

CHATFIELD WATERSHED AUTHORITY



www.chatfieldwatershedauthority.org

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The Chatfield Watershed Authority was established in 1984 when the Governor of Colorado designated the Authority as a 208 Management Agency for the Chatfield Watershed, in accordance with the Federal Clean Water Act.

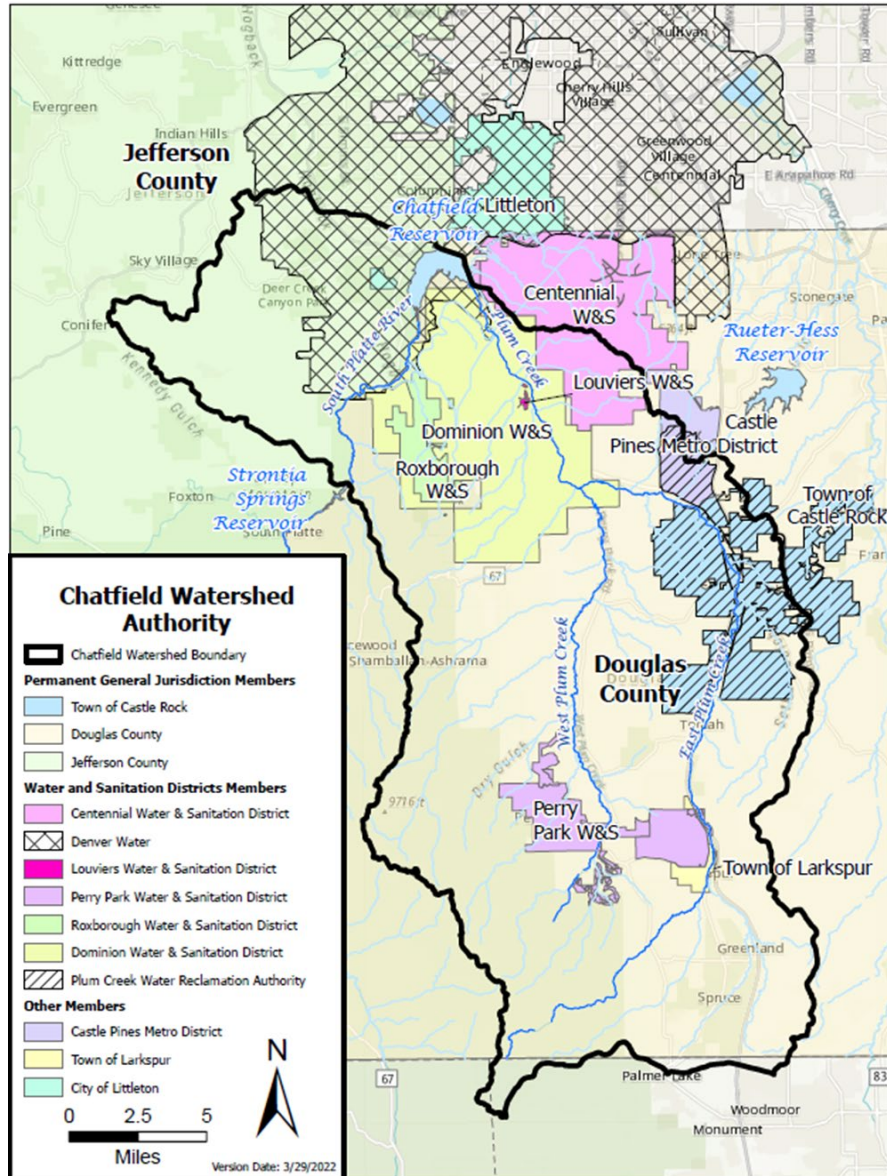


The Authority purpose is to preserve the beneficial uses in Chatfield Reservoir and Watershed through the promotion of point source, nonpoint source, and stormwater controls that reduce phosphorus and chlorophyll α .

The Authority is a voluntary organization formed through an Intergovernmental Agreement and funded with voluntary dues assessed yearly on the Authority members.



