

# Integrated Pest Management

ANNUAL REPORT 2022



*Diverse native plant communities support a diversity of wildlife, habitats, ecological services; allowing for greater climate resiliency*

Photo: Sample A. Sample

## Preserving Open Space for the Future

The East Bay Regional Park District (Park District) manages a diverse landscape of 125,000 acres in Alameda and Contra Costa counties. The regional park system comprises 73 parks, 1,333 miles of trails, and 55 miles of shoreline. Serving 2.8 million East Bay residents with approximately 25 million visits per year, the Park District is the nation's largest regional park agency.

Managing the large expanse of open space requires strategic planning and effective policies. Governed by a seven-member elected Board of Directors that set policy for the implementation of the Park District Master Plan, the Park District's workforce of 1,000 employees across all professional sectors contributes to the management of the regional parks.

In 2022, the COVID-19 pandemic continued to change the way we manage the parklands; however, the results were similar to non-pandemic years. We continued to work with diligence and thoughtfulness, protecting our parklands and the environmental and recreational resources; engaging in Integrated Pest Management (IPM) training; assisting in projects that improved habitat; assisting in recovery of sensitive species and using adaptive management practices based within an ecological framework.

This annual report provides accurate and transparent information about the various pest control practices that make up our IPM program. We prioritize the prevention and effective control of pests in a continual, sustainable, and ecologically focused manner while using scientific and evidence-based best practices. The IPM program is an essential component of the ongoing support of healthy ecosystems that enhance the vitality of wildlife and the quality of outdoor experiences for our park visitors.

## Commitment to Natural Resource Management

The Park District's mission statement continues to be an inspiration and an enduring testimonial to the Park District's commitment to protect open space resources and to provide environmentally responsible outdoor recreational opportunities for present and future generations.

***“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 in all of its activities.”***

— East Bay Regional Park District Mission Statement

Consistent with this mission, the Park District's IPM policy fosters the protection of natural and recreational resources, while minimizing the use of chemicals.

***“In accordance with the accepted principles of ecology, the District will strive to implement an integrated pest management program which eliminates the use of chemicals as much as feasible whenever alternative methods are effective.”***

— Pest Management Policy and Practices, EBRPD, October 1987 Resolution #1987-11-325

### **Keystone Tenets of IPM:**

- The Park District strives to manage pests in the most effective and safest manner for our park visitors and our employees by following an Integrated Pest Management (IPM) program.
- This IPM program is a multidisciplinary and cross-departmental effort that is based on an environmental ethos, accountability, and transparency.
- The management and operation of public parklands is rooted in key principles of honoring the land, its ecological systems and cultural heritage, as well as honoring our park visitors and the people who conduct sustainable park and landscaping operations, our employees.
- Prevention is the key to safe and effective pest management.
- Pest management actions are guided by best science, weight of evidence principles, best practices, and the Park District's environmental ethos.
- Control of invasive vegetation is an essential, adaptive management tool that helps our ecology be more resilient to drought, provides habitat benefits and reduces risks of wildfire.

The IPM program works closely with departments within the Park District and is housed in the Stewardship Department which adopted the following mission statement in 2021:

***“The Stewardship Department works collaboratively to help manage and enhance natural resources and provides science-based solutions that comply with environmental regulations and support recreational activities.”***

# Integrated Approaches in the Park District

## **What is Integrated Pest Management?**

Integrated Pest Management (IPM) is a scientific approach to pest management. A pest is any organism that causes damage to human health, safety, recreation, or environmental function. In the Park District, the bulk of pests are nuisance weeds that limit public access to open spaces, pose a fire risk, and degrade recreational access. In addition, IPM targets noxious weeds that threaten biological diversity and ecological function. Additionally, other organisms such as ticks, yellow jackets, rattlesnakes, rats, and mice are also managed to reduce threats to public health. IPM effectively reduces pest populations while minimizing human health and environmental hazards.

## **Principal Goals of the IPM Program**

These goals, listed below, help define the purpose behind IPM actions and facilitate the collection of data used to refine objectives and provide quantitative data for adaptive management. The IPM program helps support and enhance the diverse habitats through pest management of structural, recreational, and wildland pests.

### **Healthy Forests**

District-wide efforts to reduce risk of catastrophic fire in the wildland and urban interface.

This program includes vegetation reduction to increase spacing between trees, removing ladder fuels, and maintaining a healthy shaded fuel break. This program targets weedy species that alter safe fuel models, re-sprouting from cut trees and supports the recruitment and maintenance of native vegetation.

### **Public Health**

Remediation of pests that pose a threat to public health such as treatments for ticks, E. coli, and harmful algal blooms.

### **Ecological Function**

Vegetation and pest management to promote and maintain sensitive natural resources and increase biodiversity. This broad category includes habitat enhancement, ecological restoration projects, and mitigation project that support recreational developments. These projects and activities are conducted by park staff and their contractors from many departments throughout the District and range from small park level to landscape scale vegetation management to benefit wildlife, native plant communities and ecosystem functions.

### **Safe and Accessible Recreation**

Vegetation management to maintain and enhance recreational use, including trail access, landscaping, and gardens. Operations manages the bulk of the recreational infrastructure.

