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CIMARRON WATERSHED BASED PLAN: QUANTIFYING LOAD REDUCTIONS

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ABSTRACT: The Cimarron River originates in the Sangre de Cristo Mountains of north-central New Mexico and flows generally eastward to the Canadian River. In the 1032 square mile Cimarron Watershed, located within Colfax County, elevations range from around 12,000 feet in the headwaters to just under 6000 feet at the Cimarron/Canadian River confluence. Land ownership in the Cimarron Watershed is primarily private, with ranching as the predominant land use. The Carson National Forest and the New Mexico Game and Fish Department own and manage portions of the land within the western forested areas of the watershed. The Cimarron Watershed Alliance (CWA) has been an active watershed group since 2001. The group's mission is to strive for and maintain a healthy watershed for all residents through collaborative community activities involving all stakeholders with an interest in water.; The CWA has been active in several restoration projects. To be eligible for ongoing funding through the Clean Water Act Section 319 Nonpoint Source Program, the Cimarron Watershed Alliance is developing a Watershed Based Plan (WBP). The WBP addresses water quality concerns identified by the New Mexico Environment Department's Surface Water Quality Bureau, including arsenic, e.coli, plant nutrients, sediment/siltation, temperature, and turbidity. Total Maximum Daily Loads (TMDLs) have been prepared by NMED. The WBP presents restoration plans for meeting TMDLs on 14 separate stream reaches within the watershed. The WBP follows Environmental Protection Agency Guidance, which focuses on nine planning elements. In contrast to the earlier restoration plans, the WBP process focuses on quantitative estimation of loads and anticipated water quality improvements. Streamflow in the watershed is highly variable, with high spring runoff dissipating in the summer. Summer flows are furthered affected by off-stream diversions. Water quality parameters exhibit large temporal variability, due in part to the effect of variable streamflows. The preparation of load estimates for multiple stream reaches, in light of temporal variability and sparse data, is a challenging component of the WBP process, which ultimately aims to maximize water quality benefits of future restoration efforts.

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