



EFFICACY OF VOLUNTEER WEED PULL PROGRAMS ON MANAGEMENT OF MYRTLE SPURGE (*EUPHORBIA MYRSINITES*) IN THE FOOTHILLS OF SALT LAKE CITY, UTAH

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Myrtle Spurge (*Euphorbia myrsinites*) is an invasive, non-native plant species purchased by homeowners as an ornamental plant (Figure 1). Due to the plant's caustic sap, Salt Lake County has listed Myrtle Spurge as a noxious weed. Urban Habitat is a community volunteer group working in collaboration with Red Butte Garden (RBG), the Natural History Museum of Utah (NHMU), and the Salt Lake County Weed



Figure 2 Myrtle spurge with long thick root
Photo credit: Clotfelter

Control Program to manually remove myrtle spurge and other noxious weed populations in the Wasatch Foothills adjacent to RBG and the NHMU (Figure 2). In the spring of each year, Urban Habitat recruits volunteers to control invasive species. The effectiveness of this weed pulling program and the regeneration success of Myrtle Spurge is unclear due to the lack of monitoring.

This research evaluated the effectiveness of Urban Habitat's efforts by identifying the frequency of Myrtle Spurge in the controlled area using point intercept transect surveys and quadrat analysis (Figure 3). I conducted the first set of surveys in Spring 2017 and the second in Spring of 2018 in order to provide an assessment of Urban Habitat's weed removal efforts over multiple years of activity. Comparing the frequency of Myrtle Spurge

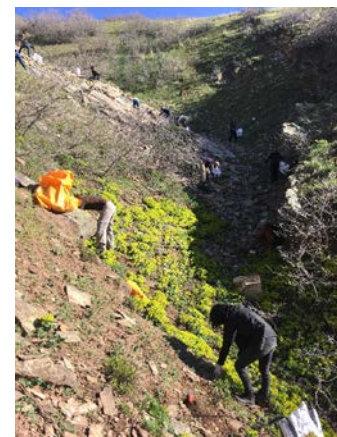


Figure 1 Urban Habitat volunteers pulling Myrtle Spurge.

populations from both years reveals the abundance of Myrtle Spurge before and after 1, 2, and 3 years of weed pulls.

In plot 1, Myrtle Spurge had been pulled twice before, and had 0% presence immediately



Figure 3 Image of quadrat placed along transect line.

after its second pull in 2017. A year later, this site saw a 2% increase in Myrtle Spurge. When we conducted our

survey for plot 2 in 2017, Myrtle Spurge had never been pulled before, and had 20% presence throughout the plot.

A year after being pulled, it saw a 10% decrease in Myrtle

Spurge presence. Although the first and second site

appeared to have low Myrtle Spurge re-growth or overall decline, the quadrat analysis offers a different picture. At both sites, there was nearly an equal number of quadrats from 2017 and

2018 that contained Myrtle Spurge. However, after consistent weed pulls, plot 1 maintained

lower Myrtle Spurge presence in the transect surveys and in quadrat analysis than plot 2, where

only one weed pull had occurred. The data seems to indicate that Myrtle Spurge can be contained

through hand pulling efforts, but must be pulled over multiple years to maintain low frequency

and abundance of Myrtle Spurge populations.