### **Fire Safety**

Vegetation management around ignition sources, maintaining building perimeters and fire access in areas that are prone to ignition and in fire prone areas. These include trails, roads, barbecues and fire pits, campgrounds, high use picnic areas, parking lots, buildings, and infrastructure perimeters.

## Foundations of IPM

At the Park District, IPM is a management practice based on an ecological framework that is used to identify, understand, and solve pest problems. Thoughtful design and prevention practices provide the foundation of the program. Science guides and provides the structure for an ecologically-sound IPM program.

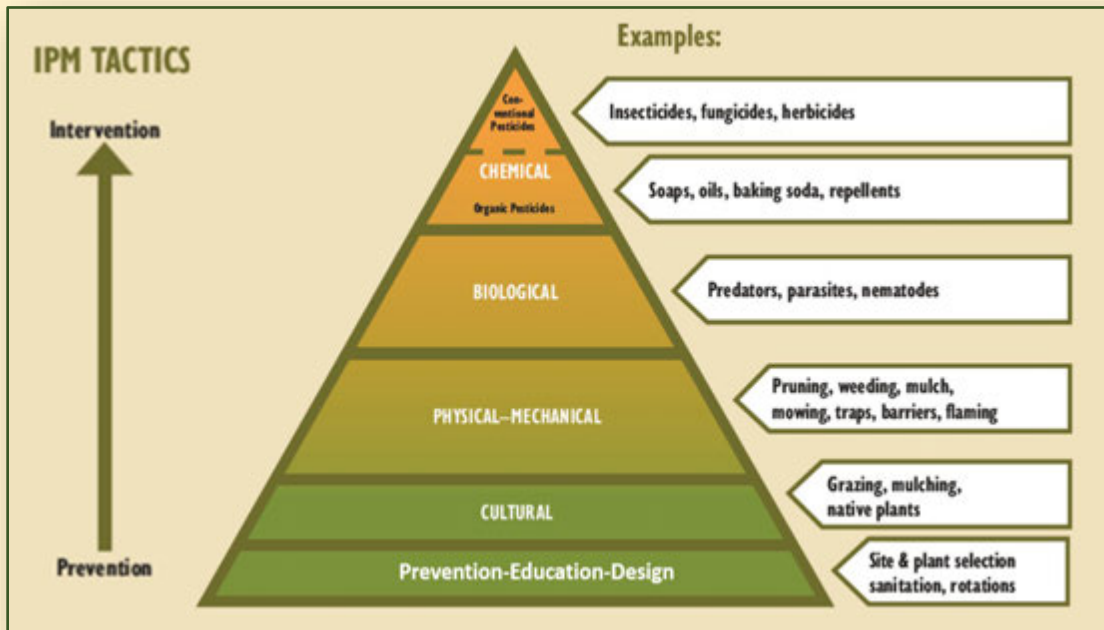


Figure 1: Integrated Pest Management hierarchy of methods

Since the inception of its Integrated Pest Management policy in 1984, the Park District's management of pests has been based on regularly reviewed science standards, weight of evidence principles, and best industry practices guided by an environmental ethos. Research is used to identify safe, effective, and efficient management practices to ensure an enhanced park and trail environment for our park visitors, surrounding neighbors, and park employees.

## IPM Methodology

IPM is not a single pest control method but, rather, a series of pest management evaluations, decisions, and integrated actions. It is a non-linear process that relies heavily on an adaptive management framework. The management and operation of public parklands are rooted in key principles of honoring the land, ecological systems and protecting the public and staff through safe, sustainable park operations.

## Prevention, Monitoring, and Identification of Potential Pests

As a first line of pest control, the IPM program works to prevent the introduction and spread of pests. It monitors for pests and identifies them accurately, so that appropriate control decisions can be determined and acted on early. Prevention is the foundation of all our methodologies and projects.

## Methods

IPM methods of control fall under one of several categories: cultural, mechanical, biological, or chemical, and are listed in the order that indicates their importance and sustainability. Adaptive management provides feedback to this dynamic cycle of land management. Integrating the following approaches provides for a resilient and sustainable program. The Park District prioritizes mechanical, cultural, and biological controls or a combination of these before considering chemical controls.

- Cultural controls applied to reduce pests are mulching, grazing, and competitive planting with native plants. These methods are used on a park and landscape-scale across our diverse parks. Annual resource burns are performed at Point Pinole to enhance the coastal prairie. The Park District manages 80,000 acres of public land for ecological functions through grazing.
- Mechanical controls include weeding, line trimming, mowing, hand pulling, grubbing, etc. The Park District continues to prioritize the use of mechanical methods as the fundamental tool to control vegetation along roads and trails, to reduce fire risk while providing park maintenance. Most fire roads and trails are rough mowed, or line trimmed and much of the Park District's fencing in developed areas is line trimmed, as are most group camps and other recreational areas. Often vegetative growth is heavy enough to warrant two or more mowings per growing season.
- Biological controls utilize natural or introduced enemies of the identified pest. The Park District's efforts to increase biodiversity through invasive weed management and competitive native plantings increase insect diversity that provide natural levels of biocontrol. Additionally, the IPM program works collaboratively with the US Department of Agriculture's Agricultural Research Service (USDA-ARS) and their biocontrol programs in various parks.
- Chemical controls include the use of organically registered and conventional products that are used to control plants, insects, fungi, or other pests. Conventional and organic herbicides pesticides are used when mechanical and cultural methods are insufficient or ineffective. Conventional or organic products are never used in and around play structures and drinking fountains.