CWA MEMBERSHIP



- **Permanent General Jurisdiction Members**

- Douglas County
- Jefferson County
- Town of Castle Rock

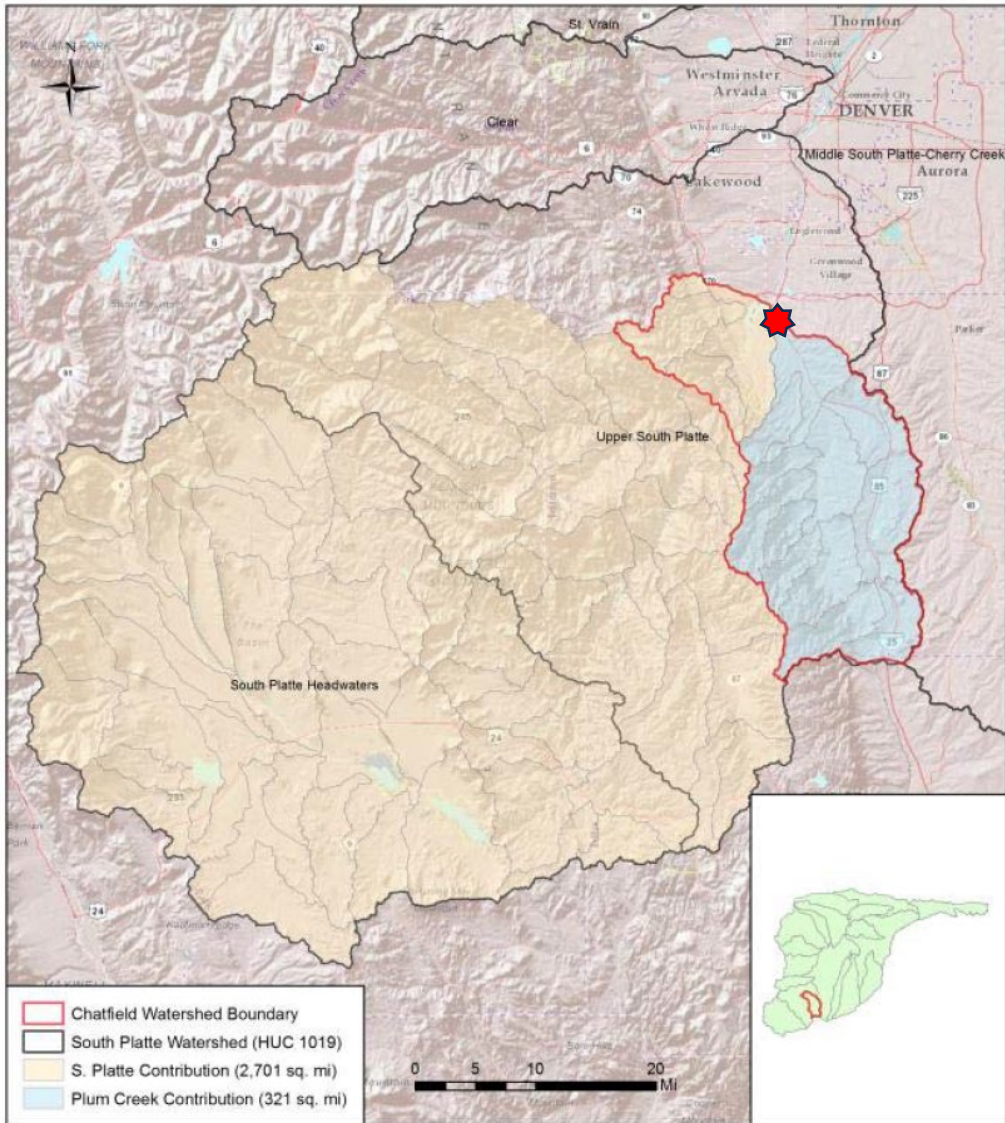
- **Water and Sanitation Members**

- Centennial Water and Sanitation District
- Denver Water
- Dominion Water and Sanitation District
- Louviers Water and Sanitation District
- Perry Park Water and Sanitation District
- Plum Creek Water Reclamation Authority
- Roxborough Water and Sanitation District

