

MWA Consumer Confidence Report 2025

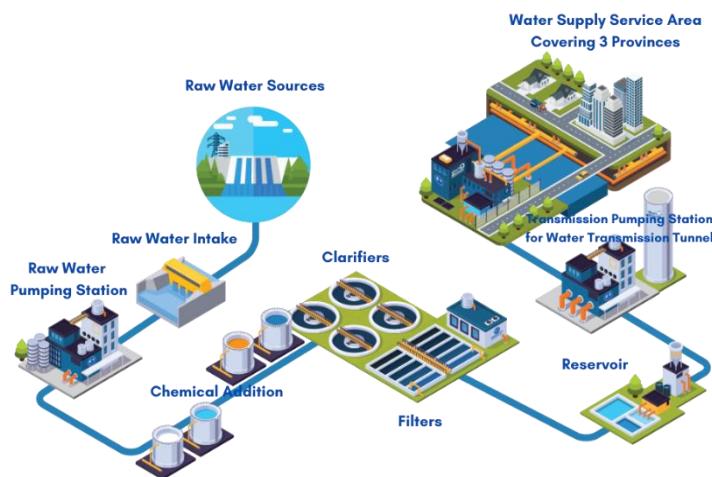
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Metropolitan Waterworks Authority

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Metropolitan Waterworks Authority (MWA) Annual Report on Tap Water Quality, published for the purpose of disseminating comprehensive information on tap water quality throughout the service area including Bangkok, Nonthaburi, and Samut Prakan.



to tap. Water quality analysis are conducted at ISO/IEC 17025-accredited laboratories. Additionally, MWA provides Real-time Tap Water Quality Monitoring System through website <http://twqonline.mwa.co.th> and the MWA onMobile Application which customer can access 24 hours.

In 2025, the **“Project Potable Tap Water Quality Certification”** was launched in collaboration with the Department of Health to strengthen public confidence in tap water and support the government's policy of providing safe and affordable drinking water. Water samples were collected across the entire supply system from treatment plants and pumping stations to distribution pipelines in all 18 branches and analyzed by the Department of Health's accredited laboratory in accordance with the Notification of the Department of Health On Criteria for Recommendation of Drinking Water Quality (A.D. 2020). Testing covered 21 parameters, including turbidity, apparent color, pH, total dissolved solids, total hardness, sulfate, chloride, nitrate, nitrite, fluoride, iron, manganese, copper, zinc, lead, total chromium, cadmium, arsenic, mercury, total coliforms bacteria and *E. coli*. All samples met the required standards, and the Department of Health subsequently certified MWA's full compliance on 16 June 2025.

MWA utilizes raw water from the Chao Phraya River and the Mae Klong Dam, which is then transmitted via the Khlong Prapa to internationally certified water treatment plants; the production process is meticulously supervised by engineers and scientists. Delivering safe, drinkable tap water that meets the rigorous quality standards of both the Notification of the Department of Health On Criteria for Recommendation of Drinking Water Quality (A.D. 2020) and The Metropolitan Waterworks Authority Specification for Water Supply Quality. MWA applies the World Health Organization's Water Safety Plans (WSPs) to manage risks across the entire supply chain, from source

MWA is committed to producing **high-quality, clean and safe** tap water, ensuring that every citizen can consume it with confidence. MWA sincerely hopes that the public will have greater confidence in drinking tap water directly from the tap, which will consequently elevate the people's quality of life, reduce expenses on purchasing bottled water, and ensure equitable access to clean drinking water for all. This initiative further enhances Thailand's image in terms of hygiene standards and aligns with **“Goal 6: Clean Water and Sanitation”** of the United Nations' (UN) Sustainable Development Goals (SDGs) and the Ministry of Interior's **“Clean Drinking Water Service for the Public”** policy.



