Non-Native Plant Activity

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Non-Natives & Invasives

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What are Non-Natives?

Introduced from outside the area - recent

- Not part of natural local ecology

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Non-Natives of Interest

Annuals

- Sahara Mustard
- Globe Chamomile

Credit: Center for Invasive Species Research

Small Trees

- Tamarisk

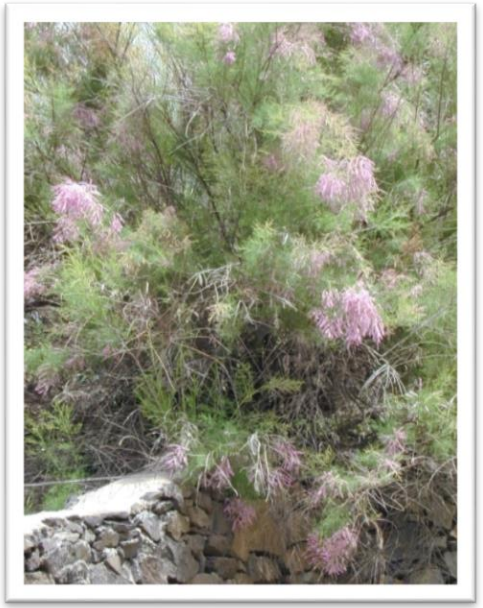

Photo credit: USDA APHIS

Bunchgrasses

Credit: Michael Pfeiffer

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Focus on Bunchgrasses

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Invasive Bunchgrasses

Buffelgrass
(*Pennisetum ciliare*)

- Native to Africa, southern Asia, southern Iran, and the extreme south of Europe
- Introduced for forage

Fountain grass
(*Pennisetum setaceum*)

- Native to East Africa, tropical Africa, Middle East, and SW Asia
- Introduced through landscaping - escape from neighboring yards!

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What are We Doing?

Comprehensive Approach

- Determine where invasive bunchgrasses are
- Control populations
- Determine effectiveness of alternative treatments
- Educate the public
- Share our knowledge

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Mapping Populations

Objective – Understand distributions

Development of phone-based mapping app

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Mapping Populations

Collector used to map locations and removal efforts

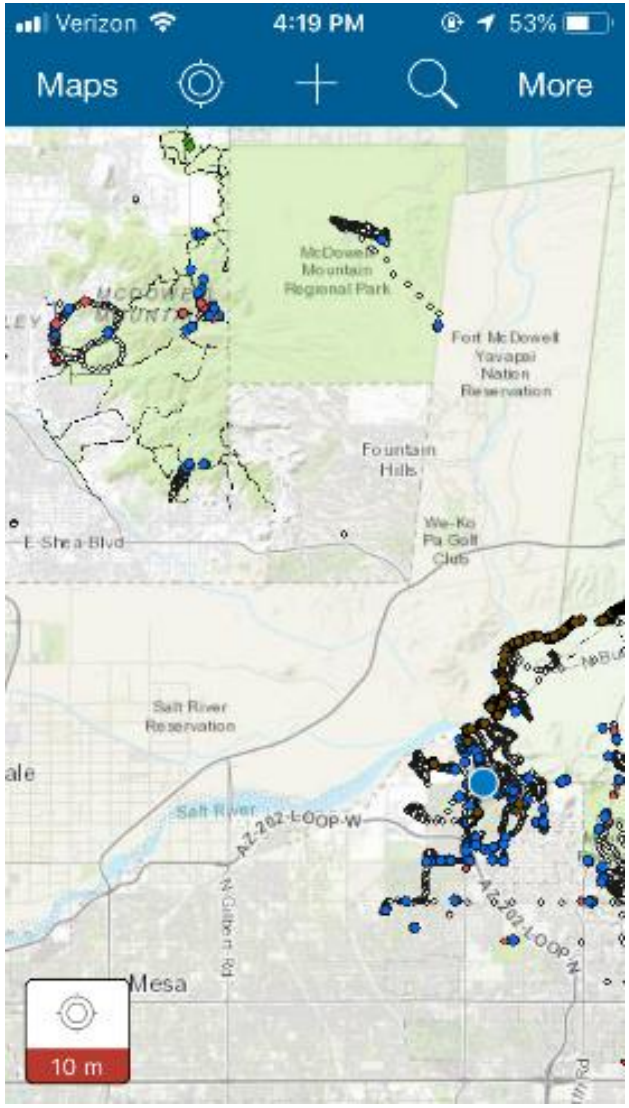
- Provides geo-located data
- Tracks user's pathway when app running
- Can collect point or polygon locations
- All data synched into same database