- **Other Members**

- Castle Pines Metropolitan District
- Town of Larkspur
- City of Littleton

CHATFIELD RESERVOIR /WATERSHED



- ❖ Total Watershed Area: 3022 sq. mi.(excludes transmountain diversions from the Arkansas and Colorado River Basins).
- ❖ Total Regulatory Watershed Area: 440 sq. mi.
- ❖ Average Annual Inflow: 100,860 af/yr.
Over 75% from Cold South Platte River.
Less than 25% from Warm Plum Creek.
- ❖ Regulated as a Cold-Water Reservoir.
- ❖ Storage Volume: 20,046 af historic plus up to 20,600 af of additional reallocation storage.



REGULATORY FRAMEWORK

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT WATER QUALITY CONTROL COMMISSION 5 CCR 1002-73 REGULATION NO. 73 CHATFIELD RESERVOIR CONTROL REGULATION

Regulation #73 Requirements :

- **208 MANAGEMENT AGENCY:** Conduct reviews and provide recommendations to the Division on Site Applications and Phosphorus Trades.
- **TMAL:** A total maximum annual load (TMAL) for phosphorus of 19,600 lbs/yr under a median inflow of 100,860 AF/yr has been identified to attain the water quality standards for 10 µg/l chlorophyll α and 0.030 mg/l total phosphorus, as described in Regulation No. 38. Attainment of the TMAL may require progressive development of point source and nonpoint controls. ***Chlorophyll α and Total Phosphorus each exceeded the standard values in 8 the last 40 years but only 1 year out-of-compliance exceedance in the last 10 years.***
- **EFFLUENT LIMITATIONS AND POINT SOURCE WASTELOAD ALLOCATIONS:**
 - 1.0 mg/l total phosphorus as a 30-day average concentration
 - The allowed annual wasteload of point source phosphorus is limited to 7,533 lbs/yr,
- **PHOSPHORUS TRADING:** The regulation provides the opportunity for non-point to point source and inter- agency phosphorus trades.
- **MONITORING AND REPORTING:** Annually review and submit a water quality monitoring plan and an annual report. ***40 years of data for Chatfield Reservoir and tributary streams and creeks.***

WATER QUALITY CHALLENGES AND STRATEGIES

CHALLENGES:



Funding (with limited funds for matching grants):
Current budget allows for only \$29,000/year in funding of non-point source projects



Watershed Risks: Wildfires are the number one risk for impairment of water quality in Chatfield Reservoir (remember the Hayman fire in 2002)?



Water Quality: Proposed Nitrogen Standard



Growth: Douglas County was the fastest growing exurb in the US from 1990- 2019 at 481% population growth.

WATER QUALITY CHALLENGES AND STRATEGIES

STRATEGIES:

- Obtain Approval for Implementing a Water Quality Fee for Users of Chatfield Reservoir
- Significant Funding of Improvements from Local Jurisdictions and CRMC
- Watershed Modeling to Assess Wildfire Risk
- Develop a Site-Specific Nitrogen Standard for Chatfield Reservoir



SENATE BILL 23-267

BY SENATOR(S) Van Winkle and Cutter, Kolker, Sullivan; also REPRESENTATIVE(S) Titone and Bradley, Brown, Duran, Frizell, Garcia, Hamrick, Hartsook, Jodeh, Lieder, Lindsay, Marshall, McCormick, Snyder, Story, Taggart.

CONCERNING A WATER QUALITY FEE TO BE PAID FOR ADMISSION TO CHATFIELD STATE PARK, AND, IN CONNECTION THEREWITH, REQUIRING THE DIVISION OF PARKS AND WILDLIFE TO COLLECT THE FEE AND TRANSFER THE AMOUNT OF THE FEE TO THE CHATFIELD WATERSHED AUTHORITY.

