

STAFF REPORT
COUNCIL MEETING DATE:
January 9, 2012

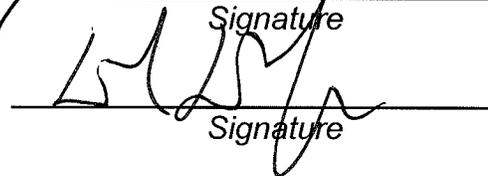
ITEM FOR COUNCIL CONSIDERATION:

Resolution No. 5355 establishing an Integrated Pest Management Policy for the City of Carpinteria.

Report prepared by:
Matthew Roberts, Parks and Recreation Director


Signature

Reviewed by:
Dave Durlinger, City Manager


Signature

STAFF RECOMMENDATION:

Action Item: **Adopt Resolution No.5355, as read by title only, establishing an Integrated Pest Management Policy for the City of Carpinteria.**

Sample Motion: I move to adopt Resolution No.5355, establishing a City of Carpinteria Integrated Pest Management Policy as read by title only.

I. BACKGROUND:

During the regularly scheduled City Council meeting held on October 10, 2011, the City Council directed Staff to prepare a draft Integrated Pest Management (IPM) policy that encompasses specific tenets as presented in the Staff Report prepared for that meeting.

Employing an IPM policy allows the City to maintain safe, healthy and attractive public spaces and facilities landscapes while reducing the use of pesticides that may pose a public health and/or environmental risk.

The City has for many years practiced IPM principles in its park and street maintenance programs. The purpose of developing an IPM policy is to formalize and institutionalize the current practices and to provide a framework to implement best IPM practices.

II. ANALYSIS:

The adoption of this Policy formally commits the City to the use of IPM principles and practices and establishes a process that ensures consistent and transparent application of the policy provisions. This policy will apply to work by contractors hired by the City as well as to work performed by City employees.

A. What is IPM?

IPM is a problem-solving approach to property management intended to prevent, control and eliminate undesirable weeds, insects and animals. IPM practices will result in the reasonable use of the least toxic method to achieve the desired pest control goal, but doesn't necessarily eliminate the use of pesticides. When a pest or weed is expected to exceed a predetermined damage threshold, appropriate pest control strategies are considered on a hierarchical order with the least toxic method first. Appropriate public notifications and site controls are mandated when pesticides are used.

B. What are Pests

Pests are undesirable plants, insects, fungi, molds and rodents. Common examples in the landscapes are kikuyu grass, crabgrass, various types of ivy, poison oak, termites, gophers, moles and ground squirrels. Weeds can become a significant problem on our athletic fields, public road right of way and other public grounds. They can overtake and damage large areas of turf resulting in poor playability, unsafe playing conditions and exposing the City to significant renovation costs. Tall weeds along roadways can block the line of sight views of motorists and create safety issues for pedestrians and bicyclists. Pests in buildings such as ants, termites, mice and other rodents that thrive when food and other conditions are available can create unhealthful conditions including hygiene, disease, safety and odor problems as well as cause damage to building structures.

C. What is a PHAER zone system.

The PHAER zone system assigns green, yellow, or a special circumstance/red zone designation to sites, or portions of sites, based upon the potential for exposure by humans and sensitive habitat to hazardous pesticides, and allows use of carefully screened materials by zone designation. This color metric system is depicted on maps that can be easily displayed as a part of an IPM program and a public information program. Each City park is proposed to be shown with green, yellow or red zones shown. For example, green zones are areas of high exposure potential, therefore pesticides must be minimally used and carefully selected for lowest possible toxicity. Yellow Zones are areas with less potential of harm from exposure, and a broader range of materials are permitted. The PHAER zone model also designates specific pesticides on a list appropriate for use in each established zone and helps to measure progress toward the reduction in toxic pesticide use. For example, an expansion of green zones would indicate an expansion of the least toxic approach in those areas. Pesticides qualified for each list, green, yellow or red are selected based upon the material's toxicity. Santa Barbara City drew upon a list generated by the City of Seattle and the

City/County of San Francisco to create its own PHAER color coded pesticide list. Similarly, city staff would prepare a list of pesticides now or anticipated to be used and categorize them based upon information available including adjacent agencies' experience.

The City of Santa Barbara implemented a PHAER zone system in 2006.

A Carpinteria City specific PHAER zone system is proposed to be authored with input from the IPM Committee and implemented as soon as it can be prepared subsequent to the adoption of an IPM policy.

Staff has reviewed numerous IPM policies from other California Communities as well as the policy from Carpinteria Unified School District. The City of Davis, a leading public agency in this policy area has an award winning IPM policy that embodies the standards of IPM programming while allowing the use of pesticides in limited circumstances. The cities of Berkeley and Santa Barbara have IPM policies that take a similar approach. These agencies and many others believe that pesticide use should be minimized yet can be used safely and beneficially when needed. The City of Santa Cruz, in their IPM policy, states that "The application of pesticides will remain an option if alternative control options are not effective".¹ Staff did find that the town of Fairfax, CA prohibited use of all pesticides in their parks and roadways. The town has about two acres of parks with no athletic fields making hand weeding and trapping economically viable.

Staff has also had conversations with several agency representatives regarding the relative success of their IPM programs. Various challenges and outcomes are reported but all agencies contacted indicate using IMP tactics are manageable.

The draft IPM Policy as presented is based on the following tenets approved by the City Council at its October 10, 2010 meeting as the basis for the IPM policy.

- To reduce the use of pesticides in City owned public parks to the minimum that is practical. Use of IPM tactics such as mulching, hand weeding, and trapping will be the first line of defense.
- To define pesticide free areas where no pesticides will be used such as in or around playgrounds or picnic areas.
- To manage turf areas in neighborhood parks differently than in athletic fields. Neighborhood parks will be proposed to allow higher levels of weed infestation in the turf and have a higher mow height.
- To use IPM tactics from mainstream sources; specifically the University of California at Davis² the California Invasive Plant Council³ and the California Department of Pesticide Regulation⁴. These resources provide some of the most up to date information about control methods of invasive species of concern and the safe use of pesticides.

¹ See this link for a useful partial list of cities with IPM policies. <http://www.pesticidereform.org/section.php?id=45>

² UC Davis IPM website: <http://www.ipm.ucdavis.edu>

³ California Invasive Weed Council website: <http://www.cal-ipc.org>

⁴ California Department of Pesticide Regulation website: <http://apps.cdpr.ca.gov>

- To work with the City's contract service providers to be sure they are using best management practices and are fully compliant with IPM tactics.
- When a pesticide use is indicated, to identify the least toxic yet effective pesticide that can be used using EPA toxicity ratings.
- To define a delineation and notification protocol to alert the public when any pesticide is planned to be used.
- To prepare an annual report to disclose pest issues encountered and tactics used to combat the problem including the pesticide use, if any, in the City parks. This report will be filed with the City Clerk for public inspection and presented to the City Council if desired.

Use of Pesticides

The proposed policy supports avoiding the use of pesticides for strictly aesthetic purposes, however, the policy also recognizes that management of City parks, public road right-of-ways, and facilities includes eliminating known hazards in order to protect public health and safety and that use of pesticides may be determined to be necessary when balancing management objectives. Pesticide use would only be considered if non-toxic methods are determined to be ineffective. In the event pesticide use is determined to be necessary, IPM application and appropriate notification guidelines would be followed. Disinfectants and sanitizers used to protect human health are excluded from the proposed policy.

Restrictions on the use of Pesticides

The effect of the proposed IPM policy would be to establish the use of pesticides by the City as a "last resort" in most applications. A committee, discussed below, would assist staff in determining facilities and/or applications where pesticide use is the preferred maintenance method.

A written IPM policy for the City will not affect the use of pesticides by other public agencies or private persons on property not controlled by the City. The use of pesticides by others such as Union Pacific Railroad, the Santa Barbara Vector Control District, Cal Trans, special districts, private residences, business and local agriculture is how the majority of pesticide use in Carpinteria occurs. Pest control service providers also apply pesticides routinely in Carpinteria for their private customers.

