



Use of Glyphosate in County Operations

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Public Works Agency

Board of Supervisors Meeting
October 22, 2019

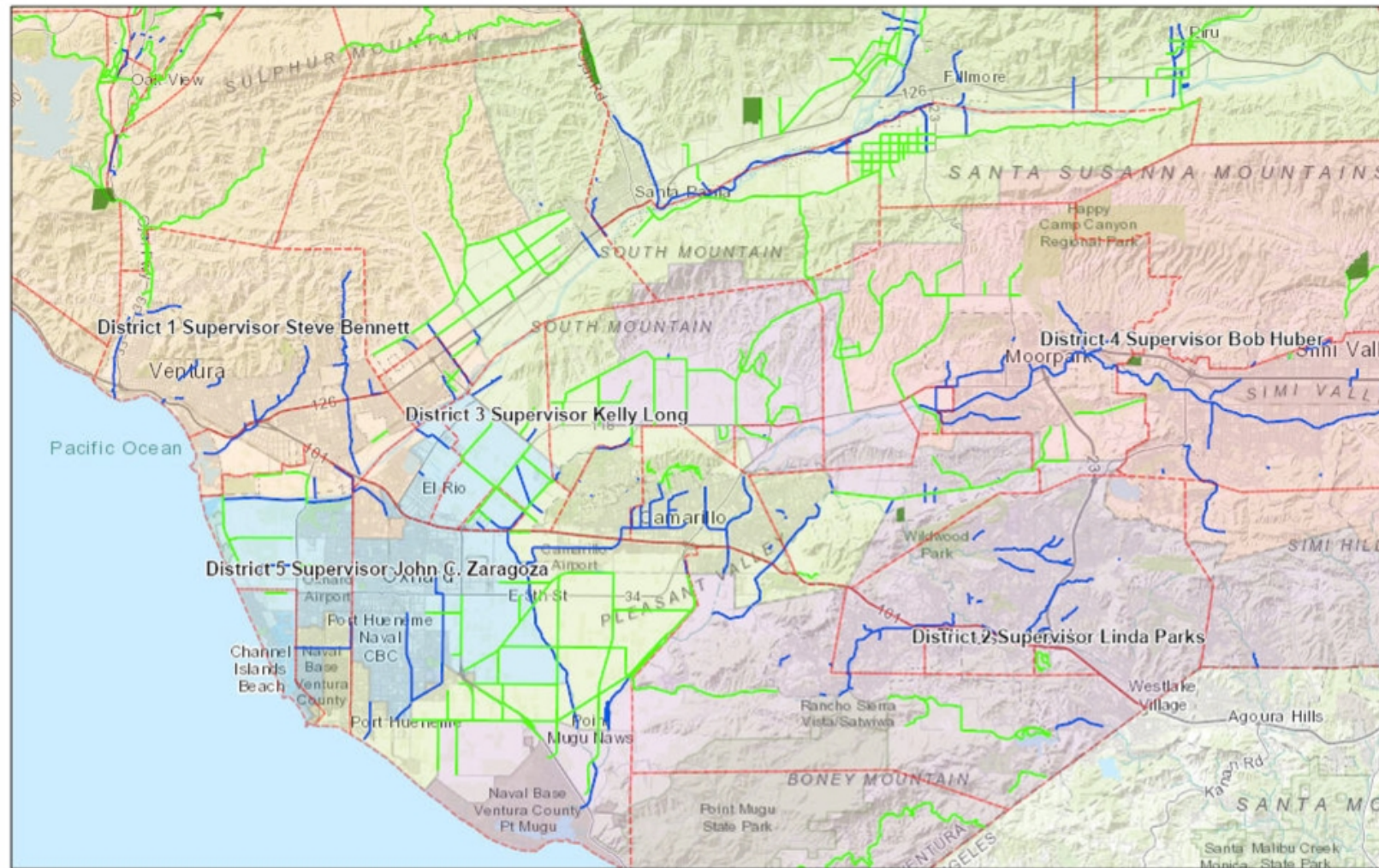
Glyphosate Task Force



Report Back to your board:

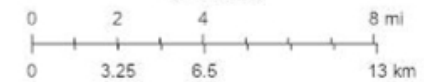
1. Determine the extent of use of glyphosate by County agencies
2. Identify protocols that lead to the use of glyphosate
3. Explore alternatives to using glyphosate and identify recommended strategies using alternatives
4. Identify the best practices of others
5. Report back to the Board

Ventura County Glyphosate Use By Supervisorial District



<http://vcwpd.maps.arcgis.com/apps/webappviewer/index.html?id=a93e7b7d921843af960fe4e47776f9b2>

1:288,895



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS.

