



Tri-Canyons Water Quality Summary

Mill Creek, Big Cottonwood & Little Cottonwood Canyons

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Utah Division of Water Quality

Our Mission: To safeguard and enhance Utah's water through balanced regulation.

Core Responsibilities



Protecting Water

Maintain, restore, and enhance surface and underground water quality.



Beneficial Uses

Safeguard waters for drinking, agriculture, recreation, and wildlife.



Regulatory Compliance

Implement state rules and the federal Clean Water Act by issuing permits and monitoring pollution.



Community Support

Protect water resources while supporting state growth and local communities.

Clean Water Act and Utah Water Quality Act

Designated Beneficial Uses
[CWA §304; Utah Code §19-5-110]

Set Water Quality Standards
[CWA §304; Utah Code §19-5-110]

Water Quality Monitoring

Water Quality Assessment – Integrated Report
[CWA §303(d) and 305(b)]

Meets WQS - Fully Supporting

Doesn't Meet WQ Standards - Impaired

TMDL Study
[CWA §303; Utah Code §19-5-104(3)]

Surface Water Permitting
[CWA §401, 402; Utah Code
§19-5-106 and 108]

Nonpoint Source Program
[CWA §319; Utah Code §73-10c-4.5]



Designated Uses & Integrated Report

Utah Division of Water Quality • Water Quality Standards and Assessment Framework

Utah R317-2-13: Designated Beneficial Uses

Class	Protected Beneficial Use Description
1C	Domestic water systems (drinking water)
2	Recreational uses and aesthetics
3	Aquatic wildlife protection
4	Agricultural uses, including irrigation and stock watering
5	Great Salt Lake mineral and aquatic life

Utah's Integrated Report (IR) Framework



Water Quality Assessment Methods

Standardized procedures and scientific criteria used to determine whether Utah's waterbodies support their designated beneficial uses.



Overall Conditions & Threats • 305(b) Report

A comprehensive statewide summary analyzing the general health of Utah's surface waters and identifying key potential threats to beneficial uses.



Impaired Waters List • 303(d) List

Identification of specific, priority waters that currently fail to meet state water quality standards or are verified as biologically impaired.

