



In Partial Fulfillment of the Requirements for the Degree of

Master of Sustainability Solutions (MSUS)

Caitlin Paulus

Will present her Master's Culminating Experience Project

Exploring Opportunities for Woody Biomass Utilization in Coconino County, Arizona

Abstract

In northern Arizona, the removal of woody biomass from forested land has garnered a high level of interest as threats of catastrophic wildfires have increased in recent years. Although there has been a great deal of vocal support for forest restoration, efforts on the ground are often stalled by complex federal contracting systems, a weak logging and sawmill industry, low-quality timber, and inability to guarantee long-term biomass supplies to processors. These barriers are exceedingly apparent in the Flagstaff area, where the vast majority of forested land falls under the jurisdiction of the federal government and little infrastructure exists for wood product industries. In order to address these obstacles, forest stakeholders in Coconino County are actively searching for enterprises to utilize material that urgently needs to be removed from the surrounding forests. This project aimed to assist stakeholders in this endeavor by identifying and researching a number of practical and innovative woody biomass utilization enterprises that are suited to the existing regional infrastructure. While there are a variety of ways to process biomass, this project focuses on the following four end products because of their ability to use residual materials from harvest and sawmill operations, their low-tech nature, and the end product's proximity to potential markets: biochar, compost, wood-plastic composites, and mushroom cultivation. Each of these products, and the processes used to create them, were analyzed and evaluated using a sustainable enterprise framework, and the final results were summarized in a portfolio for stakeholders in the region to review. Although this project offered just a glimpse of what is possible, the ultimate aim was to foster collaborative conversations regarding how forest restoration residues can be used in sustainable and innovative ways.

Thursday, April 25, 2019
1:30 PM
Wrigley Hall, 481

Faculty, students, and the general public are invited.