# SACRAMENTO COUNTY WATER AGENCY

## 2024 WATER QUALITY REPORT - NORTH SERVICE AREA (NSA) (See Note #1)

**DETECTED PRIMARY STANDARDS - Mandatory Health-Related Standards**
**Established by the State Water Resources Control Board (State Board)**

| CONSTITUENT | SAMPLE DATE (See #2) | UNITS | PHG or (MCLG) or [MRDLG] | MCL OR [MRDL] | MAJOR SOURCES IN DRINKING WATER | SURFACE WATER RANGE (LO-HI) | SURFACE WATER AVERAGE | GROUNDWATER RANGE (LO-HI) | GROUNDWATER WEIGHTED AVERAGE |
|---|---|---|---|---|---|---|---|---|---|
| **INORGANIC CONTAMINANTS** | | | | | | | | | |
| Arsenic | 2022 - 2024 | PPB | 0.004 | 10 | Erosion of natural deposits; runoff from orchards; glass and electronics production wastes. | ND | ND | ND - 2.1 | ND |
| Nitrate (as N) | 2024 | PPM | 10 | 10 | Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits. | ND | ND | ND - 1.5 | ND |
| **DISINFECTION BYPRODUCT PRECURSORS** | | | | | | | | | |
| **5** Control of DBP Precursors (TOC) | 2024 | PPM | n/a | TT | Various natural and manmade sources | 0.80 - 1.5 | 1.0 | NA | NA |
| **DISTRIBUTION SYSTEM** | | | | | | **RANGE (LO - HI)** | | **AVERAGE** | |
| Chlorine Residuals | 2024 | PPM | [4] | [4.0] | Drinking water disinfectant added for treatment. | 0.22 | 1.78 | 1.36 | |
| **6** Total Trihalomethanes (TTHM's) | 2024 | PPB | n/a | 80 | Byproduct of drinking water disinfection. | 19 | 43 | 35.8 | |
| **7** Haloacetic Acids (HAA5's) | 2024 | PPB | n/a | 60 | Byproduct of drinking water disinfection. | 13 | 33 | 25.0 | |
| **8** Fluoride (Treated - Distribution) | 2024 | PPM | 1 | 2 | Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories. | 0.62 | 0.79 | 0.72 | |
| **MICROBIOLOGICAL CONTAMINANTS** | | | | | | **LEVEL FOUND** | | **Violation** | |
| **9** Total Coliform Bacteria | 2024 | # of Positive Samples | (0) | 2 or more Monthly samples are positive | Naturally present in the envirionment. | **2** (See Special Notice) | | **No** | |
| | | | n/a | TT = 1 NTU | | 0.124 NTU | | No | |
| **10** Turbidity | 2024 | NTU | n/a | TT = 95% of Samples ≤ 0.3 NTU | Soil Runoff | 100% | | No | |

**Special Notice: Level 1 Assessment Requirement Was Not Due to an E. coli MCL Violation:**

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. On June 4th & June 11th, 2024, we found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that were found during these assessments.

***During the past year SCWA was required to conduct one (1) Level 1 assessment. The Level 1 assessment was completed on July 3, 2024. In addition, we were not required to take corrective actions; however, SCWA replumbed a flushing connection on the sample station enclosure which we believe caused a positive total coliform sample.***

