



City of Carpinteria
Integrated Pest Management

Annual Report 2015



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2015 IPM Committee Members

Will Carelton — Owner Las Palmalitas Ranch, Carpinteria, Biodynamic avocado and citrus.

Trish Stone-Damon — IPM Committee Chair and Former Director of the Let's Grow! School garden program through SBCC Center for Sustainability.

Paul Medel — City Public Works Supervisor

Korrey Capozza — Healthcare Worker.

Ben Pitterle — Watershed and Marine Program Director, Santa Barbara Channel Keeper

Mary Ann Rajala — Supervising Agricultural Biologist, Santa Barbara County Agricultural Commission.

Matt Roberts — City Parks and Recreation Director

Jay Sullivan — Construction and Project Manager, Santa Barbara City College and former Director of Grounds, Facilities and Transportation at Goleta Union School District.

Corey Welles — Plant Health Coordinator, Ganna Walska Lotusland



Integrated Pest Management 2015 Annual Report City of Carpinteria

Introduction

In 2015, the City continued to rely on IPM tactics to prevent excessive pest infestation in City landscapes, parks and buildings. The year was very similar to 2014 with respect to climatic conditions and the use of pesticides by the City. Weather conditions continued to be dry preventing excessive weed growth along roadways. In 2015 only green list materials were used throughout the year. The pesticide free zones near all playgrounds in city parks were respected. The most challenging issues were from argentine ants in buildings and gophers in turf areas. Gopher infestations in irrigated turf areas seems to be increasingly prevalent perhaps due to drought conditions. Trapping efforts have been increased in 2015 at all City sports fields.

Background

The Carpinteria City Council established the Carpinteria City's IPM policy by adopting resolution No.5355 at its regular meeting of January 9, 2012. The policy establishes an IPM committee of up to nine members. The goal of IPM is to mitigate pest damage to City property while protecting human health, the environment and economic viability.

The City policy has ten basic tenants.

1. Establishes the goal of reducing or eliminating the use of toxic pesticides through the use of common sense principals of IPM. Use of IPM tactics such as mulching, hand or mechanical weeding and rodent 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 Davis, the California Invasive Plant Council and the California Department of Pesticide regulation.
5. Avoids whenever possible the contamination of buildings, soil, air, and water and protects 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. Established an IPM Advisory Committee (IPMAC) with up to nine members that includes representation from the Parks and Recreation Department, The Public Works Department, The Bluffs Advisory committee, and at least two at large community members that can make recommendations to the City Council on implementation and amendment of the IPM policy.
9. Established 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.

The IPM policy requires the preparation of an annual report to disclose the pest issues encountered and tactics used to combat the problem including 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.

During 2015 the IPM committee did not meet. Staff made several attempts to convene a meeting, but a quorum could not be established. Meetings were attempted 5 times in the year but a quorum was never able to attend.

The City continued maintenance operations with the use of only green material pesticides in almost all areas. Ant control at the County Medical Clinic was an exception, as there is a low tolerance for ant infestation and the service center is managed by the County of Santa Barbara. The materials used at the clinic are discussed later on in this report.

No pesticides were applied to any other of the city's parks, picnic areas and playgrounds. These areas did not require much in the way of pest abatement and no additional requests to use pesticides were made. However, during the reporting period, Carpinteria continues to suffer the impacts of a severe drought. Lack of rainfall has minimized weed growth in non irrigated areas thereby minimizing weed control needs.

Drought conditions may also concentrate gopher populations in irrigated areas as they seek food sources.

2015 Weed and Invasive Plant Control

In the City's right of ways no herbicides were applied in 2015.

Rain fall has been far below normal this winter and weed control in the right of way has not become a safety issue.

All other weed control efforts by City forces utilized mechanical mowing or mulching to accomplish the desired outcome.