## Preventing the Introduction and Spread of Pests

Prevention is the cornerstone of any IPM program. The *first line of defense* is a robust program of prevention that includes clean equipment, weed free materials such as clean rock stockpiles and pathogen-free soils. Prevention means that steps are taken to minimize the introduction of new pests. The Park District trains its staff every year in how to conduct pest monitoring for new threats to our wildlands and recreational activities and explains the Best Management Practices (BMPs) that staff should employ for minimizing introduction of those threats.

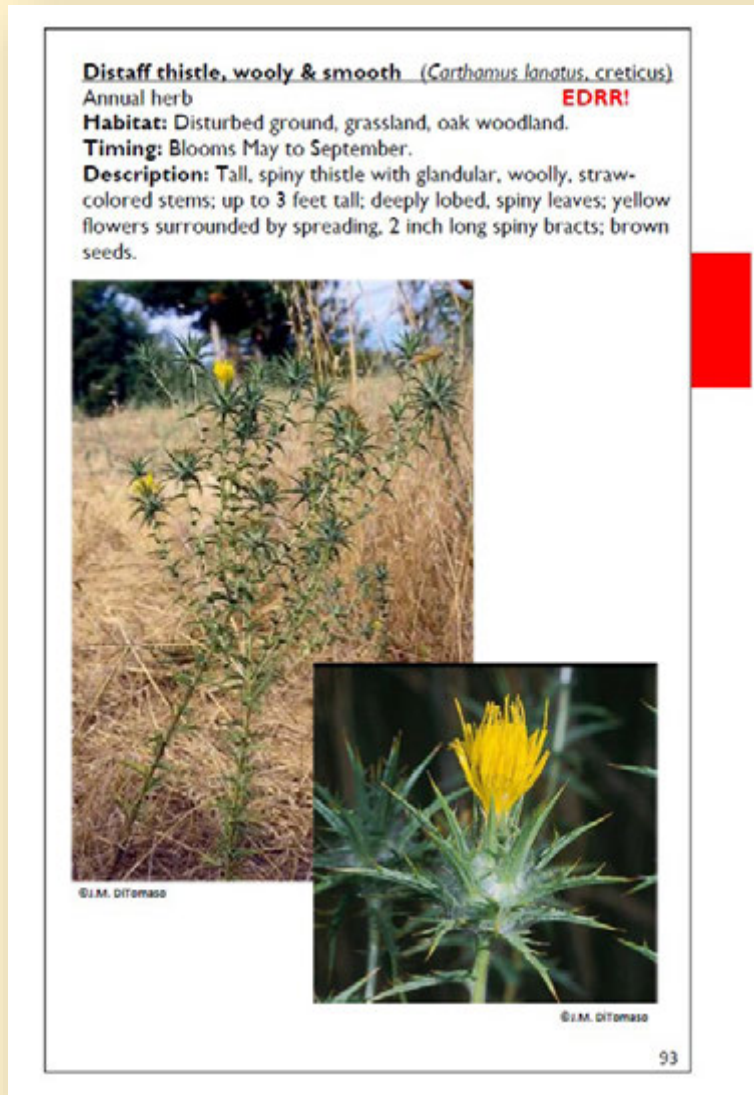


Figure 2: A page in the EBRPD Weed Identification Guidebook, illustrates distinguishing characteristics of smooth distaff thistle, an EDRR species (Early Detection Rapid Response) that threatens special status plant species in Black Diamond Mines Preserve.

Invasive, non-native plants can have negative impacts on recreation and ecosystem function. Early detection and rapid response (EDRR) programs are a critical **second line of defense** against the establishment of newly arrived invasive, non-native plants. In 2022, the District revised its Weed Identification Guide, providing hard copies for staff and an online version for the public: <https://www.ebparks.org/sites/default/files/INVASIVE-WEED-ID-GUIDE-220624.pdf>. This guide provides color photos and descriptions of 97 species, most of which are common plants that can have negative impacts on the environment. The guide includes ways for the public to be involved in mapping and reporting through the community science platform, Cal Flora. This new version also highlights EDRR weeds in our parklands with a red tab, indicating their priority for mapping, reporting, and removal.

The goal of the District's EDRR program is to find new populations of highly invasive plants early, and to map and remove them before they spread in the Parks. EDRR identifies invasive plants that have been recently introduced, are found adjacent to management areas, are likely horticultural escapees, and are known to spread into natural areas and cause harm to the ecosystem. Where feasible, EDRR surveyors may "rapidly respond" by hand pulling and disposing the plants if the work can be done in 5 minutes or less.

In 2022, two new EDRR species were discovered— smooth distaff thistle and yellow gland weed. In May, smooth distaff thistle, *Carthamus creticus*, was discovered in landbank property in East Contra Costa County when biologists were surveying an endangered tarplant. This spiny, annual thistle is not palatable to livestock making it critical to control this species by other means. Park staff and contractors scoured 54 acres, hand pulled and disposed of this spiny relative of safflower.



Figure 3: Biologists and contractors hand pull and bag flowering EDRR species in eastern Contra Costa County landbank to prevent seed production.