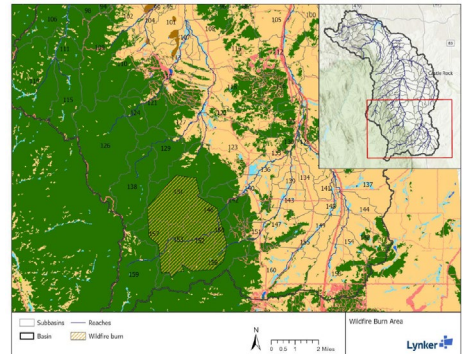
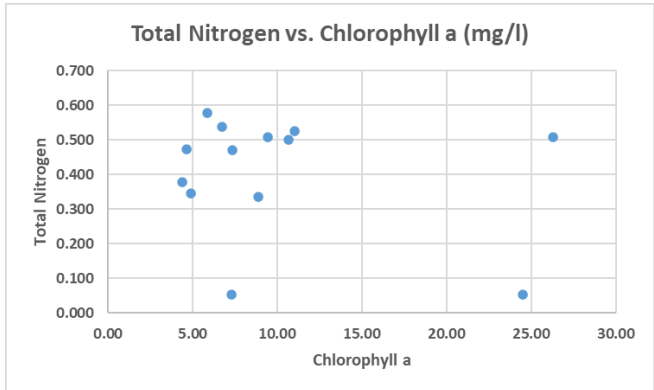


Figure 8: Modeled Wildfire Burn Area

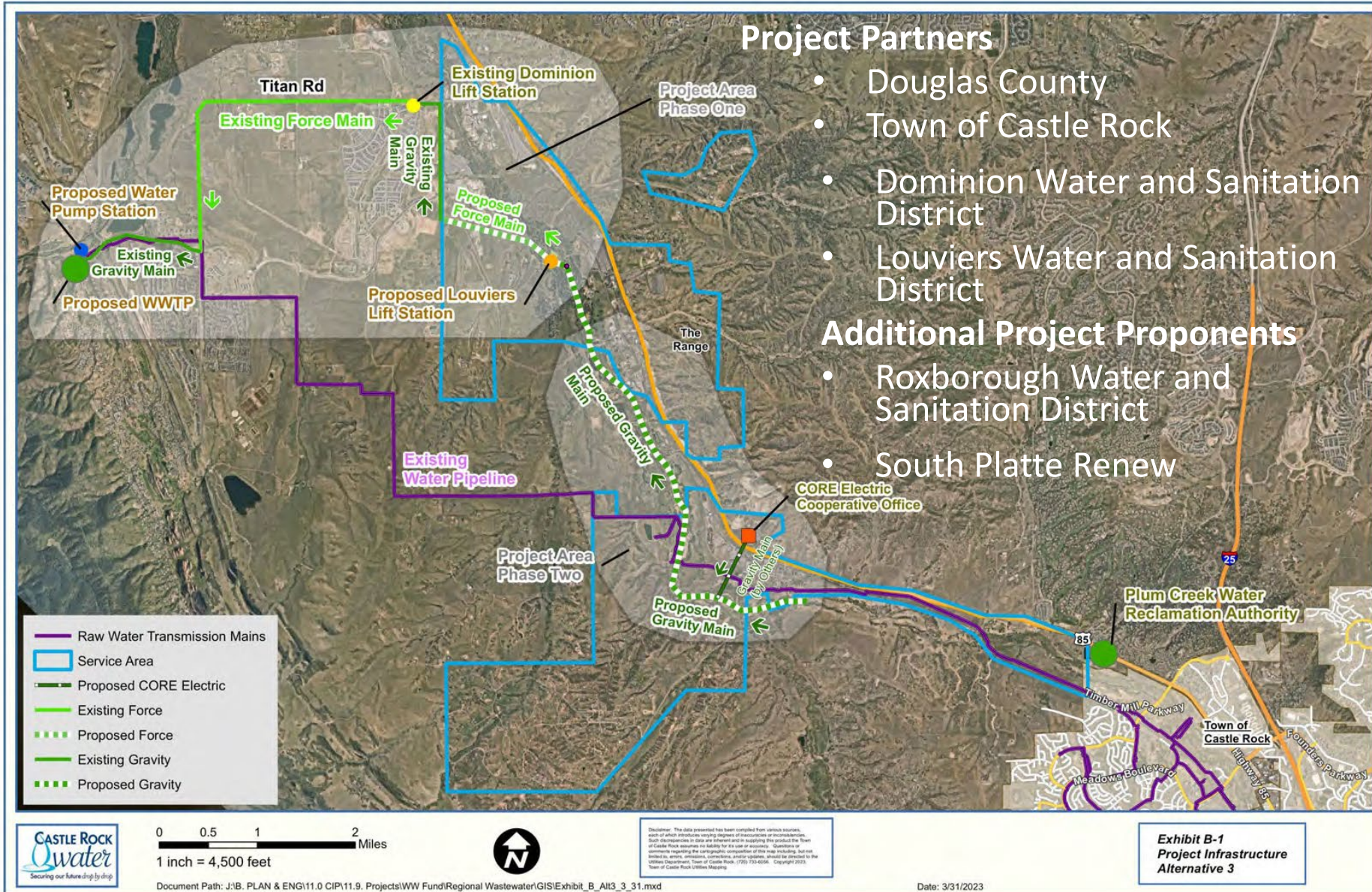
Table 8: Annual Change in Water Quality due to Wildfire

