Agenda Item No._____

File Code No. 330.01

# CITY OF SANTA BARBARA

## COUNCIL AGENDA REPORT

**AGENDA DATE:** April 13, 2010

**TO:** Mayor and Councilmembers

**FROM:** Parks Division, Parks and Recreation Department

**SUBJECT:** Integrated Pest Management 2009 Annual Report

**RECOMMENDATION:**

That Council accept the City's Integrated Pest Management (IPM) Program 2009 Annual Report.

**EXECUTIVE SUMMARY:**

The City of Santa Barbara's IPM Strategy, adopted on January 26, 2004, provides an ongoing program to further reduce the amount and toxicity of pesticides used on City property and, where feasible, to eliminate pesticide use in public areas using alternative methods. The Strategy requires an annual program report to be presented to the IPM Advisory Committee, Parks and Recreation Commission, Airport Commission, and City Council. The report discusses the types of pest problems each department encountered; types and quantities of pesticides used by each department; exemptions currently in place and granted during the past year; alternative pest management practices; effectiveness of alternative practices; and proposed changes to pest management practices.

At a special meeting held March 9, 2010, the IPM Advisory Committee reviewed and approved the IPM 2009 Annual Report and recommended that the report be forwarded to the Parks and Recreation Commission, Airport Commission, and City Council for review and approval. On March 17, 2010, the Airport Commission voted to recommend that City Council accept the IPM 2009 Annual Report. On March 24, 2010, the Park and Recreation Commission voted unanimously to accept the IPM 2009 Annual Report and forward it to City Council.

**DISCUSSION:**

Background

The City of Santa Barbara adopted an IPM Strategy on January 26, 2004, to provide an ongoing specific program to further reduce the amount and toxicity of pesticides used on

City property and, where feasible, to eliminate pesticide use in public areas using alternative methods. The City had been informally identifying and employing the least toxic alternatives since the 1990s. The City's IPM Strategy formalized this effort, and requires an annual program report to be presented to the IPM Advisory Committee, Parks and Recreation Commission, Airport Commission, and City Council.

In addition to reviewing annual program implementation, the 2009 Report discusses the Pesticide Hazard And Exposure Reduction (PHAER) Zone Model adopted by the City Council on February 14, 2006, and improvements to City facilities to reduce pesticide use. 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.

The PHAER Zone model assigns Green, Yellow, or Red/Special Circumstances Zone designations 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. For example, Green Zones are areas of high human exposure potential and only pesticides designated as "Green", which show very limited human and environmental impacts may be used. Yellow Zones are areas with moderate human or environmental hazard. Red/Special Circumstances Zones are areas where high hazard pesticides for highly challenging pest management problems are needed to control pests. Overall, the Zone Model provides for incremental and measurable expansion of risk-reduction efforts, along with communicating clearly to the public the general potential for pesticide exposure.

The IPM 2009 Annual Report (Attachment 1) addresses the following:

- Types of pest problems encountered by each department
- Types and quantities of pesticides used by each department
- Exemptions currently in place and granted the past year
- Alternative pest management practices
- Effectiveness of alternative practices
- Proposed changes to pest management practices

**IPM 2009 Program Highlights**

In the 6th year of the IPM program, the City saw an increase in pesticide use predominately to control mosquitoes, termites, and rodents at the Airport. The use of Green Materials increased from 239 units to 559.5 units. The use of yellow materials increased from 868.5 units to 1,134 units. There was an increase in the use of Red materials from 25 units to 676.

<u>City-wide</u>

- The total units of pesticides applied increased from 1,132 in 2008 to 2,369 in 2009.
- Units of Green materials increased from 239 to 559.5.
- Units of Yellow materials increased from 868 to 1,134.

- Units of Red materials increased from 25 to 676.
- The number of times pesticides applied (including Green, Yellow, and Red materials) increased from 160 in 2008 to 211 in 2009.

Airport

- Due to an overall average rain season in 2009, applications of Altosid XR, an extended release, yellow mosquito control product, increased from 621 units to 700 units. 507 units of Vectobac G a green material to control mosquitoes were used as well.
- Applications of Ditrac, a Yellow material, for rodent control were increased from 33 units to 39 units. 55 units of Diphacinone a Yellow material were also used for rodent control.
- 14,024 labor hours were spent performing alternative efforts for weed control, etc.
- Applications of the Yellow materials Roundup Pro, Surflan and XL2G used to control weeds increased from 137 units to 328 units.
- An exemption for Vikane a Red material was granted for the treatment of an infestation of drywood termites in two Airport buildings, as well as for Fumitoxin, to reduce airfield rodent populations as necessary to maintain a safe environment for aircraft.

Creeks

- The units of pesticides increased from zero to 11. 4.
- Units of Green materials increased from zero to 10.
- Units of Yellow material increased from zero to 1.4
- Application of 367 yards of mulch.

Golf

- The units of pesticides applied increased from 29 to 55.
- Units of Yellow materials decreased from 5 to 2.7.
- Units of Red materials increased significantly from 24 to 52.
- The golf course continues to brew microorganisms and compost tea for the greens.
- Two newly constructed golf greens were seeded with disease resistant bent grass.

Parks Division

- The units of pesticides applied decreased from 78 to 7.
- Units of Yellow materials decreased from 38 to 7.
- No Red materials were used in 2009.
- Application of 1,700 yards of mulch.

Public Works

- The units of pesticides applied increased from 28 to 33.
- Units of Green materials increased from 20 to 32.
- Units of Yellow materials decreased 8 to 1.
- No Red material was used in 2009.

Waterfront Department

- No pesticides were applied in 2009.

**IPM Advisory Committee Recommendation**
At a special meeting held March 9, 2010, the IPM Advisory Committee reviewed and approved the IPM 2009 Annual Report and recommended that the report be forwarded to the Parks and Recreation Commission, Airport Commission, and City Council for review and approval. A memo from Greg Chittick, Chair on behalf of the IPM Advisory Committee is attached (Attachment 2).

**Airport Commission Recommendation**
On March 18, 2010, the Airport Commission voted to recommend that City Council accept the IPM 2009 Annual Report.

**Parks and Recreation Commission Recommendation**
On March 24, 2010, the Parks and Recreation Commission unanimously to accept the IPM 2009 Annual Report and forward it to City Council.

**SUSTAINABILITY IMPACT:**

Under the City's Sustainable Santa Barbara Program, the City's goals of Source Reduction and Toxics Reduction are met through the IPM Program. Parks and Recreation staff use recycler mowers to reduce green waste and reduce the need for fertilizer. Additionally, all City staff continue to use IPM methods at City parks and facilities to reduce the need for pesticide use.

**ATTACHMENTS:**
1. IPM 2009 Annual Report
2. Memo from IPM Advisory Committee

**PREPARED BY:** Santos M. Escobar, Parks Manager

**SUBMITTED BY:** Nancy L. Rapp, Parks and Recreation Director

**APPROVED BY:** City Administrator's Office

ATTACHMENT 1

**City of Santa Barbara**
**Integrated Pest Management Strategy**

# DRAFT 2009 Annual Report

**Prepared February 2010**

P.O. Box 1990
Santa Barbara, California, 93102
(805) 564-5434
www.santabarbaraca.gov
http://www.santabarbaraca.gov/Resident/Community/Parks_and_Beaches/Integrated_Pest_Management.htm

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# I. INTRODUCTION

In January 2004, the City of Santa Barbara (City) adopted a jurisdiction–wide Integrated Pest Management (IPM) Strategy. The City's IPM Strategy was developed to help reduce pesticide hazards on City property and promote effective pest management. This 2009 IPM Annual Report is the sixth Annual Report for the program.

The IPM Strategy requires that an Annual Report be prepared. The Annual Report addresses each of the following areas:

- Types of pest problems that each Department has encountered
- Types and quantities of pesticides used by each Department
- Exemptions currently in place and granted during the past year
- Alternatives currently used for phased out pesticides
- Alternatives proposed for adoption within the next 12 months
- Effectiveness of any changes in practice implemented
- Planned changes to pest management practices

In addition to the areas described above, the 2009 Annual Report discusses the Pesticide Hazard And Exposure Reduction (PHAER) Zone System adopted by the City Council in February 2006.

**Integration of the 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 adopted the PHAER system to be incorporated into the IPM Strategy.

The PHAER 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. 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.

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## Citizen and Staff IPM Advisory Committees

The Staff IPM Committee continued to work effectively with the Citizen IPM Advisory Committee to administer the IPM Strategy, and oversee pest management practices. In 2009 the Citizen IPM Advisory Committee met seven times to discuss and act on IPM policies and practices and made site visits to Alice Keck Park Memorial Gardens, Chase Palm Park, and Sheffield Open Space to inspect the weed issues in the parks. The 2009 Citizen IPM Advisory Committee included the following representatives: Greg Chittick, community at large, Oscar Carmona, community at large, Kristen LaBonte, community at large, and Corey Welles from the Pesticide Awareness and Alternative Coalition. The Environmental Defense Center representative position remained unfilled for 2009.