In June, while surveying seep wetlands in the East Bay hills, staff noted a new, non-native annual, yellow gland weed, *Parentucellia viscosa*, impacting seep wetlands. Park staff were able to map these annual flowering plants that had already gone to seed. As with all projects, yearly follow-up will be required to ensure that the seed banks of these noxious plant species are depleted over time.



## Training in Integrated Principles

Annual training is an essential part of a robust adaptive management program. The IPM department provides yearly safety trainings, updates to best management practices, integrated strategies trainings and collaborative project implementation to enrich and refine the District's capabilities to perform vegetation management and habitat enhancement.

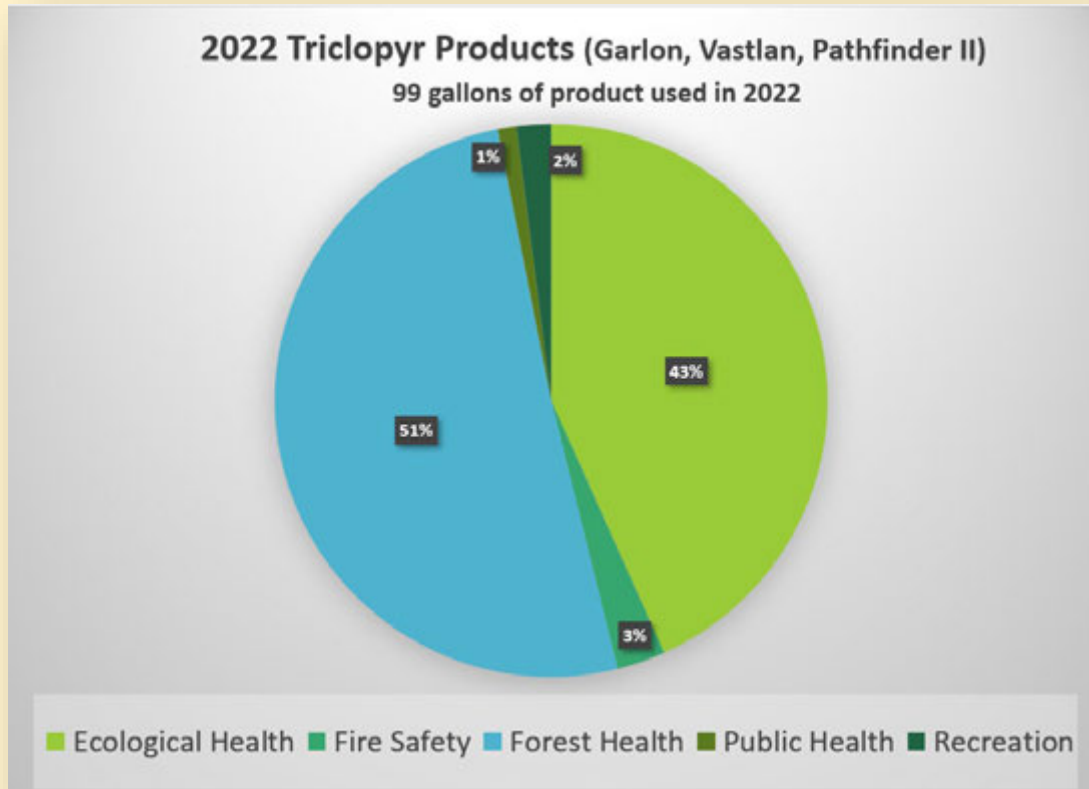
In 2022, IPM staff provided an annual mandatory training for 183 park rangers on the safe, effective use of pesticides in the park setting. Additionally, IPM staff performed 14 in-person field trainings for 37 park staff, totaling 59 hours of hands-on instruction, highlighting weed ecology, identification, herbicide safety, application techniques and best management practices to protect the environment, the public and our employees. IPM staff also conducted trainings on weed ecology, identification, and control techniques for 25 members of partner agencies such as the Civicorps and Student Conservation Association for a total of 12 hours.



*Figure 4: District biologists conduct weed identification and ecology workshops for Civicorps supervisors and crew members. The East Bay Civicorps provide important vegetation management throughout the East Bay hills and shoreline parks.*

## Trends in Pesticide Use

Appendices A through D provide comprehensive reporting of all pesticide use in the District by goal, applicator, product and amount. The following graphs illustrate general pesticide use trends of the most common products used to control pests.



*Figure 5: Triclopyr herbicide products (Garlon, Vastlan, Pathfinder II) use totaled 99 gallons in 2022. Triclopyr is a selective herbicide that is used for spot treatment to stop Eucalyptus trees from resprouting, once cut. The dieback event of 2020, where about 1,000 acres of overly dense eucalyptus forests experienced unprecedented die off, posed a huge fire risk. The thinning and removal of these heavy fuels began in 2022 and, as a result, the use of these herbicide products to stop regrowth of diseased eucalyptus, increased.*



*Figure 6: In 2020, widespread dieback was reported in eucalyptus species throughout the bay area. Existing stands in the East Bay parks were extremely dense and increased fuel loading from shedding leaves, limbs, stems and epicormic sprouting along trunks constituted an unacceptable fire risk. Researchers concluded that long term drought, high temperatures and heavy stocking were the primary drivers of this dieback event. Tree Die Back Pilot Project of 80 acres, where thinning of dense and diseased stands of blue gum eucalyptus began in Anthony Chabot Regional Park in 2022. The photo above illustrates the increased spacing between trees that provides a shaded fuel break, supports tree stand health and creates a safer environment for fire suppression.*