2026 Integrated Report

775

Assessment Units

> 15,000

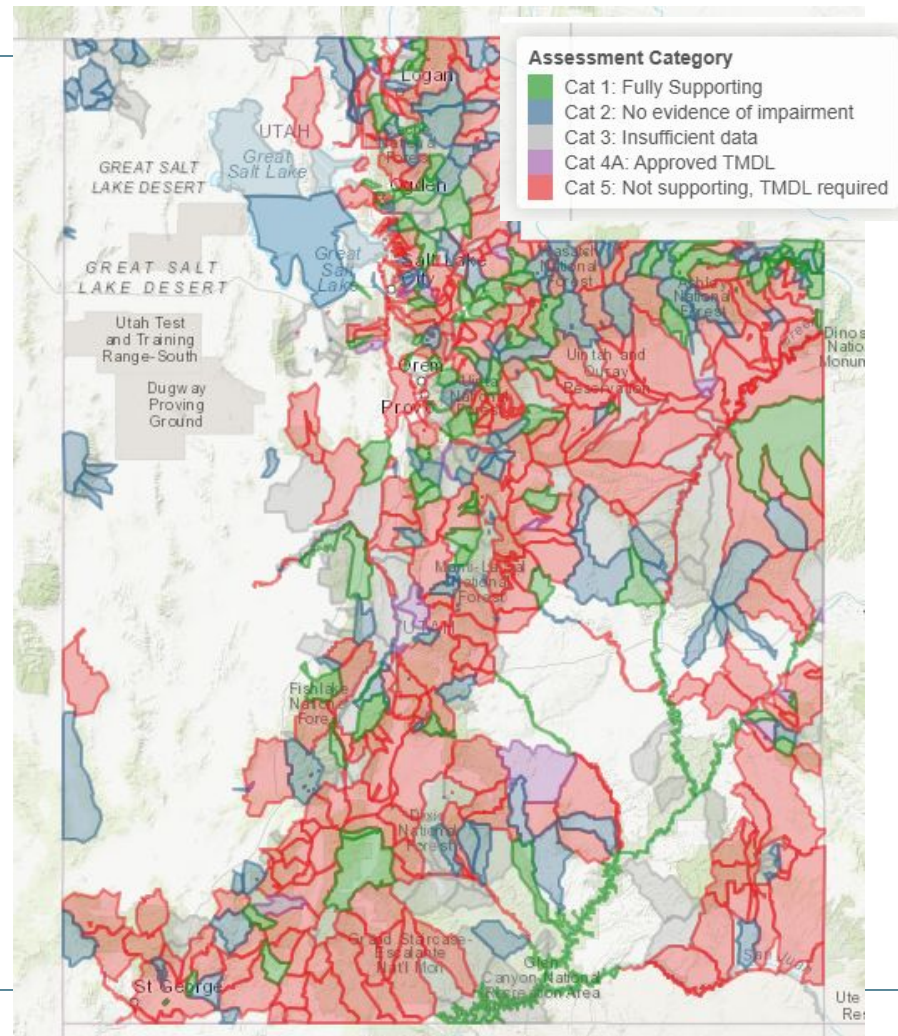
River Miles

> 1,700

Monitoring Locations State-Wide

54%

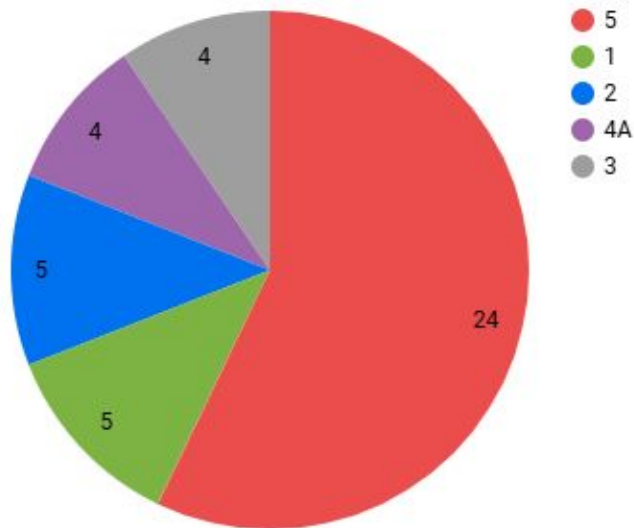
of assessed river miles in Utah are classified
as polluted / impaired



Jordan River Watershed Assessment

2026 Integrated Report • 303(d) List of Impaired Waters

River AUs by Assessment Category



57%

of river miles in the Jordan River Basin are polluted

Assessment Breakdown

13% fully supporting beneficial uses

18% no evidence of pollution / impairment

8% approved TMDL (total maximum daily load)

4% insufficient data for assessment

Three canyons, three different answers

Category 1		Category 5		Category 5	
Mill Creek3-SLCity		Big Cottonwood Creek-2		Little Cottonwood Creek-2	
Fully supporting		Not supporting		Approved TMDL for some parameters	
Assessed length	19.1 miles	Assessed length	44.5 miles	Assessed length	30.0 miles
Listed parameters	None	Listed parameters	E. coli	Listed parameters	Cd, Cu, Zn, pH
Monitoring sites	18	Monitoring sites	54	Monitoring sites	31
Permitted dischargers	None	Permitted dischargers	None	Permitted dischargers	2

Assessment unit IDs: 018_00 (Mill Creek3) · 020_00 (Big Cottonwood-2) · 022_00 (Little Cottonwood-2). All three are headwater reaches above the water treatment plants.