Department IPM Coordinators are appointed by Department Heads to serve on the Staff IPM Committee. Department representatives were: Jeff McKee from the Airport, Michele DeCant from Community Development, Joe Poire from the Fire Department, James Dewey from Public Works, Judd Conley from the Waterfront, and Santos Escobar, serving as the IPM Coordinator, from Parks and Recreation.

## IPM Advisory Committee Dissentions

In 2009, there were no IPM Advisory Committee dissentions. A dissention is when a vote is not unanimous.

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## II. 2009 PROGRAM SUMMARY

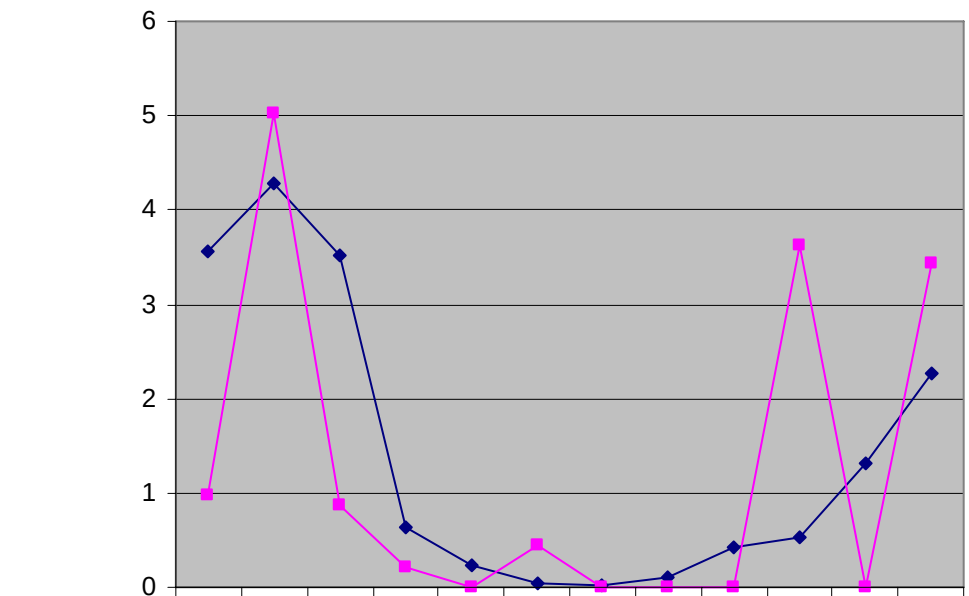
In 2009, pesticide use increased 1,237.5 units, from 1,131.9 units in 2008 to 2,369.4 units in 2009. This includes an increase in the use of Red materials from 25.4 units to 676 units. The use of Yellow materials increased from 867.6 units to 1,133.9 units. The use of Green materials increased from 239 units to 559.5 units.

It is important to note that because pesticide use will vary from year to year, an increase or decrease from the previous year does not necessarily indicate a long-term trend. Many factors affect the amount of pesticides applied in any one year.

One of the main factors that determine pest populations is rainfall. The more rain the area receives in a year, the greater the population of insects and weeds.

The graph below shows the higher than normal rainfall experienced in February and December, as well as the record high rainfall in October.

**2009 Rainfall Chart**




| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average | 3.57 | 4.28 | 3.51 | 0.63 | 0.23 | 0.05 | 0.03 | 0.11 | 0.42 | 0.52 | 1.32 | 2.26 |
| Actual | 0.98 | 5.03 | 0.87 | 0.21 | 0 | 0.45 | 0 | 0 | 0 | 3.63 | 0 | 3.44 |

**City-Wide**

- The total units of pesticides applied increased from 1,131.9 in 2008 to 2,369.4 in 2009.
- Units of Green materials increased from 239 to 559.5.
- Units of Yellow materials increased from 867.6 to 1,133.9.
- Units of Red materials increased from 25.4 to 676.
- The number of times pesticides were applied (including Green, Yellow, and Red materials) increased from 160 in 2008 to 211 in 2009.

**Airport Department**

- The units of pesticides applied increased from 996.2 in 2008 to 2,261.9 in 2009.
- Units of Green materials increased from 179 in 2008 to 516.9 in 2009.
- Units of Yellow materials increased from 816.5 in 2008 to 1,121.4 in 2009.
- Units of Red materials increased from 0.75 in 2008 to 623.6 in 2009.
- The Airport spent 13,903 hours of manual weed control in PHAER green areas and in native habitat restoration areas and 115.5 hours of mechanical gopher control.

**Creeks Division, Parks and Recreation Department**

- The units of pesticides applied increased from zero in 2008 to 11.4 in 2009.
- Units of Green materials increased from zero in 2008 to 10 in 2009.
- Units of Yellow materials increased from zero in 2008 to 1.4 in 2009.
- No Red materials were applied.
- 367 yards of mulch was spread.

**Golf Division, Parks and Recreation Department**

- The units of pesticides applied increased from 29.4 in 2008 to 55.2 in 2009.
- No Green materials were applied in 2009.
- Units of Yellow materials decreased from 5 to 2.7.
- Units of Red materials increased from 24.4 to 52.4.
- The golf course continues to brew microorganisms and compost tea for the greens.
- Two newly constructed greens were seeded with disease resistant bentgrass.

**Parks Division, Parks and Recreation Department**

- The units of pesticides applied decreased from 78.2 in 2008 to 7.4 in 2009.
- No Green materials were applied in 2009.
- Units of Yellow materials decreased from 38.2 to 7.4.
- No Red materials were applied in 2009.
- Over 1,700 yards of mulch spread.

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**Public Works Department**

- The units of pesticides applied increased from 28.1 units in 2008 to 33.6 in 2009.
- Units of Green materials increased from 20 to 32.6.
- Units of Yellow materials decreased from 7.9 to 1.
- No Red materials were applied in 2009.

**Waterfront Department**

- No pesticides were applied in 2009.

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# III. PEST PROBLEMS ENCOUNTERED

A variety of pests were encountered on City properties in 2009 as outlined in the table below. Departments ranked their top three pest problems with the numbers 1, 2 and 3. Other pest problems encountered are checked (✓). Footnote annotations reference additional information.

**Pest Problems Encountered Table**

| | | Airport | Creeks | Golf | Parks | Parking | Public Works | Waterfront |
|---|---|---|---|---|---|---|---|---|
| Plant pests | Giant whitefly | | | | ✓ | ✓ | ✓ | |
| | Misc. plant insects | | | ✓ | ✓[3] | **3** | | |
| | Disease | ✓ | | **1**[1] | ✓[4] | ✓ | | |
| Specimen Tree Pests | Oak Worm | ✓ | | | ✓ | **2** | | |
| | Psyllids | | | | ✓ | | | |
| Weeds | Invasives | ✓ | ✓ | **3**[2] | **1**[5] | | | |
| | General weeds | **3** | ✓ | ✓ | **1** | **1** | ✓ | **3** |
| | Perennial grasses | ✓ | ✓ | ✓ | **1**[6] | | ✓ | ✓ |
| Vertebrates | Gopher | **2** | ✓ | **2** | **2** | | ✓ | ✓ |
| | Ground Squirrel | ✓ | ✓ | **2** | ✓ | | | ✓ |
| | Gulls/ nuisance birds | ✓ | | **2** | ✓ | ✓ | | **2** |
| | Moles | | | **2** | ✓ | | | |
| | Raccoons | ✓ | | **2** | | | | |
| | Skunks | ✓ | | **2** | | | | |
| Human Health | Poison Oak | ✓ | | | ✓ | | | |
| | Bees, yellow jackets, etc. | ✓ | | ✓ | **3** | ✓ | **2** | |
| | Rats/ mice | ✓ | | ✓ | ✓ | ✓ | **3** | **1** |
| | Mosquitoes | **1** | | ✓ | ✓ | | **1** | |
| Other | Termites | ✓ | | | | | ✓ | |
| | Roaches | | | | | | ✓ | |
| | Pigeons | ✓ | | | | ✓ | ✓ | |
| | Crows | ✓ | | ✓ | | | | |
| | Ants | ✓ | | | | ✓ | ✓ | |

1. Golf reported these plant diseases (fungus): Dollar Spot, Pink Snow Mold, Anthracnose, and Yellow Patch.
2. Golf reported this invasive weed: Clover.
3. Parks reported these plant insects: Lerp Psyllids, Mites, Oak Moths, Thrips, Aphids, Snails, Slugs, and Ants.
4. Parks reported these plant diseases: Leaf Spot, Mildew, Blight, Pink Bud Rot, Sooty Mold, Pythium, Armillaria, and Phytothora.
5. Parks reported these invasive weeds: Arrundo, Nutgrass, Kikuyu Grass, Clover, Oxalis, Malva, Foxtail, Spurge, Dandelion, Milkweed, Sow Thistle, Poa annua, Puncture Vine, Johnson Grass, and Poison Oak.
6. Parks reported the following perennial grasses: Crab, and Bermuda.

