There are plenty of people who drink tap water without thinking about what might be in it. There are others who buy water filters without considering whether it's a good match for the water that's being filtered. And there are still other people who refuse to drink tap water, preferring bottled water.

A wiser strategy is to spend some time with your community's annual water-quality report, which is required to notify the public of performance compared to federal and state standards.

The good news is that no water provider to the Quad Cities reported any contaminant violation in its report covering the 2007 testing period, which was released this summer. (Rock Island had two reporting violations.)

That doesn't mean that our tap water is free of contaminants; it only means that local providers didn't have any violations of Environmental Protection Agency (EPA) standards.

As the EPA states on its drinking-water contaminants page (EPA.gov/ogwdw000/hfacts.html): "Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk."

For most contaminants, the EPA has set a maximum level (typically called the Maximum Contaminant Level) and a goal (typically the Maximum Contaminant Level Goal).

The goal reflects a level below which there are no known or expected human health risks. And while the maximum level and goal are often the same, there are exceptions, and violations are based on the maximum level rather than the goal. Lead, for example, has an "action level" of 15 parts per billion but a goal of zero. The message is that lead could be harmful at any amount, but regulation doesn't kick in until 15 parts per billion.

All four Quad Cities water suppliers - Iowa American Water and the cities of Rock Island, Moline, and East Moline - reported the following federally regulated contaminants in the water supply: barium, chloramines, fluoride, haloacetic acids, nitrate, trihalomethanes, copper, and lead. (See chart.)

Iowa American Water also reported atrazine and nitrite; East Moline reported the state-regulated manganese and nickel; and Rock Island reported manganese and nitrite.

Wenonah Hauter, executive director of Food & Water Watch (which was formerly part of Public Citizen), said last week that the EPA's standards are a good starting point for consumers.

"It's not completely arbitrary," she said. "These standards have some validity. It depends on which chemical how much validity. ...

"We think that our tap water is fairly safe. It's certainly one of the safest potable water sources in the world."

The EPA regulates nearly 90 drinking-water contaminants. The full list can be found at EPA.gov/safewater/contaminants
.

Hauter noted that the reports are not comprehensive. "What those reports tell you about are the chemicals that are regulated," she said. "There are chemicals that aren't regulated, like pharmaceuticals, which until recently we haven't had the technology to really detect in water."

And sometimes the standards are too loose, Hauter said.

"Some consumer groups may feel that some of the contaminant levels should have a lower Maximum Contaminant Level Goal," she said. Furthermore, "the Maximum Contaminant Level is often higher than the Maximum Contaminant Level Goal, and so instead of basing action purely on public health, EPA is basing it on the cost of removing the contaminant, the accuracy of the test to detect the contamination. ... And then we would also say there's political pressure on EPA. There has been through the years about certain contaminants, like we saw with the Bush administration on arsenic."

In 2001, the Bush administration revoked a planned reduction of the allowable amount of arsenic in drinking water. The Clinton administration had set the standard at 10 parts per billion, but the action maintained the 50-parts-per-billion rule that had been in place in 1942.

Reading the Reports

The reports are meant to be user-friendly, but the information in them requires some deciphering. And although the information included in each is basically the same, they're presented differently, so comparing them can be a challenge.

To help, Food & Water Watch has created a "How to Read Your Water Quality Report" document at FoodAndWaterWatch.org/water/chemical-contaminants/Water-Quality-Report .

Even with that document, you'll likely have to spend some time to understand what it all means. Mary Grant, a researcher with Food & Water Watch, said the most important things to glean from the reports are whether there were any violations, and how close reported levels of contaminants were to the maximum-level goals.

The local reports will tell you what's in your tap water, and the likely source, but for the most part they won't tell you the health risks associated with the contaminants. To get that information, you'll need to go to the EPA's "Drinking Water Contaminants" page (E PA.gov/safewater/contaminants). You can also see the sidebar on page 7 for an explanation of the contaminants listed in the 2007 Quad Cities water-quality reports.

Those reports are collected on the *Reader* Web site (RCReader.com), and the chart accompanying this article provides a head-to-head comparison.(Comparison chart | Iowa Quad Cities report | East Moline report | Moline report | Rock Island report)

Consumer Reports recommends that "you compare your current CCR [Consumer Confidence Report] with earlier (and future) ones to determine whether a reported problem is a blip or a long-running issue."

That's difficult in the Quad Cities, as only Rock Island has a library of previous reports, from 1999 to the current 2007 report. The other three water suppliers only have the current reports easily accessible on their Web sites.

Hauter stressed that it's important for customers to monitor their water quality: "Our local public services are only as good as the citizen oversight."

Is Bottled Better?

But what do you do once you have information about your local water source?

"If you see that there's arsenic in your water, the easiest way to deal with that problem is not to try to decide if EPA has set an appropriate level or not, but to get a filter that filters out that contaminant to the best of its ability," Hauter said.

