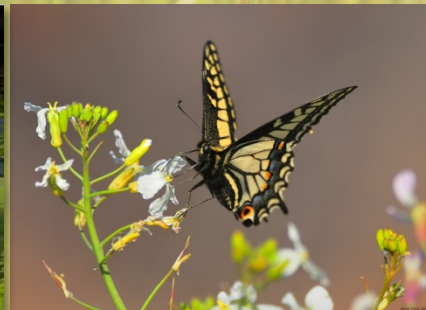


# Integrated Pest Management

## Annual Report for 2018 Program

Report Presentation to the Natural and Cultural Resources Committee ❖ April 10, 2019

By Becky Tuden, Environmental Services Manager





# Leaders in Integrated Pest Management

- Significant Reduction in Glyphosate Use
- Transition to Early Intervention Strategies
- Focus on Biodiversity
- Proven Best Management Practices



# 2018 Accomplishments

- Reduced Glyphosate use by 44% since 2016
  - Piloted pre-emergent organic herbicides to remove seeds that contribute to the growth of weeds
  - Added new mechanical tools like chippers, flame throwers, and reducing shared equipment that could spread invasive weeds and invasive species
- Reduced Triclopyr use in fuels reduction program by 75% since 2016
- Added drought-tolerant and competitive native planting
- Successful pilot in preventing harmful algal blooms
- New public-facing report that enhances transparency and ease of use by public



# PARK DISTRICT'S CORE MISSION

The East Bay Regional Park District preserves a rich heritage of **natural and cultural resources** and provides open space, parks, trails, safe and healthful recreation and environmental education. An **environmental ethic** guides the District is all of its activities.



# Keystone Tenets

1. IPM is a **multidisciplinary and cross-departmental** effort based on an environmental ethos within a framework of values, including **accountability and transparency**.
2. EBRPD manages pests in the **most effective and safest** manner for our park visitors and employees.
3. The management and operation of public parkland are rooted in key principles of **honoring the land, its ecological systems and its wildlife**, as well as **honoring park visitors and the people who conduct sustainable park and landscaping operations, our employees**.
4. We believe that **preventing** is the secret to safe and effective pest management followed by actions based on science standards, weight of evidence principles, best practices and the Park District's environmental ethos.





# IPM Goals

- Ensure Public Health & Safety
- Improve Ecological Function
- Maintain Healthy Forests & Wildfire Prevention
- Provide Safe Recreational Use of Parks & Trails
- Remove Hazardous Trees