ESRI Collector

Mapping Populations

Challenges

- Remote off-trail locations
- Can be anywhere
- 30,000 acres



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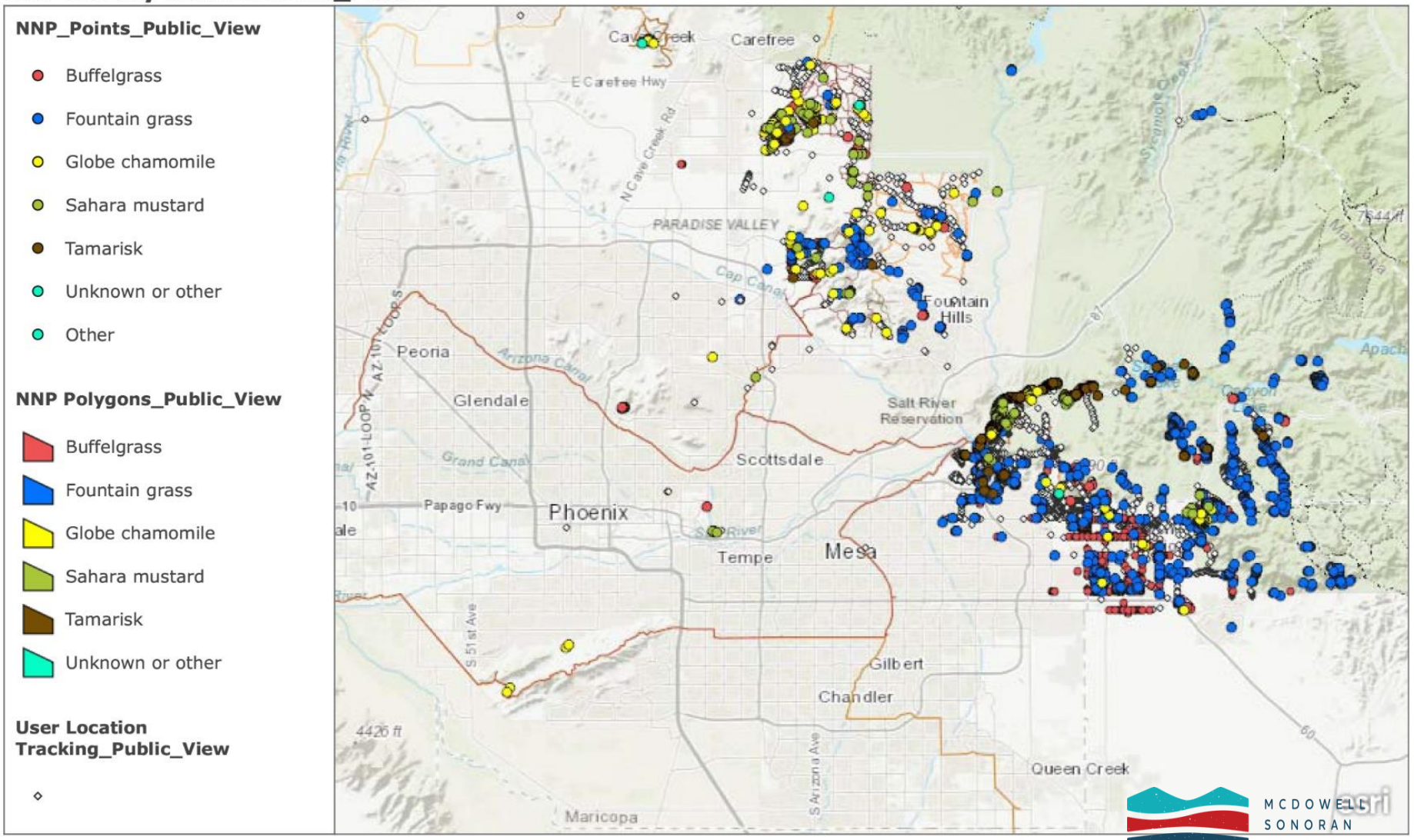
Mapping Populations