Included in the proposed policy is a public outreach and education component that will encourage the use of IPM tactics on private property. Use of the City newsletter, GATV and other outreach methods are proposed to be used to help make IPM concepts easy to understand and be used by members of the general public.

The proposed policy states that the application of any pesticide may be performed only by certified applicators and is consistent with state law.

The proposed policy also calls for the establishment of public notification protocols when pesticides are used. The use of a PHAER zone system is called for in the policy.

Formation of an Advisory Committee

Many communities that have adopted an IPM policy have included the formation of a committee to advise the agency on the implementation of the policy. Some communities have committees comprised of staff members and others entirely of community members. Staff recommends the Carpinteria committee be comprised of both City Staff and Community members. Selection of committee members is at the discretion of the City Council.

The benefits of creating an advisory committee include the diversity of opinion and experience it can bring to best manage public resources. Advisory committee benefits also include having an outside perspective, and creating an additional forum for public input. Staff suggests the committee be formed with the following recommendations.

The committee be comprised of five members including :

1. A Public Works Department representative
2. A Parks and Recreation Department representative
3. A Bluffs Advisory Board representative
4. Two representatives of the public at large, to be nominated by the Mayor and confirmed by the City Council after an open application period.

The Integrated Pest Management Advisory Committee (IPMAC) will be advisory to the City Council and will not have any final decision making authority. Committee recommendations may have financial and liability implications and because the City ultimately bears fiduciary responsibility, it is important that City staff and elected officials retain decision-making authority.

The purpose of the Committee will be to help develop the PHAER model and it's colorimetric pesticide list, receive the annual IPM report and make recommendations regarding IPM practices, including recommendations concerning appropriate pest eradication methods for specific City parks, public road right-of-ways, and facilities, and reporting format and policy revisions.

The Committee will meet no less than annually after it is established.

Should the City Council adopt the proposed policy as presented, Staff will initiate a process to solicit application for the two public members. All committee members would be appointed by the usual process of nomination by the Mayor and confirmation by the City Council.

The City Council could as an alternative, direct staff to form a committee with a broader purpose that is larger than the proposed IPMAC. This committee could provide perspective and input for a broader range of park and recreation issues for the City that includes trail and park improvement program goals. If this option is to be considered, staff could return with additional analysis at a subsequent City Council meeting.

III. POLICY:

The City Council has the authority to establish policies that bind staff operationally. The Policy once set, can only be modified by City Council action.

The establishment of a formal park IPM policy will assist the City in its compliance with a variety of existing policies and objectives the City pursues including storm water management, creek and riparian habitat protection, worker safety and public health and safety.

IV. FINANCIAL CONSIDERATIONS:

The implementation of the IPM policy is likely to put upward pressure on City maintenance costs. The City maintains over 400 acres of parks and public road right-of-way. Pesticides are ubiquitous because they are cost effective. For example, the use of herbicides can reduce manual labor costs significantly. The cost of procuring and spreading mulch can be far greater than the application of an herbicide. Comparative examples were provided in the Staff Report prepared for the October 10, 2011 meeting. These examples are attached to this report as Exhibit A.

V. LEGAL ISSUES:

A. Liability

The City must always be mindful of liability issues. City owned facilities must be maintained with a standard of care that provides for optimal public safety. The implementation of an IPM policy must include the flexibility to allow for the use of pesticides when conditions warrant including the reduction or elimination of a hazardous condition. For example, the least hazardous method to control a noxious weed such as an infestation of poison oak in a neighborhood park may in fact include the use of toxic herbicides. Removal by hand could expose a worker to a serious infection and serious injury. Ignoring the infestation could lead to ongoing accidental exposure to park visitors possibly resulting in injury. Low toxicity herbicides have little effect on woody species such as poison oak. Longer term methods such as black plastic (solarization) should be considered but this can take many months to succeed and are known to create other environmental issues.

Another example involves the weeds along road shoulders (public road right of way). This maintenance is critical for pedestrian and motor safety. High weeds can interfere with line of sight and pose a significant hazard. Dry weeds along road ways can provide tinder to illegally discarded burning cigarette butts. While mulching and mowing are prioritized and used currently for right of way maintenance purposes, herbicide application is still a cost effective method sometimes needed to keep up with the task, especially in wet winters.

B. CEQA exemption.

The proposed IPM Policy adoption is exempt from CEQA pursuant to State CEQA Guidelines:

§ 15060(c)(2) : (activity will not result in a direct or reasonably foreseeable indirect physical change in the environment)

§ 15060(c)(3): (the activity is not a project) as defined in Section 15378 of the CEQA Guidelines, California Code of Regulations, Title 14, Chapter 3, because it has no potential for resulting in physical change to the environment, directly or indirectly.

§15061(b)(3): CEQA does not apply to projects where the lead agency determines "with certainty that there is no possibility that the activity in question may have a significant effect on the environment."

§ 15307. Actions by Regulatory Agencies for Protection of Natural Resources
Class 7 consists of actions taken by regulatory agencies as authorized by state law or local ordinance to assure the maintenance, restoration, or enhancement of a natural resource where the regulatory process involves procedures for protection of the environment. Examples include but are not limited to wildlife preservation activities of the State Department of Fish and Game. Construction activities are not included in this exemption.

§ 15308. Actions by Regulatory Agencies for Protection of the Environment
Class 8 consists of actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. Construction activities and relaxation of standards allowing environmental degradation are not included in this exemption.

VI. ATTACHMENTS:

Exhibit A Cost comparison examples
Exhibit B Sample PHAER pesticide lists,
City of Santa Barbara
City of Davis
Resolution # 5355

Exhibit A

Cost Comparison Examples

The use of pesticides is most frequently motivated by their effectiveness both in cost and in achieving control of the targeted pest. In some cases, the use of pesticides is the only cost effective method. Sometimes the alternatives are far more labor intensive and consequently more costly. The use of heavy machinery such as a backhoe tractor and a bulldozer to perform the initial removal of stands of tamarisk as an alternative to herbicides, for example, would cost much more and may be more destructive to the environment. The freshly cut wood must be ground up or trucked away as even large wood branches of this species can have roots emerge as it attempts to reestablish itself. The need to create a road to the project site for the machinery operation can have an undesired effect on the habitat including soil compaction and destruction of many plants and animals that were not targeted. The costs are obviously relative to the size of the job but a crew operating chain saws, an excavator, a dump truck and the costs associated with the woody debris removal will easily approach \$5,000 per day.

Excavator with operator daily rate	\$1,400
Bulldozer with operator daily rate	\$1,400
2 man chain saw crew daily rate	\$ 960
Dump truck with operator daily rate	<u>\$ 960</u>
Total	\$4,720

The same project when herbicides are used and the trees are left standing could cost less than \$600 per day.

1 gallon of glysohate	\$ 40
2 man application crew daily rate	<u>\$500</u>
Total	\$540

Assuming that both methods of treatment will require at least one retreatment, the herbicide application method can save over \$8,000 over the mechanical method for a small removal.

Similarly, the use of glysohate to control Bermuda grass in a native plant restoration has similar economics. When Bermuda grass is actively growing, it is effectively controlled with this herbicide. The use of a hand crew to repetitively weed the project site could require routine visits for months and months on a weekly basis. The use of herbicide may take two applications, the first having the most effect with a smaller secondary application two or more months later to complete the treatment. The cost comparison between the two methods demonstrates that the manual method would be cost prohibitive.

