Colorado Science and Engineering Fair

2024 Individual Project Abstract Form

Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.

Title of Project: Republican Ripples: Investigating the Water Health of the North Fork Republican River

Finalist's Name: Ansley DePue

School and City: Wray Junior Senior High School

Sponsor's Name: Eric Oestman

Category: Earth & Enviornmental Sciences (EAEV) Division: Junior (6th - 8th grades)

Abstract (250 words or less):

The purpose of this project was to determine the water health impacts of the City of Wray on the North Fork Republican River by examining chemical parameters. The chemical parameters that will be evaluated are pH, Dissolved Oxygen, and ammonia. Water samples will be collected from five locations along the North Fork Republican River as it runs through the City of Wray. The researcher hypothesizes that the chemical parameters of the North Fork Republican River will be minimally impacted as the river flows through the City of Wray. The pH, Dissolved Oxygen, and Ammonia of the water samples will be tested using a Hach Water Ecology Test Kit and API Freshwater Master Test Kit. The researcher hypothesizes that the chemical parameters of the North Fork Republican River will be minimally impacted as the river flows through the City of Wray. The researcher concludes that the hypothesis should be partially accepted and partially rejected. While the water chemical parameters between some locations have minimal change, there were test sites that parameters were impacted. If this project were be done again, additional chemical parameters and biological parameters could be studied, therefore adding to improved date analysis of the water health. Also, additional locations further downstream of the WWTF should be tested and additional trials included. This research can be applied to future studies to determine the WWTF process for wastewater treatment to explore if there is any correlation to the chemical parameters of the water.

I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.

Finalist's Signature: Ansley DePue Date: 3/1/24

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES o all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. A signed copy of this form must be included in your notebook.