Attachment 2A

City of Santa Barbara
Integrated Pest Management Advisory Committee

DRAFT Fiscal Year 2022 Report

Prepared July 2022

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I. BACKGROUND

In January 2004, the City of Santa Barbara (City) adopted a City–wide Integrated Pest Management (IPM) Strategy to reduce pesticide hazards on City property and promote effective pest management.

The IPM Strategy contains the mission and purpose, assigns responsibilities, and outlines pest management processes, among other things. In addition, the Strategy requires an annual report be prepared that addresses the following:

- Types of pest problems encountered
- Types and quantities of pesticides used
- Exemptions in place and granted during the past year
- Alternatives used for phased out pesticides
- Alternatives proposed for use within the next 12 months
- Effectiveness of any changes in practices implemented
- Planned changes to pest management practices

PHAER Zone System

The IPM Strategy required the development of a "Zone System" tied to the IPM Approved Materials List to limit pesticide use based on potential human exposure. In February 2006, the City Council approved the PHAER Zone System to be incorporated into the IPM Strategy.

The PHAER Zone System assigns a Green, Yellow, or Special Circumstance/Red Zone designation to each site, or portions of sites, based upon the potential for exposure by humans and sensitive habitat to hazardous pesticides, and allows the use of carefully screened materials by zone designation. For example, Green Zones are areas of high exposure potential, and only pesticides designated as "Green", which show very limited human and environmental impacts, may be used. Yellow Zones are areas with less potential for harm from exposure, and a broader range of "Yellow" materials are permitted under the PHAER Zone System.

IPM Advisory Committee and Staff IPM Committee

The City Council established the 5 member IPM Advisory Committee by Resolution No. 06-008. The members of the Committee are appointed by the Parks and Recreation Commission to serve two-year terms. The purpose of the Committee is to review and advise on the implementation of the City's Integrated Pest Management Strategy. The Fiscal Year 2022 (FY22) IPM Advisory Committee included the following representatives:

- Greg Chittick, Community at large
- Larry Saltzman, Pesticide Awareness and Alternative Coalition
- Kristen LaBonte, Community at large

The IPM Advisory Committee has had two positions that have remained unfilled since 2013 due to the lack of applicants.

Department IPM Coordinators are designated by Department Directors to serve on the Staff IPM Committee. In FY22, Department representatives included: Todd Newell from the Airport, Ryan DiGuilio from Fire, Joe Gonzalez from Public Works, Brian Adair from the Waterfront, Mark Nunez from Parking, Scott Walwyn from the Golf Course, and Jazmin LeBlanc from Parks and Recreation. The Parks Division coordinates both the IPM Advisory Committee and the Staff IPM Committee and oversees the implementation of the City's IPM Program.

II. FY22 IPM STRATEGY RESULTS

1. IPM Advisory Committee Actions

The IPM Advisory Committee met four times to revise the Approved Materials List, hear exemption requests, hear staff communications, and approve the FY21 IPM Annual Report and the 2022 IPM Annual Plan. See Section 5. Exemptions for additional information.

2. Herbicide Alternative Exploration

Starting in April 2022, the Parks Division has been experimenting with the green material Weed Rot. It is described as a Systemic Post Emergence Non-Selective Weed Killer and has active ingredients Citric Acid and Sodium Lauryl Sulfate. Trials were performed in areas allowed by the Phaer Zone System including park planters, medians, and parking lots in over 20 locations throughout the City. Staff have applied about 8 gallons of material as of mid-July 2022. Staff have found very high efficacy on young weeds and mature weeds that are not over 4-6" in size. They have found that plants are typically controlled by 70% with the first application and totally controlled with the second application. Resistant species include nut sedge and deep tap rooted perennial weeds. We will need more time to determine how systemic the effect is, in other words, how much and for how long it effects the root system of a plant. This is the first weed killer our staff has found that meets some of the claims the distributor makes about its efficacy and we are very hopeful that it will become a useful part of our IPM program.

3. Pests Encountered

The top 3 pests encountered are shown in Table 1, with 1 being the worst pest issue encountered in FY22.