Two man weeding crew daily rate, once a week for 26 weeks	$\$320 \times 26 = \$8,320$
Two man herbicide application crew daily rate for two applications	$\$540 \times 2 = \underline{\$1,080}$
Difference in costs	\$7,240

Exhibit B

Exhibit B Sample PHAER pesticide lists,

City of Santa Barbara

City of Davis

GREEN MATERIALS LIST

ATTACHMENT 1

This list should serve as a reference document for material selection, and to demonstrate hazard screening protocol. It is not comprehensive of all materials, nor should it be adopted in whole. Sources should be viewed periodically for updates

EPA REGISTRATION EXEMPT: Biologicals, pheromones, food/household materials

Label will indicate if product is EPA Registration Exempt. Product must meet three criteria:

1. Active ingredients must be on the FIFRA 25(b) list:
<http://www.epa.gov/oppbppd1/biopesticides/regtools/index.htm>
2. Other Ingredients ('Inerts') must be on the EPA 4(a) List "Inerts or Minimal Concern":
<http://www.epa.gov/oppbppd1/biopesticides/regtools/index.htm>
3. 100 percent of formulation by weight must appear on the label

Herbicide		Tier 4	Bioganic Broadleaf Killer	eugenol, phenethyl propionate	
Herbicide		Tier 4	Bioganic Weed & Grass Killer	eugenol, thyme oil, acetic acid	
Herbicide		Tier 3	corn gluten meal (any)	corn gluten	
Herbicide		Tier 4	EcoExempt HC	Eugenol (clove oil) 21.4%, 2-phenethyl propionate 21.4%	
Insecticide		Tier 3	EcoExempt IC	Rosemary oil 10%; wintergreen oil, mineral oil (inerts)	
Insecticide		Tier 3	Gnatrol (Vectobac)	B.t.i.	
Herbicide		Tier 4	Matran 2	clove Oil	
Herbicide		Tier 3	Suppressa	corn gluten meal	
Insecticide		Tier 3	Thuricide HPC	B.t.k.	
Insecticide		Tier 3	Vectobac 12AS	B.t.i.	
Insecticide		Tier 3	Victor Poison Free Wasp & Hornet	mint oil	

San Francisco Tier 3, Tier 2 Allowed, Tier 4 Allowed

<http://temp.sfgov.org/sfenvironment/aboutus/innovative/ipm/>

Pesticide Type	Use Category	Hazard Tier	Product Name	Active Ingredients	Use Limitations
W=herbicide in water F=fungicide I= insecticide H=herbicide M=molluscicide V=vertebrate A=adjuvant P=plant hormone	A = allowed L= limited L* = special concern	1 = Highest 2 = Moderate 3 = Lowest 4 = Data gaps			
Fungicide	A	Tier 4	Root Shield Drench	<i>Trichoderma harzianum</i>	
Insecticide	A	Tier 4	Gentrol IGR Concentrate	hydroprene	
Fungicide	A	Tier 4	Serenade	Bacillus subtilis	
Fungicide	A	Tier 4	TurfShield	Trichoderma strain	
Water applied herbicide	A	Tier 3	Aquashade	acid yellow-23, acid blue 4	
Herbicide	A	Tier 3	Bio-Weed	corn gluten meal	

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Insecticide	A	Tier 3	Cinnamite	Cinnamaldehyde	
Adjuvant	A	Tier 3	CMR Silicone Surfactant	polymethylsiloxane, nonionic	
Plant hormone	A	Tier 3	Dip'n Grow	indole-3-butyric acid	
Insecticide	A	Tier 3	Hot Pepper Wax Insect Repellent	capsaicin .00014%	
Insecticide	A	Tier 3	Javelin WG	<i>Bacillus thuringiensis</i>	
Fungicide	A	Tier 3	Kaligreen	potassium bicarbonate	
Insecticide	A	Tier 3	Mosquito Dunks	Bacillus Thuringiensis	
Insecticide	A	Tier 3	Pharorid	methoprene	
Insecticide	A	Tier 3	Roach Terminal	oxypurinol, xanthine	
Molluscicide	A	Tier 3	Sluggo Slug and Snail Bait	iron phosphate	
Adjuvant	A	Tier 3	Spraytech Oil	soybean oil	
Insecticide	A	Tier 3	Vectobac-G Biological Mosquito Larvicide	Bacillus Thuringiensis	
Vertebrate	A	Tier 3	Vectolex G Biological Mosquito Larvicide	bacillus sphaericus	
Insecticide	A	Tier 2	Avert Cockroach Bait Station	abamectin	
Insecticide	A	Tier 2	Avert Cockroach Gel	abamectin	
Insecticide	A	Tier 2	Gourmet Liquid Ant Bait	Disodium octaborate tetrahydrate (DOT) - 2%	
Fungicide / Insecticide	A	Tier 2	JMS Stylet Oil	petroleum distillates	
Insecticide	A	Tier 2	Prescription Treatment Brand Advance Liquid Ant Bait	Boric acid 1%	
Insecticide	A	Tier 2	Uncle Alberts Ant Bait	Disodium Octaborate Tetrahydrate	
Fungicide / Insecticide	A	Tier 2	Valent Volck Supreme Spray	petroleum oil	

GREEN MATERIALS LIST

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Seattle Tier 3

<http://www.ci.seattle.wa.us/environment/pesticides.htm>

Type	Tier	Product	Active	Notes
Insecticide	Tier 3	Agnique MMF	ethoxylated alcohol	*may be toxic to aquatic invertebrates
Herbicide	Tier 3	Allpro Moss & Algae Killer	potassium salts of fatty acids	no health or environmental risks identified by EPA
Fungicide	Tier 3	AQ10 Biofungicide	Ampelomyces quisqualis	
Insecticide	Tier 3	Bactospein	Bacillus thuringiensis	* may be pathogenic to honeybees.
Insecticide	Tier 3	BotaniGard 22WP	Beauveria bassiana	* may be pathogenic to honeybees.
Insecticide	Tier 3	BotaniGard ES	Beauveria bassiana	
fungicide/Insecticide	Tier 3	Cinnamite	cinnamaldehyde	
Insecticide	Tier 3	Concern Insect Killing Soap	potassium salts of fatty acids	EPA registration not required due to low risk
Insecticide	Tier 3	Dipel 2X or 4L	B.t.k.	
Other	Tier 3	Embark	mefluidide	indoor use only
Insecticide	Tier 3	Enstar 2E	s-kinoprene	
Fungicide	Tier 3	First Step	potassium bicarbonate	
Insecticide	Tier 3	Foray 48B	B.t.k	
Fungicide	Tier 3	Kaligreen	potassium bicarbonate	converted to naturally-occurring iron salts
Herbicide	Tier 3	Moss-Out Granules (L-M)	ferrous sulfate monohydrate	
Insecticide	Tier 3	M-PEDE (soap)	potassium salts of fatty acids	subregistration of Thuricide, see below
Insecticide	Tier 3	Natural Guard B.t.	B.t.k.	
Insecticide	Tier 3	Nemasys	Steinernema feltiae	
Fungicide	Tier 3	Remedy	potassium bicarbonate	
Fungicide	Tier 3	Safer Garden Fung	sulfur	
Insecticide	Tier 3	Safer Insecticidal Soap	potassium salts of fatty acids	
Herbicide	Tier 3	Safer Moss/Algae	potassium salts of fatty acids	
Herbicide	Tier 3	Safer Superfast RTU	potassium salts of fatty acids	
Other	Tier 3	Sluggo	iron phosphate	product not yet EPA-registered; placement tentative
Herbicide	Tier 3	TerraCyte	sodium carbonate peroxyhydrate	surfactant
Other	Tier 3	Terwet 1800	alkyl polyglycoside	
Other	Tier 3	Worry Free	iron phosphate	

YELLOW MATERIALS LIST

This list should serve as a reference document for material selection, and to demonstrate hazard screening protocol. It is not comprehensive of all materials, nor should it be adopted in whole. Sources should be viewed periodically for updates

San Francisco Tier 2 Limited

Source and Explanation of Protocol: <http://temp.sfgov.org/sfenvironment/aboutus/innovative/ipm/>

