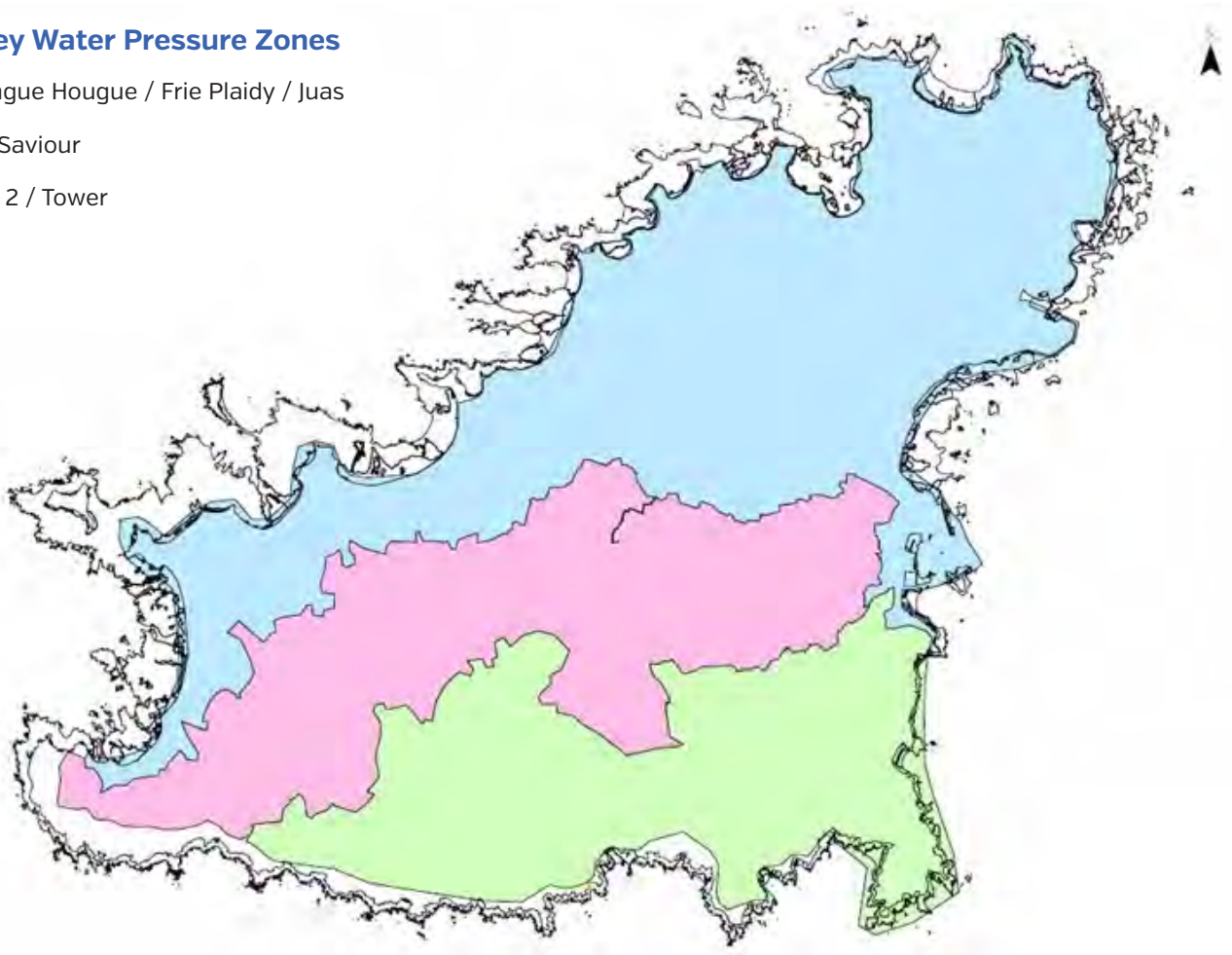
Treated Water

Guernsey Water operates using current Drinking Water Inspectorate (DWI) 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 4 water treatment works, 3 service reservoirs, a water tower and 2 water supply zones.

