

# Your water quality

Drinking water quality  
standards explained  
2018/19



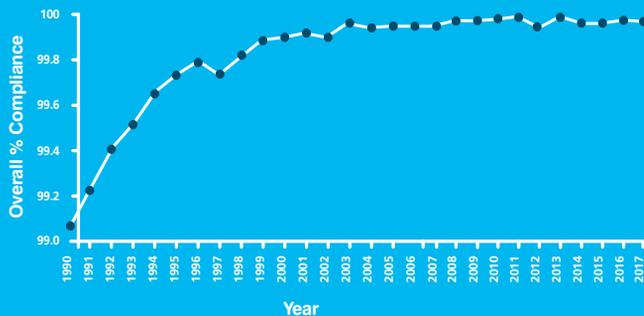
YorkshireWater

# Drinking water quality standards explained

The drinking water we supply is of excellent quality. Figures published by the Drinking Water Inspectorate (DWI) show that 99.95% of samples taken from customers' taps in 2017, complied with the standards.

## Water Quality Compliance

The graph below shows overall compliance with standards for samples taken at water treatment works, service reservoirs and customers' taps, from 1990 to 2017.



This leaflet explains the background to water quality standards, what they mean, and our current compliance with them.

## Where do Yorkshire Water's supplies come from?

We take water from a variety of sources and move supplies to where they are needed through our grid system. About half the water we supply comes from moorland reservoirs, quarter from rivers, and quarter from underground boreholes and spring sources.

## How is my drinking water quality controlled?

The quality of drinking water in Britain is controlled by some of the tightest regulations in the world, with standards set by the European Commission for over 50 different substances. The UK government has implemented additional and, in some cases, more stringent standards (with very large safety margins), to further protect public health. Some standards are concerned with aspects not related to health, such as the taste and appearance of water.

The Drinking Water Inspectorate (DWI) independently monitors our operations and advises the government on our performance in all aspects of drinking water quality. Their website is [www.dwi.gov.uk](http://www.dwi.gov.uk)

## How is drinking water tested?

Using online technology we continuously monitor water from each of our water treatment works for key parameters, taking regular samples to ensure that the water meets the standards. Regular samples are also taken from service reservoirs, where treated water is stored, and from customers' taps. Using advanced laboratory techniques, almost 450,000 tests were carried out in 2017 together with many more operational checks.

## What are you doing to further improve my water quality?

During 2017, we continued to renovate our distribution network to reduce the risk of discoloured water and to reduce leakage, bringing further improvements and benefits to customers.

## Looking after water in your home

The water industry has produced a simple guide containing household tips to help you enjoy the quality of tap water once it reaches your home and to answer questions relating to water and hygiene issues in the home.

A copy of this guide is available to download from our website [yorkshirewater.com](http://yorkshirewater.com) or alternatively you can download it from CC Water's website [ccwater.org.uk](http://ccwater.org.uk)

# Water Quality Parameters

The standard is the amount allowed in the water: 1 µg/l = 1 part per billion; 1 mg/l = 1 part per million

| Parameter            | Standard  | What it means  | % of our samples meeting standard in 2017 |
|----------------------|---|--|---|
| Colour               | 20 mg/l Pt/Co scale (Hazen Units)               | Filtered colour (excludes suspensions) is caused by natural organic matter in water running off moorland into reservoirs and rivers. The standard is set for aesthetic reasons and requires the water to be virtually colourless.  | 100                                       |
| Turbidity            | 4.0 NTU   | Turbidity is a measure of the cloudiness of the water. Sometimes tiny air bubbles can make water look milky, but the water clears if left to stand for a few minutes. A standard of 1.0 NTU is applied to samples taken at water treatment works outlets.  | 100                                       |
| Taste Odour          | Acceptable to customers' and no abnormal change | The water is examined by tasting panels for any taste or smell. A slight taste or odour of chlorine may be present. Customers may notice if it is unusually strong.  | 99.90<br>99.81                            |
| pH (Hydrogen ion)    | 6.5 to 9.5                                      | A measure of acidity or alkalinity. Water supplies in our area are usually slightly alkaline which helps to prevent corrosion of pipes and fittings.   | 100                                       |
| Sulphate             | 250 mg/l  | May be dissolved as water passes through rocks. An excess can contribute to corrosion.   | 100                                       |
| Sodium               | 200 mg/l  | May be naturally present or introduced by some water softening processes (not used by Yorkshire Water). The standard is set well below the level that could affect health.   | 100                                       |
| Nitrate              | 50 mg/l   | Nitrate arises from the use of fertilisers in agriculture and may be minimised by good practices and appropriate controls. (Additional information available on request). We also achieved 100% compliance with the combined nitrate/nitrite standard based on the formula: $(NO_3/50 + NO_2/3) < 1.0$ mg/l. | 100                                       |
| Nitrite              | 0.5 mg/l  | Nitrite is usually present due to the use of chloramine in water disinfection. Chloramine remains in water longer than chlorine and assists in reducing microbiological activity. A standard of 0.1 mg/l is applied to samples taken at water treatment works outlets.                                       | 100                                       |
| Ammonium             | 0.5 mg/l  | May be naturally present in some water sources and is not harmful.   | 100                                       |
| Total Organic Carbon | No specific standard                            | Measures of the general organic content of the water, and not indicative of any health hazard.   | –   |