NNP Survey and Removal_Public



NNP points and polys, public view

Removals/Monitoring

Objective – Control populations

- Focus on physical removal
- 40 projects, 27.75 acres – *and growing*

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Studying Alternative Techniques

Objective – Determine what is effective

Supported by City of Scottsdale contract

Two study areas

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Studying Alternative Techniques

Alternative Treatments & Multiple Replications

Treatment	Buffelgrass	Fountain grass
Uninfested control	X	X
Infested control	X	X
Pull	X	X
Pull and herbicide	X	
Cut and herbicide	X	X
Herbicide 1x per yr	X	X
Herbicide 2x per yr	X	X
Herbicide 3x per yr	X	
	4 replicates	6 replicates

Studying Alternative Techniques

Multiple study parameters

- Time
- Supply cost
- Effectiveness
- Effect on native plant community

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Studying Alternative Techniques

Second year of study

- Comparative plant surveys
- Retreatment

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Studying Alternative Techniques

Preliminary findings

- Some success with fountain grass
- Limited success with buffel grass – multiple herbicide required

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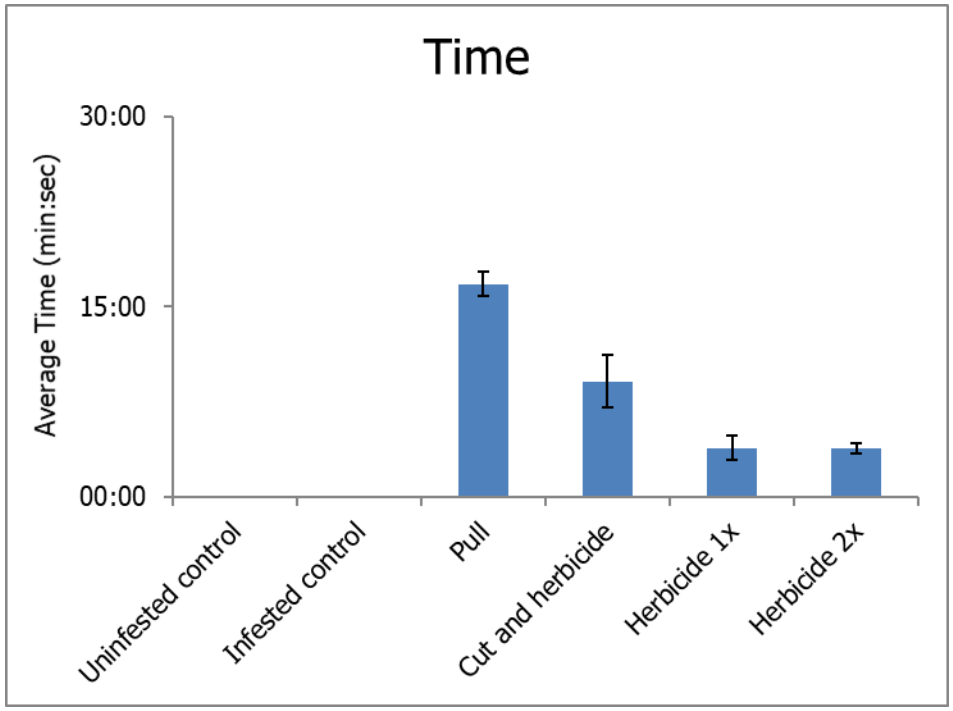
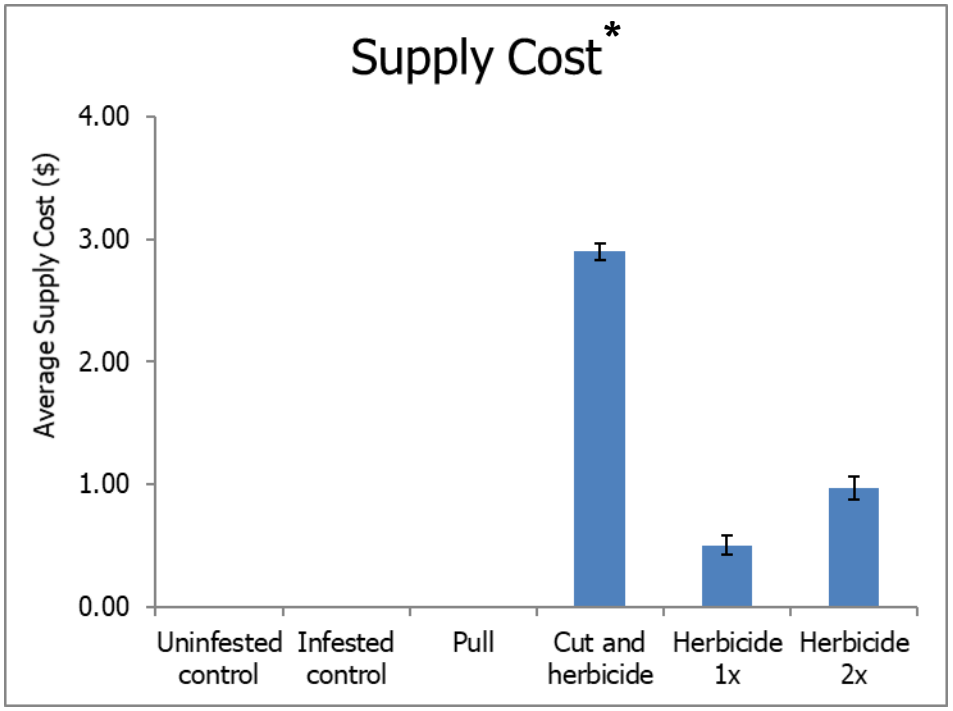
Studying Alternative Techniques