**NOTES:**

1. The North Service Area (NSA) is blend of groundwater from the Mather/ Sunrise/ Anatolia water system and surface water from the Vineyard Surface Water Treatment Plant (SWTP).
2. The State Water Resources Control Board Division of Drinking Water (SWRCB DDW) allows Sacramento County Water Agency (SCWA) to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.
5. Only surface water sources must monitor for Disinfection By-Product precursors. Treatment Technique is not required if the raw or treated water TOC is <2 mg/L.
6. Total Trihalomethanes are the sum of Four Regulated THMs, i.e., Chloroform, Bromodichloromethane, Dibromochloromethane, and Bromoform.
7. Haloacetic Acids are the Sum of Five Regulated HAAs, i.e., Monochloroacetic Acid, Monobromoacetic Acid, Dichloroacetic Acid, Dibromoacetic Acid, and Trichloroacetic Acid.
8. The NSA water system's facilities are all fluoridated to reduce tooth decay in children. Studies show that water fluoridation reduces tooth decay by 20 to 40 percent. The SWRCB DDW advised SCWA to implement the CDC's recommended optimal fluoride content of 0.7 mg/L and control range of 0.6 mg/L – 1.2 mg/L. Information about fluoridation, oral health and current issues is available from **http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.html**
9. On Systems that collect less than 40 samples per month, the Total Coliform (TC) Bacteria MCL is two (2) or more of the monthly samples collected in any one month return TC positive. A positive TC sample triggers three (3) resamples in the distribution system and collection at the source (i.e., groundwater wells) of samples for TC & E. coli, per the federal Ground Water Rule (GWR) and the Revised Total Coliform Rule (RTCR). In 2024, all re-samples taken per the GWR & RTCR returned negative (absent) for TC & E. coli.
10. Turbidity is a measure of the cloudiness of the water. 0.124 NTU is the highest individual measurement in 2024. 100% of the monthly samples were in compliance (below the 0.3 NTU range). SCWA monitors turbidity because it is a good indicator of the effectiveness of our filtration system. High turbidity can hinder the effectiveness of disinfectants. Only surface water sources must comply with PDWS for turbidity.

**SECONDARY STANDARDS - Aesthetic Standards**
**Established by the State Water Resources Control Board (State Board)**

| CONSTITUENT | SAMPLE DATE: | UNITS | PHG or (MCLG) or [MRDLG] | MCL or [MRDL] | MAJOR SOURCES IN DRINKING WATER | SURFACE WATER RANGE (LO-HI) | SURFACE WATER AVERAGE | GROUNDWATER RANGE (LO-HI) | GROUNDWATER WEIGHTED AVERAGE |
|---|---|---|---|---|---|---|---|---|---|
| Color | 2020 - 2023 | Units | n/a | 15 | Naturally-occurring organic materials. | ND - 5 | 2.5 | ND | ND |
| Odor-Threshold | 2020 - 2023 | Units | n/a | 3 | Naturally-occurring organic materials. | 1.8 - 2 | 1.9 | 1.3 - 1.8 | 1.3 |
| Turbidity | 2020 - 2023 | Units | n/a | 5 | Soil runoff. | ND - 0.12 | ND | 0.13 - 0.46 | 0.13 |
| Total Dissolved Solids | 2020 - 2023 | PPM | n/a | 1000 | Runoff/leaching from natural deposits. | 91 - 110 | 101 | 120 - 160 | 145 |
| Specific Conductance (E.C.) | 2020 - 2023 | umhos/cm | n/a | 1600 | Substances that form ions when in water; seawater influence. | 110 - 170 | 140 | 120 - 190 | 175 |
| Chloride | 2020 - 2023 | PPM | n/a | 500 | Runoff/leaching from natural deposits; seawater influence. | 3.3 - 6.3 | 4.8 | 3.2 - 7.0 | 5.8 |
| Sulfate | 2020 - 2023 | PPM | n/a | 500 | Runoff/ leaching from natural deposits; industrial wastes. | 3.8 - 5.2 | 4.5 | ND - 5.1 | ND |
| **OTHER CONSTITUENTS ANALYZED** | | | | | | | | | |
| pH | 2020 - 2023 | Units | n/a | MO | | 7.2 - 7.7 | 7.5 | 7.1 - 8.1 | 8.1 |
| Total Hardness (as CaCO3) | 2020 - 2023 | PPM | n/a | MO | Due to chemicals naturally occuring in the soil below the earth's surface. | 47 - 62 | 55 | 48 - 56 | 56 |
| **11** Total Hardness (as CaCO3) | 2020 - 2023 | Grains | n/a | MO | Due to chemicals naturally occuring in the soil below the earth's surface. | 2.7 - 3.6 | 3.2 | 2.8 - 3.3 | 3.3 |
| Total Alkalinity (as CaCO3) | 2020 - 2023 | PPM | n/a | MO | Due to chemicals naturally occuring in the soil below the earth's surface. | 42 - 79 | 57.1 | 60 - 85 | 84 |
| Bicarbonate (as HCO3) | 2020 - 2023 | PPM | n/a | MO | Due to chemicals naturally occuring in the soil below the earth's surface. | 42 - 86 | 59 | 60 - 85 | 84 |
| Sodium | 2020 - 2023 | PPM | n/a | MO | Due to chemicals naturally occuring in the soil below the earth's surface. | 6.7 - 12 | 9 | 9.8 - 17 | 17 |
| Calcium | 2020 - 2023 | PPM | n/a | MO | Due to chemicals naturally occuring in the soil below the earth's surface. | 11 - 13 | 12 | 11 - 12 | 12 |
| Magnesium | 2020 - 2023 | PPM | n/a | MO | Due to chemicals naturally occuring in the soil below the earth's surface. | 4.9 - 7.4 | 6 | 5.1 - 6.1 | 6.1 |