# IPM for Public Health & Safety

## Control of Insects and Other Hazards



- Ticks (Lyme Disease)
- Spiders
- Rattlesnakes
- Rodents
- Cyanobacteria





# IPM for Resource Protection

- Control invasive plants
- Protect biodiversity
- Habitat enhancement





# IPM for Safe Recreational Use of Parks





# IPM Toolkit and Definitions

## MECHANICAL

- Line Trimming
- Mowing
- Weed Pulling



1

## CULTURAL

- Grazing
- Mulching
- Prescribed Burning



2

## CHEMICAL

### Pesticides:

- Herbicide
- Rodenticide
- Algaecide
- Fungicide
- Insecticide

- Organic Pesticide
- Conventional Pesticide

3



# IPM Tools & Methodology

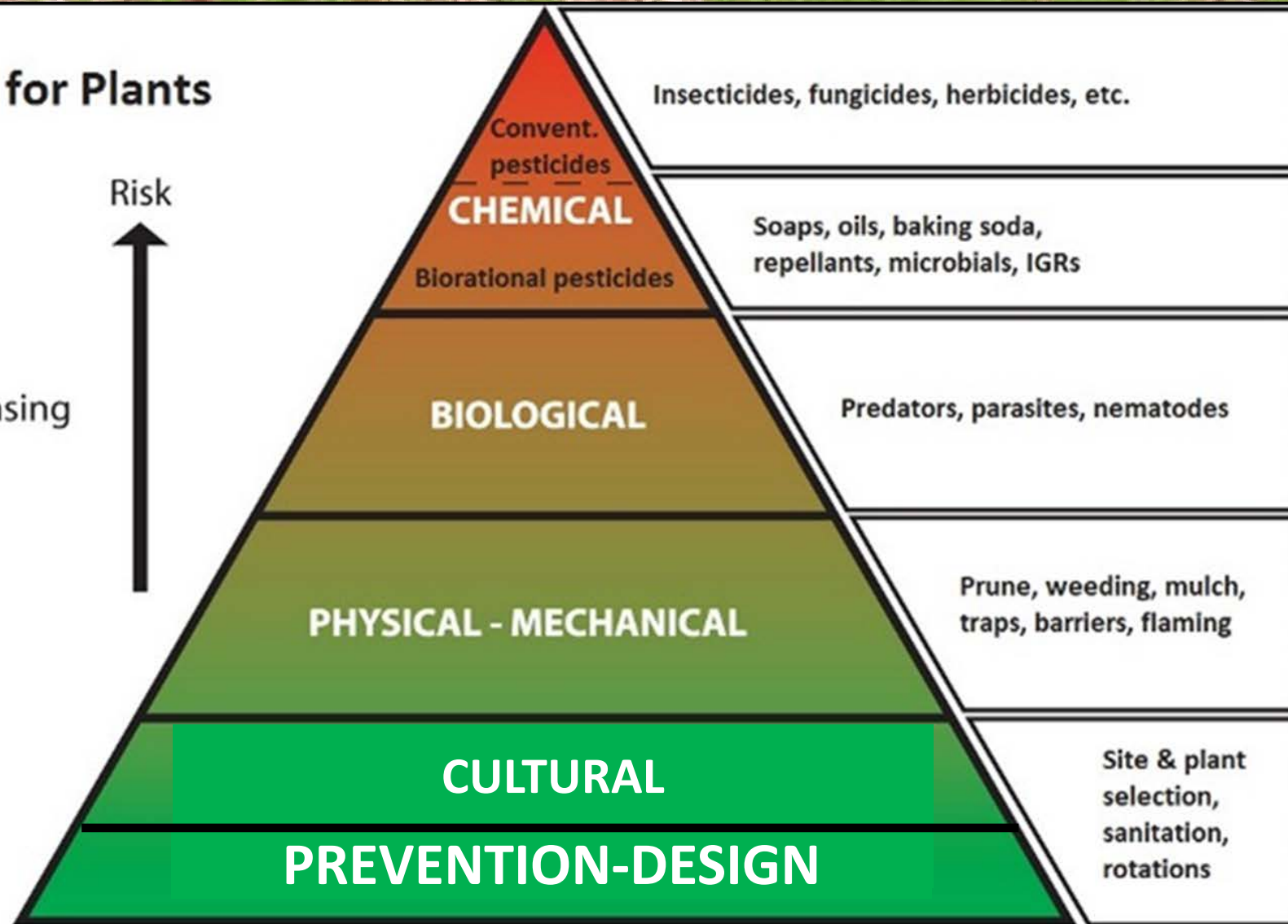
## IPM Tactics for Plants

Intervention

Risk

Increasing

Prevention

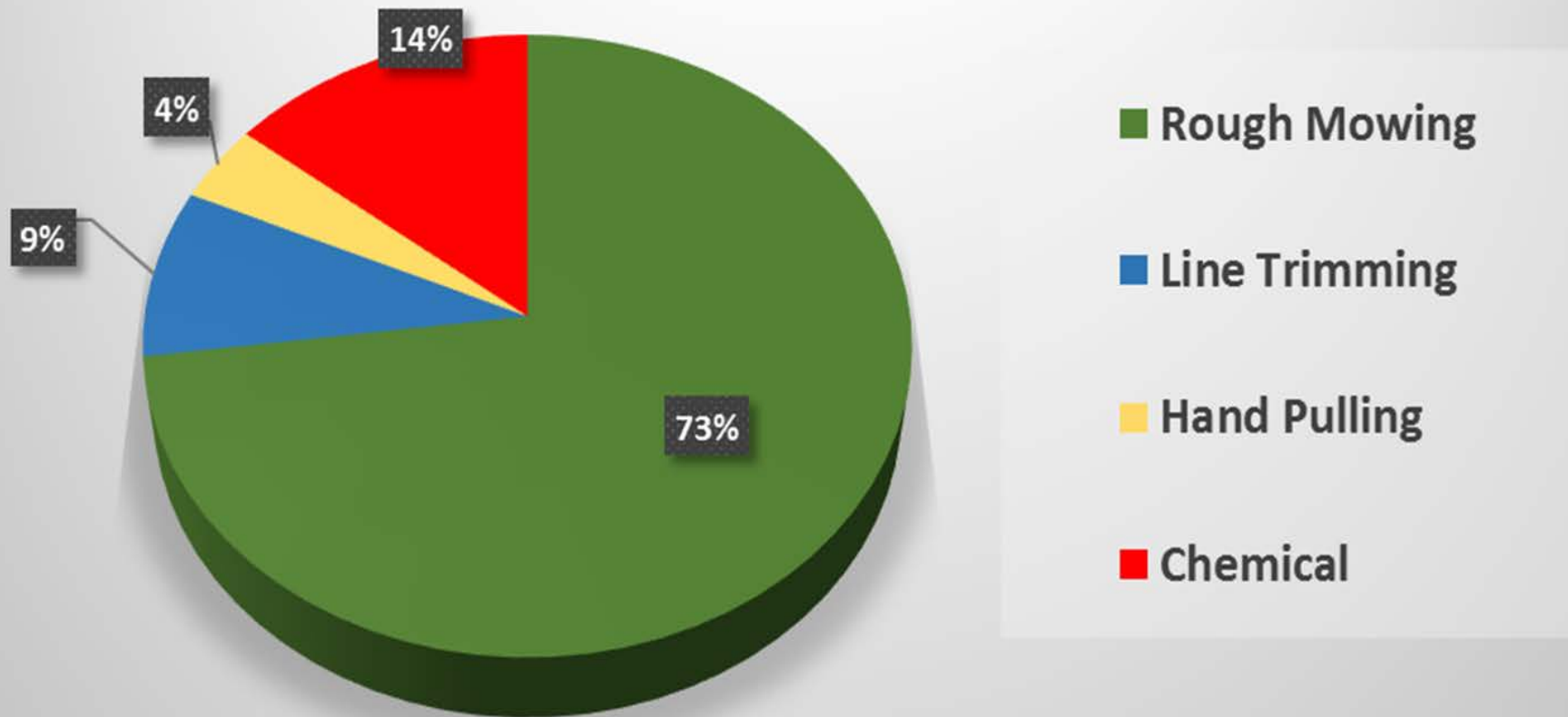




# IPM Land Management Tools

## Emphasis on Mechanical & Cultural

Interpretive Parkland, Shoreline, Recreation & Lake Units  
Percent Total Acres Treated