Tap water quality 2025

Parameter	Satisfy criteria	Average Value	Units	MWA's specification	Likely sources of contamination
<i>E. coli</i>	✓	Absence	Presence-Absence per 100 mL	Absence	Pipe leaks or lack of proper household plumbing maintenance Sewage from communities, agriculture and industries
Coliform Bacteria	✓	Absence	Presence-Absence per 100 mL	Absence	Pipe leaks or lack of proper household plumbing maintenance Sewage from communities, agriculture and industries
Apparent color	✓	2	Pt-Co	≤ 15	Decomposition of organic matter such as grass, aquatic plants, or decaying leaves
Turbidity	✓	0.36	NTU	≤ 1.0	Pipe leaks or lack of proper household plumbing maintenance
pH	✓	7.38	-	6.5 – 8.5	Naturally occurring element, Sewage from communities, agriculture and industries
Total dissolved solids	✓	161	mg/L	≤ 1,000	Naturally occurring element, sea water intrusion Sewage from communities, agriculture and industries
Total hardness	✓	90	mg/L	≤ 300	Naturally present in the environment
Chloride	✓	16	mg/L	≤ 250	Naturally present in the environment Sewage or sea water intrusion
Sulfate	✓	20	mg/L	≤ 250	Naturally present in the environment
Fluoride	✓	0.23	mg/L	≤ 0.7	Naturally present in the environment
Nitrate as NO ₃ ⁻	✓	2.56	mg/L	≤ 50	Naturally present in the environment
Nitrite as NO ₂ ⁻	✓	0.010	mg/L	≤ 3	Naturally present in the environment
Iron	✓	<0.05	mg/L	≤ 0.3	Corrosion of household plumbing, and sanitary wares Naturally present in the environment
Manganese	✓	0.015	mg/L	≤ 0.08	Naturally present in the environment
Zinc	✓	<0.0100	mg/L	≤ 3	Corrosion of household plumbing, and sanitary wares Naturally present in the environment
Arsenic	✓	0.0010	mg/L	≤ 0.01	Sewage from communities, agriculture and industries
Lead	✓	<0.0005	mg/L	≤ 0.01	Sewage from communities, agriculture and industries
Total Chromium	✓	<0.0005	mg/L	≤ 0.05	Sewage from communities, agriculture and industries
Cadmium	✓	<0.0005	mg/L	≤ 0.003	Sewage from communities, agriculture and industries
Copper	✓	<0.05	mg/L	≤ 1	Corrosion of household plumbing, and sanitary wares Sewage from communities, agriculture and industries
Inorganic Mercury	✓	<0.0005	mg/L	≤ 0.006	Sewage from communities, agriculture and industries
THMs	✓	0.43	Sum of ratio	≤ 1	Chlorine disinfection by-product

Regularly analyzed parameters have complied with MWA's specification

Virus: Poliovirus, Rotavirus, Hepatitis A Virus, Norovirus

Radioactive: Gross alpha activity, Gross beta activity

Pesticides: Atrazine, Carbofuran, Chloryrifos, DDT, (2,4-dichlorophenoxy) acetic acid, Glyphosate and Paraquat

Volatile organic compounds (VOCs): Benzene, Carbon tetrachloride, *trans*-1,2-Dichloroethene, *cis*-1,2-Dichloroethene, 1,2-Dichloroethane, Ethylbenzene, Styrene, Tetrachloroethene, 1,1,1-Trichloroethane, Toluene, Trichloroethene, Chloro-benzene, *m*-Xylene, Isopropyl-benzene, *n*-propyl-benzene, 1,3,5-trimethylbenzene, tert-Butyl Benzene and Vinyl Chloride



Scan for tap water quality completed version.



Good to know about water quality

⊕ Can alkaline water cure cancer?

Ans Alkaline water has a higher pH level than regular drinking water. While most drinking water has a pH of 6.5–8.5, alkaline water typically ranges from pH 8.0–9.0. The human body already has an effective system to maintain its pH level at 7.0–7.4, which is slightly alkaline. This natural balance does not require drinking alkaline water. In addition, alkaline water may interfere with normal digestion, as the stomach needs a strongly acidic environment to work properly. Scientific studies have shown that the acidity or alkalinity of food and beverages has no effect on preventing or stopping cancer cells. Therefore, drinking alkaline water does not prevent cancer. The Department of Health, Ministry of Public Health, recommends drinking 6–8 glasses of clean, plain water each day for good health—no alkaline water needed.

