

ADAPTIVE SILVICULTURE FOR CLIMATE CHANGE (ASCC) FORT COLLINS, COLORADO

Kirsten Martin
ASCC Summer Intern
Colorado State
University

Lead Mentor: Courtney Peterson
ASCC Network Coordinator
Research Associate III, Colorado
State University

PROJECT INTRODUCTION

Climate change has greatly impacted our forest ecosystems. Understanding how to integrate climate change adaptation into silvicultural planning is a valuable tool forest management can implement to enable forests to respond to changing conditions.

The Adaptive Silviculture for Climate Change (ASCC) project is an experimental study that tests a series of silvicultural trials across a variety of different ecosystems throughout the U.S. and Canada. Natural resource specialists, regional managers, and scientists have created 13 project sites to test three adaptation options (resistance, resilience, and transition (RRT)), along with a “no action” treatment.

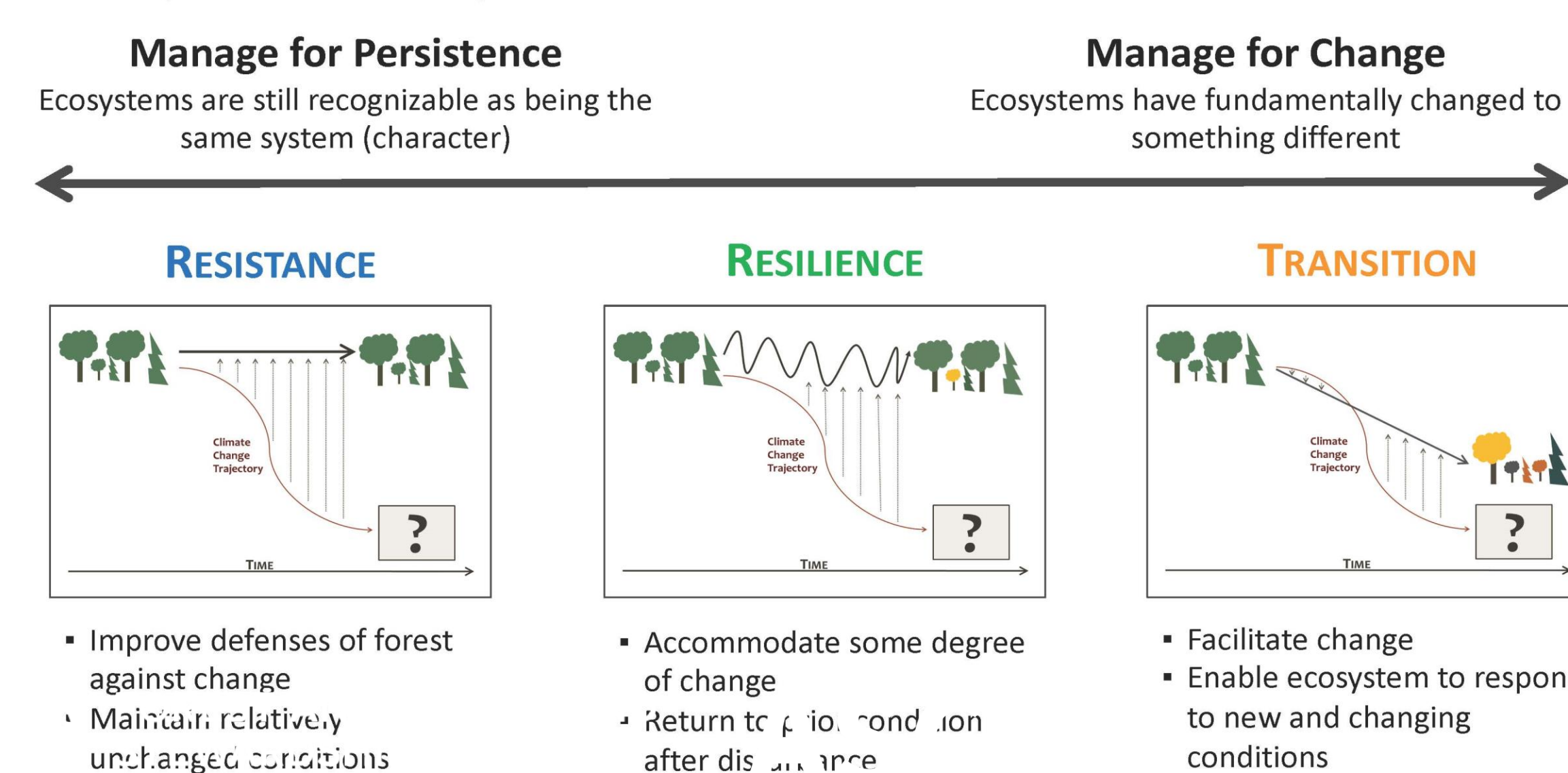
A three-day workshop was held at each site to co-develop the study design for each ASCC project site. During a workshop teams develop a set of Desired Future Condition statements, Objectives, and tactics for the three climate adaptation options (RRT). These are then implemented, monitored, and researched to test long-term ecosystem responses to climate change.