Table 1. Worst Pest Problems Encountered by Department/Division

	Airport	Golf Course	Facilities	Env'l Services	Parks	Waterfront	Creeks
1	Gophers	Summer Patch	Ants	Rats/mice	Gophers	Termites	Arundo
2	Ground squirrels	Waitea Patch	Rats/mice	Bees, yellow jackets, etc.	Ground squirrels	Rats/mice	Shamel Ash
3	General Weeds	Pythium	Termites	Mosquitos	General weeds	Gulls, nuisance birds	Cape ivy

The Airport also mentioned Rapid Blight, Anthracnose, and Rhizoctonia as particularly difficult pests.

The Creeks Division also mentioned fan palms, pampas grass, caster bean, English ivy, tree tobacco, and thistle as particularly difficult pests.

4. City-wide Pesticide Use

City Departments/Divisions that applied pesticides, or contracted with professional applicator services prepare quarterly pesticide reports, which form the basis of the Annual Report.

Pesticides reported are in either ounces, pounds, or gallons, depending on whether they are dry or liquid.

Table 2 below provides a summary of total pesticide use for FY22. See notes below for additional information by department/division.

Table 2. FY22 Pesticide Use Summary

	Material Use			
	Green	Yellow	Red	Total
Ounces	97	130.6	318	545.6
Gallons	44	15	78.8	129.8
Pounds	1,366.6	695.2	669.5	2,731.3
Total	1,507.6	840.8	1,066.3	3,406.7

AIRPORT
The Airport Department made a total of 97 applications and applied 1,918.3 units of material. The vast majority of that was 1,366.6 lbs of Vectobac (Green) to control mosquito sources and prevent West Nile Virus and other disease transmission. A little more than 41 gallons of Roundup (Red) was also applied on traffic islands and around lights and signs on the airfield.

GOLF COURSE
The Golf Division made 30 applications and applied 550.27 units of material. Green materials Primo Maxx (growth regulator) and Suppress (herbicide) represent 24% of the total units of materials used. The Golf Course also regularly uses red materials Daconil (fungicide) and Proxy (growth regulator), representing 9.6% of the total units of materials used. Daconil is used on the greens for the preventative and curative treatment of fungus. Proxy, when applied to greens, promotes dense and tightly knit grass that wears and plays better. Proxy also supports controlling the reproduction of common noxious weeds such as Poa annua, by suppressing seedhead growth.

PARKS DIVISION
The Parks Division made 5 applications and applied 217 units of material, in addition to experimenting with multiple applications of 8 gallons of Weed Rot. Applications include Wilco Ground Squirrel Bait (Yellow) at Shoreline Park in the summer of 2021 which yielded very successful results. The fungicide Subdue Maxx (Red) was used on the Morton Bay Fig Tree at the Amtrak Station.

CREEKS DIVISION
The Creeks Division made one application of 21 oz of Roundup (Red) along the Arroyo Burro Creek within the Arundo re-treatment site upstream of Cliff Drive and downstream of Hidden Valley Park.

PUBLIC WORKS DEPARTMENT
On behalf of the Public Works Department, the Mosquito and Vector Management District applied 27.6 lbs of Vectobac G (Green) for the treatment of mosquitos in 15 locations throughout the City.

As is typical, the majority of the pesticide was applied at the Andrée Clark Bird Refuge, with additional sites including Lighthouse Creek, Dwight Murphy Field, the channel behind the Municipal Tennis Center on Old Coast Highway, and various gutters and storm drains throughout the City.

The Facilities Division facilitated 15 applications of 20.6 oz of the Yellow insecticides Advion and Arilon for the control of insects such as ants and roaches. These materials were applied by a contractor at locations including Fire Stations, Franklin Center, Muni Tennis Courts, Ortega Welcome House, Central Library, and El Estero Admin Building. The Facilities Division also facilitated the fumigation of four buildings: 630 Garden Street Building, City Hall Annex Building (735 Anacapa Street), Municipal Tennis Court Building (1414 Park Place), and Fire Station #7 (2411 Stanwood Drive). These fumigations required approximately 390 lbs of red material Vikane (Red).

