



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: Comparing Pygmy Nuthatch Population Size Between Thinned and Unthinned Forests

Finalist's Name: Aspen Fisher

School and City: Evergreen High School, Evergreen

Sponsor's Name: Mrs. Stephanie Seevers

Category: Earth & Environmental Sciences (EAEV)

Division: Senior (9th - 12th grades)

Abstract (250 words or less):

Jefferson County Open Space (JCOS), a district of parks and wildlife in Jefferson County, periodically engages in forestry projects. Their goal, specifically in more recent years, has been to assign a "prescription" to dramatically decrease the amount of risk for wildfire and to promote healthy environments for plants and animals. They mimic healthy Ponderosa forests through thinning. I asked the question: How does the thinning of forests affect the abundance and frequency of the Pygmy Nuthatch? Pygmies are plentiful in Colorado and can be used to gauge the healthiness of Ponderosa forests because they spend their time nesting, foraging, and chattering in these trees. My project directly received abundance and frequency data for thinned versus unthinned forest types; however, it indirectly determined the health of Ponderosa forests, and also showed the success of the 2023 spring/summer hatching season. Hypothetically, there should be more Pygmies in thinned forests because such forests are healthier. I used a number of "points" using spatial data provided by JCOS. Within two parks, Aldefer/Three Sisters and Elk Meadow are 33 points located within both thinned and unthinned forests. I visited each point twice to count the number of Pygmies in the 50 meter surrounding point area. What the results could show is that thinning projects are successful and prove to promote healthy ecosystems.

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: *Aspen Fisher*

Date: *2/3/24*

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 of 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.