2015 Rodent and Insect Control

APHIDS

As in 2014, some street trees were sprayed with an insecticide M-Pede in 2015.. M-Pede is an organic green list material and is the equivalent to a better known product known as Safer Soap. After inspection by a certified pest control advisor, a recommendation was made to apply an insecticide to reduce an aphid infestation. The aphids exude a sticky residue that was causing unpleasant staining and stickiness on downtown sidewalks.

M-Pede is commonly used in organic pest control. This contact insecticidal soap is derived from potassium salts and is totally biodegradable as well as being considered environmentally safe.

It works as a smothering agent on a wide variety of insects. Since it works on contact, it must be sprayed directly onto the pest and has no residual effect.

For ant control Eco PCO WPX Insecticide (organic) 1.25lb. Made of all natural, botanical insecticides: Phenethyl propionate, 3%Thyme oil, 5%, Pyrethrins, .05%. It is listed as an organic material. This product was used at City Hall and the Veteran's Building.

Spectracide Terminate Termite Killing Foam 32 oz was used for termite control at the Carpinteria Community Pool bathhouse and to an ocean lifeguard kiosk. Terminate Termite Killing Foam contains low concentrations Lambda cyhalothrin. The low concentration solution is considered a non-restrictive use material. This is an insecticide that belongs to the pyrethroid chemical class of pesticides. It was registered with the EPA in 1988 and is widely available at retail hardware stores.

The Medical Clinic adjacent to the Veteran's Hall arranges their own pest control with ants being their primary concern. The following pesticides were used at the Medical clinic in 2015 for ant control.

Termidor SC (Fipronil 9.1%) **Fipronil** is a broad-use insecticide that belongs to the phenylpyrazole chemical family. This insecticide is often used to treat fleas on dogs and livestock. It is also used for ant control.

Cy-Kick CS (Cyfluthrin 6.0%) Many cyfluthrin products are classified as "General Use Pesticides." This means they are available to the general public and their use does not require special training or protective equipment. Most cyfluthrin products for use in agricultural settings or golf courses are classified as "Restricted Use Pesticides" because cyfluthrin can be toxic to fish and aquatic organisms.



Suspend SC Deltamethrin 4.75%. This material is a member of one of the safest classes of pesticides: synthetic pyrethroids. Pyrethroids are synthetic chemicals that act like natural extracts from the chrysanthemum flower. Permethrin has a low mammalian toxicity and is poorly absorbed by skin.

Dragnet SFR Termiticide (Permethrin) Products containing permethrin may be used in public health mosquito control programs. They may be used on food and feed crops, on ornamental lawns, on livestock and pets, in structures and buildings, and on clothing. Permethrin may also be used in places where food is handled, such as restaurants.

RATS AND MICE

For rats and mice two products were used around the Veteran's Building and City Hall.

TeraD3 Rodenticide Bait (organic) is the first and only rodenticide registered by the EPA for organic production. This material is a multi-feeding rodenticide. It contains Cholecalciferol as its active ingredient. Cholecalciferol is also known as Vitamin D3. High levels of D3 are lethal to rodents. For humans D3 is a dietary supplement that when taken in the correct dose may have health benefits. Cholecalciferol was first registered as a rodenticide in the United States in 1984. Toxic doses of cholecalciferol lead to too much calcium in the blood, which can affect the central nervous system, muscles, the gastrointestinal tract, cardiovascular system, and the kidneys. The body's ability to maintain proper calcium levels must be overwhelmed before cholecalciferol becomes toxic. Rodents must eat several doses of this rodenticide. This causes a time lag between exposure and signs of toxicity. Although pets have gotten sick from eating cholecalciferol, poisonings of people are very rare.