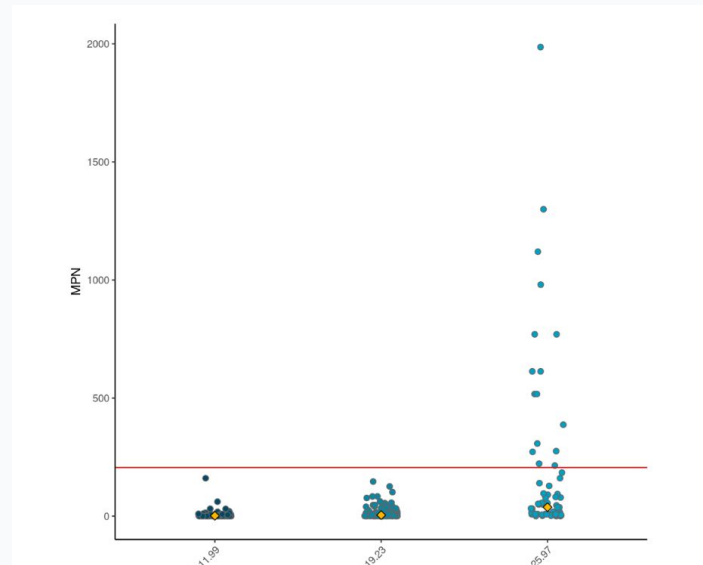
Upper Big Cottonwood Creek: *E. coli* Impairment

Water Year 2014 – Water Year 2024 Monitoring Data

WY14–WY24 Water Quality Data Summary

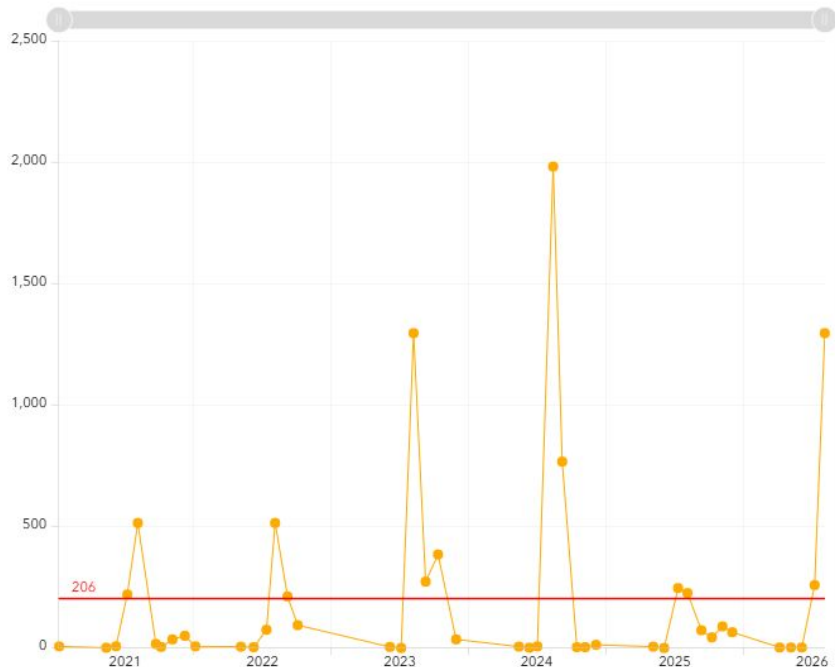
Monitoring ID	Location Name (MLID)	Date Range	Rec* Season Count	Total Count	E. coli Min	E. coli Max	Rec* Geo-mean	Rec* % >206 MPN	Rec* % >668 MPN
4993210	BC_11.99	2016-10-13 to 2022-09-06	57	112	0.5	160.7	3.0	0%	0%
4993250	BC_19.23	2016-10-13 to 2022-09-06	57	114	0.5	146.7	10.8	0%	0%
4993335	BC_25.97	2016-10-13 to 2022-09-06	52	65	0.5	198.3	42.7	28.8%	11.5%

E. coli Concentration (MPN) by Site



A well-documented problem with no regulated source

Total MPN E.coli Source: Bacteria Samples table



What the county watershed plan points to

Dogs are already banned

Pets are prohibited outright in protected watersheds yet 40% of dog owners report not picking up waste.

Restrooms close in winter

Many trailhead facilities operate only May through October, though areas are used year-round.

Human waste along trails

The plan notes that some recreators leave solid human waste near creeks.