HOW DOES THIS APPLY TO YOUR EDUCATION

As a Human Dimensions of Natural Resources major, I am interested in building the bridge between scientists and managers. This internship did just that. Through the content I created I made the Network more easily accessible to the public and developed community outreach and engagement tools while doing so. I was able to Network with multiple organizations in the field I wish to pursue and while doing so gained knowledge that will benefit my studies in my final semester of my undergraduate degree. This internship has provided me with valuable information that will ultimately help me work toward my future career goals.

ADAPTATION OPTIONS (RRT)

Adaptation Options



INTERNSHIP GOALS

- Redesign the ASCC website and ASCC external communication
- Produce engaging communication and education tools for the ASCC project sites
- Work collaboratively with multiple organizations to meet the common goals of the ASCC Network
- Produce effective materials and communication to provide a bridge between scientists/practitioners/land managers and diverse audiences
- Develop a deeper understanding of climate adaptive silviculture and how climate change will impact different forest ecosystem types throughout the U.S. and Canada

WHAT YOU DID

While working for the ASCC Network I created a vast amount of content for the project sites and gained first-hand experience working collaboratively with partners.

- Facilitated an ASCC workshop for the newest ASCC project site at Taylor Park in the Gunnison National Forest & created a flyer summarizing the workshop outcomes for the Adaptive Management Group at Western Colorado University
- Worked with site leads and key partners throughout the U.S. and Canada to assess and summarize applied research for each project site
- Designed project site pages for the ASCC website and ASCC external communication
- Created the August 2022 ASCC Network Newsletter
- Developed site level flyers to be used as outreach and engagement materials



ASCC site field visit during the Taylor Park workshop.



ASCC Network
Newsletter,
August 2022

Petawawa
Research Forest,
Demo Page



WHAT YOU LEARNED

- Create and upload website content using silvicultural and ecological terminology
- Synthesize applied research from each ASCC site
- How to utilize the Adaptation Workbook based on site level tactics <https://adaptationworkbook.org/index.php/>
- Properly communicate with site leads and partners
- How to facilitate an ASCC workshop
- Work collaboratively with partners across multiple organizations to meet common goals of the ASCC Network
- Developed a deeper understanding of how climate change will impact different forest-types throughout the U.S. and Canada
- How to utilize the three climate adaptation options (resistance, resilience, and transition) and how they can be used by managers to prepare forest ecosystems for climate change
- Effectively communicate scientific data in a manner that provides a bridge between scientists and general audiences
- Developed more effective communicational skills while discussing content with site leads and partners

PROJECT SITE LOCATIONS



NEXT STEPS

I have created project site pages for the John Prince Research Forest, Driftless Area, Ohio Hills, and Taylor Park ASCC sites that will be published on the Adaptive Silviculture for Climate Change website; demonstration pages for the John Prince Research Forest, Driftless Area, Flathead National Forest/Coram Experimental Forest, Petawawa Research Forest, Southern New England Affiliate Site, Colorado State Forest, Ohio Hills, and Taylor Park that will be published on the Climate Change Response Framework. The content I have created will assist community outreach and engagement opportunities and benefit the ASCC Network and partners moving forward.

References: ASCC Website: <https://www.adaptivesilviculture.org/>; Climate Change Response Framework: <https://forestadaptation.org/>; Millar, C.L., N.L. Stephenson and S.L. Stephens. 2007. Climate change and forests of the future: Managing in the face of uncertainty. *Ecological Applications* 17(8):2145-2151; Nagel B.J. Palik, M.A. Battaglia, et al. 2017. Adaptive Silviculture for Climate Change: A National Experiment in Manager-Scientist Partnerships to Apply an Adaptation Framework. *Journal of Forestry* 115:167-178. <http://dx.doi.org/10.5849/jof.16-039>; Swanston, C.W., M.K. Janowiak, L.A. Brandt, et al. 2016. Forest adaptation resources: Climate change tools and approaches for land managers, 2nd edition. USDA Forest Service General Technical Report NRS-87-2, Northern Research Station, Newton Square, PA. 161p.