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# IV. TOTAL PESTICIDE USE

Data has been collected for City-wide pesticide application since 2004. This data is plotted in the graphs on subsequent pages. The graphs illustrate the various reductions and increases in pesticide use by each Department. A City-wide narrative is provided as well as one for each Department describing the particular pest issues faced this year, followed by a graph depicting pesticide use.

There are a number of factors that affect pesticide use. Theses include weather patterns (unseasonably dry or wet weather), introduction of new, or changes to existing pest populations, and changes in the effectiveness or availability of pesticide materials.

It should also be noted that due to the change in 2006 from the Tier system to the PHAER system of pesticide classification, the graphs will show an expanded data list beneath each chart. The top data list is based on the PHAER system of pesticide classification and is valid for the 2006 - 2009 columns only. The lower data list is based on the Tier system and is included for prior years to provide historical data.

As the program continues into its seventh year, reduced budgets and staffing levels will continue to be a significant challenge. Financial constraints may require a change in service levels and aesthetic expectations or a greater reliance on more cost effective traditional pesticides. However, the City is committed to the use of Green materials, so it is likely that the units of pesticides applied will increase. Green materials generally require higher application levels than Red or Yellow pesticides. A rise in Green material use, even though it increases the over-all pesticide use in the City, will generally mean a reduction in the application of higher risk Yellow and Red materials.

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## City-wide Pesticide Use

City-wide pesticide use increased in 2009, mainly because of increased use of both Green and Red materials at the Airport. Pesticides applied increased from 1,131.9 units in 2008 to 2,369.4 units in 2009. The use of Green materials increased from 239 units to 559.5 units. The use of Yellow materials increased from 867.6 units to 1,133.9 units and Red materials increased from 25.4 units to 676 units. The control of mosquitoes accounted for 51% of all the pesticides used City-wide in 2009.

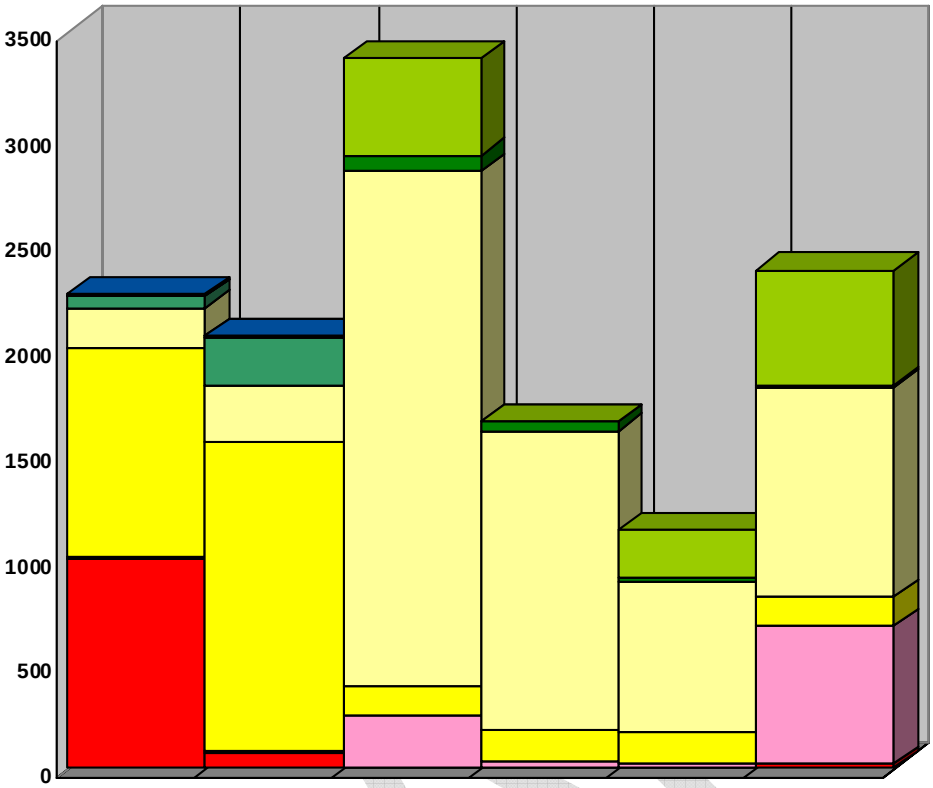
The table below provides a summary of the pesticides applied on City property in 2009. Pesticides are reported in either pounds or gallons depending on if they are dry or liquid. The column labeled "Type" includes the type of pesticide applied: Insecticide, Fungicide, Herbicide, Molluscicide, and Rodenticide. The data used to generate the total overall pesticide use is based upon total units (gallons or pounds) of all materials.

City Departments who applied pesticides, or contracted with pesticide applicators, prepared monthly pesticide and alternative use reports, and participated in the preparation of this Annual Report. The monthly reports form the basis of the Annual Report and are available at the main offices of each Department.

### Total Pesticide Use Table

| | Pesticide Name | Active Ingredient | Type | Airport | | Golf | | Parks and Recreation | | Public Works | | Airport | Golf | Parks and Recreation | Public Works |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Amount of Pesticide Applied | | | | | | | | Applications | | | |
| | | | | Gallons | Pounds | Gallons | Pounds | Gallons | Pounds | Gallons | Pounds | | | | |
| | Advanced Ant Bait | Orthoboric Acid | Insecticide | | | | | | | 0.008 | | | | | 1 |
| | Borid Turbo | Orthoboric Acid | Insecticide | | | | | | | 0.08 | | | | | 1 |
| | Burnout II | Clove Oil | Herbicide | 9.9 | | | | | | | | 11 | | | |
| | Niban | Isoboric Acid | Insecticide | | | | | | | | 8 | | | | 3 |
| | Summit Bits | Bti | Insecticide | | | | | | 10 | | 24.5 | | | 1 | 6 |
| | Vectobac G | Bti | Insecticide | | 507 | | | | | | | 21 | | | |
| | Victor Wasp | Mint Oil / SLS | Insecticide | | | | | | | 0.016 | | | | | 1 |
| | | | **Green Totals** | 9.9 | 507 | 0 | 0 | 0 | 10 | 0.104 | 32.5 | 32 | 0 | 1 | 12 |
| | Altosid Pellets | Methoprene | Insecticide | | 62 | | | | | | | 1 | | | |
| | Altosid XR | Methoprene | Insecticide | | 637.52 | | | | | | | 6 | | | |
| | Ditrac | Diphacinone | Rodenticide | | 38.86 | | | | | | | 20 | | | |
| | Dormant Spray | Petrolium Oil | Insecticide | | | | | 0.75 | | | | | | 1 | |
| | Liquicop | Copper Oil | Fungicide | | | | | 0.25 | | | | | | 1 | |
| | Rose Defense | Neem Oil | Insecticide | | | | | 0.62 | | | | | | 1 | |
| | Round-up Pro | Glyphosate | Herbicide | 73 | | 2.75 | | 7.16 | | | | 17 | 16 | 52 | |
| | Round-up Pro Max | Glyphosate | Herbicide | 25 | | | | | | | | 5 | | | |
| | Surflan | Oryzalin | Herbicide | 30 | | | | | | | | 5 | | | |
| | Termidor SC | Fipronil | Insecticide | | | | | | | 1 | | | | | 3 |
| | Wilco Squirrel Bait | Diphacinone | Rodenticide | | 55 | | | | | | | 9 | | | |
| | XL2G | Oryzalin / Benefin | Herbicide | | 200 | | | | | | | 1 | | | |
| | | | **Yellow Totals** | 128 | 993.38 | 2.75 | 0 | 8.78 | 0 | 1 | 0 | 64 | 16 | 55 | 3 |
| | Banner-maxx | Propiconazole | Fungicide | | | 4.73 | | | | | | | 5 | | |
| | Daconil | Chlorothalonil | Fungicide | | | 15 | | | | | | | 5 | | |
| | Fumitoxin | Aluminum phosphide | Rodenticide | | 370.6 | | | | | | | 10 | | | |
| | Heritage | Azoxystrobin | Fungicide | | | | 15 | | | | | | 1 | | |
| | Medallion | Fludioxonil | Fungicide | | | | 7.68 | | | | | | 3 | | |
| | Prostar | Flutolanil | Fungicide | | | | 10 | | | | | | 1 | | |
| | Vikane | Sulfuryl fluoride | Insecticide | | 253 | | | | | | | 3 | | | |
| | | | **Red Totals** | 0 | 623.6 | 19.73 | 32.68 | 0 | 0 | 0 | 0 | 13 | 15 | 0 | 0 |
| | | | **Department Totals** | **137.9** | **2123.98** | **22.48** | **32.68** | **8.78** | **10** | **1.104** | **32.5** | **109** | **31** | **56** | **15** |
| | **City-wide Totals:** | | | **Gallons** | **170.264** | | | **Pounds** | **2,199.160** | | | **Applications** | | | **211** |