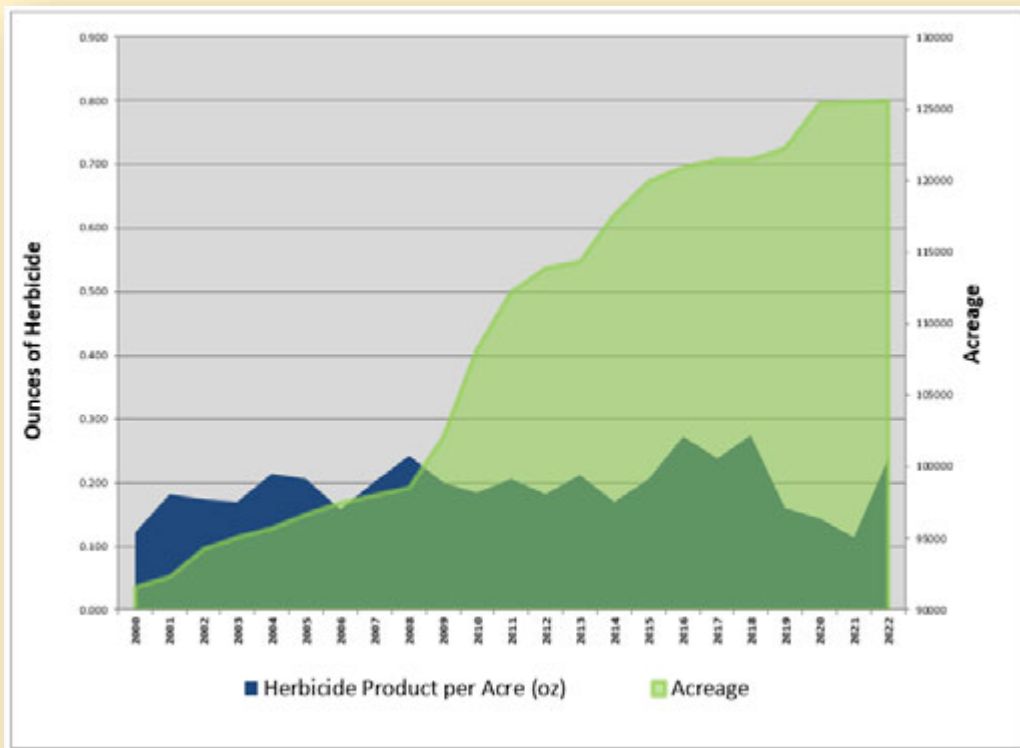


Figure 7: Long term trends illustrate the relatively small amount of chemical treatments the District uses to treat vegetation. This graph illustrate herbicide use has maintained a relatively constant ration of ounces per acre over 22 years. However, herbicide use did increase from the previous two years due to new restoration projects, additional fuels reductions and hazardous trees due to the tree die back responses, and management of newly acquired land with large populations of noxious weeds.