The standard is the amount allowed in the water: 1 µg/l = 1 part per billion; 1 mg/l = 1 part per million

| Parameter   | Standard | What it means   | % of our samples meeting standard in 2017 |
|-------------|----------|---|---|
| Aluminium   | 200 µg/l | Occur naturally in many water sources. They are also used at some treatment plants to remove impurities, but are themselves removed in the process. Iron may also be associated with the corrosion of unlined iron water mains. The standards are set for aesthetic reasons, as levels persistently above the standards can give rise to discolouration of supplies. (Additional information available on request). | <b>99.95</b>                              |
| Iron        | 200 µg/l |   | <b>99.81</b>                              |
| Manganese   | 50 µg/l  | Occurs naturally in many water sources. The standard is set for aesthetic reasons, as levels persistently above the standard can give rise to discolouration of supplies. (Additional information available on request).  | <b>99.98</b>                              |
| Copper      | 2 mg/l   | Any significant amount of copper is likely to come from customers' pipes or fittings. Excess amounts can occasionally cause a metallic taste and/or a blue tint to the water.   | <b>100</b>                                |
| Fluoride    | 1.5 mg/l | Occurs naturally at low levels in many sources. The standard is set to ensure no adverse health effects. None of Yorkshire Water's supplies are artificially fluoridated. (Additional information available on request).  | <b>100</b>                                |
| Antimony    | 5 µg/l   | Very low levels of these substances may occur naturally. The standards are set with a large margin of safety for health reasons.  | <b>100</b>                                |
| Arsenic     | 10 µg/l  |   | <b>100</b>                                |
| Boron       | 1 mg/l   |   | <b>100</b>                                |
| Cadmium     | 5 µg/l   |   | <b>100</b>                                |
| Chromium    | 50 µg/l  |   | <b>100</b>                                |
| Cyanide     | 50 µg/l  |   | <b>100</b>                                |
| Mercury     | 1 µg/l   |   | <b>100</b>                                |
| Nickel      | 20 µg/l  |   | <b>99.62</b>                              |
| Selenium    | 10 µg/l  |   | <b>100</b>                                |
| Lead        | 10 µg/l  | Very little is present in the water supply. Higher amounts are associated with lead supply pipes between our mains and the property or with the excessive use of lead solders in copper pipes; these solders must no longer be used for domestic plumbing. (Additional information available on request).   | <b>99.24</b>                              |
| Gross Alpha | 0.1 Bq/l | Occur rarely at low levels, derived from some rock strata.  | <b>100</b>                                |
| Gross Beta  | 1.0 Bq/l |   | <b>100</b>                                |

**The standard is the amount allowed in the water: 1 µg/l = 1 part per billion; 1 mg/l = 1 part per million**

| Parameter   | Standard                     | What it means   | % of our samples meeting standard in 2017 |
|---|------------------------------|---|---|
| <b>Total Pesticides</b>   | 0.5 µg/l                     | Associated with the use of these substances by agriculture, industry, railways and highway authorities. We measure a range of substances that may be present.<br><br>The standards are set well below the levels that could cause health problems but levels are minimised by good application practice and appropriate controls, as well as by advanced treatment processes. | <b>100</b>                                |
| <b>Individual Pesticides (Excluding Metaldehyde)</b>              | 0.1 µg/l<br>(some 0.03 ug/l) | Where these substances are at risk of being present, efforts have been made to optimise treatment where possible and to liaise with the Environment Agency, farmers, agronomists and other stakeholders to minimise inputs of these substances into the catchments from which we abstract water.  | <b>100</b>                                |
| <b>Metaldehyde</b>  | 0.1 µg/l                     | An individual pesticide substance which is the active ingredient in many slug pellets; although levels occasionally have been above the 0.1 µg/l standard, they have been significantly below the health based value of 10µg/l advised by the Health Protection Agency.   | <b>97.80</b>                              |
| <b>Polycyclic Aromatic Hydrocarbons</b>                           | 0.1 µg/l                     | Associated with the deterioration of old coal-tar pipe linings which are no longer used and which are removed when identified as causing a problem. The standards are set well below the levels of significance to health.  | <b>100</b>                                |
| <b>Benzo 3, 4-pyrene</b>  | 0.01 µg/l                    |   | <b>100</b>                                |
| <b>Conductivity</b>   | 2500 µS/cm                   | A measure of the total content of dissolved salts, generally naturally present, in the water. Levels above the standard could give rise to taste and contribute to corrosion.   | <b>100</b>                                |
| <b>Chloride</b>   | 250 mg/l                     | Occurs naturally in most water sources. Levels above the standard could give rise to taste and contribute to corrosion.   | <b>100</b>                                |
| <b>Bromate</b>  | 10 µg/l                      | Potentially present when hypochlorite or ozone are used in water treatment. This is minimised by chemical specification and carefully controlled treatment conditions.  | <b>100</b>                                |
| <b>Total hardness</b>   | No specific standard         | Measure of the hardness of water. The higher the hardness, the more soap standard is required to form a lather. High hardness waters are typically from chalk and limestone; low hardness (soft) waters from moorland.  | <b>–</b>                                  |
| <b>Tetrachloromethane (Trichloroethene +) (Tetrachloroethene)</b> | 3 µg/l<br>10 µg/l            | Levels above the standards indicate the presence of solvents.   | <b>100</b><br><b>100</b>                  |
| <b>Benzene</b>  | 1 µg/l                       | Levels above the standards indicate the presence of solvents.   | <b>100</b>                                |
| <b>1, 2 Dichloroethane</b>  | 3 µg/l                       |   | <b>100</b>                                |