Pesticide Type	Use Category	Hazard Tier	Product Name	Active Ingredients	Use Limitations
	A = allowed L= limited L* = special concern	1 = Highest 2 = Moderate 3 = Lowest 4 = Data gaps			
Herbicide	L	Tier 2	Ezject Selective Injection Herbicide	glyphosate	Tree stump injection especially where resprouting is likely, prefer mechanical methods when possible such as stump grinding
Herbicide	L	Tier 2	Garlon 4	triclopyr	Targeted treatment of invasive exotics in parks,natural areas, right of ways. OK for fuel reduction, pilot alternative strategies.
Herbicide	L	Tier 2	Oust XP Herbicide by DuPont	sulfometuron-methyl	Rights of ways.
Herbicide	L	Tier 2	Roundup Pro Herbicide	glyphosate	Spot application of areas inaccessible or too dangerous for hand methods, right of ways, utility access, fire prevention. Use for cracks in hardscape and edging only as last resort. OK for rennovation but must put in place weed prevention measures.
Herbicide	L	Tier 2	Roundup ProDry	glyphosate	same limitations as Roundup Pro
Herbicide	L	Tier 2	Turflon Ester (post)	triclopyr	Targeted treatment of turf; broadcast application requires exemption
Insecticide	L	Tier 2	Agnique MMF	isooctadecyl-hydroxyl	Standing water, human health concerns.
Insecticide	L	Tier 2	Altosid Briquets by Zoecon	methoprene	PUC for contained sewage treatment facilities. For public health use. Not for use in estuarine environments.
Insecticide	L	Tier 2	Altosid Pellets by Zoecon	methoprene	Not for use in estuarine environments
Insecticide	L	Tier 2	Avid 0.15 EC	avermectin	Nursery use only.
Insecticide	L	Tier 2	Azatin XL	Azadirachtin	Nurseries and established plants for interiorscapes.
Insecticide	L	Tier 2	Borid	boric acid	limit human exposure to dust

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Insecticide	L	Tier 2	Golden Bear Mosquito Larvicide GB-1111	Aliphatic Petroleum Hydrocarbon	Apply only in conjunction with appropriate prevention measures (such as increasing water flow), or when prevention measures are impractical. Use within requirements on vector control activities set by the Calif. Dept. of Health Services.
Insecticide	L	Tier 2	Maxforce FC Professional Insect Control Ant Bait Stations	fipronil	Minimize use through prevention, possible concern over active ingredient.
Insecticide	L	Tier 2	MaxForce FC Professional Insect Control Ant Killer Gel	fipronil .001%	Minimize use through prevention, possible concern over active ingredient.
Insecticide	L	Tier 2	Maxforce FC Professional Insect Control Roach Bait Stations	fipronil	Minimize use through prevention, possible concern over active ingredient.
Insecticide	L	Tier 2	Maxforce IBF4 Carpenter Ant Bait	fipronil	Minimize use through prevention, possible concern over active ingredient
Insecticide	L	Tier 2	Maxforce Roach Killer Bait Gel	fipronil	Minimize use through prevention, possible concern over active ingredient
Insecticide	L	Tier 2	M-pede Insecticide/Fungicide	potassium salts/ fatty acids	Nursery, specialty gardens, and Africanized Honey Bees.
Insecticide	L	Tier 2	Niban Granular Bait	orthoboric acid	Outdoor restricted to planted areas, prefer containers; indoor must be in containers or inaccessible to humans
Insecticide	L	Tier 2	PT Brand Wasp-Freeze Wasp and Hornet Killer Formula 1	phenothrin, allethrin, CO2	Use only when a concern for public safety.
Insecticide	L	Tier 2	PT Brand Wasp-Freeze Wasp and Hornet Killer Formula 1	phenothrin, allethrin, CO2	Use only when a concern for public safety.
Insecticide	L	Tier 2	Saf-T-Side	paraffinic oil	Trace of alkyl-phenol ethoxylates, avoid contact with surface waters.
Insecticide	L	Tier 2	Terro Ant Killer II Liquid Ant Baits	sodium tetraborate	
Insecticide	L	Tier 2	The Ecology Works Dust Mite and Flea Control	Disodium octaborate tetrahydrate (DOT) -98%	For flea and dust mite control when mechanical methods are impractical, in conjunction with prevention. Limit human exposure to dust.
Vertebrate	L	Tier 2	Ditrac supersize blox	diphacinone	Concern over 2nd poisoning, see site specific limits.

YELLOW MATERIALS LIST

Vertebrate	L	Tier 2	Eaton's All-Weather Bait Blocks Rodenticide with Apple Flavorizer	diphacinone 0.005%	Concern over 2nd poisoning, see site specific limits.
Vertebrate	L	Tier 2	Gopher Getter type 2 Bait by Wilco	chloro-phacinone	Damage to: dams, levies, athletic fields, active recreation areas, structures, high cultural value or landmark areas. Public Health concerns.
Vertebrate	L	Tier 2	JB Eaton Top Gun All-Weather Bait Block Rodenticide	bromethalin	Limited use to avoid rodent aversion to one specific bait. Use only in locked bait stations. High concern over secondary poisoning of birds.
Vertebrate	L	Tier 2	JT Eaton Answer for the Control of Pocket Gophers	diphacinone	Damage to: dams, levies, athletic fields, active recreation areas, structures, high cultural value or landmark areas. Public Health concerns.
Water applied herbicide	L	Tier 2	Aquamaster Herbicide (equivalent to Rodeo)	Glyphosate	May damage non-target plants. Use for emergent plants in ponds, lakes, drainage canals, and areas around water or within watershed areas. Only as a last resort when other management practices are ineffective. NOTE: Equivalent to "Rodeo Emerged Aquatic Weed and Brush Herbicide," another product. Rodeo in storage may be used under the same limitations.
Water applied herbicide	L	Tier 2	Sonar A.S.	fluridone	Emergent plants in ponds, lakes, drainage canals. Only as a last resort when other mgmt. practices are ineffective.

Seattle Tier 2

Source and Explanation of Protocol: <http://www.ci.seattle.wa.us/environment/pesticides.htm>

Type	Tier	Product	Active	Notes
Fungicide	Tier 2	Aliette	fosetyl aluminum	toxic to aquatic invertebrates
Insecticide	Tier 2	Altosid XR Briquets	methoprene	toxic to aquatic invertebrates
Insecticide	Tier 2	Altosid XR-G	methoprene	no data on persistence, but strongly bound to soil
Insecticide	Tier 2	ARI Wasp & Hornet Killer	tetramethrin;phe nothrin	toxic to fish and aquatic invertebrates
Insecticide	Tier 2	Azatin XL	azadirachtin	no data on persistence, but strongly bound to soil
Insecticide	Tier 2	Bee Bopper II	tetramethrin;phe nothrin	*contains ethylbenzene as inert ingredient

YELLOW MATERIALS LIST

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Fungicide		Tier 2	Camelot	copper salts of fatty acids	
Other		Tier 2	Cycocel	chlormequat chloride	hazard to birds of prey; multiple-feeding baits offer more safety margin
Other		Tier 2	D-Con Lim N8	brodifacoum	limit use near water to avoid runoff
Herbicide		Tier 2	Devrinol 50WP	napropamide	limit use near water to avoid runoff
Herbicide		Tier 2	Devrinol 5-G	napropamide	no data on persistence, but strongly bound to soil
Insecticide		Tier 2	Enforcer Wasp & Hornet	phenothrin; tetramethrin	limit use near water to avoid runoff
Herbicide		Tier 2	Expedite	glyphosate	limit use near water to avoid runoff
Herbicide		Tier 2	Expedite II	glyphosate	limit use near water to avoid runoff
Herbicide		Tier 2	Expedite Plus	glyphosate; oryzalin	limit use near water to avoid runoff
Herbicide		Tier 2	Gallery 75 DF	isoxaben	limit use near water to avoid runoff
Herbicide		Tier 2	Garlon 4	triclopyr	limit use near water to avoid runoff
Herbicide		Tier 2	Knock-Out (old formula)	glyphosate	limit use near water to avoid runoff
Herbicide		Tier 2	Krenite	fosamine ammonium	*product is pathogenic to honey bees
Insecticide		Tier 2	Naturalis-O	Beauveria bassiana	*depending on mobility, could be Tier 3
Herbicide		Tier 2	Nature's Glory (RTU)	acetic acid	(same registration as Expedite II, see above)
Herbicide		Tier 2	Nomix Sweep		Suggest avoiding products with a.i. >~30%
Insecticide		Tier 2	Off Insect Repellent	DEET	off-target toxicity mitigated by indoor use
Insecticide		Tier 2	Orthene PT 1300	acephate	indoor use product
Insecticide		Tier 2	Ortho Flying & Crawling Insect Killer	phenothrin; d trans allethrin	limit use near water to avoid runoff
Herbicide		Tier 2	Oust	sulfometuron methyl	limit use near water to avoid runoff
Herbicide		Tier 2	Pathfinder II	triclopyr	limit use near water to avoid runoff
Herbicide		Tier 2	Poast	sethoxydim	
Fungicide		Tier 2	Prostar 70WP	flutolanil	
Insecticide		Tier 2	Raid Flying Insect	allethrin; phenothrin	very high BCF
Insecticide		Tier 2	Raid Wasp & Hornet	tetramethrin;permethrin	BMP for mole control should be developed
Other		Tier 2	Revenge Mole	zinc phosphide	aquatic applications require state permit
Herbicide		Tier 2	Rodeo	glyphosate	