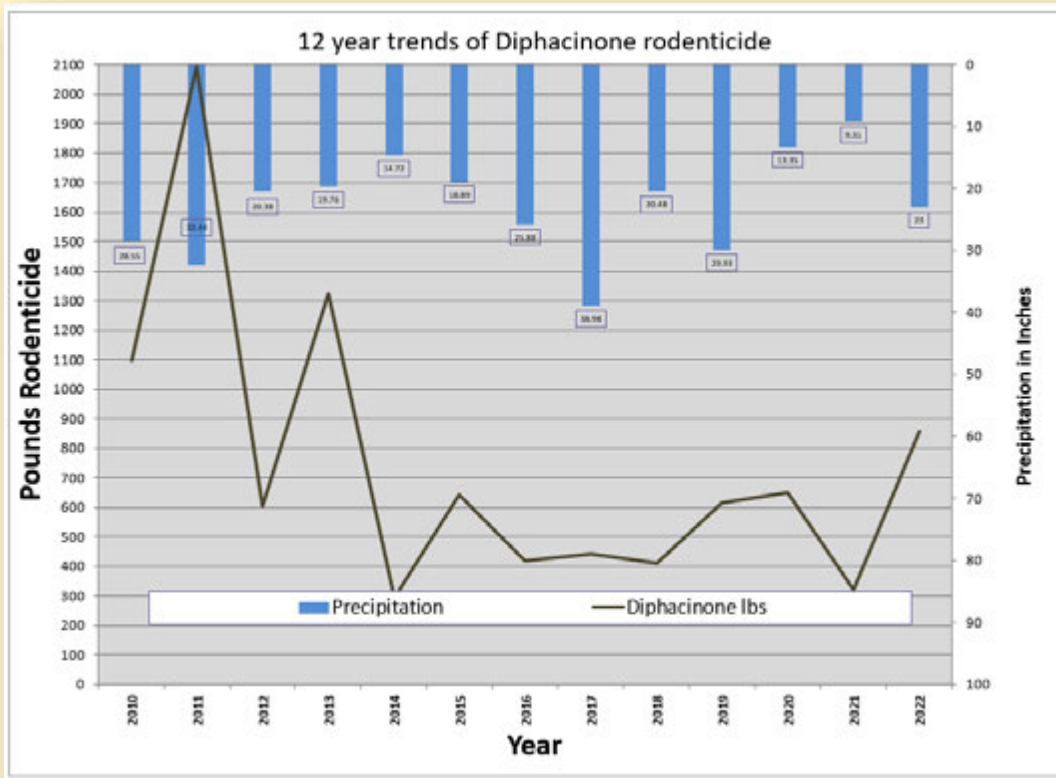
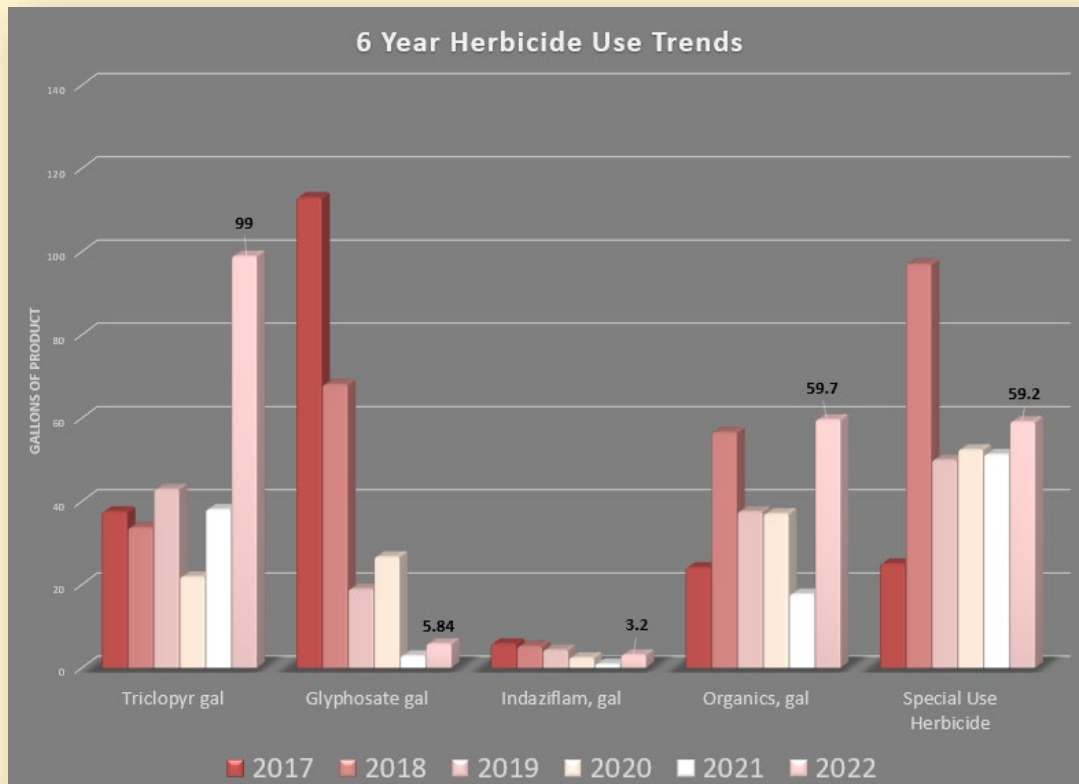


Figure 8: Diphacinone, a first-generation anti-coagulant, is used to control ground squirrel populations where they damage road, paved trails, levees, parking lots, etc. In our wildland areas, ground squirrels provide critical habitat and ecological functions, creating refuge and providing food for threatened and endangered species. The District only controls ground squirrel populations where they damage infrastructure like foundations, paved trails, levees, utilities, equipment, etc. In parkland areas, ground squirrels proliferate due to year-round green vegetation and hardened surfaces that they prefer to burrow under. This requires yearly control efforts. Product use increased in 2022 as a result of deferred control efforts from previous years.



*Figure 9: 7 year herbicide use patterns show a slight increase in special use products for ecological health objectives, an increase in the organic herbicide category, increase in glyphosate use for ecological health projects and an increase in triclopyr products primarily to control resprouting woody species in fuels reduction and healthy forests projects.*

## Case Studies

These goals, listed below, help define the purpose behind IPM actions and facilitate the collection of data used to refine objectives and provide quantitative data for adaptive management.

### Case Study I: Fire Safety Goal

Fire safety at the Park District relies heavily on IPM tactics. Objectives of our fire safety programs include managing the vegetation around ignition sources and establishing and maintaining building perimeters. Areas like roadsides, unpaved parking areas, barbecues, and fire pits are frequent ignition sources and prone to fire. Management of fine, flashy fuels in these areas is essential to preventing catastrophic wildfires in the parks.

Maintaining defensible space around our structures, buildings, and park developments is an essential part of our fire safety maintenance activities. Defensible space is the buffer that is created between a building and vegetation like grass, trees, shrubs that surround it. This space is needed to slow or stop the spread of wildfire and it helps protect your home from catching fire—either from embers, direct flame contact or radiant heat. Proper defensible space also provides firefighters a safe area to work in during a wildland fire.



Figure 10: The District's fire department provides guidance and help in creating the different zones of defense. Not pictured here is Zone 0, the "No Ember Zone" that consists of 5 feet from building edges where no flammable material is permitted.

