# River Watch Macroinvertebrate Resources

## Maps & Data Tools

**Interactive River Watch Data Tool** - This tool is designed to interactively visualize River Watch data across Colorado. Use the main window to explore the map, generate graphs, and customize what water quality parameter is featured, including macroinvertebrate metrics. This tool allows the data user the ability to see temporal data for any water quality parameter including macroinvertebrate metrics over time. Use the left panel to navigate tabs and access the user guide which includes definitions for macroinvertebrate metrics.

River Watch Data Tool (shinyapps.io)

**River Watch Story Map** - This StoryMap first orients you to the active River Watch stations in the state. The next tabs go through the major basins in Colorado, followed by the smaller watersheds within those basins.  Throughout the StoryMap, one can discover more information about each River Watch station by clicking on individual points. Geospatial mapping like this helps us view multiple scales simultaneously while gathering insights for data analyses, assessments, and interpretation. These maps are made from information collected by volunteers, with supplemental information from the state of Colorado's geospatial database. By scrolling throughout this StoryMap and clicking through the tabs, you will be able to forage your own relationship with the Colorado Watersheds and the data that volunteers have collected.

River Watch of Colorado StoryMap Series (arcgis.com)

**CDPHE Macroinvertebrate Story Map -** This StoryMap explores how macroinvertebrates assist in determining the status of the Aquatic Life Use for surface waters in Colorado. In here you can learn about CO state regulations & policies, explore data and how it's assessed, biotype thresholds, and assessment determinations by the Water Quality Control Division.

Colorado Benthic Macroinvertebrates (arcgis.com)

**CO Basin Attainment Dashboard** - CDPHE StoryMap Showing Attainment, Total Maximum Daily Loads (TMDL), Monitor and Evaluation (M&E), and 303(d) listings for all Rivers and Streams. Explore the map but clicking on streams or using the search bar to see impairment, attainment, and M&E. Streams that are impaired for bugs show 303(d): Bugs(P) in the Analyte row in the pop up window.

CO Basin Dashboard: Reporting Categories (arcgis.com)

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## Documents, Data, and Information

**CDPHE Macroinvertebrate Dataset** - Excel file displaying all macroinvertebrate data that follow state-approved collection protocols, including River Watch data. Select "ALL" tab on the bottom to explore the thousands of collections. NOTE - keep in mind some collection methods vary depending on party collecting which could influence the data. It's best to compare data collected by the same party. Sort data by party in the second column.

2024 Compilation of Bug Data - Google Sheets

**CWCB/River Network Stream Management Plan Resource Library -** Learn about the history of SMPs in Colorado, the impact these projects have, and what projects are currently underway

https://www.coloradosmp.org/

**River Watch Macroinvertebrate Study Design Chapter** (Pages 324-354) - Detailed standard operating procedures from River Watch Sampling manual explaining the what, why, and how's of macroinvertebrate collection

Microsoft Word - Chapter 9 Physical Habitat and Macroinvertebrates (coloradoriverwatch.org)

**River Watch Macroinvertebrate Collection Protocol -** Detailed instructions for River Watch's macroinvertebrate collection method

Microsoft Word - Macroinvertebrate Instruction Short Sheet (coloradoriverwatch.org)

**River Watch Macroinvertebrate Instructional Video -** Video showing how to collect macroinvertebrates using the River Watch method. Note - some parts of the video are outdated, please refer to written instructions for up to date protocols.

RiverWatch | Macroinvertebrate Sampling Tutorial (youtube.com)

**CDPHE Policy 10-1 Aquatic Life Use Attainment Document** - Methodology to Determine Use Attainment for Rivers and Streams

Policy-10-1-v.-2020.pdf (coloradosmp.org)

**CDPHE's 2024 Integrated Report** -This is the story of Colorado's 2024 Integrated Water Quality Monitoring and Assessment Report. The division created this StoryMap to report on the status of Colorado's streams and lakes in an easy-to-understand format.

Colorado's 2024 Integrated Report (arcgis.com)