The general rationale of water movement in Guernsey is: St Saviour water treatment works supplies water to No. 2 East and West service reservoirs which then either goes into the Water Tower and onto the Tower Supply Zone (green in image below) or direct to No. 2 Supply Zone (pink in image below). Longue Hougue water treatment works (or Kings Mills water treatment works when Longue Hougue is offline) supplies water direct into Longue Hougue Supply Zone (blue in image below) and into Frie Plaidy Service Reservoir.

Guernsey Water Pressure Zones

-  Longue Hougue / Frie Plaidy / Juas
-  St. Saviour
-  No. 2 / Tower



2019 COMPLIANCE SUMMARY

Below is a breakdown of the compliance for 2019, as measured against The Water Supply (Water Quality) Regulations, 2018.

Water Treatment Works

	St Saviour	Juas	Kings Mills	Longue Hougue	Total
No of Breaches	0	0	1	0	1
No of Passes	1893	1776	1736	502	5877
No of Samples	1893	1776	1737	502	5878
% Compliance	100.00%	100.00%	99.94%	100.00%	99.98%

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	75	103	104	103	385
No of Samples	76	104	104	104	388
% Compliance	99.68%	99.04%	100.00%	99.04%	99.27%

Distribution Zones

	North Zone	South Zone	Total
No of Breaches	6	1	7
No of Passes	676	512	1188
No of Samples	682	513	1195
% Compliance	99.12%	99.81%	99.41%

Overall Total – all parameters

	Total
No of Breaches	11
No of Passes	7464
No of Samples	7475
% Compliance	99.85%

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 DWI.

Raw Water

With regard to the Island's water catchment area, Guernsey Water has in the past managed the legislation concerning pollution of this area. This has meant water quality that could potentially have an effect on drinking water has been managed through 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 is now managing the Island's wastewater infrastructure in line with the recommendations agreed by the States of Guernsey in Billet d'Etat XX1 2012 [dated 31st October 2012].

Raw water quality is closely monitored with analyses of 19 streams and stored water in 17 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 good 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 2019 in the Island's various streams and storage reservoirs.



TREATED WATER SUMMARY

Treated Water 2019 Data Summary Tables

These tables contain a summary of results of treated water monitoring undertaken by Guernsey Water in 2019

Notes relating to the interpretation of the tables: -

The tables below show the maximum and minimum levels detected over the year. The symbol < indicates that the result was less than the limit of detection of the analytical method used. The symbol > indicates 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	35	0	<0.03	<0.03	0
TOTAL		35	0			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	739	0	0	0	0
E. coli	0 number/100ml	739	0	0	0	0
TOTAL		1478	0			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	728	0	0	203
Turbidity	1 NTU	725	0	<0.01	0.73
TOTAL		1453	0		

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	194	3	0	1	3
E. coli	0 number/100ml	194	0	0	0	0
TOTAL		388	3			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	194	6	0	>300
TOTAL		194	6		

*these are marked as n/a as they refer to changes observed and not a set numerical standard

