



**IMPACT OF “LANDSCAPE LAB” GREEN INFRASTRUCTURE ON RED BUTTE
CREEK HYDROLOGIC PATTERNS**

**Isabel Fuller (Faculty mentor: Dr. Sarah Hinners)
Department of City and Metropolitan Planning**

Abstract

Urbanization introduces hard surfaces, such as roads, parking lots, and buildings, that do not allow precipitation to infiltrate the ground where it falls. These hard surfaces, known as impervious surfaces, alter the character of watersheds and can have negative impacts on urban waterways. In this paper, I analyze the impact that the Landscape Lab, a recently constructed green infrastructure project on the University of Utah campus, has had on stormwater runoff in the Red Butte Creek watershed. I utilized precipitation and flow data from the Wasatch Environmental Observatory (WEO) to generate stormwater hydrographs and calculate runoff efficiency for the catchment area the Landscape Lab was built in and an adjacent, similarly-urbanized catchment area with no major documented change in land cover. Visual comparison of hydrographs at the two locations both before and after the construction of the Landscape Lab, and statistical analyses on the runoff efficiency values, suggest that the Landscape Lab has played a role in decreasing the runoff efficiency and sequestering more stormwater in the Connor Road catchment area. This research suggests that the Landscape Lab is achieving some of its stated objectives and shows that green stormwater infrastructure can be effective in semi-arid climates.