Guernsey Water
Water Quality Report

2022

GuernseyWater

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CONTENTS

OUR 7 OUTCOMES

99.98%

COMPLIANCE WITRH DRINKING WATER STANDARDS

"WE HAVE CONTINUED TO DEVELOP OUR DRINKING WATER SAFETY PLANS TO PROACTIVELY ADDRESS ANY RISKS TO WATER QUALITY AT EVERY STEP OF THE PROCESS BETWEEN SOURCE AND TAP."

"IN 2022, WE CONTINUED TO IMPLEMENT OUR SURFACE WATER MANAGEMENT STRATEGY THAT ADAPTS OUR DRAINAGE SYSTEMS TO CLIMATE CHANGE"

"OUR WEBSITE HAS BEEN IMPROVED TO MAKE IT MUCH EASIER FOR OUR CUSTOMERS TO FIND THE ONLINE SERVICES THEY USE THE MOST."

NO WATER RESTIRCTIONS IMPOSED THROUGOUT THE YEAR

"WE CONTINUE TO DEVELOP OUR EMERGENCY PLANS TO DEAL WITH ISSUES QUICKLY AND EFFECTIVELY"

"OUR ST SAMPSON DRAINAGE IMPROVEMENTS HAVE REDUCED THE RISK OF BATHING WATER POLLUTION."

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 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**

99.98%

COMPLIANCE WITH DRINKING WATER STANDARDS

In 2022, Guernsey Water provided 4,454 mega litres 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 2022 we conducted 7,707 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 99.98% of 7,707 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.

2022 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 2022 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 customer's. 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 99.98% of the 7,707 analyses met all national and European Union standards.

This shows a slight decrease in compliance compared to the 2021 figure, which was 100%. The only sample failure – a single low level coliform failure was fully investigated and did not repeat. It was thought it could have been linked to works ongoing at our St Saviour treatment works.

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

In 2022 there was one breach at our St Saviour treatment works. Kings Mills and Juas were 100% compliant.

Compliance with bacterial standards at the Island's three service reservoirs was as in 2021 at 100%.

We have in 2022 continued with the programme of works at our Forest Road site to improve the water storage resilience.

Supply zones (customer tap samples) were sampled via monitoring points.

We regularly analyse for a wide range of pesticides. There were no breaches of the 0.1µg/l limit observed in 2022 in our drinking waters.

We have continued to monitor our streams regularly for the presence of glyphosate which is regularly detected and at present remains a risk, and we will continue to monitor for this parameter in 2023 along with a number of others 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 0.0524µg/l (ppb) which is within Tier 1 of the guidance issued by the UK DWI on PFOS. This was slightly higher than the levels detected in 2021, this can be explained due to the lack of rainfall experienced in 2022.

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 diverts) to minimise levels in raw waters. In 2022 the maximum detected PFOS concentration recorded in

the raw water stored at St Saviours Reservoir was 0.0535µg/l, slightly higher than the0.0427µg/l recorded in 2021.

There was a decrease in the maximum PFOS concentration detected in samples collected from streams, from 2.47µg/l in 2021 to 2.36µg/l in 2022. This was due to a combination of factors including ongoing remedial works at the airport and the natural variation in rainfall amounts.

There were a total of 34 water quality enquiries from customers in 2022 and 18 complaints regarding the taste and odour of the water supplied, this was due to a seasonal algal bloom in October. 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 for improvement 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 2022 our water quality was excellent."