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	16	0	<0.07	<0.13	0
Benzene	1 µg/L	16	0	<0.02	<0.07	0
Boron	1 mg B/L	16	0	0.0683	0.110	0
Bromate	10 µg BrO ₃ /L	16	0	<0.10	1.10	0
Cyanide	50 µg CN/L	27	0	<0.07	0.8	0
Fluoride	1.5 mg F/L	16	0	<0.1	0.12	0
Mercury	1 µg Hg/L	25	0	<0.03	<3	0
Tetrachloroethene / Trichloroethene	10 µg/L	16	0	0.00	0.00	0
TOTAL		148	0			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	17	0	0.003	0.06	0
Atrazine	0.1 µg/L	17	0	0.001	0.004	0
Atrazine Desethyl	0.1 µg/L	6	0	0.001	0.003	0
Atrazine Desisopropyl	0.1 µg/L	16	0	0.001	0.007	0
Benazolin	0.1 µg/L	1	0	0.004	0.004	0
Bromoxynil	0.1 µg/L	6	0	0.003	0.004	0
Carbendazim	0.1 µg/L	8	0	0.003	0.009	0
Clopyralid	0.1 µg/L	22	0	0.003	0.077	0
Chloridazon	0.1 µg/L	1	0	0.002	0.002	0
Chlorpyrifos Ethyl	0.1 µg/L	1	0	0.003	0.003	0
Cynazine	0.1 µg/L	3	0	0.001	0.001	0
Dicamba	0.1 µg/L	6	0	0.006	0.019	0
Diflufenican	0.1 µg/L	3	0	0.001	0.002	0
Diuron	0.1 µg/L	7	0	0.002	0.007	0
Endrin	0.1 µg/L	1	0	0.001	0.001	0
Fenpropimorph	0.1 µg/L	1	0	0.001	0.001	0
Floroxypyr	0.1 µg/L	11	0	0.003	0.027	0
MCPA	0.1 µg/L	17	0	0.004	0.094	0
MCPP [Mecoprop]	0.1 µg/L	23	1	0.004	0.112	1
Methabenzthiazuron	0.1 µg/L	2	0	0.001	0.001	0
Metoxuron	0.1 µg/L	3	0	0.001	0.002	0
Propazine	0.1 µg/L	2	0	0.002	0.002	0
Propiconazole	0.1 µg/L	13	0	0.002	0.014	0
Simazine	0.1 µg/L	15	0	0.002	0.004	0
Tebuconazole	0.1 µg/L	4	0	0.001	0.002	0
Terbuthylazine	0.1 µg/L	2	0	0.001	0.001	0
Terbutryn	0.1 µg/L	6	0	0.003	0.011	0
Triclopyr	0.1 µg/L	16	0	0.004	0.036	0
Aldrin	0.03 µg/L	27	0	<0.001	<0.003	0
Dieldrin	0.03 µg/L	27	0	<0.002	<0.003	0
Heptachlor	0.03 µg/L	27	0	<0.001	<0.002	0
Heptachlor epoxide	0.03 µg/L	27	0	<0.002	<0.003	0
Pesticides - Total Substances	0.5 µg/L	40	0	0.002	0.341	0
Total		387	1			1

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	16	0	<0.02	<0.14	0
TOTAL		16	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	36	0	0	0	0
Conductivity	2500 µS/cm	148	0	466	676	0
Radioactivity - Gross Alpha	0.1 Bq/L	3	0	<0.035	<0.039	0
Radioactivity - Gross Beta	1 Bq/L	3	0	0.171	0.185	0
Radioactivity - Tritium	100 Bq/L	3	0	<5.0	<5.0	0
Total Organic Carbon [TOC]	No abnormal change	148	0	1.30	4.90	0
Chloride	250 mg/l	16	0	82	110	0
Suphate	250mg SO4/L	16	0	52	110	0
TOTAL		373	0			0

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

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	16	0	0.270	1.410	0
Arsenic	10 µg As/L	16	0	0.25	0.64	0
Benzo[a]pyrene	0.01 µg/L	16	0	<0.00022	<0.00022	0
Cadmium	5 µg Cd/L	16	0	0.013	0.019	0
Chromium	50 µg Cr/L	16	0	0.22	0.70	0
Copper	2000 µg Cu/L	16	0	11.7	858.0	0
E. Coli	0 number/100ml	156	0	0	0	0
Enterococci	0 number/100ml	16	0	0	0	0
Lead	25 µg Pb/L	16	0	0.12	1.74	0
Nickel	20 µg Ni/L	16	0	1.01	2.51	0
Nitrate	50 mg NO ₃ /L	16	0	3.6	30.8	0
Nitrite	0.5 mg NO ₂ /L	16	0	<0.03	<0.03	0
Polycyclic aromatic hydrocarbons (PAHs)	0.1 µg/L	16	0	0.000	0.002	0
Selenium	10 µg Se/L	16	0	<0.16	0.56	0
Trihalomethanes [THMs]	100 µg/L	16	1	18.65	152.16	1
TOTAL		380	1			1

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	60	0	<10	73.00	0
Colour	20 mg/L Pt/Co scale	60	0	<5	<5	0
pH	6.5 - 9.5 pH value	60	0	6.97	7.57	0
Iron	200 µg Fe/L	60	0	<10	48	0
Manganese	50 µg Mn/L	60	0	<10	26.00	0
Organoleptic Odour	3 at 25°C dilution number	60	0	0	1	0
Organoleptic Taste	3 at 25°C dilution number	59	0	0	1	0
Sodium	200 mg Na/L	16	0	56	74	0
Turbidity	4 NTU	60	0	<0.01	0.15	0
TOTAL		495	0			0

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 NH ₄ /L	60	0	<0.01	0.12
Coliform Bacteria	0 number / 100ml	156	6	0	1
Colony Counts after 72 hours at 22°C	No abnormal change	60	7	0	209
Conductivity	2500uS/cm	60	0	505	645
pH	<9.5	60	0	6.97	7.57
TOTAL		336	13		

RAW WATER SUMMARY

Raw Water 2019 Data Summary Tables

These tables contain a summary of results of raw water monitoring undertaken by Guernsey Water in 2019.