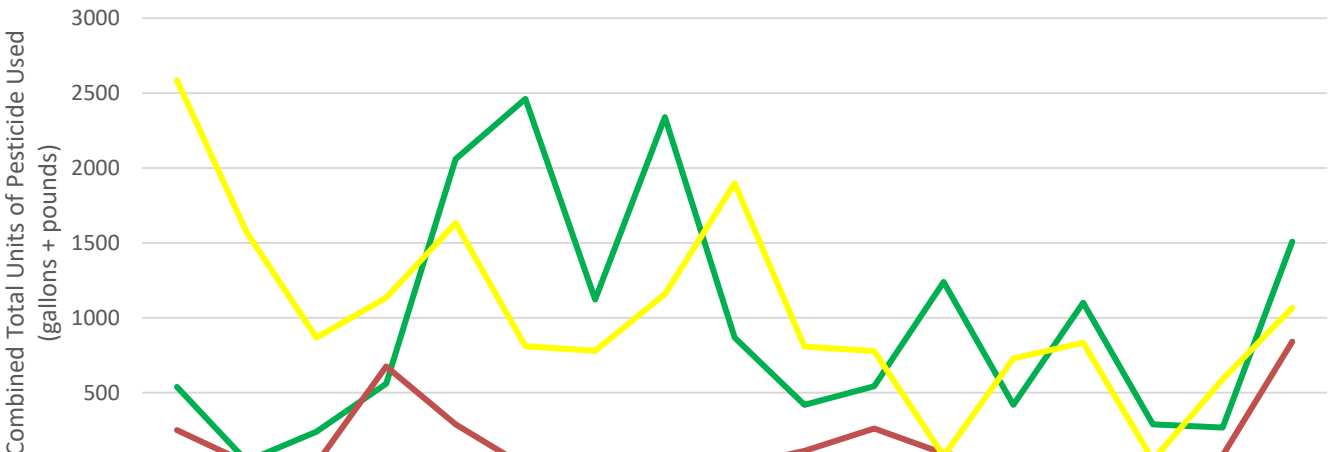
The Parking Division facilitated a fumigation of the Amtrak Building for termites. This treatment used 76 lbs of red material Vikane.

WATERFRONT

The Waterfront facilitated a fumigation of the Waterfront Center Building for termites. This treatment used 186 lbs of red material Vikane.

Figure 1 looks at the City's pesticide use by tier since 2006. The data indicates that an increase in Yellow and Red materials generally amounts to less Green material, though this is not always the case. 2010, for example, saw a higher than average use of both Red and Yellow material, while still using a significant amount of Green material. Mosquito control accounts for the majority of pesticide use in any given year.

Figure 1. Citywide Pesticide Use by Tier



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Green	537.6	43.46	239	559.5	2060	2461	1121	2339	867.3	418.4	543.1	1238	418.5	1101	289.1	267.8	1508
Red	250.7	31.81	25.39	676	289.3	7.06	15	27.67	8.51	112	260.5	94.1	26.32	22.41	49.18	81.81	840.8
Yellow	2586	1571	866.6	1134	1633	808.9	779.2	1159	1897	807.3	777.8	78.19	727.7	833.1	49.95	590.1	1066

***** To avoid skewing the annual data, the numbers for the six-month 2020 report were omitted, see Section II.

Table 3, on the next page, presents a more in-depth look at pesticide use by Department/Division, including: pesticide tier and name, active ingredient, class of pesticide, and units applied.

