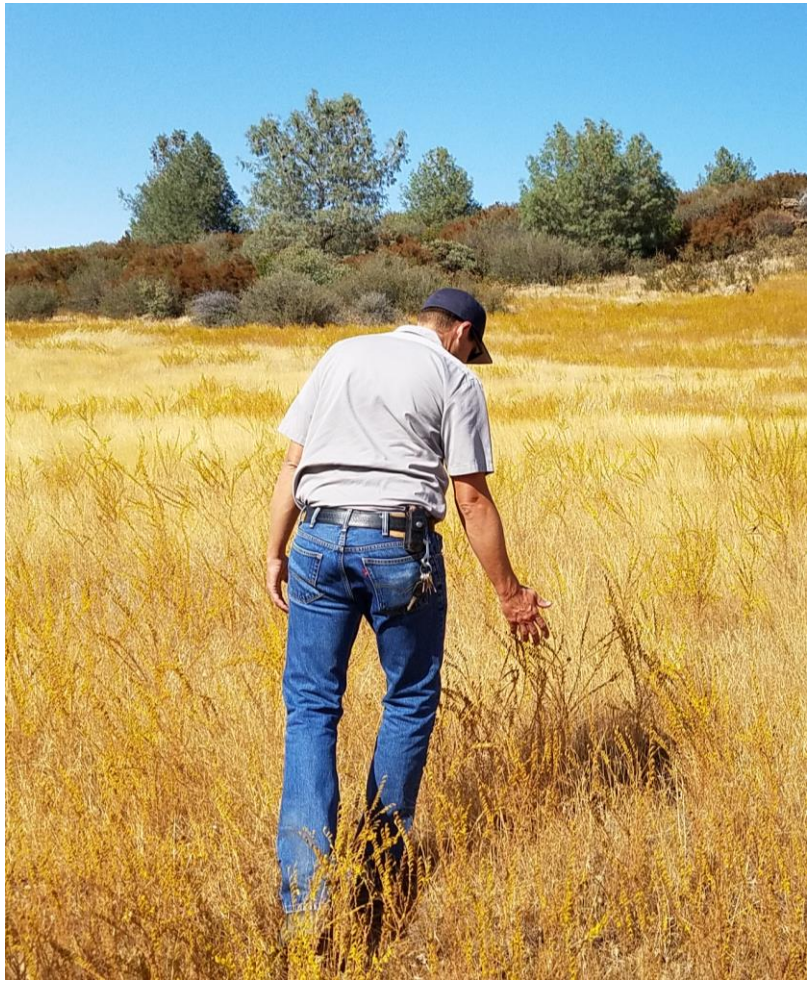
Annual Integrated Pest Management Update

Sustainability Committee

June 25, 2024

Agenda

- Integrated Pest Management Overview
  - Guidelines, goals, key elements
- 2023 Highlights
  - Glyphosate alternatives study
  - Data collection tools
- 2024 Activities
  - Reduce glyphosate use
  - Tools refinement



Nuisance vegetation is the primary pest managed by the District's IPM Program.

IPM Overview

- IPM Guidelines
  - Initiated in 1990s; last updated in 2020
  - Guidelines are the decision basis for choice of control method
- District IPM Goal

  “Committed to using the most environmentally safe practices for pest control to ensure the health and safety of the public and District employees, and to protect potable water quality, natural resources and public and private property”
- Key Elements
  - Training, communication, records, resources

Algae blooms that impact water quality are treated in accordance with District IPM guidelines and in compliance with NPDES permit requirements.