Fountain Grass





*Does not include labor costs

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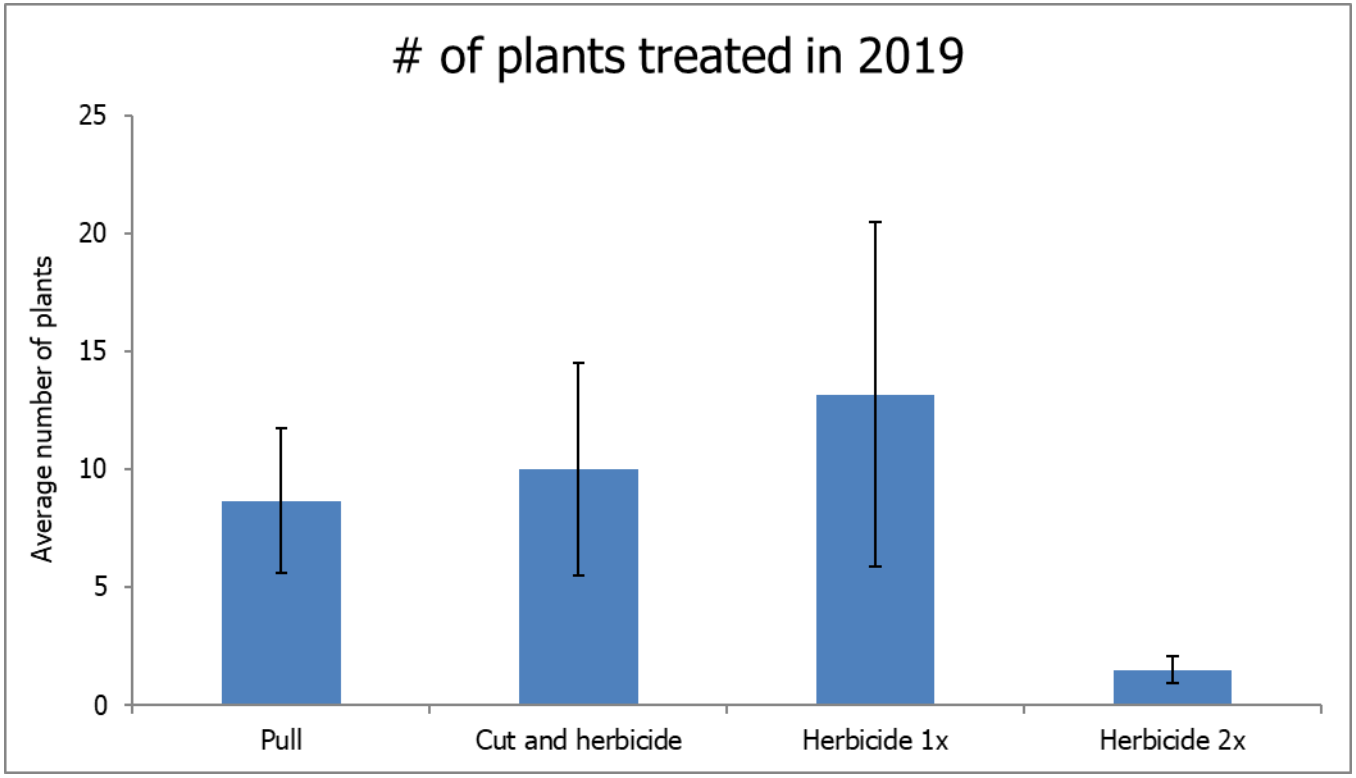
Studying Alternative Techniques