Notes relating to the interpretation of the tables: -

The symbol < indicates that the result was less than the limit of detection of the analytical method used. The symbol > indicates 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	240	216	7190
Nitrate	mg NO ₃ /L	240	0.8	79.1
Ammonia	mg NH ₄ /L	240	<0.01	1.00
Phosphate	mg P/L	240	<0.02	3.20
Total Organic Carbon [TOC]	mg C/L	14	3.6	20.1
Coliforms	number / 100ml	240	0	>100,000
E.Coli	number / 100ml	239	10	>100,000
Enterococci	number / 100ml	239	3	>10,000
TOTAL		1692		

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

Indicator Parameter	Units of Measure	Total number of tests	Minimum	Maximum
pH	pH value	23	7.47	9.23
Conductivity	µS/cm	23	483	708
Total Oxidised Nitrogen	mg NO ₃ /L	23	1.00	23.40
Ammonium	mg NH ₄ /L	23	<0.01	0.17
Nitrite	mg NO ₂ /L	23	<0.03	0.46
Chloride	mg Cl/L	23	63	104
Coliforms	number / 100ml	23	0	>100,000
E. Coli	number / 100ml	23	0	>100,000
Enterococci	number / 100ml	23	0	>10,000
Total Organic Carbon [TOC]	mg C/L	5	2.1	13.6
TOTAL		212		

Perfluorooctane Sulfonate (PFOS)

Since 2007 PFOS has been monitored in raw and treated water in accordance with guidance from DWI who set the 'wholesomeness' value as 1.0 µg/l. Guernsey Water has used its available water resources to manage the levels of PFOS in water leaving St Saviour water treatment works. The tables below provide a breakdown of the levels of PFOS observed in 2019 in drinking water from St Saviour water treatment works, St Saviour's reservoir and affected stream systems. Our drinking water safety plans identify that this is the only affected catchment.

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	45	0	0.0050	0.0667
TOTAL		45	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	25	0.0050	0.0742
TOTAL		25		