In 2022, the District managed 960 acres with goat and sheep grazing along the borders where our wildlands meet urban neighborhoods. This area is called the Wildland Urban Interface (WUI) and is a complex zone where vegetation must be managed so that our neighborhoods can be more fire resilient. Management actions in these areas include mechanical cutting, mowing, and mastication, followed by spot treatment with herbicides to control vegetation that resprouts aggressively. After this initial treatment, goats can make their way into the WUI, munching and trampling the remaining fine flashy fuels. By opening up this critical interface we can continue to maintain large areas with these hardworking browsers annually.



*Figure 11: Goats and sheep are utilized throughout the borders of our parks where urban neighborhoods interface. These herbivores are excellent at controlling fine flashy fuels and some woody materials in these protection zones.*



## Case Study 2: Healthy Forests

The IPM department works with our Fire and Operations departments to reduce risk of catastrophic fire in the wildland and urban interface. This work prioritizes:

- Vegetation reduction to increase spacing between trees,
- Control and removal of ladder fuels and resprouting woody, invasive vegetation
- Control and removal of invasive plants to maintain a healthy shaded fuel break.
- Support the recruitment and maintenance of native vegetation.

French broom is an invasive, non-native shrub in California's landscape, introduced as a landscape ornamental and erosion control plant. French broom grows rapidly and forms dense stands, outcompeting and displacing native forbs and grasses; and a mature plant can produce thousands of seeds per year. If uncontrolled, French broom quickly becomes dominant, creating a fire hazard risk in the wildland-urban interface. Broom increases the fuel load on the landscape with the accumulation of leaf litter, twigs and branches, and standing vegetation. French broom can easily become a fuel ladder, transporting flames from the ground floor into the canopy of our oak and bay woodlands.

In 2022, the District embarked on the first year of Operation Broom Bust, an innovative approach to control a particularly widespread weed whose population frequently explodes after healthy spacing in forests are re-established. This regional approach utilized goat grazing, targeted herbicide application and mechanical hand pulling to control this introduced shrub across 6 parks and 127 acres.



*Figure 12: Dense French broom stands lower native biological diversity and threaten the health of eucalyptus forests and native oak bay woodlands. These tall shrubs, in the event of wildfire, can carry fire up into the canopy of trees. Once fire is in the tree canopy, winds can transport embers much further and faster than fire on the ground.*

### **Case Study 3: Public Health**

The IPM program controls pests that threaten the health of park staff and the public and remediates conditions under which these types of pests thrive. Examples of some of these types of challenges include cyanobacterial that cause harmful algal blooms, ticks that carry Lyme disease, E. coli from waterfowl that create unhealthy swimming conditions, and control of rodents that are vectors of Hanta virus and other diseases in District buildings.

Structural pest control is an integral part of maintaining healthy working and living conditions as well as protecting our infrastructure. Common household pests include rodents, ants, bees, fleas, cockroaches, spiders, weevils, moths, termites, powder post beetles, etc. Household pests live in or invade households and structures. Some household pests damage food, clothing, rugs, or furniture; others may carry or spread disease. Many household pests are easily controlled through persistent prevention practices. Good sanitation, vegetation clearing adjacent to structures and systematic exclusion in building envelopes will control or prevent infestations of many pests. However, it is imperative to maintain constant vigilance through an IPM monitoring program. Regular monitoring and maintenance is not only a cost savings in the short term, but also in the long term when considering the damage that pests can do to our buildings and our health.

In 2022, the Park District changed from a park-by-park approach to a district-wide structural pest control strategy. This meant the Park District contracted with one company to provide a consistent and comprehensive IPM approach to controlling insect and vertebrate pest species inside and adjacent to its buildings, residences, and structures. After a competitive, public bidding process, a local company known for its long-standing track record in integrated approaches (Green Shield and EcoWise IPM certifications), reduction in carbon footprint, and pesticide reduction was chosen.

This district-wide approach focuses on prevention – by first providing sanitation and exclusion recommendations. IPM technicians first attempt to control rodent populations through exclusion, sanitation practices and trapping. In most cases these interventions are sufficient. In extreme and fortunately rare cases, where rodents exhibit extreme trap avoidance or populations are extremely high, technicians may utilize toxic bait. These rodent baits do not move up in the food chain and are not considered a risk to secondary poisoning. Since this launch, many buildings throughout our parks have had exclusion construction implemented and monitoring stations have been installed along perimeters of buildings. Monitoring/trapping stations are located around the perimeter of buildings and are fitted with snap traps and non-toxic monitoring bait that alert technicians to rodent and insect activity so that action can be taken immediately.



*Figure 13: IPM Technician loads a rodent monitoring box with a peanut butter baited snap trap. The bright yellow bait blocks are non-toxic monitoring blocks that allow technicians to see urine trails and trace rat activity where they may attempt to enter buildings.*

The District, while increasing the number of buildings serviced in 2022 by 51%, also decreased the amount of rodenticide used in structural pest control by 95%. This is achieved by an increase in the use of snap traps by 1767%, up from approximately 40 from the previous year. Despite this increase in service, cost only increased by 13 percent.

