The Water Connection / South Platte Urban Waters Partnership's Water Quality Visualization Tool:

A Tool to Increase Accessibility of Water Quality Data in the Denver Metro Area

Jon Novick, Denver Department of Environmental Health
Ben Tyler, Leonard Rice Engineers, Inc.

urban waters partnership

The Water Connection

What are The Water Connection and the South Platte Urban Waters Partnership?

- Collaborative effort of:
  - Local, state, and federal agencies
  - Non-profits
  - Watershed groups
  - Other stakeholders
- Protecting/restoring lands and waters in the South Platte Watershed
  - From the Headwaters → Denver Metro Area → Eastern Plains

The Water Connection

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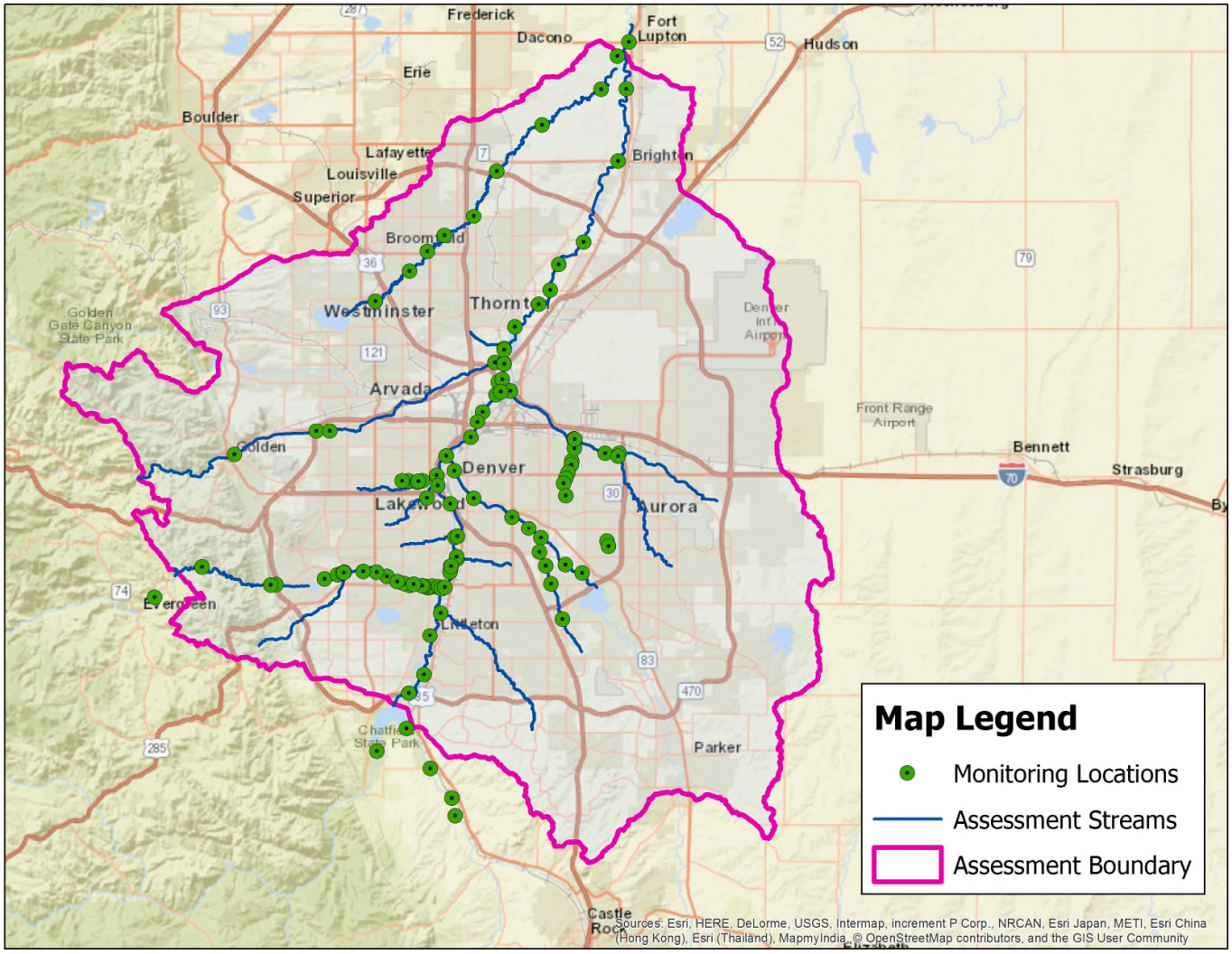
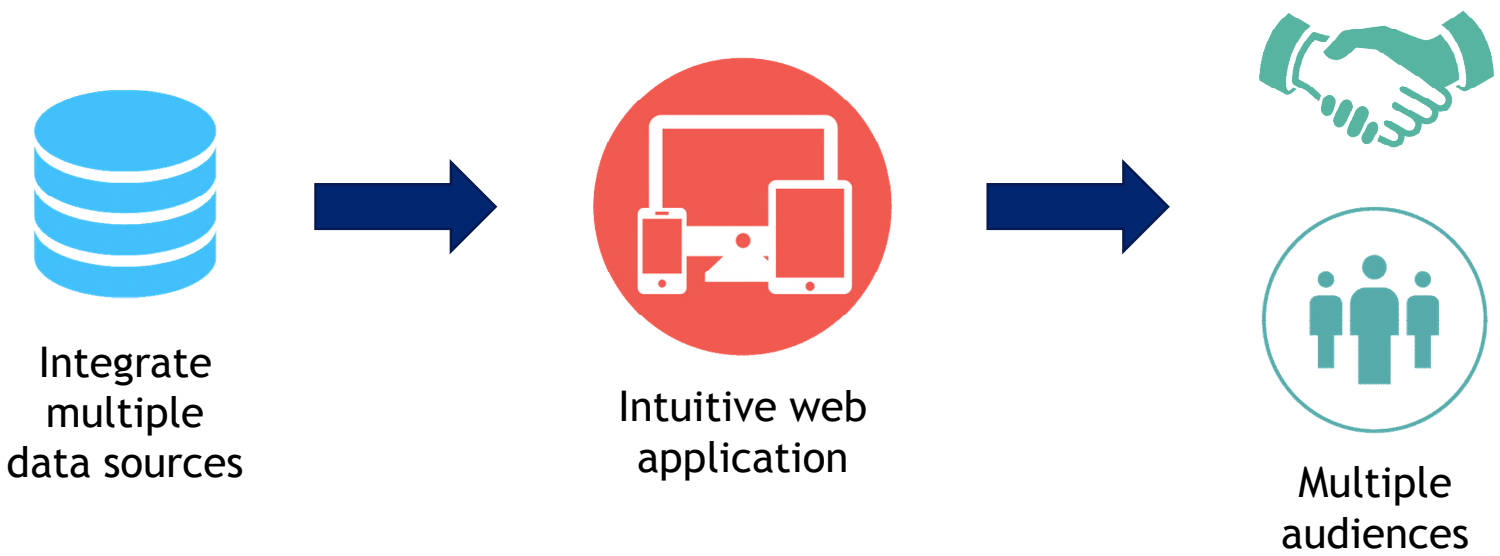
Assessment Boundary