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	87	0.0187	1.9400
TOTAL		87		

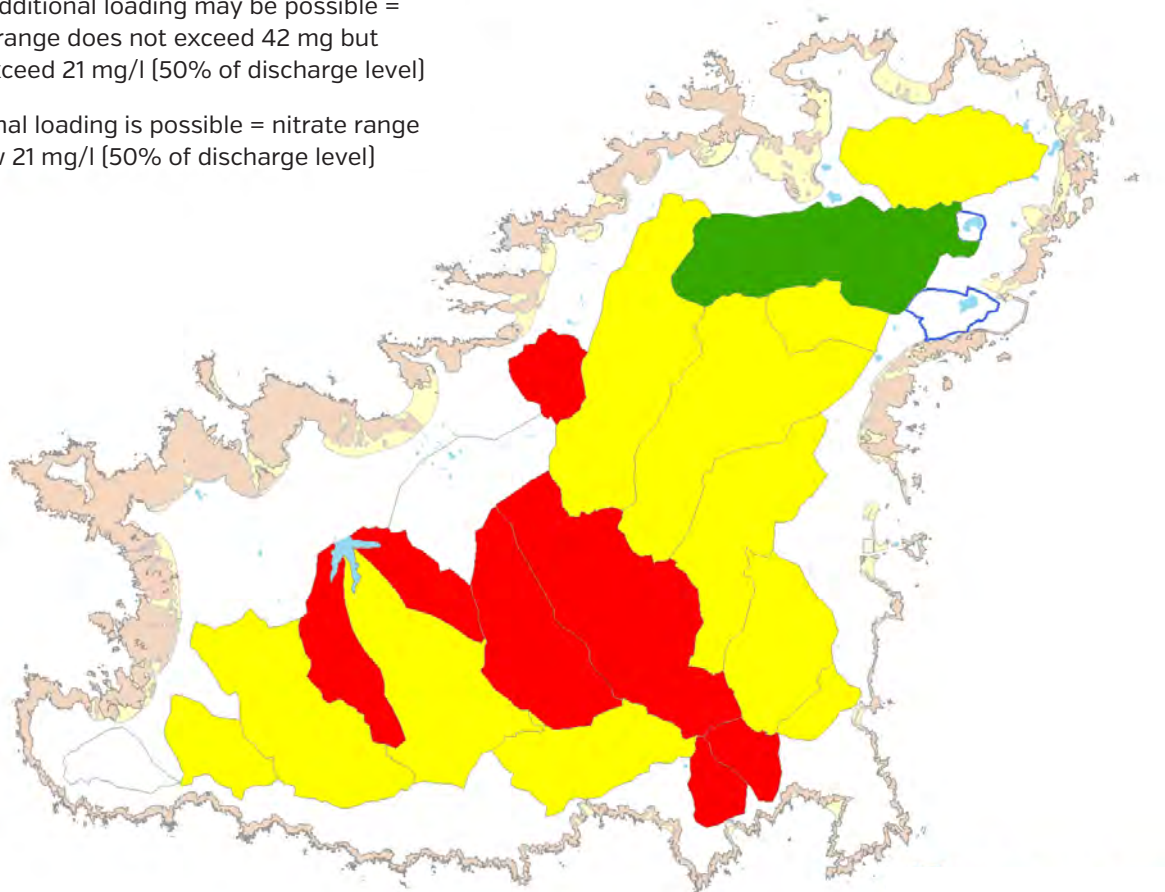
WATER CATCHMENT

2019 Water Catchment Area Nitrate Loadings

The 2019 nitrate loadings have been evaluated to produce a nitrate map showing the level of nitrates in each catchment area.

The Director of Environmental Health and Pollution Regulation submitted discharge standards for inclusion within Part VI of The Environmental Pollution (Guernsey) Law, 2004, to the States of Guernsey in Billet d'Etat XX1 2012 (dated 31st October 2012) and the proposed nitrate discharge level is recommended at 42 mg/l* [as NO₃]. The nitrate drinking water limit as prescribed in The Water Supply (Water Quality) Regulations 2000, as amended, is set at 50 mg/l.

- No additional loading = nitrate range exceeds 42 mg/l
- Some additional loading may be possible = nitrate range does not exceed 42 mg but does exceed 21 mg/l (50% of discharge level)
- Additional loading is possible = nitrate range is below 21 mg/l (50% of discharge level)



*this lower level has been set to ensure that nitrate loadings decrease over time.

Table 18: Quality of water in Island streams – Nitrate

Catchment Area	5th Percentile (mg/L)	Mean (mg/L)	95th Percentile (mg/L)
Beau Vallee	18.0	25.8	34.4
Charroterie	17.9	24.9	29.2
Choffins	28.4	45.8	58.3
Cobo	14.6	45.8	75.6
Douit du Moulin	23.0	31.4	36.9
Fauxquets	36.8	54.9	62.2
Fermain	24.4	30.9	35.5
Les Clercs	19.9	25.9	31.6
Les Nicolles	2.4	12.8	38.5
Marais Stream	3.7	11.4	28.9
Mare De Carteret	4.7	17.2	29.6
Moulin Huet	21.3	33.0	47.9
Padins	24.5	36.0	45.2
Petit Bot	17.2	29.2	36.0
Saints	21.7	31.5	43.8
Talbots	30.0	38.2	44.7
Vale Pond	5.3	11.6	20.5
Vielle Marais	2.8	9.8	27.8
Vrangue	9.8	22.5	28.2

APPENDIX A

Table 19: Listed parameters Guernsey Water samples for and prescribed concentrations of 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 mg/L NH ₄
Antimony	5 µg/L Sb
Arsenic	10 µg/L As
Benzo(a)pyrene	0.01 µg/L
Benzene	1 µg/L
Boron	1000 µg/L B
Bromate	10 µg/L BrO 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 NO ₃
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
pH	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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