Fountain Grass Treatment Efficacy



*Did not count plants in control plots

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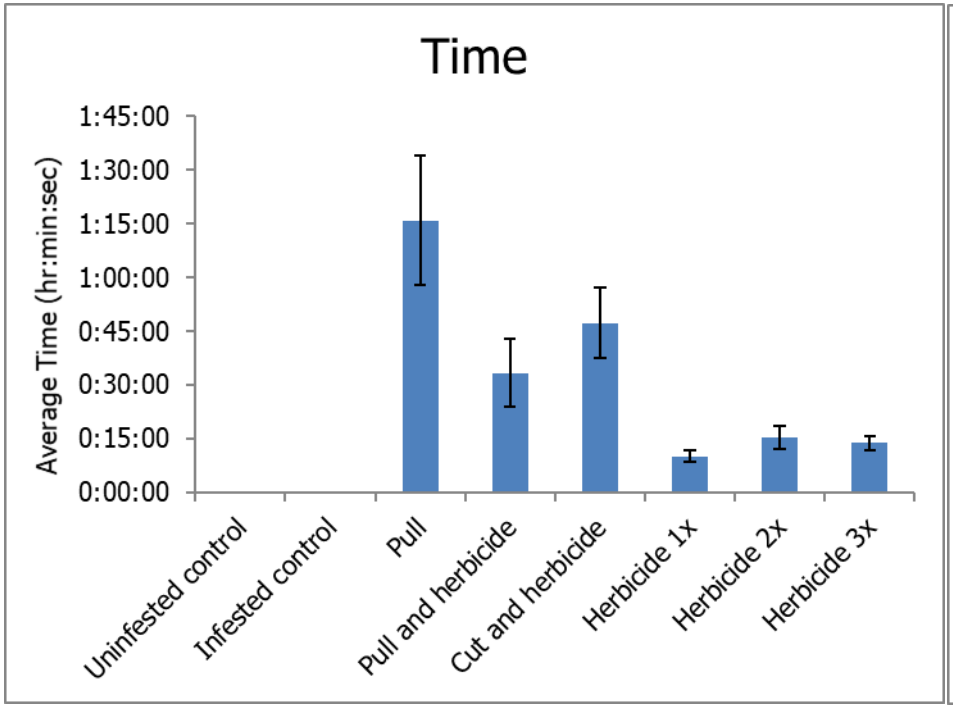
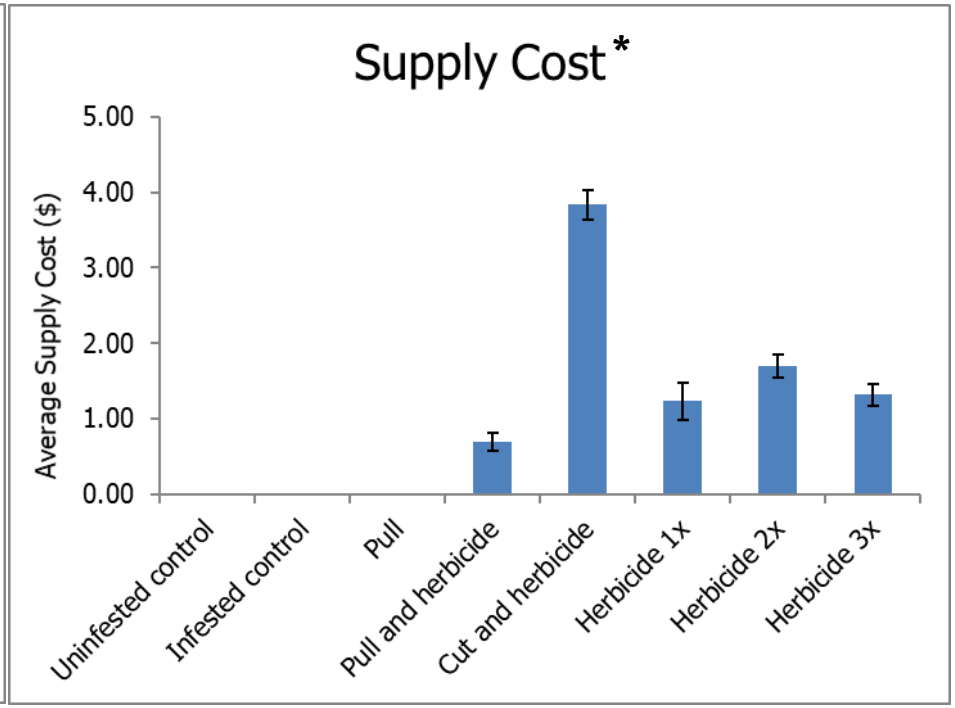
Studying Alternative Techniques