The standard is the amount allowed in the water: 1 µg/l = 1 part per billion; 1 mg/l = 1 part per million

| Parameter                       | Standard                     | What it means   | % of our samples meeting standard in 2017 |
|---------------------------------|------------------------------|---|---|
| Trihalomethanes                 | 100 µg/l                     | Formed when chlorine added to disinfect the water reacts with naturally occurring organic substances.   | 100                                       |
| Chlorine free<br>Chlorine total | No specific standard         | Sufficient chlorine is added to all our supplies to ensure the absence of harmful bacteria. At the same time we aim to keep levels at customers' taps low to minimise associated taste and odour.   | –<br>–                                    |
| Coliforms total                 | 0 per 100 ml                 | Coliform bacteria are found widely in the environment and are removed during water treatment. They are not necessarily harmful. Their presence in treated water may indicate a possible source of contamination which can sometimes be from the tap. We always carry out immediate investigations following any detection of coliforms in treated water supplies.   | 99.77                                     |
| <i>Clostridium perfringens</i>  | 0 per 100 ml                 | <i>Clostridium perfringens</i> are a bacterium found in the digestive tracts of warm blooded animals and can produce spores that can persist in the environment for long periods of time. They are not necessarily harmful in themselves and their presence in water may indicate historic contamination. We always carry out immediate investigations following any detection of clostridia in treated water supplies.   | 99.89                                     |
| Colonies 22°C<br>Colonies 37°C  | No specific standard         | General measures of classes of naturally occurring bacteria, not indicative of any health hazard. Any unusually high levels are investigated.   | –<br>–                                    |
| <i>E.coli</i><br>Enterococci    | 0 per 100 ml<br>0 per 100 ml | These are bacteria that originate in the digestive systems of warm blooded animals. Their presence in treated water may indicate contamination by faecal matter and therefore a higher risk that more harmful bacteria may be present. Any detections are investigated as a matter of urgency. (Additional information available on request).   | 99.98<br>100                              |
| <i>Cryptosporidium</i>          | No specific standard         | <i>Cryptosporidium</i> is a tiny micro-organism that can sometimes cause a form of illness called cryptosporidiosis. There are a number of sources of <i>cryptosporidium</i> other than water. Regulations require water companies to monitor for <i>cryptosporidium</i> at treatment works where there is considered to be a significant risk of the organism being present. Any positive detections are investigated and reported to the Drinking Water Inspectorate. | –   |

## Free ways to contact us:



**Chat with us live on our website**



**Free callback service via our website**

No waiting around on hold, fill out a simple form and one of our advisors will call you back as soon as possible.



**Visit our website [yorkshirewater.com](http://yorkshirewater.com)**



**Tweet us @YWHelp**



**Contact us on Facebook**



**Spotted a leak? Report it at [yorkshirewater.com/leaks](http://yorkshirewater.com/leaks)**



**Call our free leakline number on 0800 57 35 53**

## Other ways to contact us:

Telephone

**0345 1 24 24 24**

Our contact centre is open for billing enquiries Monday to Friday 8am-8pm and Saturday 9am-5pm. For water and sewerage enquiries we're open Monday to Saturday 6.30am-10pm and Sunday 7.30am-10pm. We're open 24 hours a day for emergency calls.

24 Hour automated services

**0345 1 247 247**

(meter readings and payments)

Write to us

**PO Box 52, Bradford, BD3 7YD**

## Codes of Practice available:

- Our Customer Charter
- What if you need some extra help?
- What do we charge and why?
- Tell us what you think
- What if paying your bill is a problem?
- How do we manage your water supply?
- What happens if you've got a leak?
- Whose pipe is it?
- Where does your water go?
- Would a water meter be right for you?

Our Customer Charter details our service commitments, including the payments you're entitled to if we don't meet our promises.

**Visit [yorkshirewater.com/policies](http://yorkshirewater.com/policies) for details**