



Winter 2021-2022
Newsletter

Shasta Tehama Watershed Education Coalition

Drinking Water Well Monitoring for Nitrates Begins in 2022

The State Board's revisions to the Eastern San Joaquin Water Quality Coalition (ESJWQC) Order began requiring ESJWQC members to sample drinking water wells on member's parcels in 2019. Sacramento Valley Water Quality Coalition members (including STWEC members) will be required to test their domestic wells on enrolled parcels starting in 2022.

The purpose of this new requirement is to identify drinking water wells that have nitrate concentrations exceeding the standards for drinking water and to notify anyone that may be using the water for consumption of the potential health risks. High levels of nitrates found in drinking water affect public health. Rural and agricultural areas often have excess nitrates (NO₃) in soil that can leach into groundwater. Nitrates are extremely mobile and can easily find passage into groundwater.

Nitrates can occur naturally in surface and groundwater at a level that does not generally cause health problems. High levels of nitrate in well water often result from improper well construction, location, overuse of chemical fertilizers, or improper disposal of human and animal waste. Sources of nitrates that can enter your well include fertilizers, septic systems, animal feedlots, industrial and food processing waste. Wells may be more vulnerable to such contamination after flooding, particularly if the wells are shallow, have been dug or bored, or have been submerged by floodwater for long periods of time. Nitrates are also made in large amounts by plants and animals and are released in smoke and industrial or automotive exhaust.

Nitrates can be harmful to 0-4-month-old infants and pregnant women. The nitrate is converted to nitrite in the infant's stomach. Nitrite binds to oxygen molecules in red blood cells, depleting oxygen and potentially suffocating the baby. An obvious symptom of nitrate poisoning is a bluish skin color, especially around the eyes and mouth. If detected at this early stage, methemoglobinemia or "blue baby syndrome" as it is commonly known, is rarely fatal, readily diagnosed, and rapidly reversed with clinical treatment. In pregnant women, they can pass methemoglobin on to the developing fetuses and low birth weights have been attributed to high nitrates in water. This is why testing wells is so important.



Heating or boiling your water will not remove nitrates. Because some of the water will evaporate during the boiling process, the nitrate levels of water can actually increase slightly in concentration if the water is boiled. Mechanical filters or chemical disinfection, such as chlorination, DO NOT remove nitrate from water.

Nitrates may be successfully removed from water using treatment processes such as ion exchange, distillation, and reverse osmosis. Contact your local health department for recommended procedures.

Credits/References

CDC (2015). <https://www.cdc.gov/healthywater/drinking/private/wells/disease/nitrate.html>
PENN State (2018). <https://extension.psu.edu/nitrates-in-drinking-water>
https://www.waterboards.ca.gov/centralvalley/water_issues_irrigated_lands/drinking_water/

Meet the Board of Directors

RON KEOWN



Ron Keown was raised in Central Valley (now Shasta Lake City) after his parents happily moved from out of the bay area when he was 10. He graduated in 1969 from Central Valley High School and Shasta College with an AA degree in forestry. In the summer of 1969, he took a seasonal Firefighter job with California Division of Forestry (now CalFire) and was bitten by the firefighting bug. After 38 years in the fire service, he retired from the City of Redding as a Battalion Chief. Ron served as Union President of Redding Fire Fighters Local 1964 for 6 years; his proudest assignment was as an Operations Section Chief on CalFire Incident Command Team 2 for four years. He is currently the Team Leader of the Shasta County Sheriff's Snowmobile Search and Rescue Team and operates a Snow Cat at Ashpan Snowmobile Park, grooming trails for snowmobiles.

Ron and his wife Linda own a small ranch in Viola where they graze summer cattle and horses on a meadow of natural grass, irrigated by a diversion from Bailey Creek. He is the Watermaster for the Scharsch Meadows Irrigators and is responsible for maintaining the water conveyance and delivery. He has been a member of STWEC since 2004 when the ILRP began and is proud to have served on the Board of Directors for the past ten years. He comments that Irrigating was so much simpler before learning the rules and regulations!

SAM MUDD



Sam Mudd is a California Real Estate Broker and co-founder of AG-LAND Investment Brokers specializing in Northern California agricultural real estate. He has 35+ years of agricultural business experience including accounting, finance, administration, real estate management and hands-on experience in the almond, prune, walnut, field/row crop and dairy industries.

Sam is a commercial walnut producer; his orchard is located in Tehama County on the Sacramento River. He has a Bachelor of Science in Agronomy from the California State University, Chico, and is a member of the Tehama County Farm Bureau, the Tehama County Groundwater Commission, the Tehama County Association of Realtors, California Association of Realtors and National Association of Realtors.

MARTIN SPANNAUS



Martin Spannaus started in fire and fuels reduction as a seasonal firefighter, on what was the Corning Ranger District of the Mendocino National Forest, in 1976. He worked several seasons with them before going into the forestry profession. After working in the timber industry and then again in firefighting, he was promoted to Fire Chief for the City of Corning where he served the community until his retirement in 2017.