Table 3. Pesticide Use by Department/Division

	Pesticide Name	Active Ingredient	Type	Airport			Creeks Division			Golf Division			Parks Division			Public Works			Waterfront	Parking
				Amount of Pesticide Applied																
				Gal	Lbs	Oz	Gal	Lbs	Oz	Gal	Lbs	Oz	Gal	Lbs	Oz	Gal	Lbs	Oz	Lbs	Lbs
	Natulat T-30	Spinosad	Insecticide		0.1															
	Primo Maxx	Trinexapac-ethyl	Regulator									97.0								
	Vectobac G	Bti	Insecticide		1366.5															
	Weed Rot	Citric Acid, Sodium Lauryl Sulfate	Herbicide										8.0							
	Suppress	Caprylic, Capric Acid	Herbicide							36.0										
	Green Totals			0.0	1366.6	0.0	0.0	0.0	0.0	36.0	0.0	97.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Advion Ant Gel	Indoxacarb	Insecticide															14.0		
	Affirm WDG	Polyoxin D zinc salt	Fungicide									110.0								
	Altosid Briquettes	Methoprene	Insecticide		495.6															
	Arilon	Indoxacarb	Insecticide															6.6		
	Vectobac G	Btk	Insecticide														27.6			
	Surflan AS	Oryzalin	Herbicide	15.0																
	Wilco Ground Squirrel Bait	Diphacinone	Other											172.0						
	Yellow Totals			15.0	495.6	0.0	0.0	0.0	0.0	0.0	0.0	110.0	0.0	172.0	0.0	0.0	27.6	20.6	0.0	0.0
	Briskway	Azoxystrobin, Difenoconazole	Fungicide									160.0								
	Daconil Action	Chlorothalonil	Fungicide	19.3								15.0								
	Fore 80WP Rainshield	Mancozeb	Fungicide								17.5									
	Insignia	Pyraclostrobin	Fungicide									77.0								
	Proxy	Ethephon	Regulator							18.5										
	Roundup Promax	Glyphosate	Herbicide	41.0					21.0											
	Subdue Maxx	Mefenoxam	Fungicide												45.0					
	Vikane & Cholopicrin	Sulfuryl fluoride, Cholopicrin	Fumigant														390.0		186.0	76.0
	Red Totals			60.3	0.0	0.0	0.0	0.0	21.0	18.5	17.5	252.0	0.0	0.0	45.0	0.0	390.0	0.0	186.0	76.0
	Department Totals			**75.3**	**1862.2**	**0.0**	**0.0**	**0.0**	**21.0**	**54.5**	**17.5**	**459.0**	**8.0**	**172.0**	**45.0**	**0.0**	**417.6**	**20.6**	**186.0**	**76.0**
	City-wide Totals:			**Gallons**	**137.8**					**Pounds**	**2731.3**						**Oz**	**545.6**		

BEE CITY CERTIFICATION

Due to the City's very low use of pest control chemicals, we are a designated Bee City. On September, 19, 2017, the City Council adopted Resolution 17-097 designating Santa Barbara as a Bee City USA affiliate, a program of the Xerces Society. The Parks and Recreation Department is the designated Bee City USA sponsor assigned to facilitate the program. The Department is authorized to conduct a celebration of National Pollinator Week, including publicity through signage and creation of a webpage containing Bee City USA and local affiliate contact information; develop and implement a program to create or expand pollinator-friendly habitat; establish and annually review a policy in the IPM Strategy relating to pollinator conservation, and identifying locations for pollinator-friendly plantings.

In this year's re-certification report, we called out important work in our community during FY22 including continued volunteer efforts by Master Gardeners at the Alice Keck Memorial Garden Butterfly Garden, plantings of native California plants in the Las Positas Multiuse Path Project, and the Arroyo Burro Open Space Restoration project by the Creeks Division. In June 2022 we observed National Pollinator month with a City Council Proclamation accepted by a staff person who studies the conservation of native invertebrates for the Santa Barbara Botanic Garden.

5. EXEMPTIONS

Under the IPM Strategy and PHAER Zone System, exemptions may be granted when a pest outbreak poses an immediate threat to public health, employee safety, or will result in significant economic or environmental damage. Exemption requests are often made in anticipation of a particular pest outbreak and may be requested for one-time application or as a programmatic exemption for a set time period. The exemption process is outlined in the IPM Strategy.

Ten exemptions were requested in FY22.

AIRPORT

The Airport did not request any exemptions.

GOLF COURSE

The Golf Course requested one exemption that incorporated 14 materials including insecticides, herbicides, plant growth regulators, and fungicides. Out of the 14 materials requested and approved for use, only 7 were used. The majority of materials used by the Golf Division were fungicides used as a preventative and curative treatment of fungus pathogens on the golf course greens. The Golf Division operates as an Enterprise Fund and must generate revenue equal to the costs of operation. The challenge lies in reducing turf stress while maintaining a high quality golf experience.

PARKS DIVISION

The Parks Division requested two exemptions. One was for the application of Subdue Maxx to treat the historic Morton Bay Fig Tree for the fungal pathogen Phytopthora spp. In September 2021 the Parks Division requested the use of Fumitoxin in various parks to control gophers. This request was denied with the committee's request that staff develop a long-term plan including increased trapping for dealing with gophers before using this material. In November 2021, Parks staff prepared another request for Fumitoxin but then decided to remove the request after finding significant success with aggressive trapping.

CREEKS DIVISION

The Creeks Division requested one exemption for the use of Roundup to control Pampas grass in a small area on Las Positas Road.