IPM Decision Process

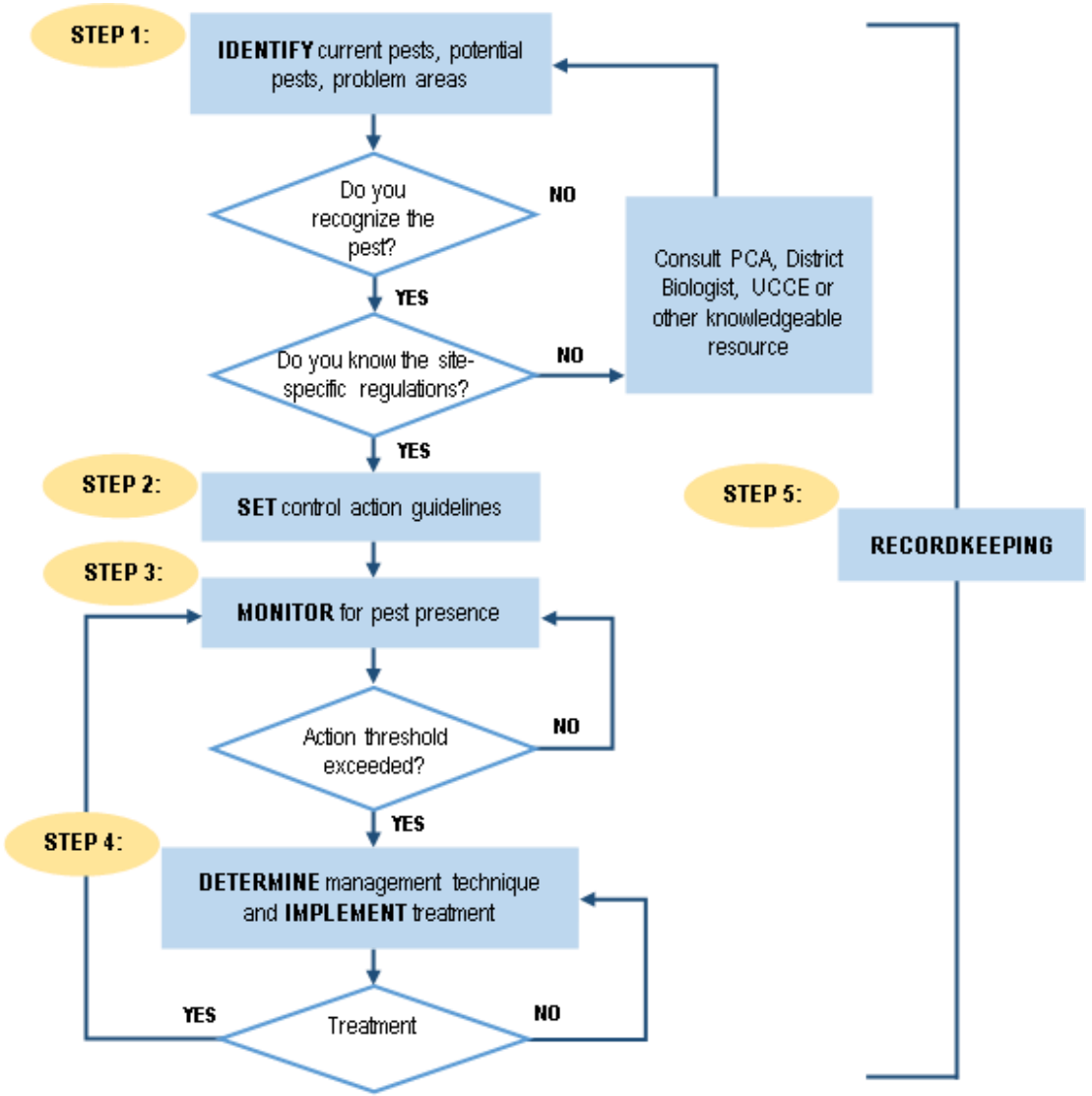
Step 1: Identify potential pests within a defined management area

Step 2: Establish action thresholds for individual pest species

Step 3: Establish monitoring guidelines

Step 4: Develop a list of acceptable management strategies for individual sites, types of sites, and pests