# City-wide Pesticide Use




| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|
| **PHAER** | | | | | | |
| **Green Pounds** | | | 489.05 | .5 | 220 | 549.5 |
| **Green Gallons** | | | 48.5 | 42.96 | 19.01 | 10 |
| **Yellow Pounds** | | | 2449.91 | 1,421.95 | 717.132 | 993.38 |
| **Yellow Gallons** | | | 135.65 | 149.08 | 150.458 | 140.53 |
| **Red Pounds** | | | 246.93 | 30.56 | 16.201 | 656.28 |
| **Red Gallons** | | | 3.75 | 1.25 | 9.191 | 19.73 |
| **History** | | | | | | |
| **Tier 4 Gallons** | | | | | | |
| **Tier 4 Pound** | 9 | 3.4 | | | | |
| **Tier 3 Gallons** | 1.1 | 1.25 | | | | |
| **Tier 3 Pounds** | 54 | 236.54 | | | | |
| **Tier 2 Gallons** | 195.5 | 267.04 | | | | |
| **Tier 2 Pounds** | 992 | 1469.03 | | | | |
| **Tier 1 Gallons** | 5.5 | 9 | | | | |
| **Tier 1 Pounds** | 995.9 | 70 | | | | |
| **Totals** | **2253** | **2056.26** | **3373.79** | **1646.3** | **1,131.992** | **2,369.40** |

## Parks Division Pesticide Use

Pesticide use by the Parks Division decreased in 2009. No Green materials were applied. There was a decrease in Yellow materials from 38.24 units to 7.38 units primarily from the use of glyphosate to control weeds. No Red materials were used this year on any parkland.

## Alternatives Used

The Parks Division performed 3,979 hours of alternative pest management. The Parks Division used a weed flamer on sidewalk cracks and rocky areas as well as a steam weeder around the palm trees at Chase Palm Park and applied over 1,700 yards of mulch and biosolids in planter areas. The Parks Division is also experimenting with sheet mulching, installing a layer of cardboard under the mulch, at Sheffield Open Space. However, as in years past, the majority of work went into hand weeding and mechanical weeding with power equipment.

Various other alternatives were practiced in 2009, including trapping for rodents and the continued use of Sluggo for snail and slug control. A contractor was used to relocate bee hives and yellow jacket nests. The Parks Division also continues to search for alternative herbicides in hopes of finding effective products.

## Exemptions

The Parks Division applied for five exemptions. The first exemption request was for the use of Glyphosate at Parma Park to eradicate invasive weeds after the Tea Fire. This exemption was granted but not used due to emergency funds becoming available for the hiring of additional staff to weed manually. The second exemption request was for the use of Glyphosate to treat invasive Arundo donax at the Andreé Clarke Bird Refuge. This exemption was granted and used successfully. The third was an exemption request for the use of Glyphosate to treat invasive Arundo donax at Shoreline Park. This exemption was granted but not used because of difficulty in safely reaching the cliff-side location. The fourth exemption request was for the use of Glyphosate to treat weeds at Chase Palm Park and Sheffield Open Space. This exemption was declined. The fifth exemption request was for the use of Diphacinone for the control of squirrels at Shoreline Park, Leadbetter Beach Park, and Chase Palm Park. This exemption was granted but not used due to a diminished squirrel population, resulting primarily from the use of dpphacinone in 2008.

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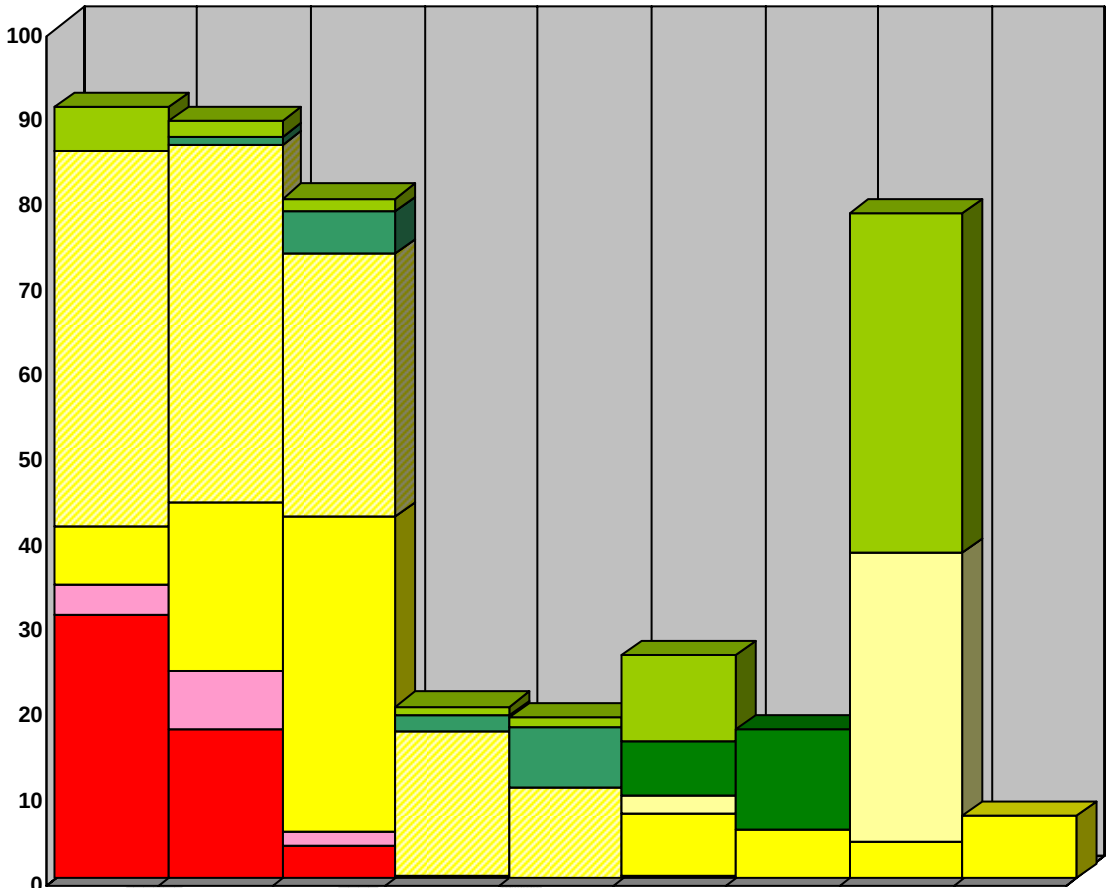
## Parks Division Pesticide Use




| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|---|---|---|
| PHAER | | | | | | | | | |
| Green Pounds | | | | | | 10 | | 40 | |
| Green Gallons | | | | | | 6.5 | 11.71 | | |
| Yellow Pounds | | | | | | 2 | | 34 | |
| Yellow Gallons | | | | | | 7.43 | 5.71 | 4.24 | 7.38 |
| Red Pounds | | | | | | | | | |
| Red Gallons | | | | | | 0.25 | | | |
| History | | | | | | | | | |
| Tier 4 Gallons | | | | | | | | | |
| Tier 4 Pound | | | | | | | | | |
| Tier 3 Gallons | 5.3 | 1.75 | 1.5 | 1 | 1.25 | | | | |
| Tier 3 Pounds | | 1 | 5.05 | 2 | 7 | | | | |
| Tier 2 Gallons | 44 | 42 | 31 | 17 | 10.71 | | | | |
| Tier 2 Pounds | 7 | 20 | 37 | | | | | | |
| Tier 1 Gallons | 3.6 | 6.7 | 1.7 | 0.22 | | | | | |
| Tier 1 Pounds | 30.91 | 17.6 | 3.8 | | | | | | |
| **Totals** | **90.81** | **89.05** | **80.05** | **20.22** | **18.96** | **26.18** | **17.42** | **78.24** | **7.38** |

## Golf Division Pesticide Use

The Golf Division increased its material use from 29.4 units in 2008 to 55.2 units in 2009. Although there was a reduction in Yellow materials from 5 units to 2.7 units, there was an increase in Red materials from 24.4 units to 52.4 units. Due to a drier than normal January, there was a reduction in weed populations leading to a decline in Yellow herbicides used. However, the weather also brought an increase in diseases during the winter and summer months leading to an increased use of Red fungicides. The Golf Division continues to implement alternative agronomic methods to control disease pressures and limit pesticide inputs. Unfortunately, extreme environmental conditions create disease outbreaks that can only be controlled with fungicides.

## Alternatives Used

The Golf Division recently rebuilt two greens and selected disease resistant seed. Selecting a disease resistant seed variety will lead to an overall reduction in fungicide use.

The Golf Division increased the use of Biosolids from 315 cubic yards to 455 cubic yards. Biosolids are used as an organic fertilizer which leads to a reduction in the application of inorganic fertilizers.