Key Objectives

"create a streamlined and intuitive web application that makes water quality data accessible to both decision makers and the general public"



What is the Denver Metro Water Quality Assessment Tool (WQAT)?

- Exploration of E. coli in the Denver Metro area
  - Assessment period: 2009 - 2014
- Open source technologies
- Main components
  - Storyline
  - Interactive Map
  - Data Explorer

WQAT: Video Demo

http:/thewaterconnection.org/wq_tool

Acknowledgements

Contributors

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Phil Russell, Littleton/Englewood WWTP
Sarah Wheeler, Colorado Dept. of Public Health & Environment

Funders

- US EPA, Region 8
- USFS, Rocky Mountain Region
- Denver Department of Environmental Health
- Aurora Water
- Tri County Health Department

Questions?

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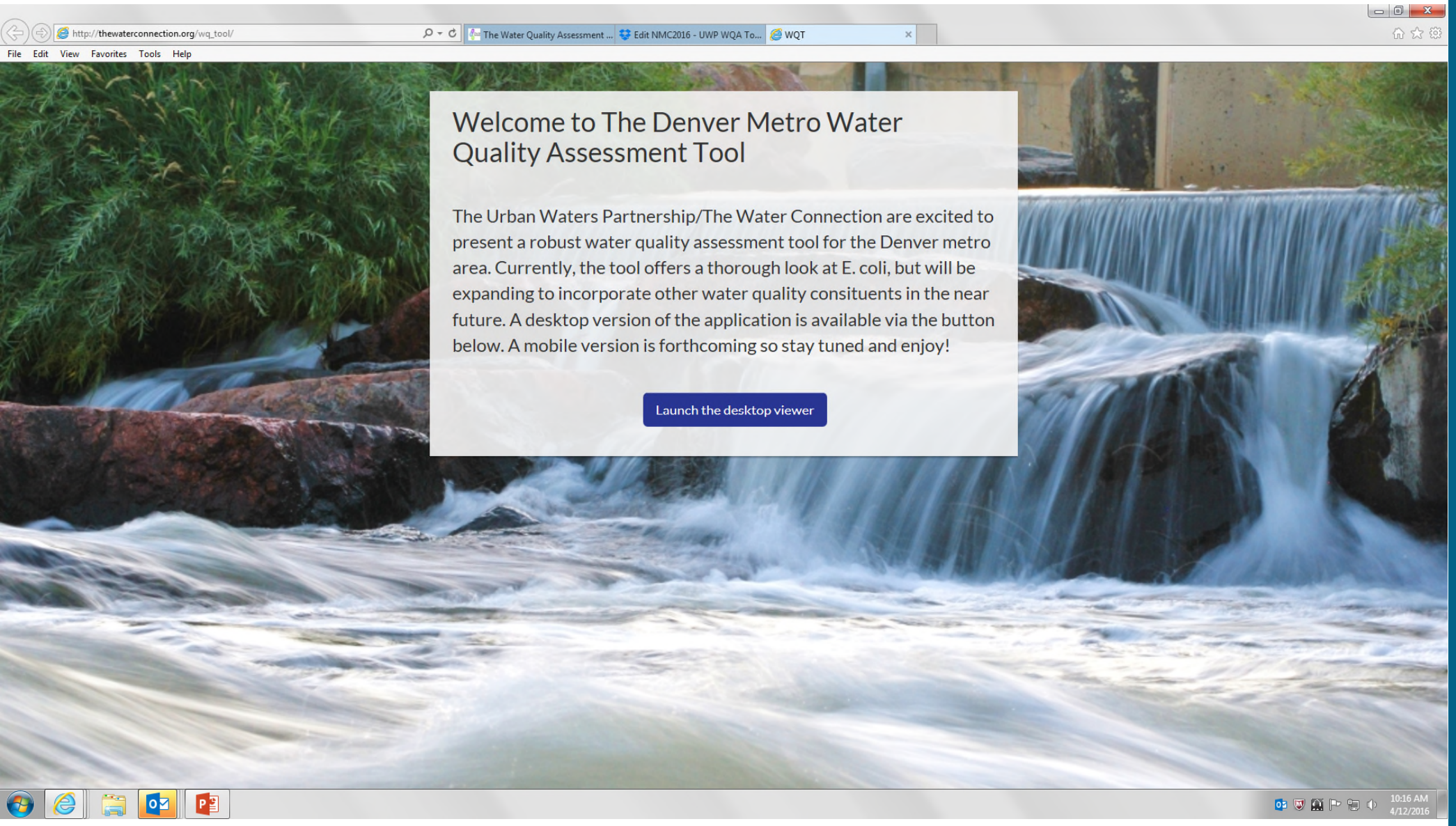
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File Edit View Favorites Tools Help
Welcome to The Denver Metro Water Quality Assessment Tool
The Urban Waters Partnership/The Water Connection are excited to present a robust water quality assessment tool for the Denver metro area. Currently, the tool offers a thorough look at E. coli, but will be expanding to incorporate other water quality consituents in the near future. A desktop version of the application is available via the button below. A mobile version is forthcoming so stay tuned and enjoy!
Launch the desktop viewer
10:16 AM
4/12/2016