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Insecticide		Tier 2	Rose Defense	neem oil	limit use near water to avoid runoff
Herbicide		Tier 2	Roundup (18% conc)	glyphosate	limit use near water to avoid runoff
Herbicide		Tier 2	Roundup Pro	glyphosate	Possible toxicity to bees based on label of 90% prod.
Insecticide		Tier 2	Safer Bio-Neem	azadirachtin	
Insecticide		Tier 2	Safer Yard & Garden	pyrethrins; fatty acid soap	indoor use only
Insecticide		Tier 2	Summit Sumithrin Greenhouse Spray	phenothrin	
Insecticide		Tier 2	Superior Spray Oil	petroleum distillates	limit use near water to avoid runoff
Herbicide		Tier 2	Surflan 75W	oryzalin	limit use near water to avoid runoff
Herbicide		Tier 2	Surflan AS	oryzalin	
Fungicide		Tier 2	Triact 70	neem oil	limit use near water to avoid runoff
Herbicide		Tier 2	Turflon Ester	triclopyr ester	limit use near water to avoid runoff
Herbicide		Tier 2	Weed Stopper	oryzalin	limit use near water to avoid runoff
Herbicide		Tier 2	XL 2G	benefin; oryzalin	
Insecticide		Tier 2	Zep Insect Repellent	DEET	no data on persistence, but strongly bound to soil
Insecticide		Tier 2	Zep Total Control	tetramethrin; phenothrin	no data on persistence, but strongly bound to soil
Insecticide		Tier 2	ZEP Tox Wasp & Hornet	tetramethrin; phenothrin	

SPECIAL CIRCUMSTANCE MATERIALS LIST

This list should serve as a reference document for material selection, and to demonstrate hazard screening protocol. It is not comprehensive of all materials, nor should it be adopted in whole. Sources should be viewed periodically for updates

San Francisco Tier 1; Tier 2 Limited Use of Special Concern

Source and Explanation of Protocol:

<http://temp.sfgov.org/sfenvironment/aboutus/innovative/ipm/>

Pesticide Type	Use Category	Hazard Tier	Product Name	Active Ingredients	Use Limitations
	A = allowed L = limited L* = special concern	1 = Highest 2 = Moderate 3 = Lowest 4 = Data gaps			
Fungicide	L*	Tier 1	3336 WP	methyl thioallophanate	For use in greenhouse situations only
Insecticide	L	Tier 1	20 Mule Team Tim-Bor Industrial	disodium octaborate	For control and prevention of termites, wood-destroying beetles, and carpenter ants. Recommendation of Branch III pest control operator required for termites and beetles; recommendation of Branch II pest control operator required for carpenter ants.
Insecticide	L	Tier 1	Conserve SC	Spinosad	For use as a last resort in greenhouses. If feasible, alternate with other products to avoid the development of resistance.
Vertebrate	L	Tier 1	Contrac All-Weather Blox	bromadiolone	High concern over 2nd poisoning, see site specific limits.
Vertebrate	L	Tier 1	Final Blox	brodifacoum	Extreme concern over 2nd poisoning, see site specific limits
Fungicide	L*	Tier 1	Heritage Fungicide	azoxystrobin	Consider/emphasize use of compost tea for preventative. To be used only as a spot treatment on greens, highest profile athletic fields. Improve aeration and monitoring programs.
Vertebrate	L	Tier 1	Maki Mini Blocks	bromadiolone	High concern over 2nd poisoning, see site specific limits

SPECIAL CIRCUMSTANCE MATERIALS LIST

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Vertebrate	L	Tier 1	Maki Paraffin Blocks	bromadiolone	High concern over 2nd poisoning, see site specific limits
Insecticide	L*	Tier 1	Marathon 1% Granular Greenhouse and Nursery	imidacloprid	Nursery use for control of white fly, not for use in propagation beds.
Herbicide	L*	Tier 2	Pendulum WDG Herbicide	pendimethalin	One year limit. SFIA landscape use only. Use weed cloth whenever possible. Limit to high priority areas, including new plantings in hazardous areas too dangerous for handweeding. Renovations require exemption.
Herbicide	L*	Tier 1	Proturf New K-O-G Weed Control	dicamba	One year limit. Spot application on greens only when hand-weeding is not feasible. Only for <i>Soliva sessilis</i> and <i>Cotula mexicana</i> in golf greens.
Fungicide	L	Tier 1	Proturf Systemic Fung.	thiophanate-methyl	Greens, highest profile athletic fields.
Insecticide	L*	Tier 1	PT Brand Ultra-Fine Oil	paraffinic oil	One year limit. Nursery and roses control of scale. Try Saf-T-Side and Spraytech oil as replacement.
Fungicide	L*	Tier 1	Rootone Rooting Hormone	Thiram	Nursery use only. Problem with mixing and storage due to talc. Consider Dip'n Grow as alternative.
Vertebrate	L	Tier 1	Talon-G Rodenticide Mini Pellets (Contains Bitrex)	brodifacoum	Extreme concern over primary and 2nd poisoning, see site specific limits.
Vertebrate	L	Tier 1	Weatherblok Bait with Bitrex	brodifacoum	Extreme concern over 2nd poisoning, see site specific limits

SPECIAL CIRCUMSTANCE MATERIALS LIST

ATTACHMENT 1

Seattle Tier 1

Source and Explanation of Protocol: <http://www.ci.seattle.wa.us/environment/pesticides.htm>

					Notes
Fungicide		Tier 1	Alamo	propiconazole	persistent
Herbicide		Tier 1	Amitrol-T	amitrole	Carc: EPA 2B, CA, NTP
Insecticide		Tier 1	Ant, Flea & Spider (L/M)	chlorpyrifos; allethrin	off-target toxicity; chlorpyrifos to be cancelled for this use
Fungicide		Tier 1	Arbotect 20-S	thiabendazole	persistent
Other		Tier 1	A-REST	ancymidol	persistence, mobility; possible exception if can be demonstrated that no soil contact occurs
Herbicide		Tier 1	Arsenal	imazapyr	highly mobile
Insecticide		Tier 1	Attain PT 1800	bifenthrin	corrosive; greenhouse use only
Insecticide		Tier 1	Avid	avermectin	bee toxicity
Herbicide		Tier 1	Banner MAXX	propiconazole	persistent
Fungicide		Tier 1	Banrot	etridiazole; thiophanate	corrosive; probable carcinogen
Herbicide		Tier 1	Banvel	dicamba	very highly mobile
Fungicide		Tier 1	Bayleton	triadimafon	*groundwater advisory
Fungicide		Tier 1	Benlate 50DF WP	benomyl	reproductive, endocrine
Herbicide		Tier 1	Blackerry & Brush Block	citric acid, acetic acid	*exempt from registration. MSDS indicates product corrosive. Fate data for acetic acid
Insecticide		Tier 1	Blast Em Wasp & Hornet	propoxur; pyrethrins	prob carcinogen; high mobility
Other		Tier 1	B-Nine	daminozide	probable carcinogen
Other		Tier 1	Bug-Geta Pellets	metaldehyde	fatal to dogs; restrict to bait station
Herbicide		Tier 1	BurnOut	acetic acid	corrosive
Herbicide		Tier 1	Casoron 2%	dichlobenil	*persistent, mobile metabolite
Herbicide		Tier 1	Casoron 4G	dichlobenil	*persistent, mobile metabolite
Fungicide		Tier 1	Chipco 26019	iprodione	likely carcinogen
Fungicide		Tier 1	Chipco 26019 WP	iprodione	likely carcinogen
Insecticide		Tier 1	Claire Golden Jet Bee, Wasp & Hornet Killer	malathion, DDVP, pyrethrins	Prop 65 carcinogen; *EXTOXNET indicates high leaching for dichlorvos
Fungicide		Tier 1	Clearys 3336F	thiophanate methyl	male/female reproductive toxicity

