ABSTRACT

TITLE:	A Comparative Study of Aquatic Invertebrates and Water Quality of the Animas River, the Los Pinos River and the La Plata River
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PRESENTED AT:	4th Annual Natural & Behavioral Sciences Undergraduate Research Symposium, Fort Lewis College

ABSTRACT: With climate change and multiple other factors affecting our planet as a whole, water is likely the most fragile and finite resource available to us and we must make it a priority for our generation. Of the many water bodies scattered across Colorado, the Animas, Los Pinos, and La Plata Rivers are three of the larger rivers in La Plata County. I analyzed water quality on each of these using traditional water quality tests as well as invertebrate sampling. Due to differences in land use practices, I predict that of the three rivers sampled, that the La Plata River will have the best water quality, with the Los Pinos having the second highest, and the Animas having the lowest water quality. Sampling methods consisted of measuring invertebrate populations on three sites per river, each spaced one half mile apart, as well as other water quality data consisting of pH, dissolved oxygen, and turbidity. A Pollution Tolerance Index (PTI) value was also calculated based on the invertebrate samples. All water quality tests followed manufacturer instruction and invertebrates were sampled using the Kick-net method. Sample sites were chosen by similar site characteristics, for example dominant substrate and dominant vegetation type. Results showed a variety of invertebrate densities and species richness values which created PTI values for each of the rivers being 59.333, 213.917, and 292.125 for the Animas, Los Pinos, and Animas Rivers respectively (larger values indicate higher water quality). Dissolved oxygen, turbidity, and pH values were within a normal range for the most part with averages following the same trend as the PTI values with the La Plata having the highest quality values, followed by the Los Pinos, and the Animas River showing the lowest averages. Overall, the La Plata River showed the highest water quality followed by the Los Pinos River, and the Animas River showed the lowest water quality. Water conservation and preservation should be our top priorities and continuous monitoring is required to maintain this gift.