

The State of the Upper Cache la Poudre River from a Hydrologic and Water Quality Perspective

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Abstract. The Cache la Poudre River (CLP), a relatively unregulated river compared to the nearby Big Thompson, supplies drinking water to roughly two hundred thousand people on the Front Range. In order to assess the current water quality of the Poudre and changes over time, we performed a retrospective analysis on existing data from the upper CLP and North Fork water quality monitoring programs operated by the City of Fort Collins Utilities and the City of Greeley respectively. The analysis included data from sampling 10 sites along the upper Poudre River and its tributaries, in addition to nine sites along the North Fork and its tributaries. The key objectives were to determine temporal and spatial patterns in water quality, mass loads of specified variables, standards compliance, the health of the reservoirs, and watershed protection priorities. Fifteen primary water quality constituents were selected for a detailed statistical analysis. Within this report we summarized previous studies performed on the CLP's water quality, the governing hydrologic processes within the watershed, and the significant water quality differences that exist between the main stem CLP, North Fork and Little South. In terms of the constituents considered, this analysis confirms that the upper Poudre River remains a high-quality water source that should be protected by on-going monitoring and careful management.

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