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Application Overview

The Denver Metro Water Quality Assessment Tool combines *E. coli* data from 2009 through 2014 with maps, graphs and narrative to provide a picture of water quality in the South Platte River basin. Water quality is an important topic in a state where population and water use habits continue to grow. This tool can be useful to decision makers, educators and the general public to explore water quality issues that impact us all. Have a suggestion or need help troubleshooting? Please use the feedback button below to get in touch.

Provide feedback

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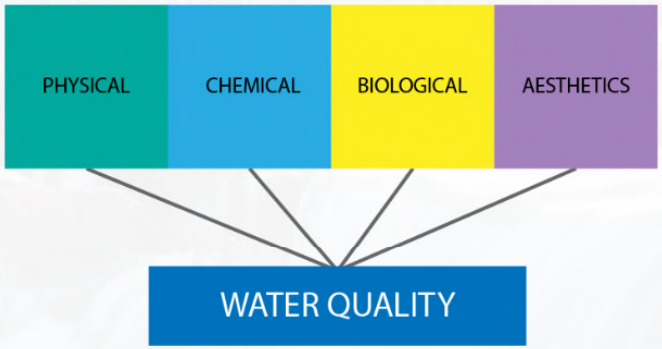
What is Water Quality?

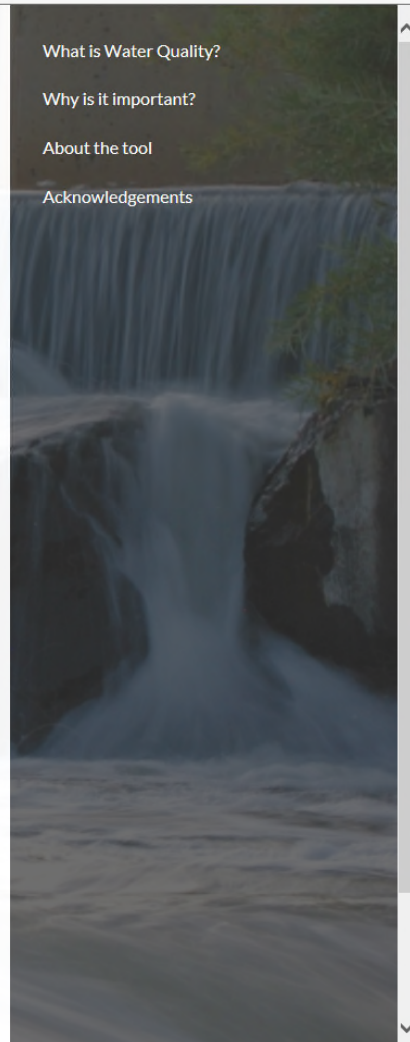
Water is essential to human life and the health of the environment. It has two dimensions that are closely linked: **quantity** and **quality**. Water quality is defined by its physical, chemical, biological and aesthetic (appearance and smell) characteristics. A healthy environment is one in which the water quality supports a rich and varied community of organisms and protects public health.