#### **Changes in 2022 to one provider DW pest control**

- 51% increase in number of sites serviced
- 13% increase in cost
- 52% of District buildings & sites currently have monthly pest control compared to 34% in 2021

#### Case Study 4: Ecological Health



*Figure 14: Photo looking upstream at newly planted riparian vegetation for the Alder Creek Restoration.*

Vegetation and pest management also play a critical role in promoting and maintaining sensitive natural resources that increase biodiversity and ecological functioning in our parklands. This broad category includes:

- Habitat enhancement and restoration projects such as planting and maintaining pollinator gardens at our parks, removing monocultures of invasive plants
- Endangered species recovery projects, such as Least Tern in other breeding shorebird islands
- Preventive weed treatment at habitat restoration sites such as the Alder and Huckleberry Creek restoration projects

In 2022, the District made substantial advancements in the riparian restoration of Alder Creek in Sibley Volcanic Regional Park. The largest creek restoration project in the Park District's history, this project daylights 3,000 feet of once culverted creek and will re-establish natural habitat for several special-status species, including native rainbow trout. Additional recreational amenities will include parking, restrooms, water fountains, trails, and a group campsite. The project is expected to be complete in 2023. Key to the success of this restoration project is the establishment of 4 acres of riparian vegetation along newly restored stream corridors. Over 5,000 native plants and trees were planted. Park and IPM staff worked collaboratively with contractors to control exotic weeds that threaten the establishment and survival of these native riparian plants by hand pulling, timed mowing, and spot treatment with herbicide.

### **Case Study 5: Safe & Accessible Recreation**

Founded in 1934, the EBRPD is the largest local park agency in the United States, managing over 125,470 acres. EBRPD serves a population of approximately 2.9 million residents within the 1,745 square on the eastern side of San Francisco Bay. Our parks receive over 25 million visits a year. These recreational resources include:

- 73 regional parks, recreation areas, shorelines, preserves, wilderness, and land bank areas
- 31 regional inter-park trails
- Over 1,330 miles of trails within parklands
- 8 freshwater lakes, 3 swim lagoons, 2 bay shoreline beaches, and 3 swimming pools
- 40 lake fishing docks, 3 Bay fishing piers
- 225 family campsites, 42 youth camping areas, 24 backpacking camps, and 7 equestrian centers
- 2 golf courses, 1 disc-golf course
- 137 reservable group picnic sites
- 10 interpretive and education centers
- 2 mobile education centers
- 10 children's playgrounds
- 17 wedding, meeting, and banquet facilities

Park operations manages all these recreational opportunities across our two-county park system. Vegetation management is essential to maintaining access to and enjoying our recreational resources. Park staff work diligently to design, build, and maintain park structures, picnic areas, trails, and campgrounds with IPM techniques as a foundation. Park Rangers primarily use mechanical vegetation management in recreational areas such as line trimming, rough mowing, hand pulling, and mulching. Staff brush poison oak back from trail edges allowing for safe recreation along our trails and in our picnic areas. Park rangers mow, weed, and trap moles, gophers, and voles in District turf to maintain suitable playing fields. Park rangers and naturalists install native pollinator gardens and other habitat plantings to attract and support wildlife as well as to educate and inspire park visitors.

Glyphosate use is prohibited in any recreational or developed area and is used exclusively for ecological function goals. No conventional pesticide use is permitted around drinking fountains, in turf areas, and playgrounds.



Figure 15: Park rangers use remote control mowers for timed mowing to decrease cover of the invasive Harding grass in Sibley Volcanic Regional Park.

More information may be found at [ebparks.org/ipm](http://ebparks.org/ipm) and [ipm.ucanr.edu](http://ipm.ucanr.edu).







## Appendix B. Golf Course Products

<b>Tilden Golf Course</b>	
Active ingredient, gal	Amount of Product Used
Abamectin	1.50
Chlorothalonil	3.50
Ethephon	25.00
Fluazinam	1.00
Fluopyram	2.52
Mineral Oil	157.50
Penthiopyrad	0.77
Propiconazole	2.00
Tebuconazole	6.31
Trinexapac-Ethyl	1.50

## Appendix C: Farming Products

<b>Conventional Farming Products</b>	
Express herbicide, lbs	5
Rhomene MCPA Broadleaf, gal	32
R-11, gal	4
Crosshair, gal	5
<b>Organic Farming Products</b>	
Safer Insecticidal Soap, oz	3.6

## Appendix D: Structural Pest Control Products

Structural Pest Control Products, oz	Amount
Maxforce Impact Roach & Ant Bait Gel	0.175
Optigard Ant Gel	2.7
Advion Insect Granule	0.32
Advion Cockroach Gel Bait	4.3
Advion Cockroach Bait Arena	0.56
Advion Ant Gel	17.3
Evergreen Pyrethrin Dust	4
Terad 3 Rodent Blox	16
Ditrac Blox	99
Fastrac	76
Detex	1239
Gentrol IGR	22
Maxforce Fleet Ant Bait Gel	2.1
Suspend SC	8.87
Critter Ridder	19.5
JT Eaton Apple Bait Box	8
Niban Granular Bait	14
Dominant Liquid Ant Bait	1035
Cimexa	0.28
Botanical Oils, various	259

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More information may be found at [ebparks.org/ipm](http://ebparks.org/ipm) and [ipm.ucanr.edu](http://ipm.ucanr.edu).