SPECIAL CIRCUMSTANCE MATERIALS LIST

ATTACHMENT 1

Insecticide		Tier 1	Combat Roach Control	hydramethylnon	Bait station limits human and eco-exposure, so may move to Tier II; still need label
Fungicide		Tier 1	Compass	trifloxystrobin	*groundwater advisory (metabolites)
Herbicide		Tier 1	Confront	clopyralid; triclopyr	groundwater advisory
Fungicide		Tier 1	Consan	quat ammon chlorides	corrosive
Insecticide		Tier 1	Conserve SC	spinosad	off-target toxicity
Herbicide		Tier 1	Crossbow	triclopyr; 2,4-D	probable endocrine disruptor
Herbicide		Tier 1	Curtail M	MCPA; clopyralid	very highly mobile
Insecticide		Tier 1	Cygon	dimethoate	P waste
Insecticide		Tier 1	Cygon Garden Spray	dimethoate	P waste
Fungicide		Tier 1	Daconil 2787	chlorothalonil	likely carcinogen
Fungicide		Tier 1	Dacthal W-75	chlorothalonil	likely carcinogen
Other		Tier 1	Deadline Bullets	metaldehyde	fatal to dogs; restrict to bait station
Insecticide		Tier 1	Decathlon	cyfluthrin	off-target toxicity
Herbicide		Tier 1	Demoss	soap	corrosive
Insecticide		Tier 1	Diazinon AG500	diazinon	off-target toxicity; not for use on golf courses
Insecticide		Tier 1	Diazinon Plus	diazinon	off-target toxicity; not for use on golf courses
Herbicide		Tier 1	Direx 4L	diuron	known/likely carcinogen
Fungicide		Tier 1	Dithane T/O	mancozeb	probable carcinogen, probable endocrine
Fungicide		Tier 1	Dithane Z-78 WP	zineb	probable endocrine
Herbicide		Tier 1	Drive 75DF	quinclorac	restricted use
Insecticide		Tier 1	Drop Dead (Bioram?)	permethrin, allethrin	off-target toxicity
Insecticide		Tier 1	DuraGuard	chlorpyrifos	chlorpyrifos to be cancelled for this use
Insecticide		Tier 1	Duraplex	chlorpyrifos; cyfluthrin	chlorpyrifos to be cancelled for this use
Insecticide		Tier 1	Dursban 2.3G	chlorpyrifos	off-target toxicity; chlorpyrifos to be cancelled except for golf courses
Insecticide		Tier 1	Dursban 50WP	chlorpyrifos	off-target toxicity; chlorpyrifos to be cancelled except for golf courses
Insecticide		Tier 1	Dursban Pro	chlorpyrifos	off-target toxicity; chlorpyrifos to be cancelled except for golf courses

SPECIAL CIRCUMSTANCE MATERIALS LIST

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Fungicide		Tier 1	Engage 10G or 75W	pentachloronitrobenzene	can be persistent in some soils; HCB metabolite is prob carcinogen, highly persistent
Herbicide		Tier 1	Envy 2,4-D	2,4-D	corrosive; probable endocrine disruptor
Herbicide		Tier 1	Escort	metsulfuron methyl	highly mobile
Fungicide		Tier 1	Exotherm Termil	chlorothalonil	likely carcinogen
Herbicide		Tier 1	Feed & Weed w/Trimec	2,4-D; MCP; dicamba	prob endocrine; very highly mobile
Herbicide		Tier 1	Finale	glufosinate ammonium	groundwater advisory
Fungicide		Tier 1	Fore Flowable	mancozeb	probable carcinogen, probable endocrine
Fungicide		Tier 1	Fore SPS	mancozeb	probable carcinogen, probable endocrine
Fungicide		Tier 1	Funginex	triforine	corrosive; reproductive toxicant
Herbicide		Tier 1	Fusilade	fluazifop-p butyl	developmental toxicity
Herbicide		Tier 1	Garlon 3A	triclopyr	highly mobile
Fungicide		Tier 1	Green-Shield	quaternary amm. chlorides	corrosive
Fungicide		Tier 1	Heritage	azoxystrobin	*groundwater advisory (metabolites)
Herbicide		Tier 1	Hyvar XL	bromacil	highly mobile
Other		Tier 1	Kaput	warfarin	teratogen
Fungicide		Tier 1	Karathane WD	dinocap	repro/developmental toxicant
Herbicide		Tier 1	Karmex	diuron	Known/Likely carcinogen
Insecticide		Tier 1	Kelthane	dicofol	known endocrine disruptor
Herbicide		Tier 1	Kerb	pronamide	Restricted because of carcinogen
Herbicide		Tier 1	Knock-Out (current form)	diquat dibromide	Persistent
Insecticide		Tier 1	Knox Out PT1500	diazinon	off-target toxicity
Fungicide		Tier 1	Kocide 101	copper hydroxide	corrosive
Herbicide		Tier 1	Krovar	bromacil; diuron	Known/Likely carc; highly mobile
Herbicide		Tier 1	Lontrel	clopyralid	groundwater advisory
Herbicide		Tier 1	Low Vol D	2,4-D	Restr use; prob endocrine disruptor
Insecticide		Tier 1	Mach 2	halofenozide	groundwater advisory on label
Insecticide		Tier 1	Malathion 5E	malathion	bee toxicity
Herbicide		Tier 1	Manage	halosulfuron methyl	groundwater advisory

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Insecticide		Tier 1	Marathon 1G	imidacloprid	exception to aquatic hazard for indoor (greenhouse) use
Insecticide		Tier 1	Mavrik Aquaflow	tau-fluvalinate	repro/devo toxicant; aquatic tox
Insecticide		Tier 1	Meter Mist Insect Killer	pyrethrins, PBO, MGK 264	metered dispenser approach may conflict with IPM decisionmaking
Fungicide		Tier 1	Microcop	basic copper sulfate	bioaccum???
Herbicide		Tier 1	Monobor chlorate	sodium tetraborate; sodium chlorate	corrosive; persistent; highly mobile
Herbicide		Tier 1	Moss-Out	ferric sulfate, anhydrous	corrosive; no data on environmental fate, but leaching is unlikely according to EPA
Herbicide		Tier 1	Nature's Glory (Conc)	acetic acid	corrosive to eyes
Herbicide		Tier 1	Norosac 4G	dichlobenil	persistent, mobile metabolite
Fungicide		Tier 1	Nulife w/ Fore	mancozeb	probable carcinogen, probable endocrine
Herbicide		Tier 1	Ornamec	fluazifop-p butyl	developmental toxicity
Insecticide		Tier 1	Orthene	acephate	off-target toxicity
Insecticide		Tier 1	Orthene 75S	acephate	bee toxicity
Insecticide		Tier 1	Orthene Turf, Tree	acephate	bee toxicity
Insecticide		Tier 1	Orthenex	acephate; triforine; fenbutatin oxide	corrosive; highly toxic to bees; contains an organotin compound
Fungicide		Tier 1	Ortho Daconil	chlorothalonil	likely carcinogen
Herbicide		Tier 1	Ortho Diquat	diquat dibromide	persistent
Insecticide		Tier 1	Ortho Home Pest Control	chlorpyrifos	bee toxicity
Insecticide		Tier 1	Ortho Hornet & Wasp	propoxur	probable carcinogen; highly mobile
Insecticide		Tier 1	Ortho Hornet & Wasp2	diazinon; pyrethrins	off-target toxicity
Insecticide		Tier 1	Ortho Methoxyclor	methoxyclor	known endocrine disruptor; persistent
Insecticide		Tier 1	Ortho Rose & Flower	pyrethrins	
Insecticide		Tier 1	Ortho Sevin Garden Dust	carbaryl	off-target toxicity
Insecticide		Tier 1	Ortho Systemic Rose & Flower	disulfoton	insecticide/fert mixture
Insecticide		Tier 1	Ortho-Klor Indoor/Outdoor	chlorpyrifos	bee toxicity
Insecticide		Tier 1	Oxamyl	oxamyl	restricted due to toxicity; groundwater advisory