PUBLIC WORKS DEPARTMENT
The Facilities Division requested two exemptions. One for the use of Indoxacarb and Fipronil for ant control in various City facilities. The City has Ant Control Policy, which includes a progressive treatment program that allows the use of higher tiered materials, such as Arilon and Navigator, only after other less toxic applications identified in the policy are tried and yield unsatisfactory results, and where pest thresholds for ants are met.

The other exemption request was for the use of Vikane and Chloropicrin for termite fumigation at four City facilities: 630 Garden Street Building, City Hall Annex Building (735 Anacapa Street), Municipal Tennis Court Building (1414 Park Place), and Fire Station #7 (2411 Stanwood Drive).

The Parking Division requested one exemption for the use of Vikane for termite fumigation at the Amtrack Building (209 State Street).

The Community Development Division requested one exemption for the use of BurnOut to control invasive weeds at Elings Park. This was to support a large restoration project with plantings of California native plants.

WATERFRONT
The Waterfront requested one exemption for the use of Vikane for termite fumigation at the Waterfront Center Building.

A summary of exemption requests and use is included below.

Table 4. FY22 IPM Advisory Committee Exemptions

Exemptions	**July 2021-June 2022**
Number of Exemption Requests (total)	10
Number of Exemption Requests Approved	8
Number of Approved Exemption Requests Applied	7
Number of Approved Exemption Requests Not Applied	1

Dept/Division	Pest	Material	Location	Approval
Parks	Phytopthora spp.	Subdue Max Fungicide	Moreton Bay Fig Train Station	Approved
Golf	Turf Fungus and various insects	Various materials	Golf Course Greens	Approved
Parks	Gophers	Fumitoxin	Various Parks	Denied
Facilities	Ants	Indoxacarb and Fipronil	Various City Facilities	Approved
Waterfront	Termites	Vikane	Waterfront Center Building	Approved
Facilities	Termites	Vikane and Chloropicrin	Four City Facilities	Approved
Parks	Gophers	Fumitoxin	Various Parks	Request removed
Parking	Termites	Vikane and Chloropicrin	Amtrack Building	Approved
Community Dev't	Invasive weeds	BurnOut	Elings Park	Approved
Creeks	Pampas grass	RoundUp	Las Positas Rd	Approved

6. ALTERNATIVE PEST MANAGEMENT PRACTICES USED

The use of non-chemical IPM alternatives are emphasized over pesticide applications. The use of alternatives by department/division are presented in Table 5 with a check (✓) indicating that the alternative was used. The data in Table 5 presents a combination of staff and contractor time.

Table 5. Alternative Management Practices Employed

PEST	Alternative	Airport	Golf	Public Works	Parks	Creeks
WEEDS	Mulch & wood chips				✓	✓
	Weed fabric				✓	
	Propane flame weeder				✓	
	Hand weeding	✓		✓	✓	✓
	Weed whip	✓		✓	✓	✓
	Habitat modification		✓		✓	✓
	Irrigation Mgmt.	✓	✓		✓	✓
	Host plants squeeze out				✓	
PLANT PESTS	Irrigation Mgmt.	✓	✓		✓	
	Compost tea/microbial in.		✓			
	Enhance plant health		✓		✓	
	Worm castings				✓	
	Effective micro-organisms		✓		✓	
	Wash off plants				✓	
	Remove plant/tree				✓	
GOPHERS	Traps	✓			✓	
SQUIRRELS	Traps				✓	
RATS & MICE	Mechanical traps			✓		
	Cat					
MOSQUITOES	Mosquito fish				✓	
	Remove stagnant water	✓		✓	✓	
BEES	Relocation			✓	✓	
OTHER	Glue traps/roaches					
	Heat Treatment	✓		✓		

The Parks Division had 10 European honeybee hives relocated from parks. Environmental Services had 41 hives relocated from City right of ways.

Environmental Services reported that Lenz Pest Control trapped 329 rodents throughout the City.

The Parks Division applied approximately 1,092 cubic yards of mulch to many park locations throughout the City. 542.5 cubic yards of this mulch came from the limbs and trees processed by our Forestry team and our tree care contractors.

The Airport reported 1,387 hours of weed whipping and 54 hours of trapping with 48 gophers and 2 ground squirrels trapped.

