

ADAPTIVE SILVICULTURE FOR CLIMATE CHANGE

~ Larimer County ~

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PROJECT INTRODUCTION

The Adaptive Silviculture for Climate Change (ASCC) Network is the largest experimental silviculture program focused on climate adaptation in North America. The Network was formed in 2009 by climate change thought leaders, including the Northern Institute for Applied Climate Science (NIACS), for the purpose of connecting experimental forests across the United States and Canada to test climate adaptive silvicultural techniques.

Currently, the ASCC Network includes 14 sites, spanning 11 states and two provinces. The Network also houses three sites in Colorado; these are the Colorado State Forest, San Juan National Forest, and Taylor Park sites.

The purpose of this internship was to directly support the ASCC Network by creating science communication materials and synthesizing data for use across the sites, and especially in Colorado.



INTERNSHIP GOALS

At the beginning of this internship, I outlined the following goals:

1. Curate a collection of resources for use by the Network
2. Update the ASCC website to improve accessibility and accuracy
3. Create a story map that describes Forest Assisted Migration (FAM) at the Colorado ASCC sites
4. Design and teach a lesson on climate adaptive forest management in Colorado for school-aged children
5. Take pictures and videos on behalf of the ASCC Network
6. Participate in a science communication related professional development opportunity

MY IMPACT

While working for the ASCC Network I participated in numerous meetings, attended trainings, performed fieldwork, and developed and updated useful science communication products.

Actions I took include:

- Engaging with researchers in Network-wide meetings
- Attending Project Learning Tree (PLT) trainings and a CSU Extension ArcGIS training
- Touring the Colorado State Forest (CSF) ASCC site
- Establishing plots and plating trees with the Colorado Forest Restoration Institute (CFRI) near the CSF ASCC site
- Teaching about adaptive silviculture at CSU Extension Eco Week

Products I created include:

- New pages and an updated format for the Network website
- A multi-part lesson plan and activities related to climate adaptive forest management, including assisted migration (*Figure 1*)
- A story map describing the Colorado ASCC sites and their use of FAM
- An "A Day in the Life Video" about my work at ASCC
- An annotated bibliography of sources related to assisted migration and adaptation planting
- Updated Forest Inventory and Analysis data worksheets

Figure 1. Eco Week Lesson Printouts

| Species Name | Benefits (Wildlife) | Shade | Birdlight | Shelter | Element of Component on | Affected by Pests or Disease | Produces a Wood Product | Produces a Non-Wood Product | Profitable | Adapted to Fire | Adapted to Drought | Adapted to Extreme Temperatures |
|---------------------|---------------------|-------|-----------|---------|-------------------------|------------------------------|-------------------------|-----------------------------|------------|-----------------|--------------------|---------------------------------|
| Shady Spruce Tree | X | X | X | X | X | X | X | X | X | X | X | X |
| Thick Bark Tree | X | X | X | X | X | X | X | X | X | X | X | X |
| Long Lived Tree | X | X | X | X | X | X | X | X | X | X | X | X |
| Cloud Spruce Tree | X | X | X | X | X | X | X | X | X | X | X | X |
| Fire Resistant Tree | X | X | X | X | X | X | X | X | X | X | X | X |
| Tasty Seed Tree | X | X | X | X | X | X | X | X | X | X | X | X |
| Healthy Hollow Tree | X | X | X | X | X | X | X | X | X | X | X | X |
| Small Seed Tree | X | X | X | X | X | X | X | X | X | X | X | X |
| Bitter Fruit Tree | X | X | X | X | X | X | X | X | X | X | X | X |
| Cloud Spruce Tree | X | X | X | X | X | X | X | X | X | X | X | X |

LESSONS LEARNED



This internship enabled me to connect with researchers and professionals working at ASCC Network sites across the continent. Interacting with these talented individuals taught me the value of collaborative research and of engaging with diverse perspectives. Moreover, hearing their stories inspired me to explore new fields of interest in the natural resource sector.

This experience also demonstrated to me the value of sharing natural resource science through avenues that are accessible and applicable to on-the-ground executors. I learned that research findings are made useful through the careful work of communicators dedicated to building pathways between scientists and managers.

Finally, this internship taught me the importance of maintaining healthy forests, especially for the purpose of preserving ecosystem services. These systems provided functions critical to the survival of millions of organisms, and it is crucial that we act to sustain them in this changing climate.

FINISHED PRODUCTS

Scan the QR codes below to view to some of my project outputs!

ASCC Website



CSF Photography



FAM Story Map



A day in the life Video

