Management of Bermuda Buttercup (Oxalis pes-caprae) in the Peninsula Watershed of the San Francisco Public Utilities Commission

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RESULTS AND DISCUSSION

As an invasive plant, the most effective management of Oxalis pes-caprae is achieved through the use of integrated pest management. This approach involves the use of various methods including cultural control, non-chemical biological control, chemical control, and mechanical control. Each method can be effective on its own, but when used in combination, they can be more effective and sustainable over the long term. In the Peninsula Watershed of the San Francisco Municipal Water System, Bermuda buttercup has been introduced and is spreading aggressively in various habitats including roadsides, streambanks, and forested areas. This invasive species imposes significant ecological and economic costs on the ecosystem and the management efforts require a multi-faceted approach.

The present study is a preliminary test of several herbicides and herbicide combinations for the control of Oxalis pes-caprae. These herbicides include imazapyr, glyphosate + triclopyr, and imazapyr + triclopyr. The study was conducted to evaluate the effectiveness of these treatments in controlling Bermuda buttercup in the Peninsula Watershed.

In addition, application of imazapic alone provides at least moderate control of Bermuda buttercup. Oxalis pes-caprae is an exotic species able to cover 100% of test areas. The use of these herbicides or herbicide combinations was tested for the control of Bermuda buttercup in various locations in the Peninsula Watershed.

The study was conducted in the Peninsula Watershed of the San Francisco Public Utilities Commission, using a randomized complete block design with four replicates. The study sites were located in areas with high densities of Bermuda buttercup. Herbicides were applied to control plots, and untreated plots served as controls. The effectiveness of the treatments was measured by comparing the percentage of control and untreated plots.

The results indicate that imazapyr alone and imazapyr + triclopyr are effective in controlling Bermuda buttercup. Glyphosate + triclopyr also proved to be effective, but the combination of imazapyr + triclopyr was the most effective. The study also demonstrated that herbicide combinations can be more effective than single herbicides, and that residual herbicides can be more effective than post-emergence applications.

Further studies are needed to determine the most effective and sustainable management strategies for Bermuda buttercup in the Peninsula Watershed. The results of this study provide useful information for the development of effective and sustainable control strategies for this invasive species in the Peninsula Watershed.

REFERENCES