**LEAD & COPPER (See Note 12)**

| CONTAMINANT | SAMPLE DATE | UNITS | PHG or (MCLG) | ACTION LEVEL | MAJOR SOURCES IN DRINKING WATER | NUMBER OF SAMPLES | 90TH % LEVEL DETECTED | NUMBER EXCEEDING AL |
|---|---|---|---|---|---|---|---|---|
| Lead | 2024 | PPB | (0.2) | 15 | Internal corrosion of household water plumbing systems; discharges from industrial manufactures; erosion of natural deposits. | 31 | ND | 0 |
| Copper | 2024 | PPM | (0.3) | 1.3 | Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives. | 31 | 0.08 | 0 |

**NOTES:**

11. Hardness units are PPM. General guidelines for classification of water hardness are: 0 - 60 PPM as **soft**; 61 - 120 PPM as **moderately hard**; 121 - 180 PPM as **hard**; and greater than 180 PPM as **very hard**. Most commercial companies use "grain" units. Conversion: 17.1 PPM = 1 grain.
12. The levels for Lead & Copper concentrations were obtained from the 90th percentile of 31 tap water samples taken throughout the NSA. The MCLs for lead and copper are set at "Action Levels." None of the samples in the NSA exceeded the Action Levels for Lead and Copper. Please refer to the educational information on Lead in drinking water.

**PER- & POLYFLUOROALKYL SUBSTANCES (PFAS) - See # 13.**

**The State Water Resources Control Board Division of Drinking Water (SWRCB DDW) established new drinking water guidelines for water agencies to follow in detecting and reporting the presence of perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorohexane sulfonic acid (PFHxS), and perfluorobutane sulfonic acid (PFBS) – four members of a large family of chemicals known as per- and polyfluoroalkyl substances (PFAS). Until PFOA and PFOS were phased out in the 2000s due to health concerns, these chemicals were widely used in grease and stain resistant coatings for consumer products and firefighting foams. Drinking water containing PFAS has become an increasing concern due to the persistence of these chemicals in the environment and their tendency to accumulate in groundwater. Long-term exposure to PFAS over certain levels is associated with adverse health effects that include cancer and developmental harm. SWRCB DDW has identified analytical methods capable of detecting the following twenty-five (25) perfluorinated compounds in drinking water:**