Contra Blox (bromadiolone) was also used. A total of 10 ounces of this material was reported used. It is a single-feeding anticoagulant rodenticide. Applications require the use of a bait station to discourage accidental exposure to large animals. Bromadiolone can be highly toxic to most mammals and birds. Wildlife may eat these baits directly or they may eat a poisoned animal. Because it can take several days to die, animals that consume a lethal dose may continue to eat the bait before they die. They also may be more susceptible to capture by predators. Wild mammals, birds and other wildlife that eat poisoned rodents may receive a lethal dose. Accumulation of bromadiolone in the tissues of owls, buzzards, and other raptors in the wild has been well documented.

GOPHERS

Another area of constant effort is in the control of gophers. Gophers can pose a serious threat to turf areas, especially sports fields. Gophers can rarely be eliminated in total.

Gophers use their forepaws and incisor teeth to burrow and tunnel into the earth. Plant eaters by nature, they uproot and feed upon plants. Gophers are considered solitary rodents yet dozens can infest an open field if no control program is in place.

Gopher mounds are often built in a line, indicative of a deeper tunnel system.

Pocket gophers invade parks, yards and gardens, feeding on many garden crops, ornamental plants, vines, shrubs, and trees. A single gopher can inflict considerable damage in a very short time. Gophers gnaw and damage plastic water lines and lawn sprinkler systems. Their tunnels may divert and carry off irrigation water, which leads to soil erosion and inefficient water use. Mounds on lawns interfere with mowing equipment and collapsing tunnels can create tripping and injury hazards. Sports fields suffer extensive damage when gopher infestations occur. It is unclear if plant stress from lack of winter rains has worsened the damage to sports field due to gophers. One theory postulates that irrigated turf areas are attractive to gophers as moist soils have more succulent root systems required for food by gophers. Non irrigated areas surrounding sports fields may be unable to support gopher populations so they migrate to greener pastures.

The California Fish and Wildlife Code classifies pocket gophers as nongame mammals. This means that if a gopher is causing property damage you can control them at any time and in any legal manner.

City staff has invested considerable time in trapping gophers with an emphasis on the El Carro, Viola and Linden Fields. The maintenance service that cares for Monte Vista and Carpinteria Creek Park invested additional time and resources as well. Consequently the estimated cost for gopher control using trapping methods including the cost of traps has exceeded \$7,000.00 for the calendar year. In addition, traps continue to be lost due to theft. Because



trapping techniques require observing active gophers, field damage continues to occur. The addition of a gopher trapping service has been added to the effort at El Carro Park, Viola Fields and the Linden Field. At least 45 gophers have been trapped at Viola Fields alone in the last three months of 2015.

Staff is currently researching the use of a poison bait formulated for gopher control to help regain control of gopher populations. Use of a strychnine treated grain bait or an anticoagulant formulated bait may be proposed in 2016 based upon the recommendations of pest control advisors in order to reduce field damage. Trapping will remain the preferred treatment, but keeping infestation levels to a tolerable level has been difficult using trapping methods.

Many consider the most effective and economical method for eradicating pocket gophers responsible for significant damage inflicted annually on sports fields is by poisoning. Strychnine-treated grain is the most common type of bait used for pocket gopher control. This bait generally contains 0.5% strychnine and is lethal with a single feeding. Baits containing 2.0% zinc phosphide are also available. As with strychnine, these baits are lethal after a single feeding.



Although many devices designed to frighten pocket gophers are commercially available—including vibrating stakes, ultrasonic devices, and wind-powered pinwheels—these rodents don't frighten easily, probably because of their repeated exposure to noise and vibrations from sprinklers, lawnmowers, vehicles, and people moving about. Another ineffective control method is placing chewing gum or laxatives in burrows in hopes of killing gophers

Sustainability and Turf Grass Management

Sports field management

The City owns and maintains two parks that have active sport fields. El Carro Park has a dedicated soccer field and two little league baseball fields that share a common outfield area. This outfield also can be used for soccer play. Similarly, Viola fields has two soccer fields with complimentary softball infields so that either soccer or softball games may be played there.