Filters work in different ways, and it's important to match your filter with your goals. Food & Water Watch has a guide on tap-water filtration at FoodAndWaterWatch.org/take-action/consumer-tools/choosing-a-water-filter/ .

Many people, of course, choose to drink bottled water, but it's problematic for several reasons. First, the packaging and transportation of bottled water make it resource-intensive compared to your local tap water from the Mississippi River, and there's also the issue of packaging waste.

Second, bottled water is regulated differently from tap water. The Food & Drug Administration regulates bottled water, while the EPA regulates tap water. The quality standards and testing and reporting requirements are different, and generally speaking tap water is more tightly regulated than bottled water.

Furthermore, a lot of bottled water comes from the tap. "If it's difficult to filter out of your tap water, it's likely going to be in bottled water that comes from tap-water sources, and also likely to be in lots of the spring sources, because of the way water aquifers work," Hauter said.

As the Natural Resources Defense Council summarized in a 1999 report based on a four-year study (NRDC.org/water/drinking/bw/bwinx.asp): "No one should assume that just because water comes from a bottle that it is necessarily any purer or safer than most tap

water."

Contaminants in Quad Cities Water

The following are the regulated substances found in Quad Cities water supplies. It's critical to note that local water systems were below the federal- or state-mandated maximums (MCL or MRDL) and goals (MCLG or MRDLG, "the level ... below which there is no known or expected risk to health").

Unless otherwise noted, sources and health risks are taken from the Environmental Protection Agency's "Drinking Water Contaminants" page (EPA.gov/safewater/contaminants).

Reported by Iowa American Water, East Moline, Moline, and Rock Island:

Barium. Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits. Health risks: increase in blood pressure.

Chloramines. Water additive used to control microbes. Health risks: eye/nose irritation; stomach discomfort; anemia.

Fluoride. Water additive to promote strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories. Health risks: bone disease (pain and tenderness of the bones); children may get mottled teeth.

Haloacetic acids. Byproduct of drinking-water disinfection. Health risks: increased risk of cancer.

Nitrate. Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits. Health risks: Infants below the age of six months who drink water containing nitrate in excess of the Maximum Contaminant Level could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

Trihalomethanes. Byproduct of drinking water disinfection. Health risks: liver, kidney, or central-nervous-system problems; increased risk of cancer.

Copper. Measured throughout the community. Corrosion of household plumbing systems; erosion of natural deposits. Health risks: gastrointestinal distress (short-term exposure); liver or kidney damage (long-term exposure); people with Wilson's Disease should consult their personal doctor if the amount of copper in their water exceeds the action level.

Lead. Measured throughout the community. Two sites in Moline and one in East Moline tested above the action level of 15 parts per billion. Corrosion of household plumbing systems; erosion of natural deposits. Health risks: delays in physical or mental development (infants and children); children could show learning abilities and slight deficits in attention span; kidney problems, high blood pressure (adults).

Turbidity. Soil runoff. "Turbidity is a measure of the cloudiness of water. It is used to indicate water quality and filtration effectiveness (e.g., whether disease-causing organisms are present). Higher turbidity levels are often associated with higher levels of disease-causing

microorganisms such as viruses, parasites, and some bacteria. These organisms can cause symptoms such as nausea, cramps, diarrhea, and associated headaches."

Sodium. Not regulated by the federal government, but required in water-quality reports. According to EPA.gov/OGWDW/ccl/sodium.html , "On one hand, high levels of salt intake may be associated with hypertension in some individuals. On the other hand, sodium levels in drinking water are usually low and unlikely to be a significant contribution to adverse health effects."

Sulfate. A "secondary" contaminant. Secondary contaminants have only nonenforceable federal guidelines and "may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply." Rock Island and Moline did not include sulfate on their drinking-water reports, and the levels in the accompanying chart were provided verbally by water-department representatives. Noticeable effects, according to EPA.gov/safewater/consumer/2ndstandards.html : salty taste.

Reported by Iowa American Water:

Atrazine. Runoff from herbicide used on row crops. Health risks: cardiovascular-system or reproductive problems.

Reported by Iowa American Water and Rock Island:

Nitrite. Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits. Health risks: Infants below the age of six months who drink water containing nitrite in excess of the Maximum Contaminant Level could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

Reported by East Moline and Rock Island:

Manganese. "Secondary" contaminant regulated by the state of Illinois. Noticeable effects, according to EPA.gov/safewater/consumer/2ndstandards.html : salty taste; black to brown color; black staining; bitter metallic taste.

Reported by East Moline:

Nickel. Not regulated by the federal government but regulated by the state of Illinois. Health risks, according to an EPA fact sheet (EPA.gov/ogwdw/dwh/c-ioc/nickel.html): decreased body weight; heart and liver damage; skin irritation.