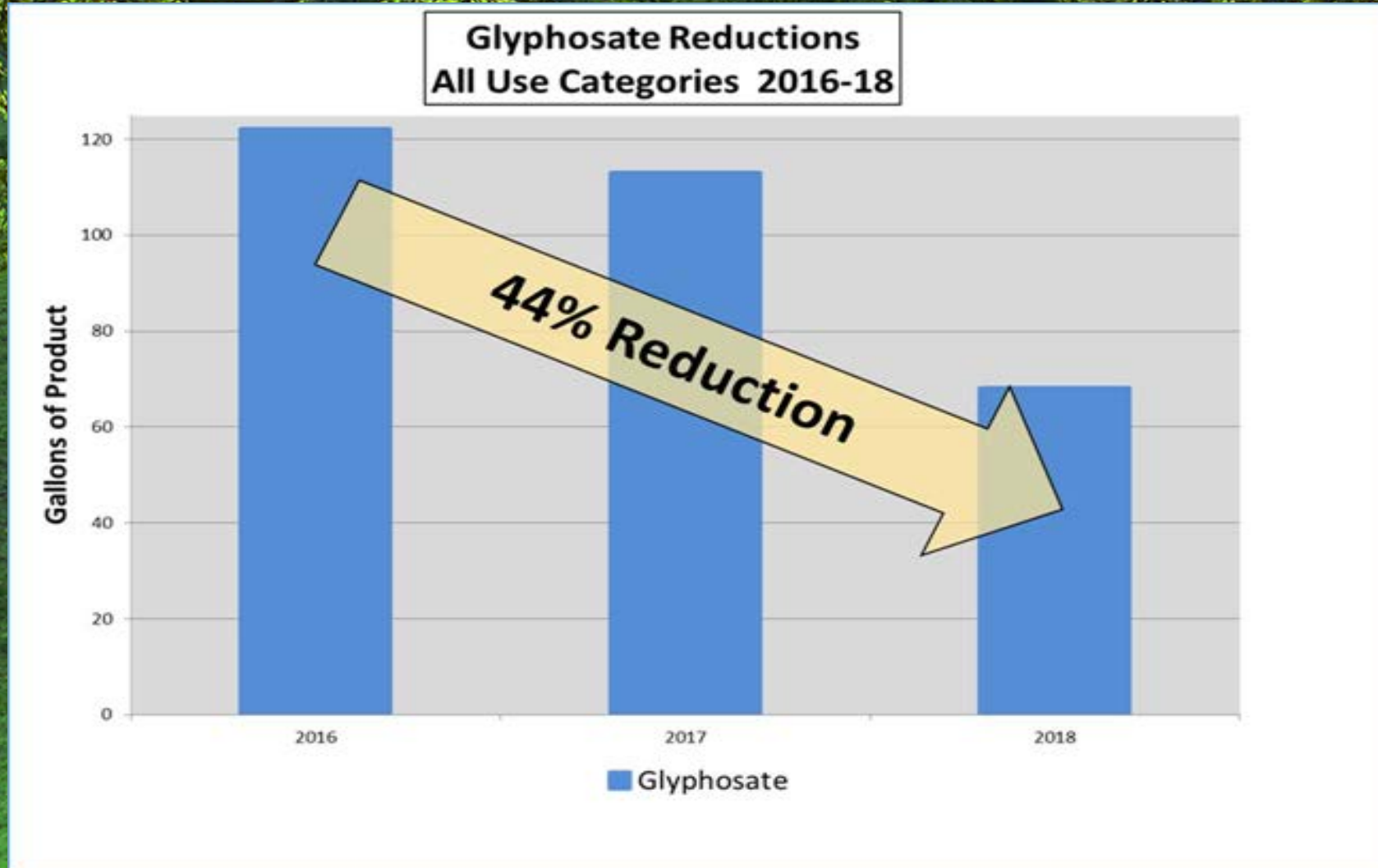
# Glyphosate Reduction Efforts

1. Early Season Pro-active Weed treatment with Organic Herbicides (Bare Ground Applications)
2. Herbicide Footprint application Reduction Guidelines  
12" recommendation for posts, fence lines, etc.
3. Reduced Concentration of all Herbicides
4. Prevention
  - Best Management Practices
  - Training on timed mowing
  - Seed Bank Depletion and Perimeter weed control
5. Equipment Upgrades