Step 5: Utilize the established IPM record keeping system



Pest Management Strategies

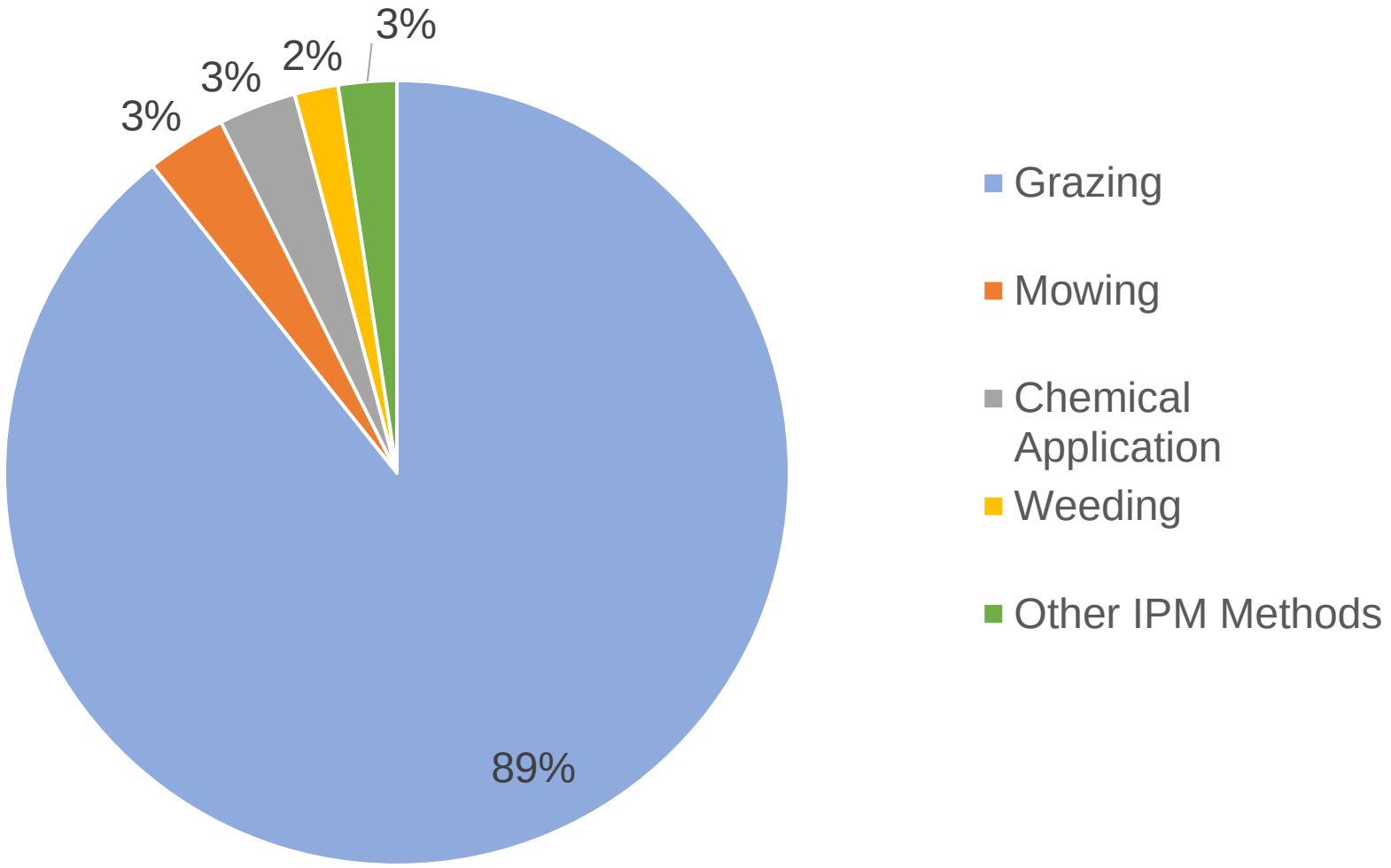
- Physical/Mechanical
  - Hand labor, tilling, mowing, mulching, prescribed burns
- Biological
  - Animal grazing, predators, parasites
- Cultural
  - Selection of pest resistant species, changed irrigation practice
- Chemical
  - Lowest risk effective materials

Alternative IPM methods include use of equipment and grazing animals to address nuisance vegetation.

IPM Communications

- District website
  - IPM Overview
  - Annual Reports
  - Product List
- Signage for chemical applications
- IPM pamphlets for field staff
- IPM email inbox

