

PUGET SOUND VITAL SIGNS

VITAL Sign DRINKING WATER

Access to safe drinking water is critical to human health and wellbeing. The Drinking Water Vital Sign tells us about the quality of water in Puget Sound as it enters public and private drinking water systems. Protecting source water has many benefits, including reduced risk to public health, improved habitat for fish and wildlife, reduced costs associated with contamination, and increased public confidence in a safe and reliable source of high-quality water.



Drinking Water Vital Sign

Related Strategies

- Awareness of Effects of Climate Change
- Climate Adaptation & Resilience
- Education Partnerships
- Funding
- Human Health
- Research & Monitoring
- Stewardship & Motivating Action
- Stormwater Runoff & Legacy Contamination
- Strategic Leadership & Collaboration

| VITAL SIGN > INDICATOR | PROGRESS | STATUS |
|---|---------------|-----------|
| Drinking Water | | |
| Nitrate concentration in source water | NO TREND | NO TARGET |
| Index of Vulnerability for Elevated Nitrates in Groundwater | MIXED RESULTS | NO TARGET |

Vital Sign Reporter

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KEY VITAL SIGN MESSAGES

- Clean drinking water starts upstream with healthy forests and [watershed management and protection](#).
- The vast majority of Puget Sound residents get their drinking water from public water supply systems. Nearly 98% of residents are served by large systems known as Group A water systems, which have more than 14 connections or serve 25 or more people, 60 or more days per year.
- Public water supply systems obtain water from two sources: surface water and groundwater. Large, well-populated metropolitan areas tend to rely on surface water: Seattle's water supplies primarily consist of surface water from the Cedar and South Fork Tolt rivers, while the Green River serves Tacoma residents. Smaller, rural areas tend to rely on groundwater, which is obtained by drilling wells.
- Potential causes of source water contamination include industrial and commercial activities, agriculture and animal feeding operations, improper forest practices, failing septic systems, and stormwater runoff.
- Humans can become ill from drinking or contact with water contaminated with pathogenic bacteria, viruses, and parasites, or toxics such as chemicals, heavy metals, plastics.
- Nitrate is an acute contaminant that can pollute groundwater. Most groundwater supplying large public water systems in Puget Sound is not [contaminated by nitrates](#). However, Whatcom, Island and Clallam counties had a higher proportion of source groundwater samples with elevated nitrate levels compared to other Puget Sound counties.
- Elevated concentrations of nitrate may indicate conditions (well depth and surficial geology for example) that make groundwater more vulnerable to contamination from activities at the land surface. The [Index of Vulnerability for Elevated Nitrates](#) will identify which areas in Puget Sound are susceptible to groundwater pollution, including tribal and rural areas where monitoring data is limited (modeling work for this indicator is still in progress).
- Climate change effects are anticipated to impact the region's [water supply, quality, and demand](#).

BACKGROUND DOCUMENTS

- [Leadership Council Resolution 2015-02, Human Health and Quality of Life Vital Signs and Indicators](#)
- [Human Wellbeing Vital Signs and Indicators for Puget Sound Recovery \(2015\)](#), technical report describing the recommended portfolio of Puget Sound Human Health and Quality of Life Vital Signs and indicators
- [Report summarizing the development of the drinking water indicators 2019](#)

OTHER RESOURCES

- [Articles related to a healthy human population in the Encyclopedia of Puget Sound](#)

CONTRIBUTING PARTNERS

TO LEARN MORE ABOUT THE VITAL SIGNS VISIT: vitalsigns.pugetsoundinfo.wa.gov OR CONTACT: vitalsigns@psp.wa.gov