



Mapping, Monitoring, & Mowing Medusahead Grass

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Abstract

Acterra conducted extensive mapping and monitoring to assess the Medusahead, *Taeniatherum caput-medusae*, population's current distribution at Pearson-Arastradero Preserve and create a strategic eradication plan.



Photo: Medusahead site monitored for resprouts – site marked and mowed ~ 2 weeks before

Staff and interns monitored 600 acres using hand-held GPS units and delineated a "no-spread line" on Google Earth, describing the highest priority populations for removal. Staff conducted frequency monitoring to compare the efficacy of mowing and flaming over three years and removed 344 populations.

The careful mapping and monitoring exemplified in this project has enabled staff to begin an effective control plan that can be used as an example for land managers in their efforts to remove invasive species.

Methods

Monitoring: Staff monitored 600 acres using hand-held GPS units. After first inflorescence, staff monitored south and north facing slopes biweekly to determine time for optimal removal (soft dough stage). To test control method efficacy, staff performed Quadrat frequency monitoring on 20 test plots. Following Medusahead removal, staff monitored and removed resprouts.

Control Methods: 344 sites were controlled using scythes, weed whips and hand pulling. Due to unfavorable weather conditions, flaming was feasible for only four sites. City Rangers using a commercial mower removed eight acres of contiguous Medusahead infestations. Herbicides are not feasible due to the City of Palo Alto's restriction policies.



Results

Below is an example of the quadrat frequency monitoring data obtained from mow, burn (flaming) and control test plots. 25cm quadrats gave better frequency percentages and will be used in the future. Each site is mapped below.

Control Method	Test Plot #	25cm (%)	50cm (%)	LAT	LNG
Mow	1	50	60	37°23'2.69"N	122°10'43.16"W
	2	40	80	37°23'2.54"N	122°10'44.79"W
	3	50	80	37°23'3.35"N	122°10'44.16"W
	4	90	100	37°23'2.04"N	122°10'44.58"W
	5	80	90	37°23'3.66"N	122°10'43.44"W
	6	20	40	37°23'2.93"N	122°10'43.63"W

Mapped and Removed Medusahead Populations

Legend:

- Red pin: Medusahead populations
- "no-spread line"
- seed source boundary
- Polygons: commercial mow sites
- Blue flags: frequency monitoring sites

This map shows 344 Medusahead disparate populations that were mapped and removed using scythes, weed whips and some hand pulling. The no-spread line in southwest area delineates highest priority populations for removal.

Discussion

The success of this ongoing project is largely due to thorough mapping and monitoring. Next steps include seed drilling native grass seeds into commercially mowed sites and broadcast seeding onto smaller areas.

Lessons Learned:

Flaming inflorescences is too cumbersome and ineffective. Only weed whipping, commercial mowing and scything will be used as control methods. Resprouting occurred due to late rainfall and proximity to water and/or drainages. Continue monitoring and removing after first mow and while controlling infestations; it's easy to miss populations.

Commercial mowing didn't mow low enough and resprouting was significantly higher compared to scythed and weed whipped sites. Sites too large for weed whips must be prepared to mow at least twice; resprouts grow significantly shorter. Start mowing later in the soft dough stage when the spathes no longer subtend the inflorescences.

References

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