2023 IPM Methods (as percentage of acreage)



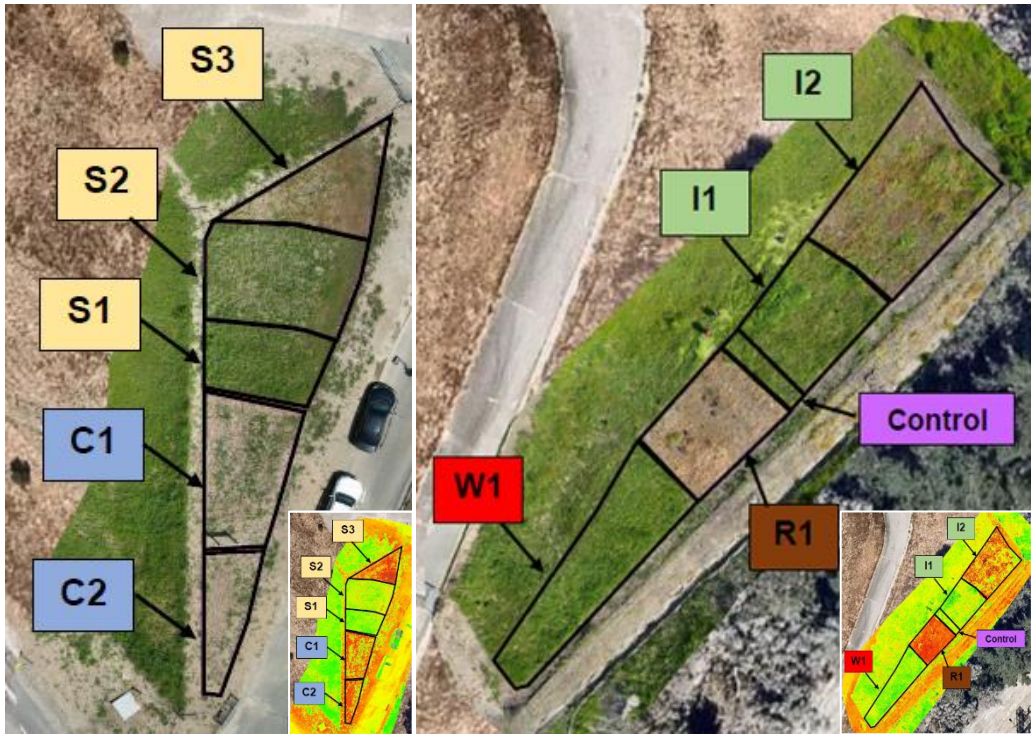
2023 Glyphosate Alternatives Pilot

- Sites
  - Briones Disinfection Facility
  - Chabot Center
- Demonstration plots method
- Alternatives evaluated
  - Ranger Pro (glyphosate)
  - Cheetah Pro (flufosinate)
  - Imox (imazamox)
  - Suppress EC (caprylic acid; capric acid)
  - Weed eating

Demonstration plot at Briones from the 2023 Glyphosate Alternatives pilot study.

Glyphosate Alternatives Pilot – Briones Area

40 Days After First Application

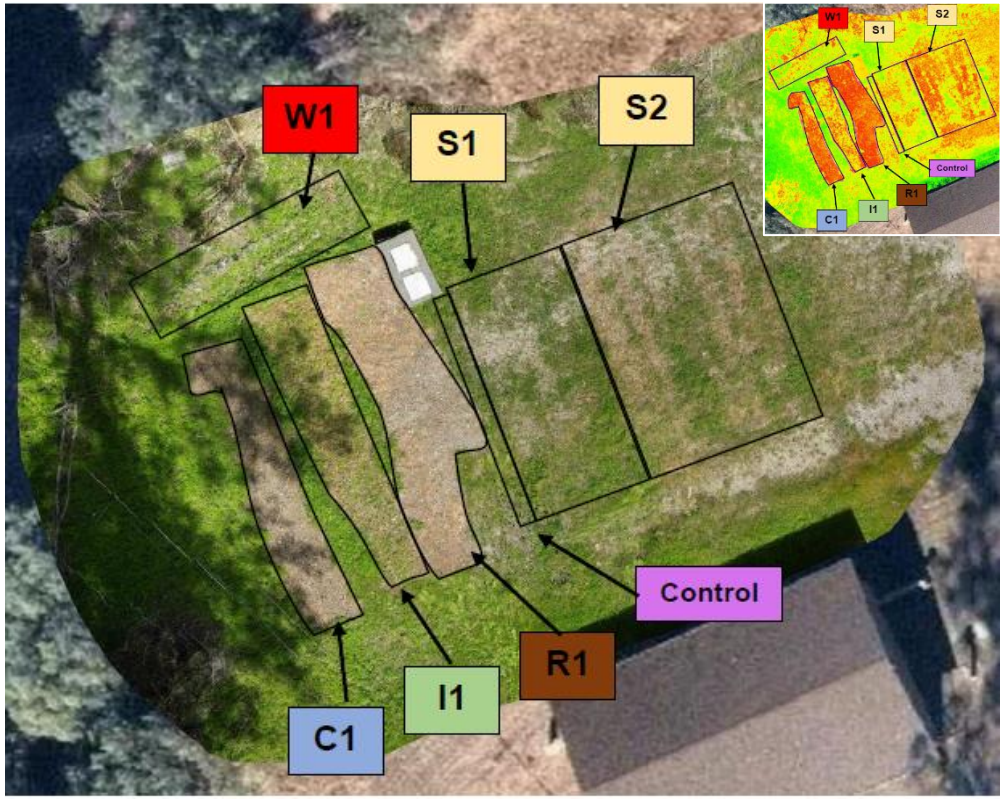


Key: (C) Cheetah Pro; (S) Suppress EC; (I) Imox; (R) Ranger Pro; (W) Weed Eating; Control (no treatment). Numbers indicate sites with multiple treatments.