| Reach ID | Description | Total Phosphorus Load (% / lbs) | Total Nitrogen Load (% / lbs) | Total Sediment Load (% / tons) | Total Flow (% / AFD) |
|--|------------------------------|---------------------------------|-------------------------------|--------------------------------|----------------------|
| Percent Increase (%) | | | | | |
| Reach 131 | West Plum Creek (burned) | 99.3 | 103.1 | 238.5 | 36.9 |
| Reach 146 | East Plum Creek (burned) | 86.7 | 92.5 | 189.5 | 34.2 |
| Reach 156 | Cook Creek (burned) | 52.1 | 58.0 | 109.2 | 21.3 |
| Reach 92 | West Plum Creek | 8.2 | 12.2 | 21.6 | 4.5 |
| Reach 53 | West Plum Creek (confluence) | 4.4 | 6.7 | 11.3 | 2.5 |
| Reach 76 | East Plum Creek | 11.8 | 18.4 | 30.5 | 8.1 |
| Reach 46 | East Plum Creek (confluence) | 3.8 | 5.6 | 12.1 | 3.8 |
| Reach 45 | Plum Creek at Sedalia | 3.9 | 5.8 | 12.7 | 3.2 |
| Reach 28 | Plum Creek at Titan Rd | 3.8 | 5.5 | 11.5 | 3.0 |
| Absolute Increase (lbs or tons) | | | | | |
| Reach 131 | West Plum Creek (burned) | 85.8 | 3430 | 62.8 | 195.7 |
| Reach 146 | East Plum Creek (burned) | 167.5 | 6490 | 130.7 | 373.4 |
| Reach 156 | Cook Creek (burned) | 34.0 | 1330 | 31.0 | 76.4 |
| Reach 92 | West Plum Creek | 80.9 | 3310 | 66.4 | 195.9 |
| Reach 53 | West Plum Creek (confluence) | 78.3 | 3260 | 67.5 | 195.9 |
| Reach 76 | East Plum Creek | 195.0 | 7450 | 173.7 | 449.1 |
| Reach 46 | East Plum Creek (confluence) | 231.8 | 7370 | 218.4 | 449.0 |
| Reach 45 | Plum Creek at Sedalia | 304.0 | 10620 | 251.0 | 644.9 |
| Reach 28 | Plum Creek at Titan Rd | 297.0 | 10500 | 245.2 | 644.7 |





REGIONAL WASTEWATER SOLUTION



Project Partners

- Douglas County
- Town of Castle Rock
- Dominion Water and Sanitation District
- Louviers Water and Sanitation District

Additional Project Proponents

- Roxborough Water and Sanitation District
- South Platte Renew

**Exhibit B-1
Project Infrastructure
Alternative 3**