MWA tap water is safe to drink, with a pH range of 6.5 – 8.5, which aligns with the World Health Organization (WHO) guidelines. For those who dislike the smell of chlorine, the odor can be easily eliminated by pouring the tap water into a clean, open container and letting it stand for approximately 30 minutes, or by boiling it. The presence of a clear appearance and a slight chlorine smell upon opening the tap ensures that the water is clean and safe.

⊕ Why do water taps have white stains?

Ans The white stains on water taps or sanitary ware are limescale or mineral deposits, which are caused by various minerals in the tap water, such as calcium and magnesium. They may also result from soap scum or toothpaste residue. The tap water provided by the MWA contains several dissolved minerals, but they are present in appropriate amounts and do not exceed the standards. Regularly wiping the sanitary ware dry and cleaning it will help reduce the formation of these white stains. If stains have already appeared, they can be easily removed by using a lemon peel or vinegar to clean the surface.

⊕ What causes the yellow stains on the water filter?

Ans The yellow stains found in tap water originate from suspended solids like fine soil sediment and minerals. These might not be visible to the naked eye, but if the water storage tank is not sealed tightly, dust and debris from the air can fall into it. The tap water production process can remove more than 99% of suspended solids, leaving only a small residual amount. When this water passes through a filter with a pore size smaller than 5 microns, these suspended solids or dust particles get trapped on the filter material, accumulating over time depending on the volume of water used. The residual suspended solids from the tap water production are not harmful to health. If a water filter is installed, it should be maintained correctly by cleaning it and replacing the filter cartridge when

it reaches the end of its service life. The lifespan of the filter depends on the volume of water used. Inadequate maintenance may turn the filter into a breeding ground for germs, contaminating the filtered water and potentially causing illness. Additionally, the lid of the water storage tank should be closed tightly, and the tank structure and lid should be inspected regularly. The tank should be cleaned at least twice a year. For high buildings, it is recommended to maintain a free residual chlorine level not less than 0.20 mg/L in the storage tank to ensure the water remains clean and free of pathogens all the way to the tap.

⊕ What can cause odors in tap water?

Ans **Chlorine Odor:** The presence of chlorine in tap water is not harmful for consumption. Chlorine is an essential disinfectant used to ensure that tap water remains clean and safe for all users. Its application in the water treatment process is carefully monitored, with the free chlorine residual maintained at no less than 0.20 mg/L. This level is sufficient to eliminate potential contaminants while remaining completely safe for public health. Therefore, if you notice a slight chlorine smell when turning on the tap, you can be assured that the water has been properly treated and is safe to use. **Muddy Odor:** A Muddy Odor in tap water may result from a damaged water pipe or leakage within household plumbing. This issue is especially common when a water pump is connected directly to the main supply line. In such cases, the pump may draw soil, sediment, impurities, and harmful microorganisms into the pipeline, causing tap water to become contaminated, unpleasant-smelling, and unsafe for use. To prevent this, homeowners are advised to install the water pump to draw water from a storage tank rather than connecting the pump directly to the main water supply.

Unpleasant Odor: An unpleasant smell in tap water may occur when water remains stagnant in the pipes, particularly in households where water has not been used for an extended period. Without regular flow, water can accumulate at various points within the plumbing system, leading to undesirable odors when the tap is first opened. Before using the water, it is recommended to let the tap run for a short while to flush out any stagnant water until the odor disappears. **Rusty Odor:** A rusty smell in tap water may be caused by aging or corroded metal pipes or fittings, which can release rust particles into the water supply. Using water contaminated with rust for consumption or daily activities may pose potential health risks. Regular inspections of household plumbing are recommended, and any pipes or fittings found to be corroded should be replaced promptly.

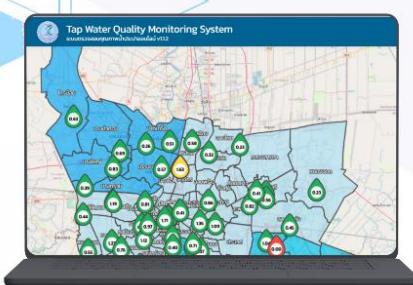
⊕ Read more in “MWA TAP WATER’S FAMILY”



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