



Nitrate Fact Sheet and Frequently Asked Questions

This Frequently Asked Questions sheet is designed to provide additional information regarding our current nitrate situation. One of the main goals of Hilmar County Water District (HCWD) is to provide safe, clean, and reliable drinking water. Any exception to that is an opportunity to learn, educate, and improve. We will continue to update the website with the most up-to-date information available.

What are nitrates, and where do they come from?

Nitrates are a naturally occurring nitrogen oxide found at a relatively low concentration in soil and water. It's a necessary component of living things and essential for plant growth. That is why nitrates are widely used in agriculture as a fertilizer to enhance the growth of plants. As a result, during certain weather conditions (heavy rains and snow), the fertilizer can run off into streams and rivers or percolate down into groundwater.

In California, nitrates are one of the most common groundwater contaminants. While 98 percent of the state's community water systems meet all primary drinking water standards, some public wells (ongoing or intermittent) exceed the state's nitrate standards. Wells, with nitrates regularly above the MCL, must be treated or blended with higher-quality water.

Hilmar County Water District is 100% reliant on groundwater wells to provide our water supply. These wells are located approximately two miles northeast of town and are surrounded by agricultural lands. The location of the wells, combined with the recent rains, could be what caused the intermittent nitrate increase we've experienced.

Has the nitrate level ever been above the MCL before?

Historically, no. However, over the last 6-8 months, HCWD has seen our nitrate levels fluctuate. We have seen spot samples higher than the MCL, but follow-up sampling, required by the State of California came back clear in those instances. HCWD did have a nitrate exceedance in June that our customers were notified of.

Could this have been prevented?

No. Nitrates occur naturally and can happen within agricultural applications; these are beyond the District's control. There is no way to pinpoint how these nitrates move once they enter the soil, much less how they interact with a high production well pulling from three hundred feet below ground. The State of California requires HCWD to sample for nitrates, along with many other contaminants on a regular basis.

How was our elevated level of nitrates discovered?

Routine testing. Our Operations team performs sampling of our water supply and distribution system. The frequency of sampling depends on the contaminant itself, as well as previously recorded results. Our wells are typically sampled annually for nitrates. However, since our nitrate issue in June, HCWD has been on an increased sampling schedule for nitrates to ensure we are monitoring things as closely as possible.

Where did the elevated level of nitrates occur in the system? Is it above the limits everywhere in our water system?

Nitrate levels, for this occurrence, were discovered at Well 6, over two miles from our first customer, and at a blending sample point approximately one mile from town.

Who is at risk when nitrate levels are above the Maximum Contaminant Limit?

Infants under six months of age are most susceptible to nitrates/nitrites. During the early stages of development, nitrate in the body transforms into nitrite, which reacts with hemoglobin (the oxygen carrier in the blood) and prevents oxygen transport. This results in a decreased oxygen supply to the body, termed methemoglobinemia (more often called “blue baby syndrome”). It gets this name because the skin often turns blue or grayish, especially around the mouth. If these symptoms are noticed, seek medical attention immediately. **Adults and older children are at low risk of this syndrome.** Adults with chronic health problems, such as heart or lung disease or enzyme deficiencies, may be at higher risk from elevated nitrate/nitrite levels. Pregnant and nursing mothers should also avoid drinking water high in nitrates/nitrites because of the potential effects passed on to the fetus or infant.

Besides drinking, is my water safe to use?

Yes. Your water can still be used for showering, bathing, washing dishes, cleaning clothes, and more. As mentioned earlier, we have not seen nitrates above the MCL wide-spread throughout the distribution system, leading us to believe the risk from these activities is extremely minimal.

What is HCWD doing to prevent this from happening again?

First and foremost, we will continue with increased monitoring efforts by conducting more nitrate samples well above the amount typically required. We also will continue to blend the water from Wells 6 and 7 to the best of our ability to reduce the nitrate level and remain under the MCL. Longer-range plans include construction projects that will allow us to blend water more accurately and allow for treatment, as needed.

Should you have any other questions, please call the Hilmar County Water District Office at (209) 632-3522.