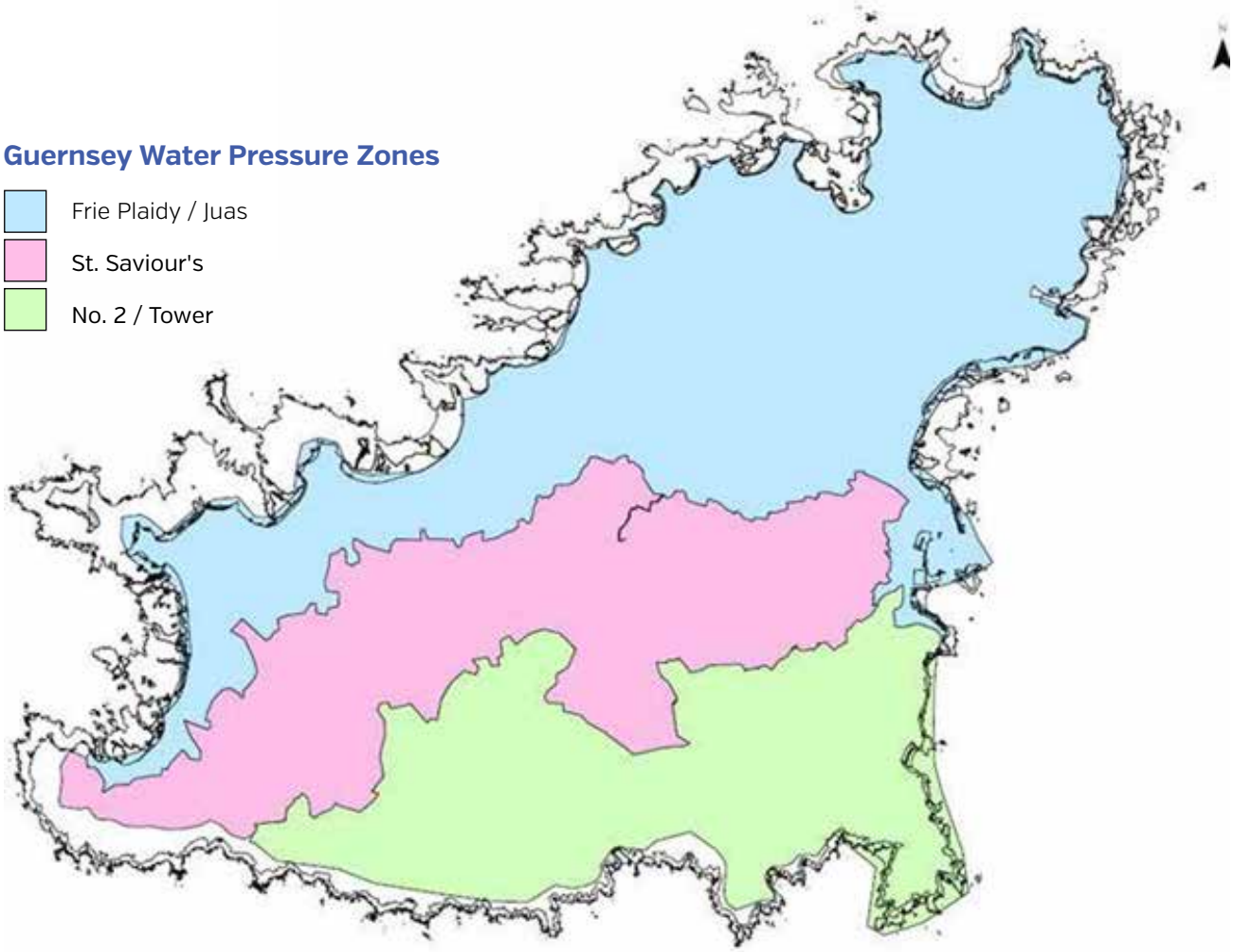
MARGARET McGUINNESS,
WATER QUALITY RISK MANAGER

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 treatment works, 3 service reservoirs, a water tower and a single water supply zone.

The general rationale of water movement in Guernsey is: St Saviours 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) Juas water treatment works (or Kings Mills water treatment works when Juas is offline) supplies water direct into Longue Hougue Supply Zone (blue in image below) and into Frie Plaidy Service Reservoir.



2022 COMPLIANCE SUMMARY

Below is a breakdown of the compliance for 2022, 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	0	1
No of Passes	1262	1483	1326	4071
No of Samples	1263	1483	1326	4072
% Compliance	99.92%	100%	100%	99.98%

Service Reservoirs & Water Tower

	No. 2 East	No. 2 West	Frie Plaidy	Tower	Total
No of Breaches	0	0	0	0	0
No of Passes	104	98	104	104	410
No of Samples	104	98	104	104	410
% Compliance	100%	100%	100%	100%	100%

Distribution Zones

	Single Zone
No of Breaches	0
No of Passes	614
No of Samples	614
% Compliance	100%

Overall Total – all parameters

	Total
No of Breaches	1
No of Passes	5095
No of Samples	5096
% Compliance	99.98%

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

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 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 2022 in the Island's various streams and storage reservoirs.