Prior to the adoption of an IPM policy, the City performed routine cultural care practices that included control of broadleaf weeds with the use of broadleaf herbicide and gophers by trapping and use of some chemical poisons. No broadleaf herbicide or chemical poisons have been applied to any City operated turf area since 2011. Broadleaf weeds include such plants as dandelion and clover.

Broadleaf control

Sometimes broadleaf weeds can be controlled simply by altering the cultural practices to favor the grass plants rather than the weeds. The cultural controls may include raising or lowering the mowing height, changing the frequency of mowing, lengthening or shortening the period between irrigations, increasing the application of fertilizer and aeration of the soil to ameliorate compaction.

Since 2011, the City has continued and increased the use of these cultural controls. Aerations have been conducted twice annually with the application of a top dressing compost each spring. Applications of fertilizers have been made in spring and early fall. Over seeding with winter seed blends in worn or stressed spot areas has been done in the fall. These measures have not resulted in broadleaf control.



Clover is the primary broadleaf that is highly established at the City's two sport field parks. A dense infestation of broadleaf weeds such as clover will out compete the desired Bermuda grass, but does not stand

up to the rigors of sports play. As the turf weakens, the weeds will readily invade the open areas that remain.

A combination of proper cultural practices plus prudent use of chemical is sometimes necessary to control weeds effectively in turf. At this time, staff is not proposing any herbicide application but continues to be concerned that broadleaf infestation is becoming more prevalent.

Another sports field management issue that is more problematic when less effective herbicides are not available is the encroachment of turf into the softball and baseball infields. Properly maintained ball diamonds are necessary to ensure player safety as well as fairness in the sport. Inconsistent infields and base paths not only cause the ball to bounce erratically, but may also trip up players. Turf that has encroached into the “skinned” area, must be removed.

Mechanical removal is the only alternative way to accomplish the elimination of turf that has encroached as green list herbicides are not effective in these instances. Costs to perform mechanical removal are higher but can be very effective.



Weeds have invaded the infields at Viola Fields. The use of a rototiller is likely the best way to eliminate the weeds prior to the softball season.

The IPM Committee established a progressive three tier turf program which includes the following:

1. Tier One
 - Mulch all clippings back into lawn
 - Aerate twice annually
 - Fertilize using organic granular material
 - Top dress with organic compost annually
2. Tier Two
 - Vertically cut soil and combine and over-seed in winter with grasses designed for winter growth
3. Tier Three
 - Monthly soaking with compost tea

The Parks Department is currently using tiers one and two. In a demonstration project, portions of Viola Field were soaked with compost tea and monitored for improvement. Results did not justify further treatments. Instead the tier one method of top dressing with a high quality compost was seen as a more effective tactic accomplishing better organic matter levels and reintroducing beneficial biotics to the soil.

Mulching

Using mulch is a good park, garden and right of way maintenance practice. The benefits include:

- Reduces weed growth thereby reducing the need for herbicides or mowing.
- Holds in soil moisture and conserves water.
- Helps to keep the root zone temperatures at a beneficial level.
- Organic mulch such as wood chips adds nutrition to your garden as it breaks down.

The City continues to stockpile wood chip mulch at Carpinteria City Hall that is then used for park and right of way uses and is made available to the public for free. The wood chip mulch is generated from City street and park tree maintenance work. The general guidelines for the free pick up and use is that the material is for private residential use and not for professional landscapers. Truckloads of wood chip mulch have been utilized in several city parks such as Tar Pits Park, Heath Ranch Park and El Carro Park.

Conclusions.