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Fungicide		Tier 1	Parflo	pentachloronitrobenzene	can be persistent in some soils; HCB metabolite is prob carcinogen, highly persistent
Herbicide		Tier 1	Pendulum 3.3EC	pendimethalin	inert ingredient (1,2-dichloroethane) is probable carcinogen
Herbicide		Tier 1	Pendulum WDG	pendimethalin	
Herbicide		Tier 1	Pennant	metolochlor	highly mobile, with soil half-life near persistent range (90 d)
Fungicide		Tier 1	Penstar Flo	pentachloronitrobenzene	can be persistent in some soils; HCB metabolite is prob carcinogen, highly persistent
Insecticide		Tier 1	Pentac Aquaflo	dienochlor	persistent
Fungicide		Tier 1	Phyton-27	copper sulfate	corrosive
Insecticide		Tier 1	Pointer	imidaclopyrid	off-target toxicity (may be mitigated by application method)
Fungicide		Tier 1	Polysul Dormant Spray	calcium polysulfide	corrosive
Herbicide		Tier 1	Power Zone	MCPA, MCPP, dicamba, carfentrazone-ethyl	highly mobile
Insecticide		Tier 1	Preclude PT2100	fenoxycarb	probable carcinogen
Herbicide		Tier 1	Princep Caliber 90	simazine	highly mobile; groundwater advisory
Insecticide		Tier 1	Prolink Bee & Wasp Killer		appears to be subregistraton of Claire Golden Jet (see above)
Insecticide		Tier 1	Proxol 80SP	trichlorfon	aquatic toxicity
Insecticide		Tier 1	PT 1600 X-clude	pyrethrins	likely carcinogen
Insecticide		Tier 1	Pyreth-It PT 1100	pyrethrins	
Insecticide		Tier 1	Raid Ant & Roach	permethrin; pyrethrins	indoor use product
Insecticide		Tier 1	Resmethrin PT 1200	resmethrin	developmental toxicity
Herbicide		Tier 1	Reward LS	diquat dibromide	persistent
Fungicide		Tier 1	Ridomil 2E	metalaxyl	highly mobile
Herbicide		Tier 1	Ronstar G	oxadiazon	CA reproductive list
Herbicide		Tier 1	RootX	dichlobenil	persistent, mobile metabolite

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Fungicide		Tier 1	Rubigan AS	fenarimol	persistent, mobile
Fungicide		Tier 1	Rubigan EC	fenarimol	persistent, mobile
Insecticide		Tier 1	Safer Home Patrol	permethrin	aquatic toxicity (exception if used indoors)
Insecticide		Tier 1	Scimitar WP	lamda-cyhalothrin	aquatic toxicity
Fungicide		Tier 1	Scotts 14-3-3 FFII	pentachloronitrobenzene	can be persistent in some soils; HCB metabolite is prob carcinogen, highly persistent
Fungicide		Tier 1	Scotts 23-3-5 + Fung 8	thiophanate; iprodione	Likely carcin; * toxic catfish
Herbicide		Tier 1	Scotts 30-5-5 w Confront	triclopyr; clopyralid	Highly mobile
Herbicide		Tier 1	Scotts 32-4-3 w Dicot	2,4-D; MCPP; dicamba	Highly mobile
Herbicide		Tier 1	Scotts Fluid Broadleaf	2,4-DP; 2,4-D	corrosive; prob endocrine disruptor
Fungicide		Tier 1	Scotts Fluid Fung	thiophanate; iprodione	Likely carcin; * toxic catfish
Fungicide		Tier 1	Scotts Fungicide 8	thiophanate; iprodione	Likely carcin; * toxic catfish
Fungicide		Tier 1	Scotts Fungicide 9	chloroneb; thiophanate	persistent (chloroneb)
Fungicide		Tier 1	Scotts Fungicide X	iprodione	Likely carcinogen
Other		Tier 1	Slug and Snail Line	metaldehyde	fatal to dogs; restrict to bait station
Herbicide		Tier 1	Snapshot	trifluralin; isoxaben	prob endocrine; bioconcentration (trifluralin); Ecology PBT
Herbicide		Tier 1	Speed Zone	carfentrazone, 2,4-D, mecoprop acid, dicamba acid	
Insecticide		Tier 1	Spray-Nox II	pyrethrins	
Fungicide		Tier 1	Subdue 2E	metalaxyl	highly mobile
Insecticide		Tier 1	Talstar GC flowable	bifenthrin	off-target toxicity
Insecticide		Tier 1	Talstar GC granular	bifenthrin	off-target toxicity
Insecticide		Tier 1	Talstar Lawn & Tree	bifenthrin	off-target toxicity
Insecticide		Tier 1	Tame 2.4EC	fenpropathrin	off-target toxicity
Insecticide		Tier 1	Tempo 20 WP	cyfluthrin	restricted use, not for use on golf courses, off-target toxicity

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Fungicide		Tier 1	Terraclor 75 WP	pentachloronitrobenzene	can be persistent in some soils; HCB metabolite is prob carcinogen, highly persistent
Insecticide		Tier 1	Thiodan 50WP	endosulfan	restricted, Category I pesticide
Herbicide		Tier 1	Topsite	imazapyr; diuron	Known/Likely carcinogen; highly mobile
Herbicide		Tier 1	Tordon 10K	picloram	groundwater advisory
Herbicide		Tier 1	Transline	clorpyralid	very highly mobile
Herbicide		Tier 1	Treflan 5-G	trifluralin	prob endocrine; bioconcentration (trifluralin); Ecology PBT
Herbicide		Tier 1	Treflan EC	trifluralin	prob endocrine; bioconcentration (trifluralin); Ecology PBT
Herbicide		Tier 1	Trimec	2,4-D; MCPP; dicamba	prob endocrine; very highly mobile
Herbicide		Tier 1	Trimec 937	2,4-D; 2,4-DP; dicamba	prob endocrine; very highly mobile
Herbicide		Tier 1	Trimec Bentgrass Form.	2,4-D; MCPP; dicamba	prob endocrine; very highly mobile
Fungicide		Tier 1	Truban 30% WP	etridiazole	persistent, probable carcinogen
Fungicide		Tier 1	Turfcide 4F	PCNB	can be persistent in some soils; HCB metabolite is prob carcinogen, highly persistent
Herbicide		Tier 1	Vanquish	dicamba	very highly mobile
Insecticide		Tier 1	Wasp-Freeze	allethrin; phenothrin	fish toxicity may be mitigated by use patterns
Herbicide		Tier 1	Weed B Gon	2,4-D; MCPP	prob endocrine; very highly mobile, corrosive
Herbicide		Tier 1	Weedar 64	2,4-D	corrosive; probable endocrine disruptor
Insecticide		Tier 1	ZEP Tox II Wasp	propoxur; pyrethrins	label warnings not legible, but should have aquatic tox warning
Insecticide		Tier 1	Zeposector 2	resmethrin	no label warning for aqu tox but active ingred is highly toxic to fish
Fungicide		Tier 1	ZeroTol	hydrogen dioxide	corrosive; highly toxic to bees by direct treatment only
Fungicide		Tier 1	Ziram	ziram	corrosive; WA P waste