TREATED WATER SUMMARY

Treated Water 2022 Data Summary Tables

These tables contain a summary of results of treated water monitoring undertaken by Guernsey Water in 2022

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	25	0	<0.03	<0.03	0
TOTAL	-	25	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	655	1	0	1	1
E. coli	0 number/100ml	655	0	0	0	0
Cryptosporidium	oocysts <1 in 10 litres	3	0	<0.01	<0.02	0
TOTAL	-	1313	0	0	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	640	0	0	4
Turbidity	1 NTU	642	0	0.04	0.80
TOTAL	-	1282	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	205	0	0	0	0
E. coli	0 number/100ml	205	0	0	0	0
TOTAL		410	0	0	0	0

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	203	0	0	144
TOTAL	-	203	0	0	144

*these are marked as n/a as they refer to changes observed and not a set numerical standard, they are linked to an internal standard.

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

Indicator Parameter	Prescribed Con-centration 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	<0.15	<0.16	0
Benzene	1 µg/L	8	0	<0.16	<0.16	0
Boron	1 mg B/L	8	0	0.071	0.096	0
Bromate	10 µg Br03/L	8	0	<0.15	<0.18	0
Cyanide	50 µg CN/L	9	0	<0.6	<1.2	0
Fluoride	1.5 mg F/L	8	0	<0.1	0.14	0
Mercury	1 µg Hg/L	11	0	<0.6	<1.2	0
Tetrachloroethene / Trichloroethene	10 µg/L	8	0	0	0	0
TOTAL	-	68	0	-	-	0

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

Parameter	Prescribed Concetration 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	0.012	0
Atrazine	0.1 µg/L	0	0	<0.004	<0.005	0
Atrazine Desethyl	0.1 µg/L	2	0	<0.004	<0.006	0
Atrazine Desisopropyl	0.1 µg/L	0	0	<0.008	<0.008	0
Bentazone	0.1 µg/L	0	0	<0.002	<0.005	0
Bromoxynil	0.1 µg/L	0	0	<0.009	<0.010	0
Carbendazim	0.1 µg/L	1	0	<0.003	0.005	0
Clopyralid	0.1 µg/L	3	0	<0.011	0.022	0
Chloridazon	0.1 µg/L	0	0	<0.011	<0.020	0
Chlorpyriphos Ethyl	0.1 µg/L	0	0	<0.011	<0.016	0
Cynazine	0.1 µg/L	0	0	<0.004	<0.007	0
Dicamba	0.1 µg/L	0	0	<0.012	<0.014	0
Diflufenican	0.1 µg/L	0	0	<0.009	<0.009	0
Diuron	0.1 µg/L	0	0	<0.008	<0.010	0
Endrin	0.1 µg/L	0	0	<0.012	<0.012	0
Fenpropimorph	0.1 µg/L	0	0	<0.005	<0.005	0
Floroxypyr	0.1 µg/L	0	0	<0.008	0.012	0
MCPA	0.1 µg/L	0	0	<0.006	0.008	0
Glyphosate	0.1 µg/L	0	0	<0.005	0.005	0
MCPP (Mecoprop)	0.1 µg/L	0	0	<0.007	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	<0.007	0
Propiconazole	0.1 µg/L	0	0	<0.007	<0.014	0
Simazine	0.1 µg/L	0	0	<0.005	<0.005	0
Tebuconazole	0.1 µg/L	0	0	<0.005	<0.009	0
Terbuthylazine	0.1 µg/L	0	0	<0.005	<0.005	0
Terbutryn	0.1 µg/L	3	0	<0.005	<0.009	0
Triclopyr	0.1 µg/L	0	0	<0.015	<0.016	0
Aldrin	0.1 µg/L	0	0	<0.008	<0.008	0
Dieldrin	0.1 µg/L	0	0	<0.009	<0.009	0
Heptachlor	0.1 µg/L	0	0	<0.005	<0.005	0
Heptachlor epoxide	0.1 µg/L	0	0	<0.007	<0.007	0
Pesticides - Total Substances		6	0	0.00	0.033	0
Total		15	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	24	0	0	0	0
Conductivity	2500 µS/cm	133	0	476	630	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	<5.0	<5.0	0
Total Organic Carbon (TOC)	No abnormal change	132	0	1.50	3.20	0
Chloride	250mg/l	8	0	76	99	0
Sulphate	250mg SO_4/L	8	0	51	92	0
Total		314	0	-	-	0

Table 9: Quality of water at consumer's tap (zones) - European Standards[2]