7. EFFECTIVENESS OF ALTERNATIVE PRACTICES IMPLEMENTED

In general, most alternative pest management practices are more labor intensive and costly, and not as effective as the use of Yellow and Red classified pesticides. While most Green materials and practices provide only moderate control of pest populations, there have been some successes.

The effectiveness of alternatives for the biggest pest problems encountered in an average year is reviewed below.

- **Weeds**: A variety of alternatives provide moderate effectiveness and control including: weeding, weed whipping, mulching, mowing, and using a flame torch in designated safe areas. These alternatives are significantly more labor and cost intensive and not as effective as Red materials such as Glyphosate. Alternative chemicals, such as clove oil or acid-based herbicides, have not always proven effective. This has resulted in a notable increase in weed populations, predominantly on parkland, that continues to have a negative effect on aesthetics and landscape health.
- **Insects / Mollusks:** Results are mixed for combating insects and mollusks. For some insects, there are no known effective alternatives. Some alternatives can be very effective but expensive, such as removing non-resistant plants and replacing them with resistant varieties. However, the following alternatives have proven successful against insects and mollusks:
    - Sluggo for snails and slugs
    - Worm castings for white fly
    - Insecticidal soap for aphids
    - Neem oil as a dormant spray
    - Bti and Spinosad for mosquitoes
    - Acelepryn for beetles
    - Boric Acid for ants
- **Disease:** No effective alternative has been found for most diseases. Where possible, staff focuses on preventative treatments to enhance plant health. Once disease strikes, a plant may be removed and replaced with a less susceptible plant. If a plant cannot be removed, pesticides are generally required to combat the disease.
- **Gophers:** For the most part, mechanical traps are being used City-wide. Traps have been found to be moderately effective and are more expensive than rodenticides due to higher costs of purchasing, installing, monitoring, and cleaning out traps.
- **Ground Squirrels:** Mechanical trapping is the primary method of control at this time. This method is moderately effective at controlling populations. Both trapping and baiting have proven very labor intensive.
- **Mice / Rats:** At this time, traps are the primary way of controlling this population. Traps have been found to be effective depending on population size and location and available food sources. Positive public perception seems to far outweigh the costs of using traps. Traps are very effective in controlling rodents on downtown State Street and at Coast Village Road.
- **Termites:** Facilities will use heat treatments to control drywood termites where appropriate. Heat was found to be equally effective as pesticides on smaller buildings with drywood termites. However, costs are 50% higher at this time, and heat is not effective on large structures or with subterranean termites.

8. CONCLUSION

Many factors contribute to the use of pesticides as well as the color classification of pesticides used. These include weather patterns (unseasonably dry or wet weather), introduction of new, or changes to, existing pest populations, and effectiveness of alternative methods, as well as the effectiveness and availability of certain pesticide materials. Such variances are, and will continue to be, a normal occurrence.

Because the number of factors that affect pesticide use can vary greatly from year to year, it is difficult to look at past pest management practices to predict future pesticide use. In addition, prior to implementing IPM and the PHAER Zone System, pesticide use was analyzed only by the Parks Division and used at higher frequencies and in larger quantities, based on staff and IPM Advisory Committee knowledge.

In addition, it should be noted that the amount of pesticides used and the number of applications are not necessarily accurate indicators of the extent of pesticide use or, conversely, the extent of use of reduced-risk pest management methods and alternative practices. For example, staff may apply several hundred small-scale "spot" applications targeted at problem areas rather than a few treatments of a large area. Further, staff may replace a more toxic pesticide used at a smaller quantity with a less hazardous compound that must be applied at a much larger quantity.

It is always important for City staff to find low risk, cost effective, viable alternatives to reduce pesticide hazards and to increase the overall efficiency of IPM practices. Additionally, changes in maintenance standards and expectations may be necessary if more Green materials are employed.

III. PLAN FOR FISCAL YEAR 2023

All departments will continue to test any promising new materials or methods of integrated pest management as they are introduced.

The Parks Division plans to update the IPM policy, program documents, and processes to better coordinate across departments and manage IPM into the future now that the program is 20 years old. The Parks Division also plans to install Bee City signage in various high profile parks with flowering plants including Alice Keck Park Memorial Garden, Mission Rose Garden, and somewhere along the beach area. We also plan to observe Pollinator Week in June 2023. Parks will also continue to experiment with Weed Rot as it is proving to be a relatively effective green material. Staff will report to the IPM Advisory Committee as significant findings are made.