Buffelgrass





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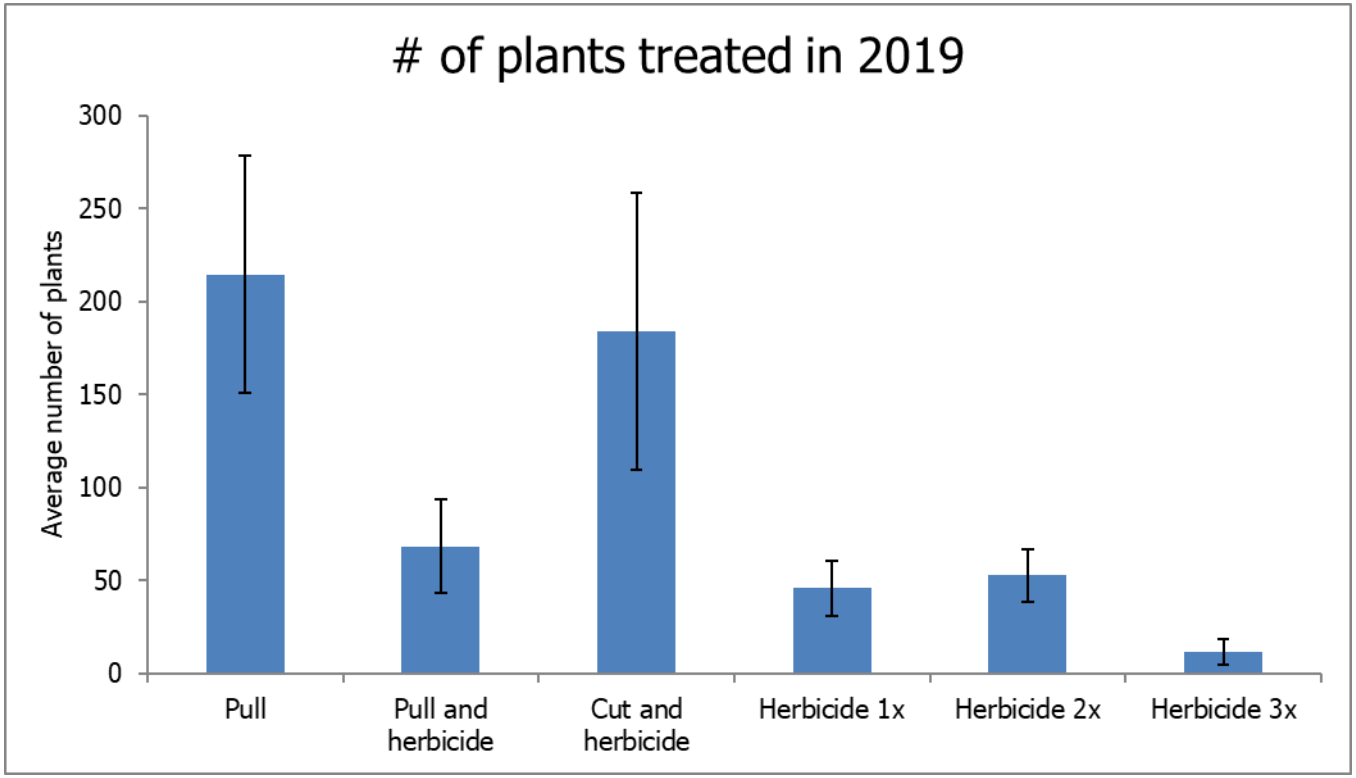
Studying Alternative Techniques