Water quality influences the way communities use the water for activities such as:

- supplying drinking water
- irrigating crops and watering livestock
- industrial processes
- protection of aquatic ecosystems
- wildlife habitats
- scientific study and education
- recreation

What is Water Quality?
Why is it important?
About the tool
Acknowledgements



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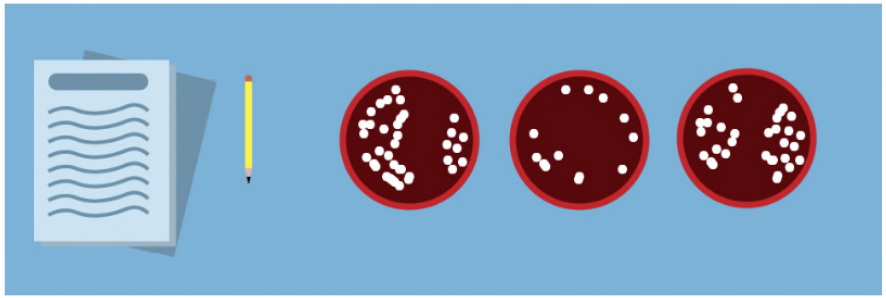
E. coli Storyline

E. COLI STORYLINE



Don't know much about *E. coli*? The storyline is the perfect place to start. Learn not only what *E. coli* are, but additionally what can be done to reduce its pollutant load in the South Platte River and its tributaries.

Learn more

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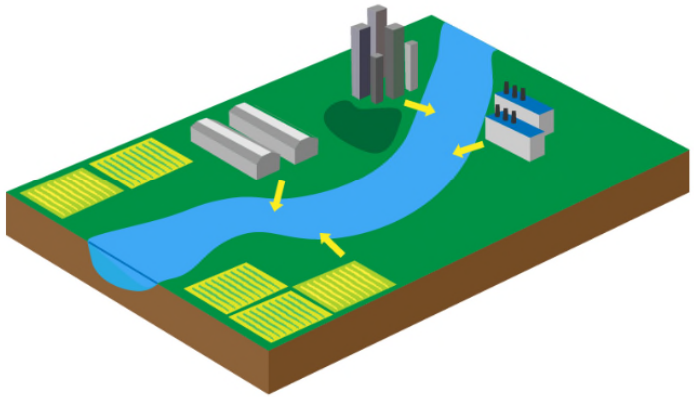
E. coli Storyline

How does *E. coli* get into the South Platte River?



E. coli and other fecal contaminants can enter the river from broken sewer lines, on-site septic systems, direct discharge of waste from domestic and wild animals, and storm runoff.

Denver Metro-area lakes and streams receive runoff from city streets, yards, and parks as well as discharges from industry and wastewater treatment plants. Some agricultural practices such as spreading manure on fields and allowing livestock watering in streams can contribute to *E. coli* contamination.

