

Keaton Fischer

*Understanding the Rio Grande Cutthroat Trout Resiliency in the Trinchera and Ute Creek Watersheds*

My project seeks to understand the availability of habit in the central Sangre de Cristo (SDC) mountains outside of Fort Garland, Colorado on the Trinchera Ranch. I am doing a comparative study of like elevation tributary stream reaches to develop a picture of macroinvertebrate availability, pH, Temperature, Total Suspended Solids (TSS), Total Dissolved Solids (TDS) and conductivity. This information will help me understand the habitat availability for Rio Grande Cutthroat Trout populations. I will also be incorporating the Signal 2 Scoring method to better understand the food availability in the SDC Watershed streams. Originally developed in Australia in 1993 for use in the Hawkesbury–Nepean River system near Sydney, it was used for assessing macro invertebrate stream health. (Chesman 1994). "SIGNAL stands for 'Stream Invertebrate Grade Number – Average Level.' It is a simple scoring system for macro-invertebrate ('water bug') samples from Australian rivers. The SIGNAL score gives an indication of water quality in the river from which the sample was collected. Rivers with high SIGNAL scores are likely to have low levels of salinity, turbidity and nutrients such as nitrogen and phosphorus. They are also likely to be high in dissolved oxygen. When considered together with macro-invertebrate richness (the number of types of macro-invertebrates), SIGNAL can provide indications of the types of pollution and other physical and chemical factors that are affecting the macro-invertebrate community." For the purpose of this project my goal was to see if the SIGNAL 2 Scoring method would be valid in Colorado mountain streams.