| | | | |
|---|---|---|---|
| **PERFLUOROBUTANE SULFONIC ACID (PFBS)** | HEXAFLUOROPROPYLENE OXIDE DIMER ACID (HFPO-DA) | 11-CHLOROEICOSAFLUORO-3-OXAUNDECANE-1-SULFONIC ACID (11Cl-PF3OUdS) | perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) |
| PERFLUOROHEPTANOIC ACID (PFHpA) | PERFLUOROUNDECANOIC ACID (PFUnA) | 1H,1H, 2H, 2H-perfluorodecane sulfonic acid (8:2FTS) | perfluoro-3-methoxypropanoic acid (PFMPA) |
| **PERFLUOROHEXANE SULFONIC ACID (PFHxS)** | PERFLUORODECANOIC ACID (PFDA) | 1H,1H, 2H, 2H-perfluorohexane sulfonic acid (4:2FTS) | perfluoro-4-methoxybutanoic acid (PFMBA) |
| PERFLUORONONANOIC ACID (PFNA) | PERFLUORODODECANOIC ACID (PFDoA) | 1H,1H, 2H, 2H-perfluorooctane sulfonic acid (6:2FTS) | perfluorobutanoic acid (PFBA) |
| **PERFLUOROOCTYL SULFONIC ACID (PFOS)** | PERFLUOROHEXANOIC ACID (PFHxA) | 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl- PF3ONS) | perfluoroheptanesulfonic acid (PFHpS) |
| **PERFLUOROOCTANOIC ACID (PFOA)** | 4,8-DIOXA-3H-PERFLUORONONANOIC ACID (ADONA) | nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | perfluoropentanesulfonic acid (PFPeS) |
| | | | perfluoropentanoic acid (PFPeA) |

**NOTES:**

13. Starting on March 2, 2021, the SWRCB DDW directed SCWA to complete four quarters of sampling in the North Service Area (NSA) water systems. SCWA tested for PFAS in groundwater wells near locations where the chemicals are believed to be especially prevalent. SCWA is committed to providing safe drinking water to our customers; therefore, in 2019 and 2020 SCWA began voluntarily sampling for these chemicals at the groundwater wells throughout the North Service Area (NSA) water system. All sampling results returned Non-Detect (ND) in the NSA water system. For more information on PFAS, PFOA and PFOS, please visit the SWRCB DDW's resource page: **https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/pfas.html**

**PARTS PER MILLION (PPM) OR MILLIGRAMS PER LITER (mg/L)**

Parts per million (PPM) and milligrams per liter (mg/L) are units of measurement used to determine the amount of a chemical in water. If we thought of each "part" or "milligram" as a second in a period of time, the following time frames would be an appropriate or accurate comparison:

| | | | |
|---|---|---|---|
| 1 milligram per liter (mg/L) | or | 1 part per million (PPM) | =1 second in 11.5 days |
| 1 microgram per liter (µg/L) | or | 1 part per billion (PPB) | =1 second in nearly 32 years |
| 1 nanogram per liter (ng/L) | or | 1 part per trillion (PPT) | =1 second in nearly 32,000 years |
| 1 picogram per liter (pg/L) | or | 1 part per quadrillion (PPQ) | =1 second in nearly 32,000,000 years |

**In 2024, SCWA blended its water for the NSA from two (2) sources. Approximately 97% surface water from its Vineyard Surface Water Treatment Plant and approximately 3% groundwater from its seven (7) groundwater wells and two (2) water treatment plants (WTPs). For more detailed information regarding this report or SCWA water quality, call Aaron Wyley [(916) 875-5815] or Anna Gutierrez [(916) 875-5462].**

# SACRAMENTO COUNTY WATER AGENCY

## 2024 WATER QUALITY REPORT - NORTH SERVICE AREA (NSA) **(See Note #1)**

**LEGEND:**

| | | | | |
|---|---|---|---|---|
| AL…Regulatory Action Level | NA…Not Analyzed | NR…Not Required | PPB…Parts per Billion (ug/l) | TOC…Total Organic Carbon |
| MFL…Million Fibers Per Liter | n/a…Not Applicable | NTU…Nephelometric Turbidity Units | PPM…Parts per Million (mg/l) | TT…Treatment Technique |
| MO…Monitored Only | ND…Non-Detected | PDWS…Primary Drinking Water Standard | PPT…Parts per Trillion (ng/l) | WTP…Water Treatment Plant |
| MPN…Most Probable Number | NL…Notification Level | pCi/L…Pico Curies per Liter | | |

**DEFINITIONS**

**Average**: The annual average of all tests for a particular substance.

**Detection Limit for Reporting**: The limit at or above which a contaminant is detected.

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**Primary Drinking Water Standards (PDWS):** MCLs, MRDLs and treatment techniques (TTs) for contaminants that affect health, along with their monitoring and reporting requirements.