Buffelgrass Treatment Efficacy



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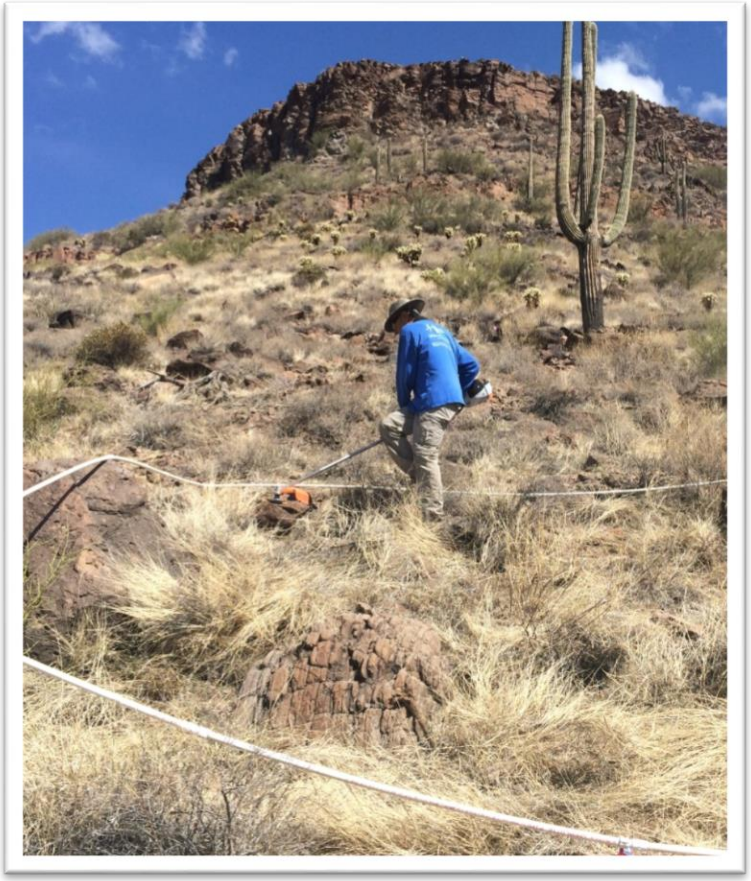
Studying Alternative Techniques