1. Use of manual methods to remove rodents and weeds continues to be the first line of defense. With weeds and invasive plants, the lack of rain has helped tremendously to keep the need for herbicides minimal. When rains return, the challenge will be greater. The opportunity to become familiar with green list herbicides with their use in 2013 yielded poor results, but as little weed growth has occurred due to the lack of rain, the situation has been manageable. The predicted El Niño during 2016 is predicted to bring rains to the area that could promote weed growth and challenge herbicide free weed management tactics.
2. With gophers, the challenge has been in keeping up with the population that can invade from all adjacent properties. Staff time has been diverted to contain heavy populations and the cost is higher than anticipated. Outsourcing some of the trapping has already taken place to increase the number and frequency of trappings. The use of rodenticide to get an upper hand while continuing trapping to save staff time and money is being evaluated for 2016.
3. The infestation of weeds in the turf areas is continuing. The sports fields that must endure high levels of use may be more difficult to manage as broadleaf weeds can out compete the grass but is less durable in high use. Cultural care practices to reduce weed infestation have been implemented but with marginal results so far.
4. Baseball infields will require additional work to prepare them for the season due to weed encroachment. Prior to the IPM policy, the infestation was controlled by use of an herbicide. Now more costly mechanical means will be used.
5. The drought continues to suppress weed growth in the city parks and right of ways that helps to reduce the need for herbicide applications.
6. Should rainfall not occur, the ability to provide water to the City turf areas could be jeopardized by very limited water supplies.

2015 Facility Use of Pesticides

Date	Company	Product	EPA #	Amount	Method	Target Species	Location
1/5/2015	Western Exterminator	Termidor SC	7969-210	1 QT	Barrier	Argentine Ants	Clinic
1/25/2015	Santa Barbara Pest	Contra Blox (bromadiolone)	12455-79	4 OZ	Bait	Rodents	City Hall
1/25/2015	Santa Barbara Pest	Terad3 Blox	12455-106	4 Blocks	Bait	Rodents	City Hall
2/2/2015	Western Exterminator	Cy-Kick CS	499-304	0.200 GAL	Barrier	Argentine Ants	Clinic
2/20/2015	Santa Barbara Pest	Terad3 Blox	12455-106	9 Blocks	Bait	Rodents	City Hall
2/20/2015	Santa Barbara Pest	Terad3 Blox	12455-106	9 Blocks	Bait	Rodents	Vet Hall
3/2/2015	Western Exterminator	Cy-Kick CS	499-304	1 OZ	Barrier	Argentine Ants	Clinic
4/6/2015	Western Exterminator	Termidor SC	7969-210	0.250 GAL	Barrier	Argentine Ants	Clinic
4/28/2015	Santa Barbara Pest	EcoPCO WPX (Plant Oils)	67425-25-655	9 Scoops	Band Spray	Ants	Vet Hall
4/28/2015	Santa Barbara Pest	Essentria G Granuales (plant oils)	Exempt	1 bag	Band Spray	Ants	Vet Hall
4/28/2015	Santa Barbara Pest	Mpede (refined soap)	53219-6	1 Pt	Band Spray	Tree Insects	Vet Hall
4/28/2015	Santa Barbara Pest	Terad3 Blox	12455-106	6 Blocks	Bait	Rodents	Vet Hall
4/28/2015	Santa Barbara Pest	Terad3 Blox	12455-106	10 Blocks	Bait	Rodents	City Hall
5/4/2015	Western Exterminator	Termidor SC	7969-210	0.250 GAL	Barrier	Argentine Ants	Clinic
5/21/2015	Santa Barbara Pest	Terad3 Blox	12455-106	3 Blocks	Bait	Rodents	City Hall
6/2/2015	Western Exterminator	Cy-Kick CS	499-304	1 OZ	Barrier	Argentine Ants	Clinic
6/22/2015	Santa Barbara Pest	Terad3 Blox	12455-106	2 Blocks	Bait	Rodents	Vet Hall
6/22/2015	Santa Barbara Pest	Terad3 Blox	12455-106	4 Blocks	Bait	Rodents	City Hall
6/24/2015	Santa Barbara Pest	Mpede (refined soap)	53219-6	10.5 qts	Band Spray	Tree Insects	City Streets
7/6/2015	Western Exterminator	Dragnet SFR Termiticide	279-3062	0.200 GAL	Barrier	Argentine Ants	Clinic
7/28/2015	Santa Barbara Pest	Terad3 Blox	12455-106	6 Blocks	Bait	Rodents	City Hall
7/28/2015	Santa Barbara Pest	EcoPCO WPX (Plant Oils)	67425-25-655	9 Scoops	Band Spray	Ants	Vet Hall
7/28/2015	Santa Barbara Pest	Terad3 Blox	12455-106	8 Blocks	Bait	Rodents	Vet Hall
8/3/2015	Western Exterminator	Cy-Kick CS	499-304	0.200 GAL	Barrier	Argentine Ants	Clinic
8/5/2015	Santa Barbara Pest	EcoPCO WPX (Plant Oils)	67425-25-655	9 Scoops	Band Spray	Ants	City Hall
8/5/2015	Santa Barbara Pest	Terro PCO Liquid (boric acid)	149-8-64405	1 Tube	Crack/Crevice	Ants	City Hall
8/31/2015	Santa Barbara Pest	Contra Blox (bromadiolone)	12455-79	4 Oz	Bait	Rodents	City Hall
8/31/2015	Santa Barbara Pest	Contra Blox (bromadiolone)	12455-79	6 Oz	Bait	Rodents	Vet Hall
9/8/2015	Western Exterminator	Suspend SC	432-763	0.250 GAL	Barrier	Argentine Ants	Clinic
9/8/2015	Santa Barbara Pest	Mpede (refined soap)	53219-6	3 Pts	Band Spray	Tree Insects	Camino Trillado
9/29/2015	Santa Barbara Pest	Terad3 Blox	12455-106	3 Blocks	Bait	Rodents	Vet Hall