1. Determine the extent of use of glyphosate by County agencies

AGENCY USE AND COST METRICS					
Agency	Acres	Gallons	Total \$ by Agency	\$/Acre	Gallons/Acre
PWA	3,460	1,403	\$ 692,000	\$ 200	0.41
Airports	208	292	\$ 65,000	\$ 313	1.40
GSA Parks	230	48	\$ 38,000	\$ 165	0.21
Fire	20	2	\$ 500	\$ 28	0.10
GSA Parks Leaseholds	280	15	\$ 0	\$ 0	0.05
GSA Grounds	134	0	\$ 0	\$ 0	0.00
Harbor	36	0	\$ 0	\$ 0	0.00
Total	4,368	1,760	\$ 795,500	\$ 182	0.40

- ◆ GSA Grounds Division has not used glyphosate since 2015.
- ◆ GSA Parks Leaseholds costs are not direct County costs.
- ◆ The Harbor Department ceased using glyphosate in spring 2017 as a result of feedback from some of the harbor-area residents.

2. Protocols that lead to the use of glyphosate

Regulatory Agency Determinations

Environmental Protection Agency (EPA)

Approved for use by EPA 1974

EPA classifies as “low” toxicity

EPA continues to find that there are no risks to public health when glyphosate is used in accordance with its current label... (4/30/19)

California Department of Fish and Wildlife (CDFW)

CDFW has approved for use

CDFW has awarded \$M's for habitat restoration involving glyphosate use (cost effective)

2. Protocols that lead to the use of glyphosate

Operations and Maintenance Best Management Practice

- Low toxicity
- Low cost
- Broadband effectiveness
- Regulatory agency approval

Safety Considerations

- Flood control structures
- Transportation corridors
- Runways and taxiways
- Hazardous plant control (poison/puncture) in public spaces
- Weed (fire) abatement

Habitat Restoration/Non-Native Species Removal

- Federal/State agency use
- Grant competition

2. Protocols that lead to the use of glyphosate

Complaints/Aesthetics/“Good Neighbor” Practices

- Buildings, trails, parks, wastewater treatment plants, roads, channels

Regulatory Requirements

- FEMA/USACE Levee maintenance
- Invasive plant eradication
- Mitigation site maintenance (5 or more years)
- DSOD Requirements

Infrastructure Inspection and Protection

- Ease of inspection (windshield)
- Safety of Staff (v. visual)

Agreements

- Leased property

3. Explore alternatives to using glyphosate and identify recommended strategies using alternatives

1. No Treatment – leave untouched
2. Mechanical – plowing, mowing, burning, steaming
3. Chemical – Alternative herbicides including “natural”
4. Electrical
5. Biological – Sheep, goats, mulching
6. Manual – hand mowers, weed whackers, captive labor

3. Explore alternatives to using glyphosate and identify recommended strategies using alternatives

1. No Treatment – no cost
2. Mechanical – 10 – 20 times glyphosate cost
3. Chemical – 5 times glyphosate cost
4. Electrical - 100+ times glyphosate cost
5. Biological – 5 times glyphosate cost
6. Manual – 30 – 40 times glyphosate cost

Estimate sources – Actuals, staff cost estimates, University of Mass. Study (exhibit 5)

3. Explore alternatives to the use of glyphosate and identify recommended strategies that do not involve its use

A comparative cost analysis of the alternative methods of treatment is shown below:
(Glyphosate application cost per acre treated = \$100 to \$300)

Estimated Cost of using glyphosate (\$)			Estimated cost of not using glyphosate (\$)			
Agency	*Area(Acres)	Total \$ by Agency	Biological/ Chemical	Plow/Cut/Mow	Manual	Electrical
PWA	3,460	\$ 692,000	\$ 3.5M	\$ 10.4M	\$27.7M	\$ 69.2M
Airports ***	208	\$ 65,000	\$ 91,000	-	-	\$ -
Harbor	36	\$ -	\$ -	\$ -	\$ 60,000	\$ -
GSA Parks ****	230	\$ 38,000	\$ 46,000	-	\$180,000	\$ -
GSA Parks Leaseholds #	280	\$ -	\$ -	\$ -	\$ -	\$ -
GSA Grounds	134	\$ -	\$ -	\$ -	\$ 53,000	\$ -
Fire	20	\$ 500	\$ -	\$ -	\$ 4,000	\$ -
Total	4,368	\$ 795,500	\$ 3.6M	\$10.4M	\$28.0M	\$ 69.2M

3. Explore alternatives to using glyphosate and identify recommended strategies using alternatives

Example – Chemical/Biological:

1. Chemical

- 2 or more Chemicals to replace Glyphosate (staff estimates 5x Glyposate)
- Increased Frequency of Spraying
- U Mass Study – page 147
 - Chemical 20x – 50x Glyphosate (per mile roadway)

2. Biological

- City of Thousand Oaks (Goats) – low bid = \$700/acre (Actual)
- Next Lowest Bid (Goats) - \$1000+/acre
- U Mass Study – page 147
 - Mulch/Bark - >100x Glyphosate (per mile Roadway)

3. Explore alternatives to using glyphosate and identify recommended strategies using alternatives

Example – Cutting – Plowing - Mowing:

