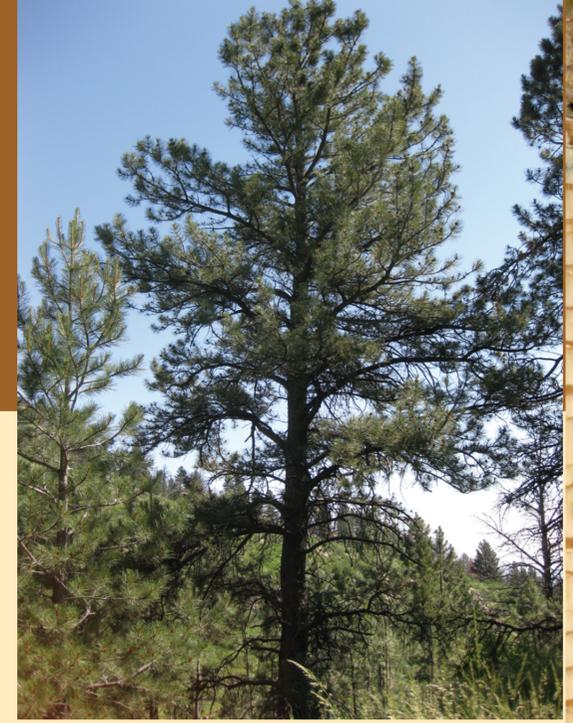


# Student Science in the Park

## SciTrek Science Camp

In 2014, Lory State Park began a collaboration with Colorado State University's SciTrek Summer Program for high school students and the Rocky Mountain Research Station of the U.S. Forest Service to study a stand of Ponderosa Pine trees within the park.



This ongoing project has several goals and objectives:

- To engage high school students in real science research.
- To determine the ages of trees and map their distribution.
- To better understand the timing and impact of homesteading within the park.
- To assess the impact of insect and wildfire damage.
- To see how sensitive these tree are to drought.

*"I liked being able to see how my tree core could help in a study."*

### Dendrochronology

Dendrochronology is the science of dating tree rings. Growth rings may also record environmental factors including: drought, fire, insect damage, and human impact on ecosystems. Dendrochronology is a good way to engage students in researching the ecology and history of the park.



### Field Work

Student participants develop the skills necessary to locate and tag trees using GPS, obtain a core sample, measure tree circumference and height, determine ground slope and assess tree health.

*"Prepping and analyzing my tree core was awesome because I wouldn't have normally studied it, but it was super, super interesting."*



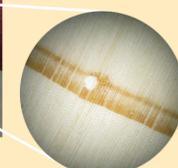
### Sample Preparation

In the lab, students learn how to mount and prepare the cores for analysis. This involves careful sanding using progressively finer sand paper, ending with a micron scale abrasive that leaves a shiny polish.

*"Coring my tree and analyzing the core was a once in a lifetime experience!"*

### Tree Core Analysis

Field microscopes are used to study wood structure. Students learn to distinguish early vs. late wood, identify false rings, missing rings, fire scars, insect damage, and construct a skeleton plot of their core. They learn how to interpret their data and relate tree growth to climate, disturbances, and land use history.



### Data Presentation

Each year, students get the opportunity to add to the previously collected data and share what they have learned with rangers from the park.

### Acknowledgements

We are very fortunate to receive financial support for field and lab equipment from Ms. Linda Hamilton, former Interpretation Ranger from Lory State Park, who is passionate about sharing these types of experiences with students.