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	0.280	0.551	0
Arsenic	10 µg As/L	8	0	0.19	1.69	0
Benzo(a)pyrene	0.01 µg/L	7	0	<0.0057	<0.00057	0
Cadmium	5 µg Cd/L	8	0	<0.01	0.160	0
Chromium	50 µg Cr/L	8	0	0.08	5.99	0
Copper	2000 µg Cu/L	8	0	9.5	275	0
E. Coli	0 number/100ml	178	0	0	0	0
Enterococci	0 number/100ml	8	0	0	0	0
Lead	25 µg Pb/L	8	0	0.17	1.89	0
Nickel	20 µg Ni/L	8	0	0.44	16.80	0
Nitrate	50 mg NO3/L	8	0	6.1	27.1	0
Nitrite	0.5 mg NO2/L	8	0	<0.03	<0.03	0
Polycyclic aromatic hydrocarbons (PAHs)	0.1 µg/L	7	0	0.000	0.002	0
Selenium	10 µg Se/L	8	0	<0.31	0.38	0
Trihalomethanes (THMs)	100 µg/L	8	0	20.86	84.89	0
TOTAL	-	288	0	-	-	0

[2]Customer tap samples were only sampled for part of the year due to the pandemic. The decision was made early in 2020 to stop going into customer's properties. Monitoring of water quality continued from fixed points in the supply network, in line with the rest of the industry, following agreement from the DWI.

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	14.0	100	0
Colour	20 mg/L Pt/Co scale	52	0	<5	<5	0
pH	6.5 - 9.5 pH value	52	0	6.98	7.70	0
Iron	200 µg Fe/L	52	0	15	34	0
Manganese	50 µg Mn/L	52	0	<0.85	<20	0
Organoleptic Odour	3 at 25°C dilution number	52	0	0	1	0
Organoleptic Taste	3 at 25°C dilution number	51	0	0	1	0
Sodium	200 mg Na/L	8	0	56	64	0
Turbidity	4 NTU	52	0	0.06	0.44	0
TOTAL	-	423	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	52	0	<0.01	0.05
Coliform Bacteria	0 number / 100ml	178	0	0	0
Colony Counts after 72 hours at 22°C*	No abnormal change	285	0	0	>300
Conductivity	2500uS/cm	52	0	512	641
TOTAL	-	567	0	-	-

RAW WATER SUMMARY

Raw Water 2022 Data Summary Tables

These tables contain a summary of results of raw water monitoring undertaken by Guernsey Water in 2022.

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	179	238	21,300
Nitrate	mg NO_3/L	179	0.7	85.1
Ammonia	mg NH_4/L	154	0.01	39.0
Phosphate	mg P/L	179	0.02	7.60
Total Organic Carbon [TOC]	mg C/L	0		9.3
Coliforms	number / 100ml	179	20	72,000
E.Coli	number / 100ml	179	10	36,000
Enterococci	number / 100ml	179	10	7,900
TOTAL	-	1228		-

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	30	7.50	9.61
Conductivity	µS/cm	30	491	679
Total Oxidised Nitrogen	mg NO_3/L	30	1.0	24.70
Ammonium	mg NH_4/L	24	0.01	0.46
Nitrite	mg NO_2/L	16	0.003	0.32
Chloride	mg Cl/L	30	63	103
Coliforms	number / 100ml	30	0	73,000
E. Coli	number / 100ml	30	0	66,000
Enterococci	number / 100ml	30	0	970
Total Organic Carbon [TOC]	mg C/L	6	1.9	11.0
TOTAL	-	256	-	-

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 Saviours water treatment works. The tables below provide a breakdown of the levels of PFOS observed in 2022 in drinking water from St Saviour 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 $C_8HF_{17}O_3S$/L	14	0	0.0148	0.0524
TOTAL		14	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 $C_8HF_{17}O_3S$/L	17	0.0251	0.0535
TOTAL		17	-	-

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 $C_8HF_{17}O_3S$/L	64	0.0044	2.3600
TOTAL		64	-	-

WATER CATCHMENT

2022 Water Catchment Area Nitrate Loadings

The 2022 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 2018, as amended, is set at 50 mg/l.

The two blue edged boxes in the schematic below are where the mean value lies below 10mg/l.