2015 Facility Use of Pesticides

Date	Company	Product	EPA #	Amount	Method	Target Species	Location
9/29/2015	Santa Barbara Pest	Terad3 Blox	12455-106	6 Blocks	Bait	Rodents	City Hall
10/5/2015	Western Exterminator	Advion Insect Ganule	100-1483	4 OZ	Broadcast	Argentine Ants	Clinic
10/27/2015	Santa Barbara Pest	EcoPCO WPX (Plant Oils)	67425-25-655	9 Scoops	Band Spray	Ants	Vet Hall
10/27/2015	Santa Barbara Pest	Terad3 Blox	12455-106	6 Blocks	Bait	Rodents	Vet Hall
10/27/2015	Santa Barbara Pest	Contrac Blox (bromadiolone)	12455-79	2 Oz	Bait	Rodents	City Hall
10/28/156	Santa Barbara Pest	Mpede (refined soap)	53219-6	3 Pts	Band Spray	Tree Insects	5195 Eighth St
11/2/2015	Western Exterminator	Cy-Kick CS	499-304	0.200 GAL	Barrier	Argentine Ants	Clinic
11/5/2015	Western Exterminator	Optigard Ant Gel	100-1260	5 Grams	Bait	Ants	Clinic
11/18/2015	Santa Barbara Pest	Terad3 Blox	12455-106	6 Oz	Bait	Rodents	City Hall
11/18/2015	Santa Barbara Pest	Terad3 Blox	12455-106	4 Oz	Bait	Rodents	Vet Hall
11/18/2015	Santa Barbara Pest	Snap Traps	Exempt	3 Traps	Trap	Rodents	Vet Hall
11/20/2015	Western Exterminator	Maxforce FC Magnum Roach Bait	432-1460	5 Grams	Bait	Cockroaches	Clinic
12/7/2015	Western Exterminator	Cy-Kick CS	499-304	0.200 GAL	Barrier	Argentine Ants	Clinic
12/9/2015	Santa Barbara Pest	Terad3 Blox	12455-106	6 Oz	Bait	Rodents	City Hall
12/9/2015	Santa Barbara Pest	Terad3 Blox	12455-106	6 Oz	Bait	Rodents	Vet Hall