The Golf Division continues to limit the amount of fertilizer applied to the greens. In lieu of fertilizer the Golf Division continues to use raw materials that, over time, will acidify the soil promoting more disease resistant finer leaf turfgrasses. These materials also deliver an acceptable green color that would typically be accomplished with nitrogen inputs.

In all, the Golf Division used 455 cubic yards of Biosolids, 60 gallons of effective microorganisms and 60 gallons of seaweed.

## Exemptions

The Golf Division applied for and received eight exemptions. The exemptions were for the fungicides Banner-maxx, Daconil, Heritage, Medallion, and Prostar; the insecticides Acelepryn and Merit, and the herbicide/growth regulator Trimmit. All of the exemptions targeted the greens.

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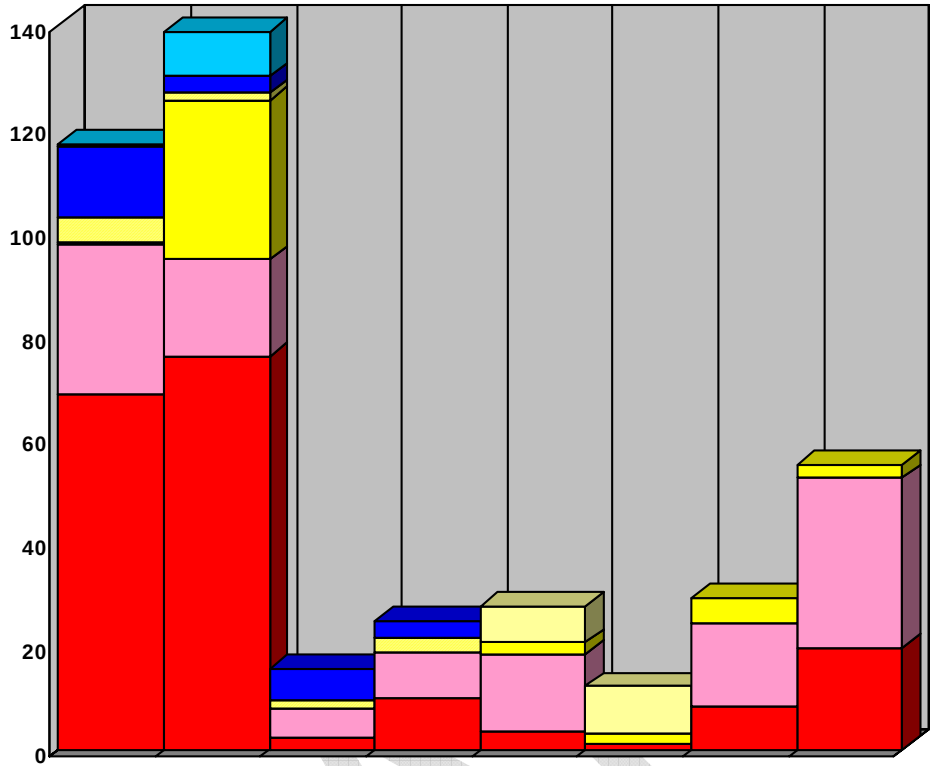
## Golf Division Pesticide Use




| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|---|---|
| **PHAER** | | | | | | | | |
| **Green Pounds** | | | | | | | | |
| **Green Gallons** | | | | | | | | |
| **Yellow Pounds** | | | | | 7 | 9 | | |
| **Yellow Gallons** | | | | | 2.31 | 1.94 | 4.97 | 2.75 |
| **Red Pounds** | | | | | 15 | | 16.06 | 32.68 |
| **Red Gallons** | | | | | 3.5 | 1.25 | 8.361 | 19.73 |
| **History** | | | | | | | | |
| **Tier 4 Gallons** | 0.04 | 8.75 | | | | | | |
| **Tier 4 Pound** | 13.7 | 3.13 | 6 | 3.4 | | | | |
| **Tier 3 Gallons** | | | | | | | | |
| **Tier 3 Pounds** | | | | | | | | |
| **Tier 2 Gallons** | 5.1 | 1.4 | 1.9 | 2.5 | | | | |
| **Tier 2 Pounds** | 0.19 | 30.84 | | | | | | |
| **Tier 1 Gallons** | 28.9 | 18.7 | 5.3 | 9 | | | | |
| **Tier 1 Pounds** | 68.8 | 76 | 2.45 | 10 | | | | |
| **Totals** | **116.73** | **138.82** | **15.65** | **24.9** | **27.81** | **12.19** | **29.391** | **55.16** |

### Airport Department Pesticide Use

The Airport Department pesticide applications concentrated on four types of pests in 2009: mosquitoes, rodents, weeds and termites. The Airport applied Red materials to control gophers on the airfield and drywood termites in two buildings. Red materials were selected by the Airport staff, and exemption requests approved by the IPM Advisory Committee, because those materials were the most appropriate approach to control the problem pests.

### Mosquitoes

The Airport Department relies primarily on Altosid XR, a Yellow larvicide to control mosquitoes in the Goleta Slough. The product is effective for up to 180 days. In 2009, generally dry conditions limited the need for reapplication of Altosid XR. Airport has worked with the Mosquito and Vector Management District to rely more heavily on the Green, BTI based product Vectobac G to control smaller residual mosquito sources for shorter periods of time, in lieu of second applications of Altosid XR. Bti based products are only effective for about ten days.

### Weeds

In addition to the extensive manual weed control program at the Airport, herbicides were used to prevent weeds from obscuring airfield lights and signs, and to prevent weeds from deteriorating airfield assets. Some hand weed abatement was conducted on the airfield in 2009; however this effort is limited due to safety considerations for maintenance personnel.

### Rodents

Following several years of no significant application of rodenticides on the airfield, the Airport Department made a concerted effort to reduce airfield rodent populations. Rodents on the airfield attract predators that pose a collision hazard for aircraft. The Airport is also required by FAA to maintain safety areas in a smooth, compact condition. On-going rodent control is necessary to maintain a safe environment for aircraft operations. Gophers outside the airfield fence were controlled with mechanical steel traps.

### Termites

In 2009, the Airport Department tented two buildings with Vikane to prevent damage from drywood termites. The IPM Advisory Committee approved an exemption for the use of Vikane, a Red material. Vikane was approved by the Advisory Committee in lieu of heat treatment due to large amounts of heat sensitive electronic equipment within the buildings, and the physical size of the buildings. This made them difficult, if not impossible, to heat adequately to achieve control. The initial treatment of one building was unsuccessful and the contractor re-tented the building under warranty. Drywood termites were also discovered in an office inside the Airline Terminal. The drywood termites there were eradicated by a local contractor using heat.

### Alternatives Used

Alternative efforts focused on the control of weeds through mechanical methods, including weed whipping, hand weeding and hoeing. The number of hours devoted to alternative pest control methods remained very high at 14,024 hours recorded in 2009. During the year, Airport used a beekeeper to remove multiple swarms of bees from the Airport. Airport used a contractor in December to heat treat an infestation of drywood termites in one section of the Airline Terminal.

## EXEMPTIONS

The Airport applied for and received two exemptions in 2009 - Fumitoxin and Roundup Promax. The exemption for Vikane was approved at the end of 2008 for use in 2009. All materials were used.

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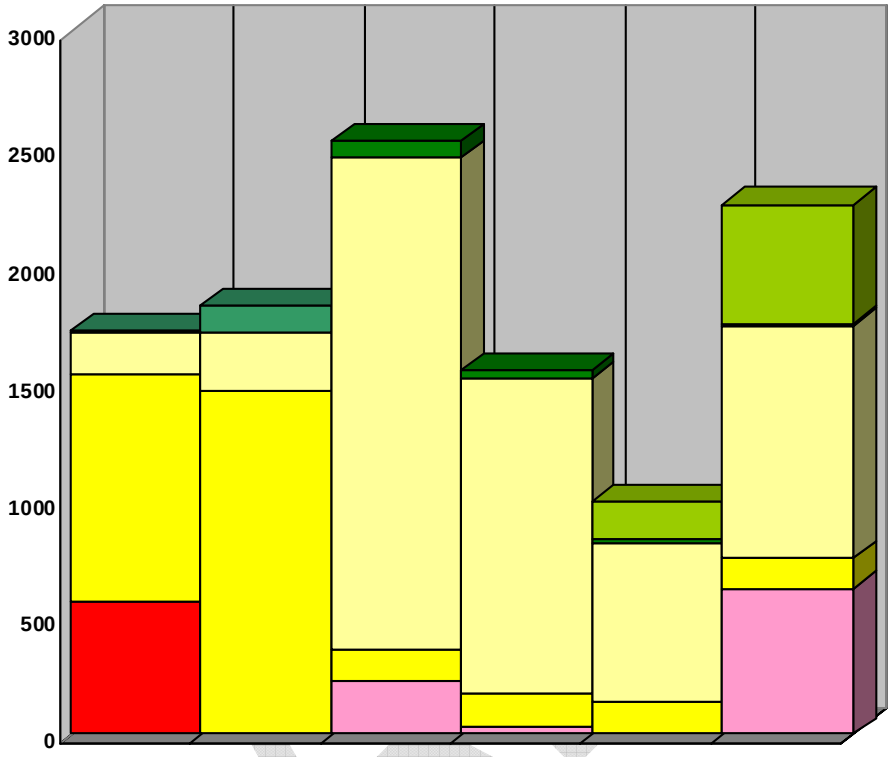
## Airport Pesticide Use




| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|
| **PHAER** | | | | | | |
| **Green Pounds** | | | 28.5 | | 160 | 507 |
| **Green Gallons** | | | 42 | 31.25 | 19 | 9.9 |
| **Yellow Pounds** | | | 2107.31 | 1,349.95 | 678.625 | 993.38 |
| **Yellow Gallons** | | | 125.61 | 140.05 | 137.855 | 128 |
| **Red Pounds** | | | 231.93 | 30.06 | | 623.6 |
| **Red Gallons** | | | | | 0.75 | |
| **History** | | | | | | |
| **Tier 4 Gallons** | | | | | | |
| **Tier 4 Pound** | | | | | | |
| **Tier 3 Gallons** | | | | | | |
| **Tier 3 Pounds** | 12.5 | 115.4 | | | | |
| **Tier 2 Gallons** | 170.9 | 247.2 | | | | |
| **Tier 2 Pounds** | 972.3 | 1469 | | | | |
| **Tier 1 Gallons** | | | | | | |
| **Tier 1 Pounds** | 568 | | | | | |
| **Totals** | **1723.7** | **1831.6** | **2535.35** | **1551.31** | **995.48** | **2261.88** |

**Public Works Department Pesticide Use**

The Public Works Department increased its use of pesticides in 2009. Green materials increased to 32.6 units in 2009 from 20.01 units in 2008 primarily due to the use of the Green material Bti to treat for mosquitoes. Use of Yellow materials decreased to 1 unit in 2009 from 7.9 units in 2008 largely due to reduced rodent baiting. No Red materials were applied in 2009.

**Alternatives Used**

The Parking Division continues to use alternative methods for weed control including hand weeding, weed whipping, and limited use of weed burning. A total of 365 hours were devoted to non chemical methods of weed control in 2009. In addition, 30 cubic yards of mulch were added to planting areas to discourage weed growth. Additional alternative practices for pest management include plant replacement, worm castings, and washing off insects with water pressure.

Environmental Services employed a contractor who caught 47 rodents in traps along State Street and Coast Village Road. A contractor also relocated 15 bee hives or swarms.

The Streets Division managed weeds in traffic calming areas with hand weeding and mulching.

The Facilities Division focused on sanitation efforts in the management of ants and rodents in City buildings.

**Exemptions:**

The Public Works Facilities Maintenance Division applied for and received two exemptions for the Yellow materials Fipronil and Advion, both for the control of ants in and around City facilities.

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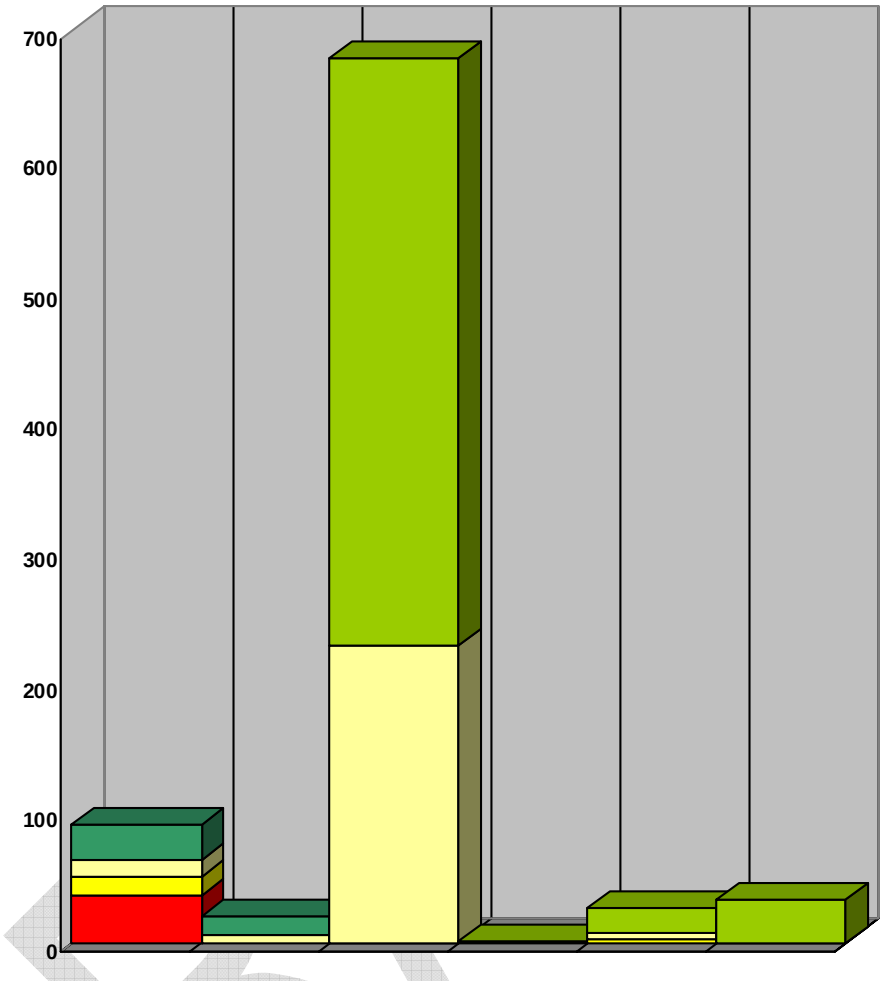
## Public Works Pesticide Use




| . | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|
| PHAER | | | | | | |
| Green Pounds | | | | 0.5 | 20 | 32.5 |
| Green Gallons | | | 450.55 | | 0.01 | 0.104 |
| Yellow Pounds | | | | | 4.507 | |
| Yellow Gallons | | | 228.6 | 1.38 | 3.393 | 1 |
| Red Pounds | | | 0.31 | | 0.141 | |
| Red Gallons | | | | | 0.08 | |
| History | | | | | | |
| Tier 4 Gallons | | | | | | |
| Tier 4 Pound | | | | | | |
| Tier 3 Gallons | | | | | | |
| Tier 3 Pounds | 27 | 15.16 | | | | |
| Tier 2 Gallons | 13 | 6.625 | | | | |
| Tier 2 Pounds | 14 | 0.031 | | | | |
| Tier 1 Gallons | | | | | | |
| Tier 1 Pounds | 37 | | | | | |
| **Totals** | **91** | **21.816** | **679.46** | **1.88** | **28.131** | **33.6** |

# V. EXEMPTIONS

Under the IPM Strategy and PHAER Zone system, exemptions may be granted when a pest outbreak poses an immediate threat to public health or will result in significant economic or environmental damage. Exemptions may be requested for one time application or as a programmatic exemption for a single year. The exemption process is outlined in the IPM Strategy.

- 17 exemptions were requested in 2009 as summarized in the table to the right and listed in the table below.
- No emergency exemptions were requested in 2009.
- All 17 requests were for planned action and 16 were granted by the IPM Citizens Advisory Committee.
- Of the 16 requests approved, 7 were not implemented.

**Exemption Summary Table**

| 2009 Exemptions | Airport | Creeks | Golf | Parks | Facilities | Totals |
|---|---|---|---|---|---|---|
| **Emergency** | | | | | | — |
| **Proposed** | 1 | 1 | 8 | 5 | 2 | 17 |
| **Passed** | 1 | 1 | 8 | 4 | 2 | 16 |
| **Denied** | | | | 1 | | 1 |
| **Applied** | 1 | 1 | 5 | 1 | 1 | 9 |
| **Not Applied** | | | 3 | 4 | 1 | 8 |