1. Aerial Spray
 - \$70/Acre
2. Mowing/Cutting
 - Multiple Visits + Cutting Removal >10x
 - Revolon Slough – Disc + Cut + Chip (Actuals) - \$1500 - \$2000/Acre
3. Plowing
 - Calleguas Creek (Actuals) - \$300 + Acre (Not allowed in other WS)
 - Limited to one time

3. Explore alternatives to using glyphosate and identify recommended strategies using alternatives

Example – Manual Work in Malibu Canyon Area (32 miles):

1. Spray Truck

- 2-person crew @ 10 miles/day = 3 days or 6-person days

2. Manual

- 10-person crew (2 flaggers) @ 3 miles/day = 10 days or 100-person days
- Debris pick-up and hauling (NPDES)
- Lost Opportunity Costs – (additional staff?)
- Multiple Visits Required to Maintain
- Higher Risk to Staff
- Higher Risk to Public

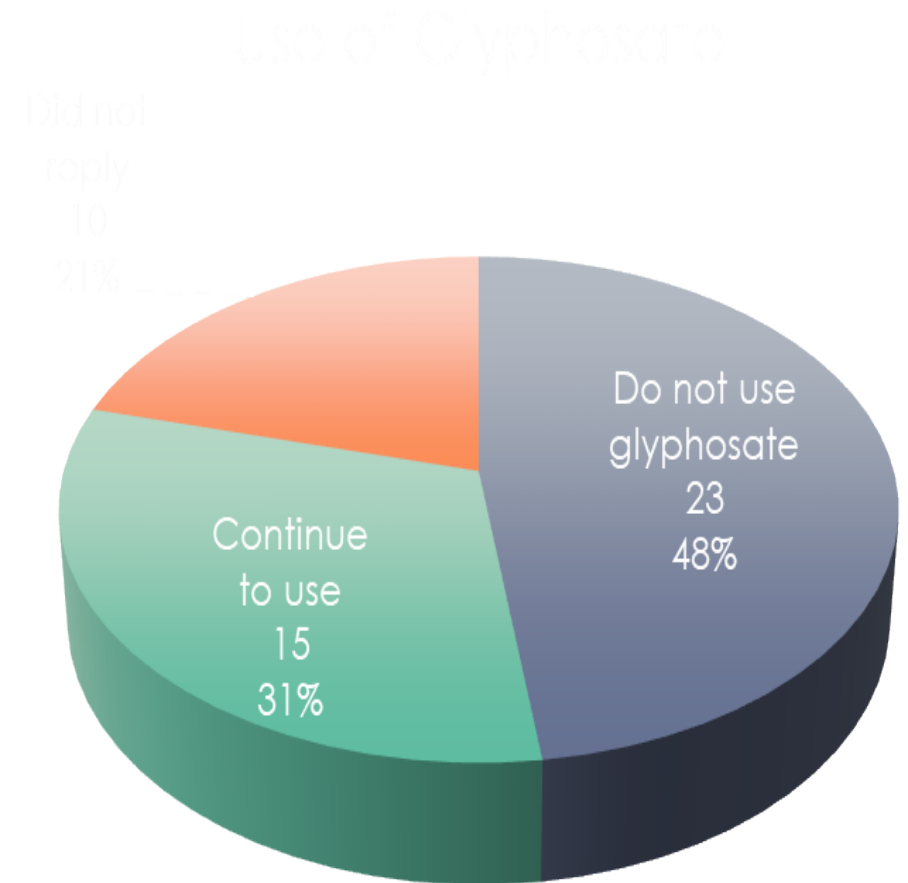
3. Explore alternatives to the use of glyphosate and identify recommended strategies that do not involve its use

A comparative cost analysis of the alternative methods of treatment is shown below:
(Glyphosate application cost per acre treated = \$100 to \$300)

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4. Identify best practices used by others

- 48 jurisdictions were surveyed (Exhibit 7), including cities, counties, school districts, park districts, airports, and harbors.
- Responses were mixed.
- No shared common practice was discovered.
- Those that do not use glyphosate noted that alternatives are less effective and have a higher cost.



4. Identify best practices of others

- Follow safety protocols, proper notification practices, and post appropriate signage.
- Minimize the use of herbicides whenever possible.
- Use the least toxic alternative whenever possible.
- Be more tolerant of weed growth.
- Avoid irrigation overspray or watering of unwanted weeds.
- Improve fertilizer application techniques.
- Reduce off-target application of herbicides.
- Utilize free labor to perform hand weeding.
- Mulch, mow, and string trim weed growth.
- Continue to experiment with other non-glyphosate herbicides.

Conclusion

- Glyphosate is used extensively throughout the US. It is effective and low in cost
- Alternatives are less effective and more expensive
- Other herbicides may require additional research to determine their impact on the environment
- There is no single cost-effective alternative
- A combination of alternatives will be required to accomplish mission while minimizing cost



Questions?