- Applications made during peak growth season
- Post treatment monitored ~weekly
- 40-day drone aerial survey
- Cheetah Pro performed closest to Ranger Pro

Glyphosate Alternatives Pilot – Chabot Center Area

40 Days After First Application



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Glyphosate Alternatives Pilot

Cost Per Acre Per Season

Tank Mix (Concentration %)	Cost/Ac/ Treatment	# Treatments	Total Cost/Ac
Cheetah Pro (1%) + Liberate (1%)	$5,743	1 to 2	$5,743 to $11,486
Imox (1.5%) + Liberate (1%)	$18,970	1 to 2	$18,970 to $37,939
Ranger Pro (1%) + Liberate (1%)	$2,531	1	$2,531
Ranger Pro (2%) + Liberate (1%)	$3,782	1	$3,782
Suppress EC (6%) + BioLink (1%)	$26,963	3	$80,889
Suppress EC (9%) + BioLink (1%)	$39,587	3	$118,761

Table values include the cost of labor to conduct the application(s) and the cost of different products.

Glyphosate Alternatives Pilot

Key takeaways

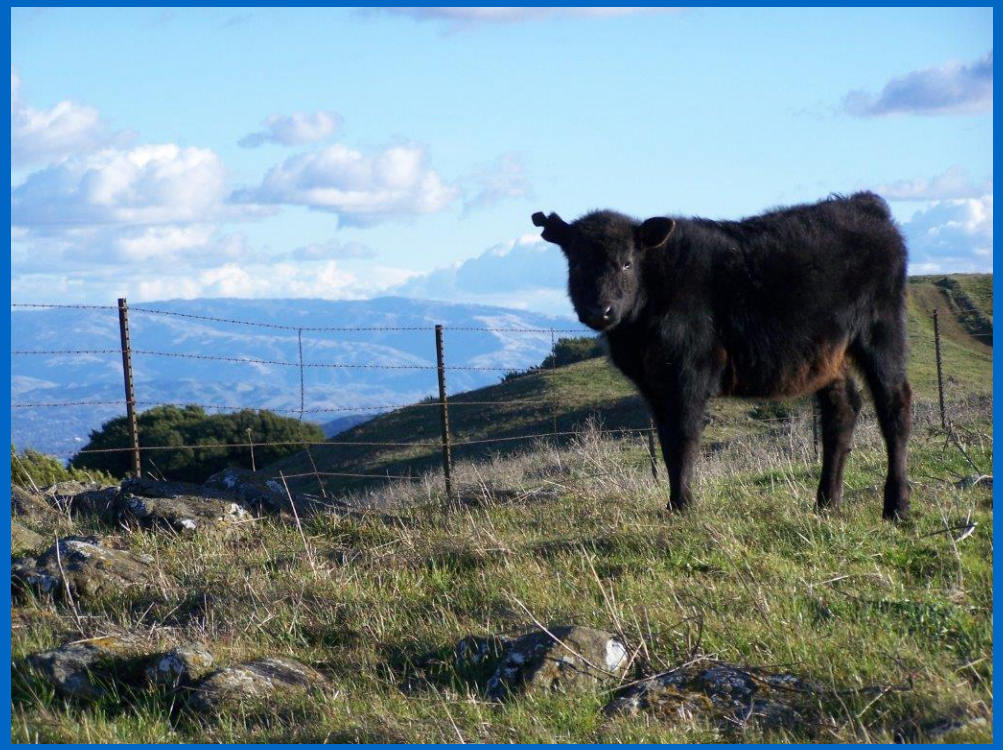
- No single non-glyphosate product can replace glyphosate at all sites
- Alternatives are promising
- Combination of alternatives will be needed if the District moves away from glyphosate
- Cost of alternative products varies greatly
- As site conditions change, selected product may change

2024 Activities

- Reduce glyphosate use at 60 publicly accessible facility sites in the East Bay
- Glyphosate is not used in East Bay watersheds
- Continue to pilot alternatives on rights-of-way and in the upcountry watershed and evaluate the effectiveness
- Complete cost analysis
- Present results to Sustainability Committee in October 2024

Piedmont Reservoir

Questions ?



Grazing is an effective IPM method on open space watershed land.

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