Onsite wastewater systems

Failing or poorly maintained septic systems in cabin communities can leach E. coli.

Wildlife contributions

Wildlife (such as moose, deer, and birds) naturally contribute to background E. coli levels.

A century of mining, still in the water

Category 5 • TMDL approved for zinc

Listed Parameter First Listed Status

Zinc 1998 TMDL approved

Cadmium 2014 TMDL needed

Copper 2014 TMDL needed

pH 2014 TMDL needed

Note: All four affect cold-water aquatic life; pH also affects recreation and the drinking water source use.

Where the metals come from

Historic Mining: Mining ran until 1930 in Little Cottonwood and 1961 in Big Cottonwood.

1,000+ Mine Features: Over 1,000 features exist across the region, concentrated heavily near Alta and in mid Big Cottonwood.

Primary Sources: Waste rock and adit drainage are the primary metal sources; acid mine drainage mobilizes zinc, cadmium, and copper.

Dominant Tunnels: Two specific mine-drainage tunnels dominate the total zinc load: Howland and Wasatch.



Salt Lake County Integrated Watershed Plan

Funding & Strategic Framework

Adopted January 2026

Built on EPA's nine-element framework, which is what makes projects in it eligible for Clean Water Act Section 319 nonpoint source funding.

Stakeholder Role

The Central Wasatch Commission is already a named stakeholder on all four of the plan's committees, including the Tri-Canyons group.

What it identifies:

Priority Pollutants: E. coli and metals

Mines: Primary metals source (passive treatment)

Bacteria: Recreation & waste in upper watershed

Data Gap: Metals data in Big & Little Cottonwood

Who are the Key Players?

Salt Lake County Health Dept.

Regulates and permits onsite wastewater treatment systems. Enforces septic setbacks, oversees advanced treatment, and coordinates inspections.

SLCo Watershed Planning

Conducts water quality (field), streamflow, and biological monitoring. Develops watershed plans. Implements projects to address water quality/watershed health concerns.

Utah Division of WQ (DWQ)

Administers Clean Water Act Section 319 grants and State Revolving Funds. Provides technical water quality expertise and regulates point sources. Develops water restoration plans. Responds to emergencies and/or spills. Funds projects, studies and monitoring.

Salt Lake City Public Utilities

Holds critical water rights in the canyon. Enforces strict watershed protection ordinances to safeguard drinking water aquifers as a major landowner.

U.S. Forest Service (USFS)

Protects water quality by preserving natural hydrologic flows and maintaining intact, stable riparian buffer zones across forest lands.

Greater Salt Lake MSD

Manages permitted stormwater infrastructure within developed areas. Oversees roadside ditches, culverts, and outlets to control runoff pollution.

How can the Council Help Monitor?

Coordinate Utah Water Watch

Expand volunteer-based monitoring by connecting local efforts with training and data management. Promote participatory citizen science.

Build Project Pipelines

Create a strategic pipeline for watershed projects while connecting water quality goals to decisions outside the traditional water-quality community.

Improve Awareness

Provide early awareness of projects and emerging issues, and improve ongoing public communication around critical water-quality trends.

Dashboard Integration

Integrate critical DWQ data directly into the CWC Environmental Dashboard to provide clear, accessible, and continuous public water quality metrics.

How can the Public Protect Water Quality?

The public can protect water quality most effectively by plugging into existing programs rather than creating separate monitoring or stewardship efforts.

1. Connect to Frameworks

- Use **Utah Water Watch** as the established, standardized monitoring framework.
- Direct volunteer energy toward stewardship actions alongside raw data collection.

2. Target Strategic Gaps

- Target localized gaps to complement, rather than duplicate, agency monitoring efforts.
- Thoroughly analyze existing data resources before investing in new data collection.

3. Focus on Feasibility

- Prioritize highly accessible and easy techniques, like photopoint monitoring.
- Clearly define the "why" before collecting data to make the initiative truly meaningful.

Critical Workflow Sequence

Before asking the public to collect data, determine what information already exists, identify the unanswered management question, and then use an established monitoring program to fill the gap.