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

Nitrate > 42mg/l

Nitrate >21mg/l but <42mg/l

Nitrate < 21mg/l

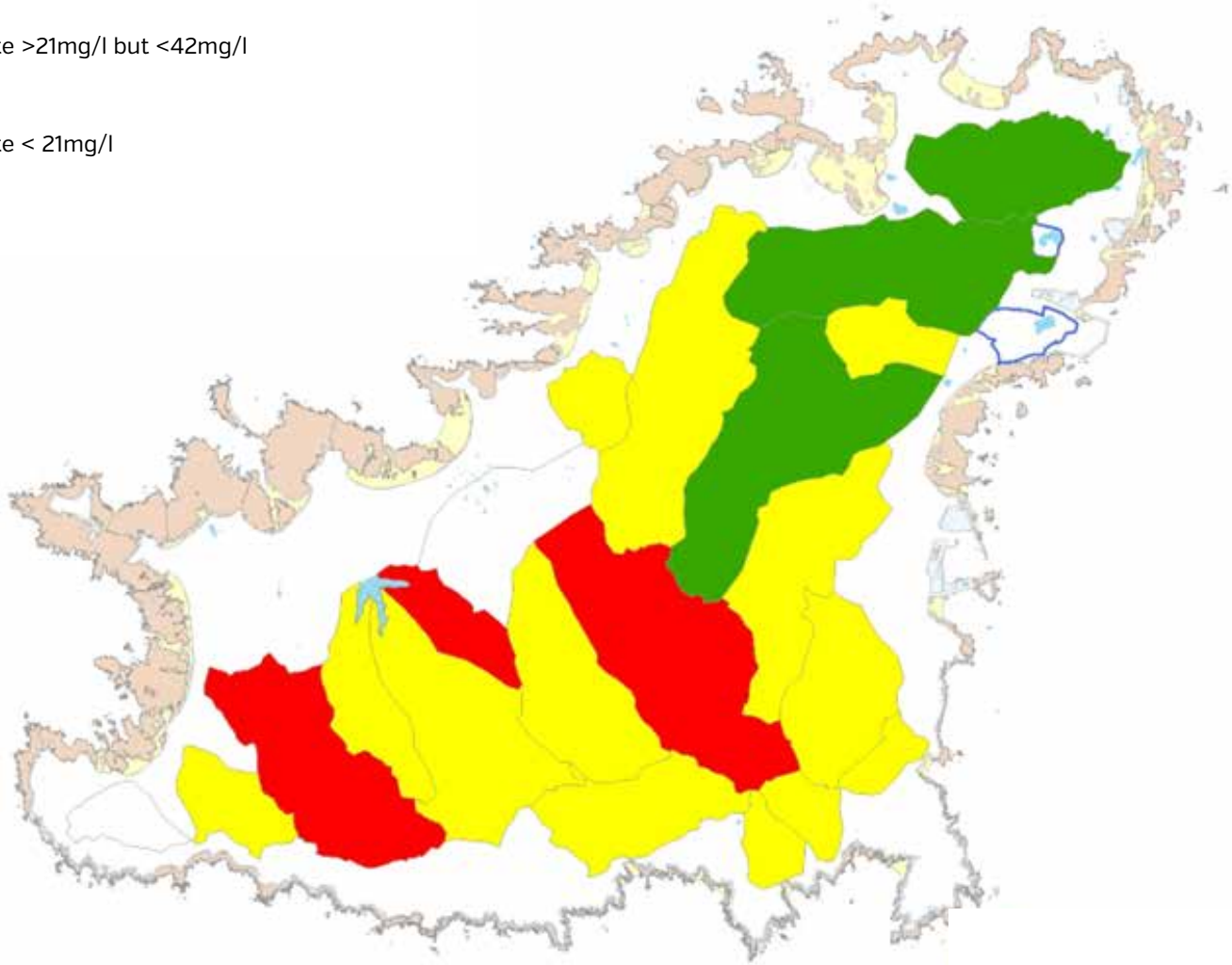


Table 18: Quality of water in Island streams – Nitrate

Catchment Area	5th Percentile (mg/L)	Mean (mg/L)	95th Percentile (mg/L)
Beau Vallee	12.6	37.5	25.1
Charroterie	21.6	25.8	23.7
Choffins	26.3	56.1	41.2
Cobo	19.6	33.7	26.7
Douit du Moulin	24.6	53.7	39.2
Fauxquets	20.0	33.6	26.8
Fermain	29.6	29.6	29.6
Les Clercs	17.5	23.6	20.6
Les Nicolles	2.7	24.2	13.5
Marais Stream	0.7	3.7	2.2
Mare De Carteret	11.6	25.5	18.6
Moulin Huet	26.1	32.8	29.5
Padins	16.2	39.1	27.7
Petit Bot	10.8	33.5	22.2
Saints	22.4	34.0	28.2
Talbots	25.2	60.0	42.6
Vale Pond	1.8	7.8	4.8
Vielle Marais	1.3	12.3	6.8
Vrangue	17.3	23.9	20.6

APPENDIX A

Table 19: 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 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
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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