PARKS, OPEN SPACE AND PUBLIC WORKS
OPERATION POLICY

Integrated Pest Management Policy

Chemical List

Green Materials List

Herbicide	GreenMatch O	limonene/citrus oil
Herbicide	Greenmatch EX	lemongrass oil
Herbicide	Matran 2	clove oil
Herbicide	Weed Zap	45% clove and 45% cinnamon oil
Herbicide	Blackberry& Brush Block	20% Citric Acid
Herbicide	All Down	Citric acid
Herbicide	Bioganic	Acetic Acid, clove & thyme oil
Herbicide	Bradfield	Acetic Acid 20%
Herbicide	Burn Out	Acetic Acid
Herbicide	EcoExempt	Eugenol (Clove)
Herbicide	Safer Weedkiller	Soap
Herbicide	Scythe	57% pelargonic acid
Herbicide	Worry Free Weed K	Citric Acid
Insecticide	EcoExempt IC	Herb and Mineral oils
Insecticide	Victors Poison Free Wasp	Mint oil
Insecticide	Dipel, Javallin	Bacillus thuringiensis (Bt.)
Insecticide	Cinnamite	Cinnamaldehyde
Insecticide	Roach Terminal	Oxypurinol, xanthine

Insecticide	Avert	Abemectine
Insecticide	Liquid Ant Bait	Disodium Octaborate Tetrahydrate
Insecticide	Safer Insecticidal Soap	Soap
	M-Pede	Soap
Molluscicide	Sluggo	Iron Phosphate
Fungicide/ Insecticide	Stylect oil	petroleum oil

Yellow Materials List

Herbicide	Roundup	Glyphosate
Herbicide	AquaMaster	Glyphosate
Herbicide	Telar	Chlorsulfuron
Herbicide	Garlon	Triclopyr
Herbicide	Goaltender	Oxyfluorfen
Herbicide	Transline	Clopyralid
Herbicide	Direx	Diuron
Herbicide	Snapshot	Trifluralin
Herbicide	Milestone	Aminopyralid
Herbicide	Turflon	Triclopyr
Herbicide	Fusilade II	Fluazifob-P-butyl
Herbicide	Sedgehammer	Halosulfuron
Herbicide	Barricade	Prodiamine
Herbicide	Payload	Flumioxazin
Herbicide	Landmark	Sulfometuron
Insecticide	Zenith	Imidacloprid
Adjuvant	Cayuse Plus	Ammonium sulfate, alcohol ethoxylated phosphate ester
Adjuvant	R-11	Alkylphenol ethoxylate, butyl alcohol, dimethylpolysiloxane

Red Material List

Herbicide	Weedar 64	2-4D amine
Herbicide	Clarity	Dicamba
Fumigant	Sanafoam Rootavator	Metan Sodium

RESOLUTION NO. 5355
A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CARPINTERIA
ESTABLISHING AN INTEGRATED PEST MANAGEMENT POLICY FOR
CARPINTERIA OPERATIONS AND MAINTENANCE

WHEREAS, The City of Carpinteria has an interest in maintaining a healthy, safe, and sustainable environment in the City and has historically used Integrated Pest Management (IPM) strategies to achieve recreational (both active and passive), ornamental, habitat, public health and safety and operational benefits; and

WHEREAS, Exposure to toxic pesticides can be harmful to people, animals and the environment and the reduction thereof can be beneficial to the health and safety of the community; and

WHEREAS, Well established IPM protocols exist that reduce or eliminate the use of toxic pesticides and can be successful in the management and elimination of invasive and dangerous pests such as weeds, destructive insects or destructive animals; and

WHEREAS, IPM protocols, can result in a significant reduction in the use of toxic pesticides thereby reducing the potential for exposure to people, animals and the environment; and

WHEREAS, the Carpinteria City Council after receiving a staff report from City Staff on October 10, 2011, outlining the practices of an Integrated Pest Management Policy has directed staff to prepare a written IPM policy for adoption:

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF CARPINTERIA DOES RESOLVE AS FOLLOWS:

To adopt this Integrated Pest Management Policy (IPM) that reduces or eliminates toxic pesticide use by the City and that incorporates IPM into all City maintenance and operations of parks, public road right-of-way, landscapes, open spaces and buildings. This policy will apply to work by contractors hired by the City, volunteers working on behalf of the City, and by City employees.

IPM Defined

IPM is a problem-solving approach to property management intended to prevent, control and eliminate undesirable weeds, insects and rodents. IPM practices will result in the reasonable use of the least toxic method to achieve the desired pest control goal, but doesn't necessarily eliminate the use of pesticides. When a pest or weed is expected to exceed a predetermined damage threshold, appropriate pest control strategies are to be considered in a hierarchical order with the least toxic method first. Public notifications

and site controls are advantageous when pesticides are used in parks. In public road right-of-ways these tactics may not be consistent with traffic safety operations. Informing the public about right-of-way applications may be made by general public notice. Disinfectants used to protect human health are excluded.

Pests Defined

Pests are undesirable plants, insects, fungi, molds and rodents. Common examples in the landscapes are kikuyu grass, crabgrass, various ivies, poison oak, termites, gophers, moles and ground squirrels. Weeds can become a significant problem in athletic fields and other public grounds. They can destroy or overtake large areas of turf resulting in lack of playability, large renovation costs, and unsafe conditions. Tall weeds along roadways can block the line of sight views of motorists and create safety issues for pedestrians and bicyclists. Invasive weeds in natural areas can destroy sensitive native habitat and reduce populations of native plants and animals. The Common pests in buildings are ants, termites, mice and other rodents that thrive when food and other conditions are available. They can create hygiene and safety problems, cause damage to building structures and spread disease.

This Policy hereby;

1. Establishes the goal of reducing or eliminating the use of toxic pesticides through the use of common sense principles of IPM. Use of IPM tactics such as mulching, hand or mechanical weeding and trapping will be the first line of defense.
2. Establishes the use of IPM methodology for selecting the appropriate pest intervention options.
3. Commits the City to establish pesticide free zones where no pesticides will be used unless an emergency arises. These areas will include park play structures and picnic areas.
4. References the use of IPM tactics from reputable mainstream sources; specifically the University of California at Davis⁶ the California Invasive Plant Council⁷ and the California Department of Pesticide Regulation⁸.
5. Avoids whenever possible the contamination of buildings, soil, air, and water and protect people, animals and beneficial plants and insects from toxic exposures.
6. Establishes the requirement that all personnel involved in pest management at the City receive training and continuing education on the use of pesticides.
7. Requires cooperation and communication between City Departments and City contractors by setting standard operating procedures for the control of pests.
8. Establishes an IPM Advisory Committee (IPMAC) with five members that includes representation from the Parks and Recreation Department, The Public Works Department, The Bluffs Advisory Committee, and two at large community members that can make recommendations to the City Council on implementation and amendment of the IPM policy.

⁶ UC Davis IPM website: <http://www.ipm.ucdavis.edu>

⁷ California Invasive Weed Council website: <http://www.cal-ipc.org>

⁸ California Department of Pesticide Regulation website: <http://apps.cdpr.ca.gov>

- 9. Establishes a public outreach and information program to help others in the community reduce the use of pesticides.
- 10. Establishes that effective public notification will be implemented when pesticides are used. The utilization of a Pesticide Hazard and Exposure Reduction (PHAER) Zone system is to be utilized to help accomplish the public notification objective. The PHAER zone system also includes the creation of a color metric pesticide list potentially used by the City that groups pesticides into three groups with low (green) medium (yellow) and high (red) toxicity. Requires the preparation of an annual report to disclose pest issues encountered and tactics used to combat the problem including the pesticide use, if any in City facilities. This report will be filed with the City Clerk for public inspection and presented to the City Council if desired.

The City will minimize toxic pesticide use for aesthetic purposes. The City recognizes that the safe use of playing fields to prevent injuries from recreational and organized team activities may require the use of pesticides. In the event this is necessary the application will follow the IPM application and notification guidelines as outlined in this Policy.

PASSED, APPROVED AND ADOPTED 9th day of January, 2012 by the following called vote:

AYES : COUNCILMEMBER:
 NOES: COUNCILMEMBER:
 ABSENT: COUNCILMEMBER:

 MAYOR, CITY OF CARPINTERIA

ATTEST:

 City Clerk, City of Carpinteria

I hereby certify that the foregoing Ordinance was duly and regularly introduced and adopted at a regular meeting of the City Council of the City of Carpinteria held the 9th day of January, 2012.

 City Clerk, City of Carpinteria

APPROVED AS TO FORM:

 Peter Brown, City of Carpinteria