More information

- EPA, Non point source pollution

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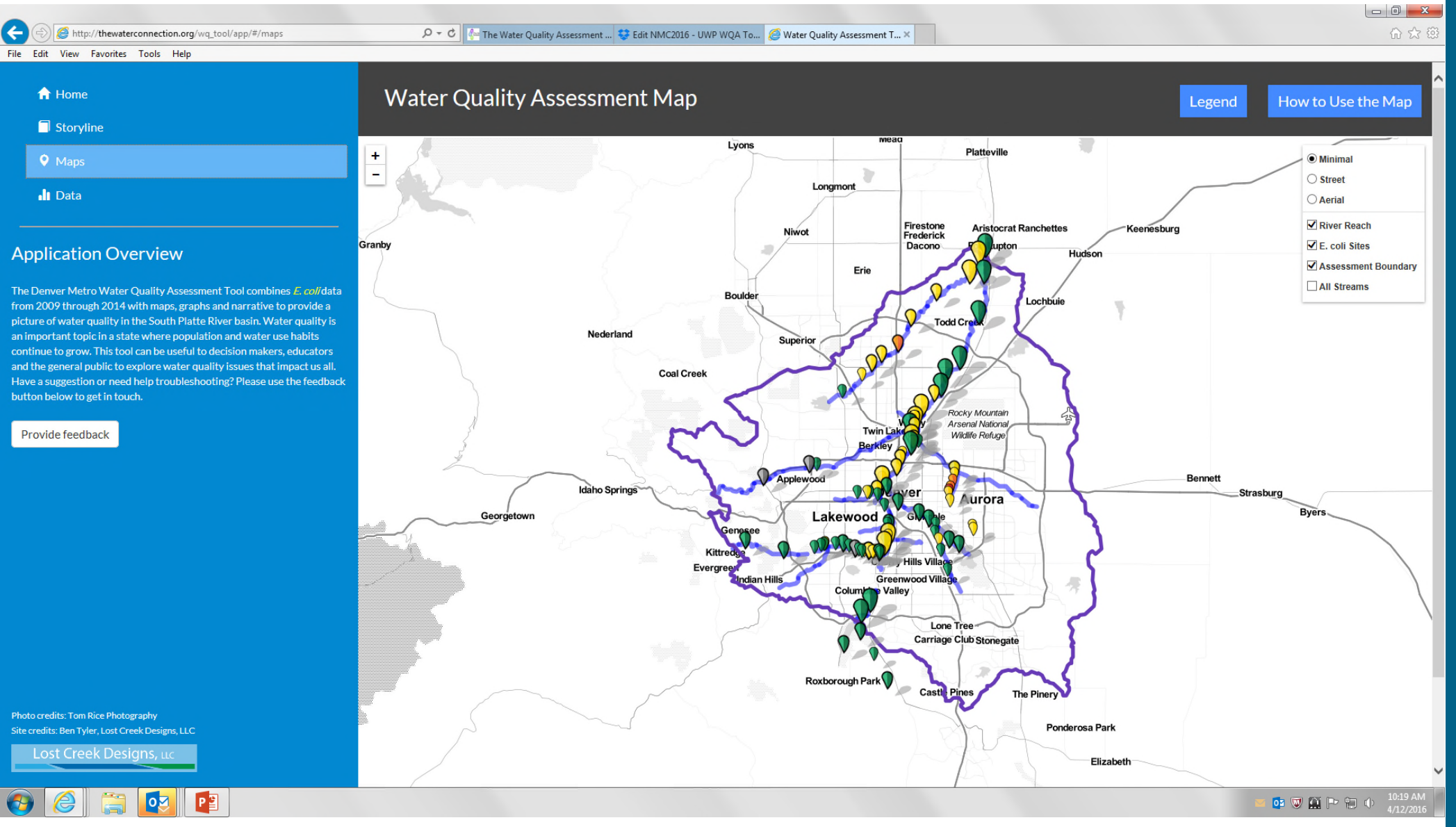
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Water Quality Assessment Map
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River Reach
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Platteville
Longmont
Niwot
Firestone
Frederick
Dacono
Aristocrat Ranchettes
Keenesburg
Granby
Hudson
Erie
Boulder
Lochbuie
Todd Creek
Nederland
Superior
Coal Creek
Rocky Mountain Arsenal National Wildlife Refuge
Twin Lakes
Berkley
Applewood
Idaho Springs
Bennett
Strasburg
Byers
Georgetown
Lakewood
Aurora
Genesee
Kittredge
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10:19 AM
4/12/2016

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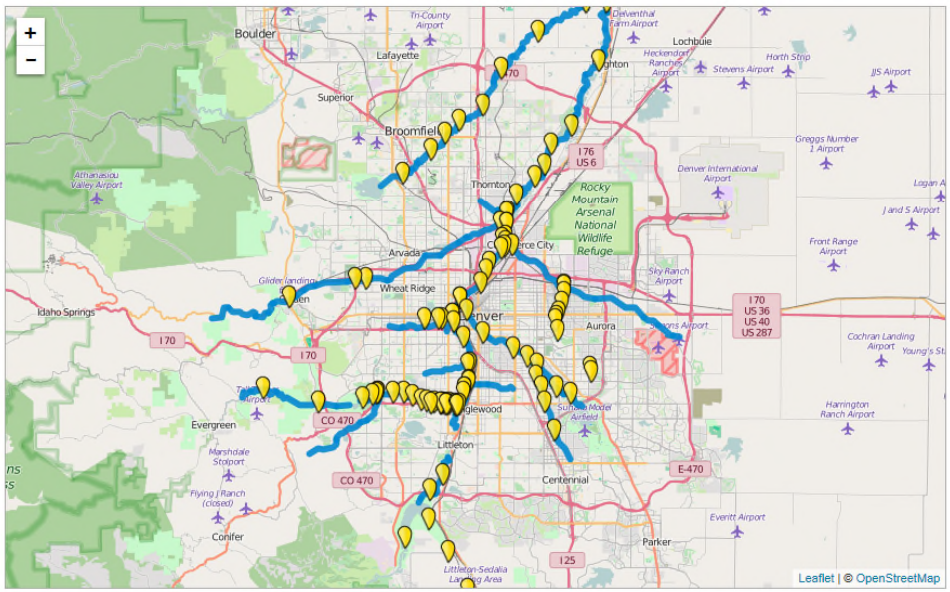
E. Coli Data Exploration