**Public Health Goal (PHG)**: The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

**Range (Lo - Hi)**: The range between the lowest and highest values of a specific substance measured throughout the course of the year.

**Regulatory Action Level (AL)**: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water

**Weighted Average (WTD AVG):** An average of water quality samples in which each sample is assigned a weight. Each sample's contribution (or weight) is based on the amount of water the corresponding water source produces for the whole system. Instead of each of the sample results contributing equally to the final average, some of the results contribute more than others.

**Educational Information:**

**Drinking Water Contaminants:**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Water Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

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. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. U.S. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

**State Mandated Information for Lead.**

**Lead:**

The Sacramento County Water Agency is conducting an inventory of all water service lines, which are the pipes that connect your building or home to the water main. The purpose of the inventory is to identify the material these service lines and fittings are made of. Pipes containing lead have been banned from being installed in new construction for many years; however, some of the water distribution systems owned and operated by SCWA are old. Some of the pipe has not been identified or is considered an unknown material. You can access online reporting of inventoried pipe material in SCWA's Electronic Annual Reports under "Data Downloads" at https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/ear.html . SCWA's "Lead Assessment Program" and the lead service line inventory is available at https://mapservices.gis.saccounty.gov/portal/apps/sites/#/scwa-lead-service-line-inventory.

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. The Sacramento County Water Agency (SCWA) is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water and wish to have your water tested, contact Aaron Wyley with SCWA by phone [(916)875-5815]. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at https://www.epa.gov/safewater/lead.

**Cryptosporidium:**

Cryptosporidium is a microbial pathogen found in surface water (e.g., rivers, lakes and streams) throughout the U.S. SCWA's monitoring indicates the presence of these organisms in our source water, which is the Sacramento River. Between May 2015 and April 2017 SCWA took monthly samples for Giardia and Cryptosporidium, as well as turbidity and E. coli. Of the 24 samples taken, only one detected the presence of these organisms. The results ranged from non-detect (ND) to 0.182 Oocysts per liter. The maximum average is below the threshold of 0.075 oocysts per liter. SCWA's surface water is treated with a thorough disinfection and filtration process to remove Cryptosporidium before distribution to the customer; however, the most commonly-used filtration methods cannot guarantee 100 percent removal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immune-compromised people, infants and small children and the elderly are at greater risk of developing life-threatening illness. We encourage immune-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

**SOURCE WATER ASSESSMENT**

To help protect the quality of existing and future groundwater supplies, the Drinking Water Source Assessment and Protection (DWSAP) program calls for examining the vulnerability of drinking water sources to potential contamination. The Water Agency completed its latest comprehensive report in May 2019. The Water Agency's report identified the following potential contamination results:

**Arden Park Vista & Northgate:**

Most vulnerable to commercial types of activities such as the dry cleaning business, gas stations, a sewer collection system and a leaking underground storage tank, electronic manufacturers and photo processors.

**Central & South Service Area (CSA & SSA)**

Most vulnerabe to activities including automobile-gas stations; boat services/ repair/ refinishing; chemical/ petroleum pipelines; dry cleaners; fleet/ truck/ bus terminal; grazing; historic waste dumps/ landfills; leaking underground storage tanks; other animal operations; pesticides/ fertilizer/ petroleum storage transfer areas; plastics/ synthetics producers; research laboratory; wells-agricultural/ irrigation types; wells-oil, gas, and geothermal types; wood preserving/ treating and sewer collection systems

**Hood, East Walnut Grove and Delta Estates:**

Most vulnerable to irrigated crops and septic systems.

**North Service Area (NSA):**

Most vulnerable to commercial types of activities such as grazing, known contaminant plumes, low-density septic systems, sewer collection systems and wells-agricultural irrigation types