Martin and his wife Joann own a farm/ranch west of Corning; there they grow alfalfa, grain, hay and have a 30 Cow/Calf Angus operation. He also serves on the Tehama County Farm Bureau as a Director, on the Tehama County Oak Woodlands Advisory Committee and is a member of the Tehama County Cattlemen's Association. For fun Martin and Joann love to hunt, fish and show their 4 grandchildren how to work on the farm.

LARRY SOLBERG



Larry Solberg was born in Hood River, Oregon. His father was in construction during WWII which caused the family to travel extensively. They eventually landed in Wisconsin where Larry attended high school and college. He then spent 18 months travelling in Australia and 3 years in the army. He taught for 18 months at a private boarding school in Trinity County before moving to Redding. The rest of his career was spent teaching mostly 5th grade in Shasta Lake City until his retirement.

Larry and his wife Phyllis own 11 acres in Churn Creek Bottom where they had raised cattle and currently grow hay. Larry's hobbies are writing poetry and singing in choirs. He and Phyllis have 2 daughters and 4 grandchildren.

STWEC Member Fee Increase



The decision to raise member fees for 2022 was made by the STWEC Board of Directors with input from the staff at the November board meeting. We were able to lower the fees for the last two years, but this year we must increase the fees close to, but lower than, the fees in 2018 and 2019.

The Irrigated Lands Regulatory Program Monitoring requires that each coalition annually monitors its surface water. There are two types of monitoring: Core and Assessment, and the type of monitoring changes every two years. The goal of Assessment Monitoring is to evaluate the condition of the water body. It requires more testing, more frequently and for more constituents. Core Monitoring follows water quality trends and requires fewer sampling events, so is less expensive. 2022 will be an Assessment Year for monitoring and the increased member fees reflect that.

The chart below is a history of the member fees over the last seven years. It is clear from the records that the cost of monitoring is the overriding factor in fees. This year we are experiencing increases in State Water Board per acre fees, the cost of our membership in the Sacramento Valley Water Quality Coalition, the cost of program administration but most significantly, in the cost of monitoring in the upcoming year.

The Coalition's objective continues to be to keep the program as cost-effective as possible and to keep the membership informed. Please contact us with any questions.

2022 INCREASED EXPENSES

- Surface water monitoring requirements
- State Water Board fees
- Coalition staff costs (regional & local)
- Addition of drinking water well sampling

GUIDING PRINCIPALS

- Maintain a cost-effective program for the members
- Avoid mid-year increases in member fees
- Maintain a minimum cash balance to cover unexpected costs & maintain a positive cash flow

STWEC Membership Fees			
Year	Per Member Fee	Per Acre Fee	Monitoring Type
2022	180	2.61	Assessment
2021	170	1.93	Core
2020	175	2.65	Core
2019	183	2.70	Assessment
2018	183	2.85	Assessment
2017	170	1.75	Core
2016	140	1.60	Core

STWEC President's Message 2022 Winter Newsletter

Dear Members of STWEC,

I write this letter knowing that you have all received your 2021-2022 Annual Membership Renewal Invoices. Unfortunately, membership costs have increased from the past 2 years. There are several reasons for this increase. First, the State Water Resources Control Board increased the per acre fee by 17 cents. Second, this year is a Surface Water Assessment Year that requires more monitoring and water sampling, which in turn adds substantial costs. The Sacramento Valley Water Quality Coalition is strategizing how to reduce the frequency of this requirement to help offset costs in future years. Third, our STWEC management staff provided through the Resource Conservation District of Tehama County has requested an increase in program management costs to offset added regulation, personnel retainment and time associated with training and operations.

I assure you that your STWEC Board of Directors worked diligently during the November budget meeting to keep the increase to a minimum. Cost increases were unavoidable, but the one thing we could do was to reduce the contingency (budget cushion) substantially in hopes it will not be needed. The last thing we ever want to do is send a second invoice to cover overrun expenses.

As individual agriculture operators ourselves, your Board of Directors feel the effect of the increase on our personal economic bottom line as I know you all do. Personally, I am sorry and find it difficult to write this message in a positive tone. The state regulations that are increasing over time add significant cost to managing program requirements. Coming in the future is well water testing and groundwater sustainability. It is not yet fully clear how those cost will be paid. Our request that the State Water Board budget include general fund moneys to offset the cost to growers has not made any noticeable headway.

So, with all that said, I sincerely wish you had a great harvest this past year and I truly hope you and your families enjoyed a great Thanksgiving and that you have a Very Merry Christmas and a Happy New Year. May our winter be drought free with a normal or better rain year and snowpack.

Thank you for being a STWEC member and proving that we are good stewards of agricultural lands by using best management practices to protect the environment.

Ron Keown,
President STWEC Board of Directors



Shasta Tehama Watershed Education Coalition

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Up Coming Board Meeting will be on: **Wednesday, January 12, 2022 8 am**
Bi-Monthly Meeting –Held in person at 2 Sutter St. Red Bluff CA 96080 with a teleconference option. If interested in attending virtually, contact STWEC for login information.