Data Selection

location type: Site
location: BD-1
season: Annual
Submit



How to use this tool

This dataset represents over 5000 sampling events between 2009 and 2014. Get started by selecting a sampling location or river reach from the map to the left and a season. Locations can alternatively be selected using the dropdown menus. Results are displayed in graph and table form below. Not Interested In exploring the data here? Download it and explore it yourself. Use the filters to generate a subset of the data or simply download the entire dataset by sites or river reaches using the button below (will download as a CSV file).

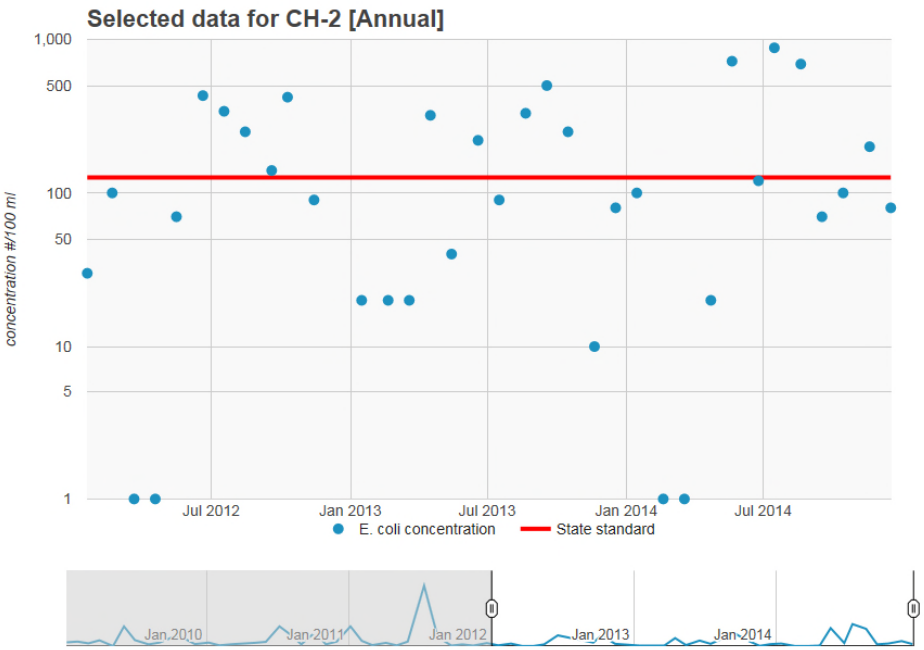
Learn about the data | Download full dataset

Selected Results

Download selection

Selected Results

Download selection



Metadata

Site Description	Cherry Creek at Champa
Stream Name	Cherry Creek
Period of Record	1/7/2009 - 12/17/2014
Sample Count	70
Maxmium	2420
Geomean	96

Date	Site ID	Concentration (#/100 ml)	standard
Dec 17, 2014	CH-2	80	126
Nov 19, 2014	CH-2	200	126
Oct 15, 2014	CH-2	100	126
Sep 17, 2014	CH-2	70	126
Aug 20, 2014	CH-2	690	126
Jul 16, 2014	CH-2	880	126
Jun 25, 2014	CH-2	120	126