



WATER HARDNESS IN GUERNSEY

WHAT IS THE DIFFERENCE BETWEEN HARD AND SOFT WATER?

Certain materials in water react with soap, causing a precipitation which appears as a scum or curd on the water surface. Until enough soap has been dissolved to react with all these materials, no lather can be formed. Water which behaves like this is said to be 'hard'.

When synthetic detergents are used instead of soap, the inconvenience of hard water is not so strongly felt, because the detergents do not cause a precipitation of the hardness compounds. Nevertheless there are still many objections to hard water, the principal one being that when water is heated in boilers and heating systems, the hardness compounds precipitate to form a hard compound on the surface of the boiler and the interior of pipes. The portion of the hardness which is deposited when water is boiled is called 'temporary hardness'; the remainder is called 'permanent hardness', or more precisely, 'non-carbonate hardness.'

Soft water is defined as not having the same aggressive characteristics of hard water, and is the preferred type of water for our use and consumption. Regardless of the type of water, the taste and appearance will be identical.

The classification of hardness as calcium carbonate (CaCO₃) in milligrams/litre is:

0 – 50 mg/l -	Soft
50 – 100 mg/l -	Moderately soft
100 – 150 mg/l -	Slightly hard
150 – 200 mg/l -	Moderately hard
Over 200 mg/l -	Hard
Over 300 mg/l -	Very hard

St Saviours WTW has a CaCO₃ reading of 70 - 100, which is classified as 'moderately soft' to 'slightly hard'.

Longue Hougue WTW has a higher CaCO₃ figure of 165 - 171, which is classified as 'moderately hard'.

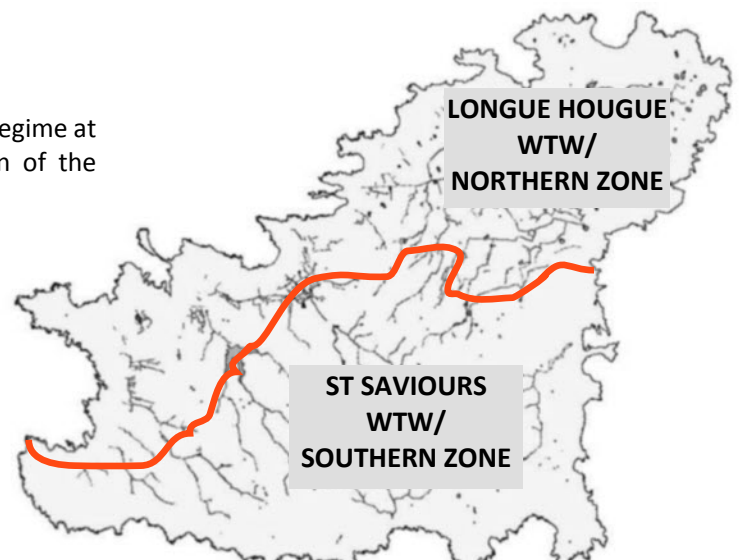
Kings Mills WTW has not been included in the results, as its operation is infrequent (it is only used in case of very high summer demand).

IS MY WATER HARD OR SOFT?

The type of water people receive will depend on the pumping regime at the time, but will generally follow the geographical location of the property and can be approximated from the map on the right.

In summary, if you live in the south of the Island (St Saviours WTW distribution zone), the water is moderately soft to slightly hard.

If you live in the north of the Island (Longue Hougue WTW distribution zone), then the water is moderately hard.



WHAT ABOUT MY DISHWASHER?

Manufacturers of dishwashers also classify water hardness, but use other units such as German degrees (°dH), French degrees (°fH), millimoles/litre (mmol/l) and Clarke's scale. The table below shows the how the hardness figures for St Saviours and Longue Hougue are represented in these other units:

	°dH	°fH	mmol/l	Clarke's scale
St Saviours	4.0 > 6.0	8.0 > 11.0	0.8 > 1.0	5.0 > 7.0
Longue Hougue	7.0 > 8.0	12.0 > 13.0	1.0 > 1.3	8.0 > 9.5