Unanticipated issues

- Amount of water required for herbicide application
- Blade breakage with weed whacker cutting in rocky areas
- How many plants are missed during treatment efforts



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Educate the Public

Objective – Increase support, slow the spread

Plant swap

- Fountain grass in urban interface

- Native grass grown at Scottsdale Community College

Purple three-awn
(*Aristida purpurea*)

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Educate the Public

Did You Know?

Plants in your front yard could be contributing to this!

This plant is wreaking havoc on our sensitive desert!

Fountain grass is not native to the Sonoran Desert. It was introduced as an ornamental but has escaped neighborhoods to spread across the natural landscape.

Fountain grass displaces native plants and wildlife and is also a primary cause of catastrophic wildfires. Because of this, it is prohibited in landscaping by many local HOAs and could result in a fine for homeowners.

You can help!

By replacing fountain grass in your yard with a species native to the Sonoran Desert, you can reduce its spread and the potential for catastrophic wildfires.

You can replace your plants for free!

Trade in your fountain grass plants for native plants! Remove fountain grass from your yard or neighborhood (with permission), take a picture of each plant (showing you dug up the roots!), and dispose of the plant. Then bring that picture to the following location and receive a free native plant in return!

When and Where:

Saturday, March 9, 11 am - 2 pm, Appaloosa Library (7377 E Silverstone Dr, Scottsdale, AZ 85255)

Saturday, March 16, 11 am - 2 pm, Arabian library (10215 E McDowell Mountain Ranch Rd, Scottsdale, AZ 85255)

Sunday March 31, 1-4 pm, Mustang Library (10101 N 90th St, Scottsdale, AZ 85258)

March 11-29 (Mon-Fri only), 9 am - 5 pm, McDowell Sonoran Conservancy office (7729 E Greenway Rd, Ste 100, Scottsdale, AZ 85260)

For more information, contact McDowell Sonoran Conservancy at 480-998-7971.

Replacement plant:

Purple three awn (Aristida purpurea var. purpurea): A showy native grass. Tall perennial with attractive red-purple inflorescences.

Fountain grass swap

Beyond the Preserve – target audience

- Homeowner associations
- Preserve users

Preliminary Results

- Beneficial education impact
- About 100 plants exchanged

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Sharing our Knowledge

Expanding the reach of our programs beyond the Preserve

Exercising regional leadership

- Mapping training
- Sharing findings from studies

McDowell Mountain Regional Park

FRIENDS OF THE TONTO NATIONAL FOREST

CAZCA
CENTRAL ARIZONA CONSERVATION ALLIANCE

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Next Steps

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Next Steps

- Continue treatment studies
- Expand mapping
- Continue removals – use of herbicide?
- Expand knowledge sharing

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What We Hope to Accomplish

Improved knowledge

Better management

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Acknowledgements

stewards

McDowell Mountain Regional Park

City of Phoenix

Esri

Thank You!

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