**Exemption Detail Table**

| Vote | Div. | Material | Type | Type | Exemption Type | Used | Site |
|---|---|---|---|---|---|---|---|
| Passed | Airport | Fumitoxin | Rodenticide | | Programatic | Yes | Airfield |
| Passed | Creeks | Glyphosate | Herbicide | | Programatic | Yes | Golf Course |
| Passed | Facilities | Fipronil | Insecticide | | Programatic | Yes | Franklin Center |
| Passed | Facilities | Advion | Insecticide | | Programatic | No | Facilities |
| Passed | Golf | Banner-maxx | Fungicide | | Programatic | Yes | Greens |
| Passed | Golf | Acelepryn | Insecticide | | Programatic | No | Greens |
| Passed | Golf | Daconil | Fungicide | | Programatic | Yes | Greens |
| Passed | Golf | Heritage | Fungicide | | Programatic | Yes | Greens |
| Passed | Golf | Medallion | Fungicide | | Programatic | Yes | Greens |
| Passed | Golf | Merit | Insecticide | | Programatic | No | Greens |
| Passed | Golf | Prostar | Fungicide | | Programatic | Yes | Greens |
| Passed | Golf | Trimmit | Herbicide | | Programatic | No | Greens |
| Passed | Parks | Diphacinone | Rodenticide | | Programatic | No | Shoreline Park, Leadbetter, Chase Palm |
| Passed | Parks | Glyphosate | Herbicide | | Programatic | No | Parma Park |
| Passed | Parks | Glyphosate | Herbicide | | Programatic | Yes | Bird Refuge |
| Declined | Parks | Glyphosate | Herbicide | | Programatic | No | Chase Palm Park and Sheffield Open Space |
| Passed | Parks | Glyphosate | Herbicide | | One Time | No | Shoreline Park |

**Comparison of Exemptions for 2007 and 2008**

| | 2008 | 2009 |
|---|---|---|
| Number of Exemption Requests | 16 | 17 |
| Number of Exemption Requests Approved | 15 | 16 |
| Number of Approved Exemption Requests Applied | 8 | 9 |
| Number of Approved Exemption Requests Not Applied | 7 | 7 |

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# VI. ALTERNATIVE PEST MANAGEMENT PRACTICES USED IN 2009

Non-chemical pest management alternatives used in 2009 are reviewed in the table below. The use of non-chemical IPM alternatives was emphasized over pesticide applications. Hours reported for the total year are from the *Monthly Alternative Use Reports* prepared by each Department. A check (✓) indicates the alternative was used but time was not tracked for it. The total tracked hours for City-wide alternative practices declined from 23,569 in 2008 to 19,936 in 2009, primarily due to budgetary reductions resulting in less available labor.

| PEST | Alternative | Airport | Golf | Public Works | Parks | Citywide Hours |
|---|---|---|---|---|---|---|
| WEEDS | Mulch & wood chips | 8 | ✓ | ✓ | 560 | **568** |
| | Weed fabric | | | | | **0** |
| | Propane flame weeder | | | ✓ | 64 | **64** |
| | Hot water/ steam | | | | 8 | **8** |
| | Hand weeding | 13,601 | 300 | 165 | 1,602 | **15,668** |
| | Weed whip | 294 | 1,200 | 200 | 1,300 | **2,994** |
| | Habitat modification | | | | ✓ | **0** |
| | Irrigation Mgmt. | ✓ | ✓ | | ✓ | **0** |
| | Host plants squeeze out | ✓ | | | ✓ | **0** |
| PLANT PESTS | Irrigation Mgmt. | | | | ✓ | **0** |
| | Compost tea/microbial in. | | | | | **0** |
| | Enhance plant health | | ✓ | | ✓ | **0** |
| | Worm castings | | | ✓ | | **0** |
| | Effective micro-organisms | | ✓ | | | **0** |
| | Wash off plants | | | ✓ | ✓ | **0** |
| | Resistant varieties | ✓ | | ✓ | ✓ | **0** |
| | Remove plant/tree | ✓ | | | ✓ | **0** |
| GOPHERS | Traps | 116 | ✓ | | 421 | **537** |
| SQUIRRELS | EPA exempt bait | | | | | **0** |
| | Traps | | ✓ | | 24 | **24** |
| | Habitat modification | | | ✓ | | |
| RATS & MICE | Mechanical traps | 2 | | ✓ | ✓ | **2** |
| | Cat | | | | ✓ | **0** |
| MOSQUITOES | Mosquito fish | ✓ | | ✓ | | **0** |
| | Remove stagnant water | | | | ✓ | **0** |
| BEES, WASPS, etc. | Bee Keepers | | | ✓ | ✓ | **0** |
| | Remove hives | ✓ | | 68 | ✓ | **68** |
| OTHER | Glue traps/roaches | | | ✓ | | **0** |
| | Heat Treatment | 4 | | ✓ | | **4** |
| **Total Hours** | | **14,024** | **1,500** | **433** | **3,979** | **19,936** |

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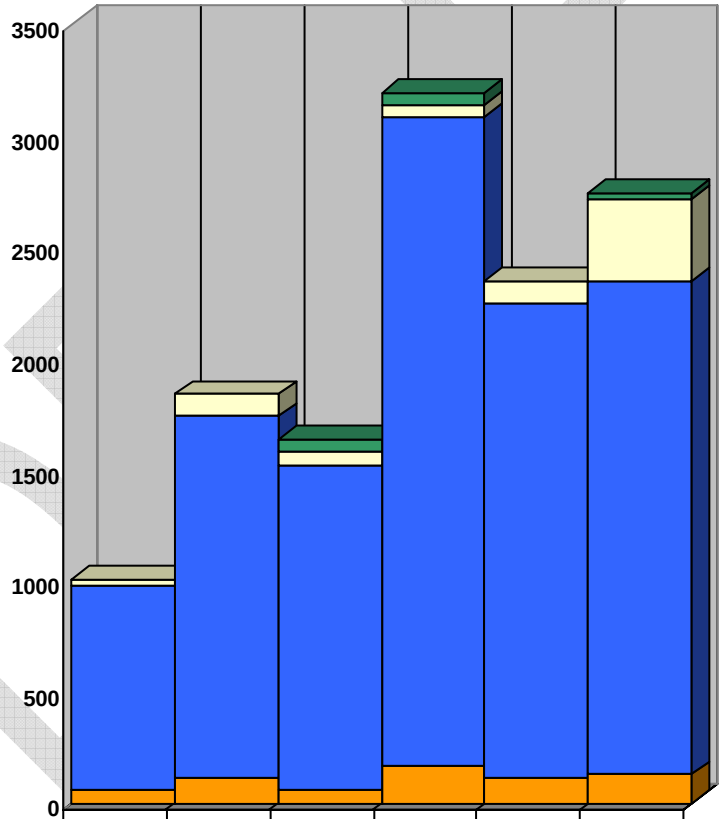
## Total Mulch Use

Mulch has been found to be effective in suppressing the growth of annual weeds. The table below shows the types of mulch applied for 2009.

### Mulch Use Table

| Yards of Mulch by Type | Airport | Creeks | Parks/Golf | Public Works | City Totals |
|---|---|---|---|---|---|
| Biosolids | | | 559 | | **559** |
| Woodchips | 30 | 367 | 1,660 | 130 | **2,187** |
| **Total Yards** | **30** | **367** | **2,219** | **130** | **2,746** |

### Mulch Use Comparison Chart




| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|
| Airport | N/A | N/A | 60 | 53 | N/A | 30 |
| Creeks | 30 | 100 | 60 | 50 | 102 | 367 |
| Parks/Golf | 921 | 1620 | 1460 | 2917 | 2125 | 2219 |
| Public Works | 59 | 120 | 60 | 171 | 120 | 130 |
| **Totals** | **1,010** | **1,840** | **1,640** | **3,191** | **2,347** | **2,746** |

# VII. 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. However, there are occasions when a Yellow or Red material is also not effective in controlling a pest problem. 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 is reviewed below.

- **Weeds**: A variety of alternatives are used to provide moderate effectiveness and control including: weeding, weed whipping, mulching, mowing, flame torch (in designated safe areas), and the Aquacide Steam Weeder. These alternatives are significantly more labor and cost intensive and not as effective as Yellow materials. Alternative food grade or EPA exempt chemicals, such as the clove oil based Burnout II, have not proven effective.
- **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 for mosquitoes
- **Disease:** No effective alternative has been found for most diseases. Where possible, staff focuses on preventative treatments to enhance plant health. Once disease strikes, pesticides are generally required to combat it.
- **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, using snap and electrical traps, is the primary method of control at this time. This method is moderately effective at controlling populations. More effective alternatives are being researched. Some control has been achieved using food grade baits. 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 have also shown themselves to be very effective in controlling rodents on downtown State Street and at Coast Village Road
- **Termites:** Building Maintenance now only uses heat treatments to control drywood termites. Heat was found to be equally effective as pesticides and without the chemical residues. However, costs are 50% higher at this time.

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# VIII. PROPOSED CHANGES TO PEST MANAGEMENT PRACTICES

### Alternative Practices Proposed for 2010

The upcoming year will pose new challenges due to the financial climate. Budget considerations and the reduction of staff may require a change in service levels and aesthetic expectations or a greater reliance on more cost effective traditional pesticides. Departments will continue to seek "least toxic" alternatives that provide higher benefit to cost ratios. Departments will also continue to use alternatives found effective in the past five years unless more cost-effective alternatives are found. Departments propose the following for 2010:

- The Parks Division will continue to implement the PHAER Zone model of Integrated Pest Management and continue studying alternative materials and methods. Parks will continue experimenting with sheet mulching to control weeds.
- The Golf Division will continue to limit the amount of fertilizer applied to the greens. In lieu of fertilizer the Golf Division will use raw materials that, over time, will acidify the soil promoting more disease resistant finer leaf turfgrasses. These materials also deliver an acceptable green color that would typically be accomplished with nitrogen inputs.
- The Airport Department landscape maintenance contractor has identified specific initiatives for 2010 to further improve the effectiveness of its IPM efforts in Airport Green zones. Efforts will focus on plant health, conservation of water resources and recycling of green waste. The contractor has also committed to have two staff certified as Green Gardeners during the coming fiscal year.