Staff and the IPM Advisory Committee will continue to monitor research regarding impacts of pesticides on humans, wildlife, and native habitats as well as begin a discussion on funding and staffing options for community education and outreach to reduce pesticide use on private property. It is staff’s goal to present the Parks and Recreation Commission with any recommendations for changes City’s IPM Strategy and/or PHAER Zone System.

IV. ATTACHMENTS

ATTACHMENT A: APPROVED MATERIALS LIST

The pesticides listed on the Approved Materials List are categorized according to the pesticide screening protocol in the PHAER Zone System. It has been the practice of the IPM Committee to make adjustments to the Approved Materials List in the IPM Annual Report shown below. This list supersedes the version in the IPM Strategy and PHAER Zone System. A mark in the Used column indicates this active ingredient was utilized during the reporting period.

Used	Product Name	Active Ingredient	ZONE	Type
	Advance Ant Bait	Orthoboric Acid	Green	Insecticide
	Advion Roach Stations (enclosed)	Indoxacarb	Green*	Insecticide
	AllDown	citric acid, acetic acid, garlic	Green	Herbicide
	Any brand name	Orthoboric Acid ant bait station	Green	Insecticide
	Avenger	Citrus oil	Green	Herbicide
	Avert Cockroach Bait Station	Abamectin B1 0.05%	Green*	Insecticide
	Avert Cockroach Gel Bait	Abamectin B1 0.05%	Green*	Insecticide
	Bactimos Pellets	Bt	Green	Insecticide
	Bactimos Wettable	Bt	Green	Insecticide
	Bio-Weed	corn gluten	Green	Herbicide
	Borid Turbo	Orthoboric Acid	Green	Insecticide
	BurnOut 2	clove oil	Green	Herbicide
	Cease Biofungicide	B. subtilis	Green	Fungicide
	Cinnamite	cinnamaldehyde	Green	Insect/Fung
	Conserve	spinosad	Green	Insecticide
	Dipel Flowable	Bt	Green	Insecticide
	Drax Ant Kill PF	Orthoboric Acid	Green	Insecticide
	EcoExempt	Wintergreen Oil	Green	Herbicide
	EcoExempt D	2-Phenethyl propionate / Euginol	Green	Insecticide
	EcoVia	Thyme oil, 2-Phenethyl propionate,Rosemary oil	Green	Insecticide
	Embark	mefluidide	Green	Growth Regulator
	GreenErgy	Citric, Acetic Acid	Green	Herbicide
	Kaligreen	potassium bicarbonate	Green	Fungicide
	Matran (EPA Registration Exempt)	clove oil	Green	Herbicide
x	Naturlar	spinosad	Green	Insecticide
	Natura Weed-A-Tak	clove oil	Green	Herbicide
	Niban	Isoboric Acid 5%	Green	Insecticide
x	Primo-Maxx	Trinexapac-Ethyl	Green	Growth Regulator