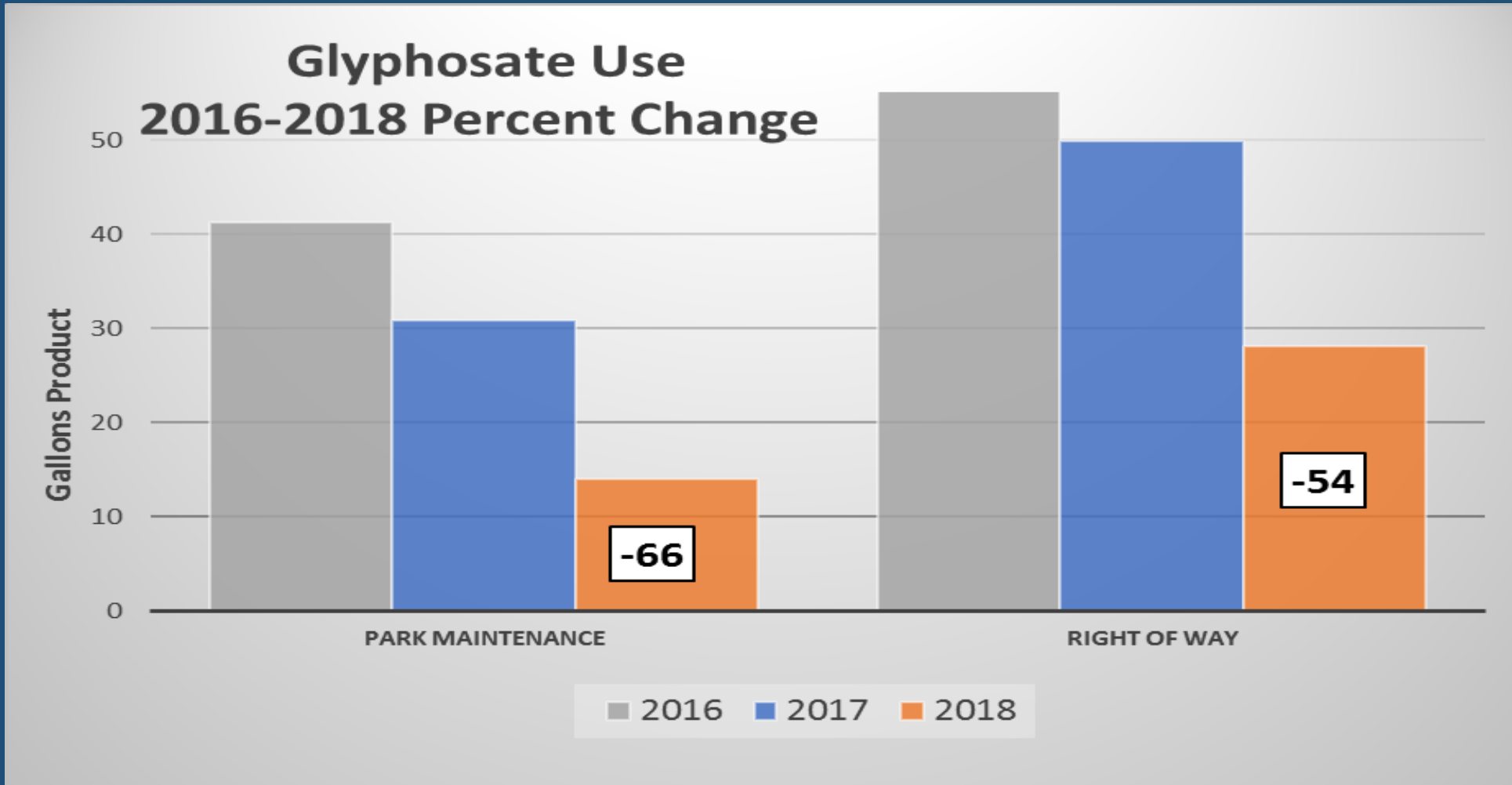


# Glyphosate Reductions District-Wide



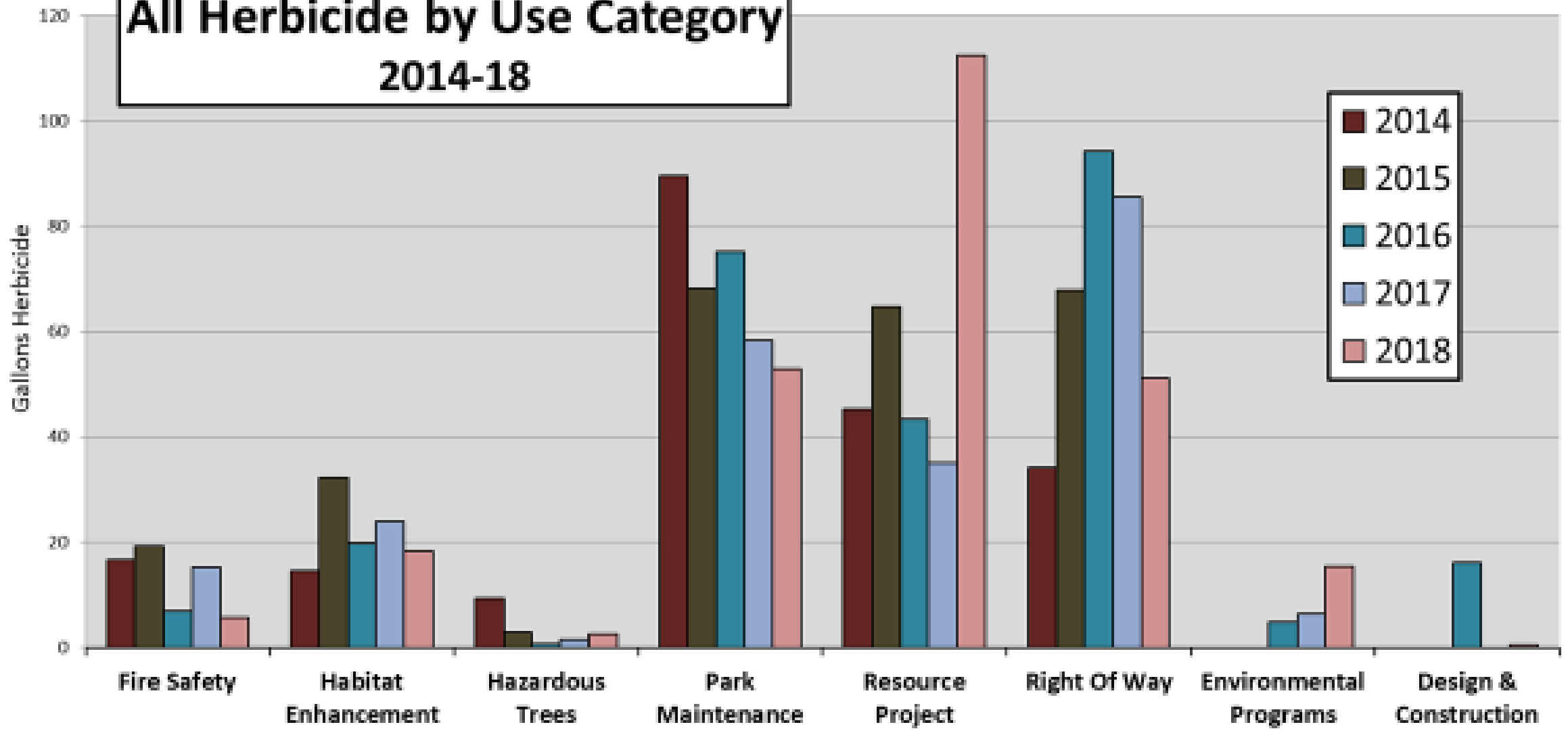


# Big Reductions..... 2016 to 2018





# All Herbicide by Use Category 2014-18



ALL Herbicide use by staff and their contractors  
Does not include concessionaires (golf, farm)



# 2018 Habitat Successes

Removal of Invasive Mayweed to provide suitable nesting for California Least Terns

Continued Treatment of Artichoke Thistle in Wildcat Canyon – resulting in 98% reduction of thistle and restoration of Santa Cruz Tar plant

Targeting “Bad Grasses” - Barbed Goat Grass & Medusa Head in Garin, Morgan Territory, Briones and Diablo Foothills

Promote habitat protection such as Point Pinole Marsh Enhancement



# Blue Green Algae (Cyanobacteria)



## Lake Anza

- Selection and Design of Pilot Treatment
- Oxygenation system – cultural control
- Prevents phosphorous release from lake bottom
- Construction begins end of summer

## Lake Temescal

- Lake open entire summer 2018 – no closures due to cyanobacteria
- Cultural control method to bind phosphorous on lake bottom



# Volunteer Partnerships

- 10,000 hours of Invasive Plant Removal for Operations & IPM
- Earth Team & Oyster Bay Regional Shoreline
  - ✓ ReLeaf Social Equity Grant
  - ✓ Tree Planting for Disc Golf
  - ✓ Monarch Habitat Enhancement





# Education & Technical Support

- Innovative training for staff and weed prevention calendar
- Weed Identification Booklet
- Prevent Spread of Phytophthora
  - ✓ Guidelines for contractors, projects
  - ✓ Special protocols near Pallid Manzanita
  - ✓ Staff training on prevention





# Transparent Reporting

## More Accessible to Public

- Public-facing Annual Report
- Reporting Easy to Find on Website
- Commitment to Responding to the Public's Interests and Concerns

## Institutional Partners

- Regulatory Compliance & Reporting
- County Health & Agricultural Departments
- University Research Efforts
- California Invasive Plant Council





# Looking Ahead

- Continue Reduction of Glyphosate Use and Identify Effective Alternatives
- Benchmarking Study and Program Assessment
- Expand Habitat Enhancement & Resource Projects
- Continue to Refine Weed Abatement through Park Design



# Integrated Pest Management