Used	Product Name	Active Ingredient	ZONE	Type
	Safer Soap	potassium salts of fatty acids	Green	Insecticide
	Sluggo	iron phosphate	Green	Other
	Summit BTI Briquets	Bt	Green	Insecticide
	Suppress Herbicide Ec	Caprylic and Capric Acid	Green	Herbicide
	Teknar HP-D	Bti	Green	Insecticide
	Terro II	Orthoboric Acid	Green	Insecticide
x	Vectobac G	Btk	Green	Insecticide
	VectoLex CG	bacillus sphaericus	Green	Insecticide
	Victor Wasp and Hornet Killer	Mint Oil 8% & Sodium Lauryl Sulfate 1%	Green	Insecticide
	Acelepryn	Chlorantraniliprole	Yellow	Insecticide
x	Advion Ant Arena	Indoxacarb	Yellow	Insecticide
	Advion Roach Gel	Indoxacarb	Yellow	Insecticide
	Advion Insect Granules	Indoxacarb	Yellow	Insecticide
x	Affirm	Polyoxin D zinc salt	Yellow	Fungicide
	Agnique MMF	POE Isoocatadecanol	Yellow	Insecticide
	Aliette	fosetyl aluminum	Yellow	Fungicide
x	Altosid Briquettes	methoprene	Yellow	Other
	Altosid Liquid	methoprene	Yellow	Other
	Altosid Pellets	methoprene	Yellow	Other
	Altosid XR-B	methoprene	Yellow	Other
	Appear II	Potassium Phosphite	Yellow	Fungicide
x	Arilon	Indoxacarb	Yellow	Insecticide
	Avid	abamectin	Yellow	Miticide/Insecticide
	Ditrac	Diphacinone	Yellow	Rodenticide
	Dormant	petroleum oil	Yellow	Insecticide
	Green Light	Neem oil	Yellow	Insecticide/Fungicide
	Kop-R-Spray	Copper Oil	Yellow	Fungicide
	Legacy	flurprimidol + trinexapac-Ethyl	Yellow	Herbicide -PGR
	M-PEDE	potassium salts of fatty acids	Yellow	Insecticide
	Omni Oil	Mineral Oil	Yellow	Fungicide
	Polaris	Imazapyr	Yellow	Herbicide
	Prostar 70 WP	flutolanil	Yellow	Fungicide
	Rose Defense	Neem oil	Yellow	Insect/Fung
	Safticide Oil	petroluem oil	Yellow	Insecticide
	Stylet Oil	Petroleum distillates	Yellow	Insecticide
	Sulf-R-Spray	Parafin oil, sulfur	Yellow	Fungicide
	Razorooter	Diquat	Yellow	Herbicide
	Superior Spray Oil	petroleum distillates	Yellow	Insecticide

Used	Product Name	Active Ingredient	ZONE	Type
	Surflan	oryzalin	Yellow	Herbicide
x	Surflan AS	oryzalin	Yellow	Herbicide
	Termidor SC	Fipronil	Yellow	Insecticide
	Triact	Neem oil	Yellow	Insecticide/Fungicide
	Trilogy	Neem oil	Yellow	Insecticide/Fungicide
	Wasp-Freeze	allethrin	Yellow	Insecticide
x	Wilco Ground Squirrel Bait	diphacinone	Yellow	Other
	XL 2G	benefin; oryzalin	Yellow	Herbicide
	Aquamaster-Rodeo	glyphosate	Red	Herbicide
	Bayleton	triadimafon triazole	Red	Fungicide
x	Briskway	Azoxystrobin; Difenoconazole	Red	Fungicide
	Cleary's 3336	Thiophanate methyl	Red	Fungicide
x	Daconil	Chlorothalonil	Red.	Fungicide
	Dorado	Propiconazole	Red	Fungicide
x	Fore 80WP Rainsheild	Mancozeb	Red	Fungicide
	Fumitoxin	Aluminum phosphide	Red	Rodenticide
x	Insignia	Pyraclostrobin	Red	Fungicide
	Instrada	Propiconazole / fludioxonil	Red	Fungicide
	Heritage	Azoxystrobin	Red	Fungicide
	SedgeHammer / Manage	halosulfuron methyl	Red	Herbicide
	Medallion	fludioxonil	Red	Fungicide
	Quick Pro	glyphosate/diquat	Red	Herbicide
x	Proxy	Ethephon	Red	Growth Regulator
	Reward	diquat dibromide	Red	Herbicide
x	Roundup PROMAX	glyphosate	Red	Herbicide
	Roundup Custom	glyphosate	Red	Herbicide
	Rubigan	fenarimol	Red	Fungicide
	Rubigan EC	fenarimol	Red	Fungicide
	Secure Action	Fluazinam / Acibenzolar-S-methy	Red	Fungicide
	Specticle	Indaziflam	Red	Herbicide
	Subdue	metalaxyl	Red	Fungicide
x	Subdue Maxx	Mefenoxam	Red	Fungicide
	SureGuard	Flumioxazin	Red	Herbicide
	Tebuconazole 3.6	Tebuconazole	Red	Fungicide
	Trimmit 2SC	Paclobutrazol	Red	Growth Regulator
	Turflon	Triclopyr	Red	Herbicide
	Velista	Penthiopyrad	Red	Fungicide
	Zp Rode	Zinc phosphide	Red	Rodenticide
	Zythor	Sulfuryl flouride	Red	Insecticide

* By decision of the Citizen IPM Advisory Committee, chemicals that may be classified normally as Yellow materials may be classified as Green materials if they are entirely enclosed in factory sealed bait stations.