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# IX. CONCLUSION

Overall, the City increased its use of pesticides in 2009. The increased use of Red materials to treat termites and gophers at the Airport, and funguses at the Golf Course caused a City-wide increase to 2,369.4 units in 2009 from 1,131.9 units in 2008. The City also saw an increase in the use of Green materials, in particular, the use of Bti to control mosquitoes at the Airport.

During these times of reduced budgets, it is important for City staff to find cost effective, low risk, viable alternatives so that pesticide hazards may be reduced further and the overall efficiency of IPM practices may increase. Additionally, changes in maintenance standards and expectations will become more prevalent as funding for the maintenance of City parks, landscapes, and facilities decrease.

Also critical to reducing pesticide hazards in the City of Santa Barbara is the continuation of community outreach and public education. Because of this community outreach, the public will become more aware of the City's greater reliance upon low risk IPM alternatives.

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# X. 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 Model.

| Product Name | Active Ingredient | ZONE | Tier | Type |
|---|---|---|---|---|
| Advance Ant Bait | Orthoboric Acid | Green | 3 | Insecticide |
| AllDown | citric acid, acetic acid, garlic | Green | 3 | Herbicide |
| *Any brand name* | Orthoboric Acid ant bait station | Green | 3 | Insecticide |
| Avert Cockroach Bait Station | Abamectin B1 0.05% | Green | 3 | Insecticide |
| Avert Cockroach Gel Bait | Abamectin B1 0.05% | Green | 3 | Insecticide |
| Bactimos Pellets | Bt | Green | 3 | Insecticide |
| Bactimos Wettable | Bt | Green | 3 | Insecticide |
| Bio-Weed | corn gluten | Green | 3 | Herbicide |
| Borid | Orthoboric Acid | Green | 3 | Insecticide |
| Borid Turbo | Orthoboric Acid | Green | 3 | Insecticide |
| BurnOut 2 | clove oil | Green | 3 | Herbicide |
| Cinnamite | cinnamaldehyde | Green | 3 | Insect/Fung |
| Dipel Flowable | Bt | Green | 3 | Insecticide |
| Drax Ant Kill PF | Orthoboric Acid | Green | 3 | Insecticide |
| EcoExempt | Wintergreen Oil | Green | 3 | Herbicide |
| EcoExempt D | 2-Phenethyl propionate 4.5% Euginol (clove oil) 1.75% | Green | 3 | Insecticide |
| Embark | mefluidide | Green | 3 | Growth Regulator |
| GreenErgy | Citric, Acetic Acid | Green | 3 | Herbicide |
| Kaligreen | potassium bicarbonate | Green | 3 | Fungicide |
| Matran (EPA Registration Exempt) | clove oil | Green | 3 | Herbicide |
| Natura Weed-A-Tak | clove oil | Green | 3 | Herbicide |
| Niban | Isoboric Acid 5% | Green | 3 | Insecticide |
| Safer Soap | potassium salts of fatty acids | Green | 3 | Insecticide |
| Sluggo | iron phosphate | Green | 3 | Other |
| Summit BTI Briquets | Bt | Green | 3 | Insecticide |
| Teknar HP-D | Bti | Green | 3 | Insecticide |
| Terro II | Orthoboric Acid | Green | 3 | Insecticide |
| Vectobac G | Btk | Green | 3 | Insecticide |
| VectoLex CG | bacillus sphaericus | Green | 3 | Insecticide |
| Victor Wasp and Hornet Killer | Mint Oil 8% & Sodium Lauryl Sulfate 1% | Green | 3 | Insecticide |
| Advion Ant Arena | Indoxacarb | Yellow | 2 | Insecticide |
| Agnique MMF | POE Isoocatadecanol | Yellow | 2 | Insecticide |
| Aliette | fosetyl aluminum | Yellow | 2 | Fungicide |
| Altosid B | methoprene | Yellow | 2 | Other |

| Product Name | Active Ingredient | ZONE | Tier | Type |
|---|---|---|---|---|
| Altosid L | methoprene | Yellow | 2 | Other |
| Altosid P | methoprene | Yellow | 2 | Other |
| Altosid XR | methoprene | Yellow | 2 | Other |
| Aquamaster-Rodeo | glyphosate | Yellow | 2 | Herbicide |
| Avid | abamectin | Yellow | 2 | Miticide/Insecticide |
| Dormant | petroleum oil | Yellow | 2 | Insecticide |
| Green Light | Neem oil | Yellow | 2 | Insecticide/Fungicide |
| M-PEDE | potassium salts of fatty acids | Yellow | 2 | Insecticide |
| Prostar 70 WP | flutolanil | Yellow | 2 | Fungicide |
| Rose Defense | Neem oil | Yellow | 2 | Insect/Fung |
| Roundup Pro | glyphosate | Yellow | 2 | Herbicide |
| Roundup ProMax | glyphosate | Yellow | 2 | Herbicide |
| Safticide Oil | petroluem oil | Yellow | 2 | Insecticide |
| Stylet Oil | Petroleum distillates | Yellow | 2 | Insecticide |
| Sulf-R-Spray | Parafin oil, sulfur | Yellow | 2 | Fungicide |
| Superior Spray Oil | petroleum distillates | Yellow | 2 | Insecticide |
| Surflan | oryzalin | Yellow | 2 | Herbicide |
| Surflan AS | oryzalin | Yellow | 2 | Herbicide |
| Termidor SC | Fipronil | Yellow | 2 | Insecticide |
| Triact | Neem oil | Yellow | 2 | Insecticide/Fungicide |
| Trilogy | Neem oil | Yellow | 2 | Insecticide/Fungicide |
| Wasp-Freeze | allethrim | Yellow | 2 | Insecticide |
| Wilco Ground Squirrel Bait | diphacinone | Yellow | 2 | Other |
| XL 2G | benefin; oryzalin | Yellow | 2 | Herbicide |
| *All Special Circumstance materials will continue to require exemptions granted by the IPM Advisory Committee, as provided in the City of Santa Barbara IPM Strategy* | | | | |
| Bayleton | triadimafon triazole | S. C. | 1 | Fungicide |
| Conserve | spinosad | S. C. | 1 | Insecticide |
| Fumitoxin | Aluminum phosphide | S. C. | 1 | Rodenticide |
| Manage | halosulfuron methyl | S. C. | 1 | Herbicide |
| Medallion | fludioxonil | S. C. | 4 | Fungicide |
| Quick Pro | glyphosate/diquat | S. C. | 1 | Herbicide |
| Reward | diquat dibromide | S. C. | 1 | Herbicide |
| Rubigan | fenarimol | S. C. | 1 | Fungicide |
| Rubigan EC | fenarimol | S. C. | 1 | Fungicide |
| Subdue | metalaxyl | S. C. | 1 | Fungicide |
| Zp Rode | zinc phosphide | S. C. | 1 | Rodenticide |

ATTACHMENT 2

**City of Santa Barbara**
Parks and Recreation Department

# Memorandum

**DATE:** March 11, 2010

**TO:** City Council
Parks and Recreation Commission
Airport Commission

**FROM:** City IPM Advisory Committee

**SUBJECT:** IPM Advisory Committee Review of IPM Program in 2009 and 2009 Annual Report

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In its sixth year of implementation, the City of Santa Barbara's Integrated Pest Management (IPM) program continues to grow and evolve. The Committee feels strongly that the program has been successful in its first six years and stands as one of the greatest environmental achievements in the City's history.

The Committee agrees with the analysis presented in the 2009 annual report and supports the direction and programs described therein. It is important to note that, although pesticide use levels vary from year to year based on a number of factors, the committee has confidence in the city staff which continues to exemplify goodwill and integrity in regards to implementing the program, developing new ideas and initiatives and working collaboratively with the committee and the community. We commend them for their dedication across all departments.

A number of additional points in regards to the IPM program are listed below.

- A number of successes have been achieved and demonstration through such practices as rodent trapping, heat treatment of termites, green mosquito control and green control of plant pests. Many green practices are only successful with the benefits of detail oriented, concentrated efforts, which have been exemplified by many efforts in the IPM program.
- Mosquito control necessitates a substantial amount of material use, close to 52% of all units applied in 2009. This is an area where public health is of great concern; therefore effectiveness is the highest priority.
- Challenges at the Airport, including larger buildings that require more toxic treatments for termites and FAA requirements related to rodents near the airfield, also account for a large percentage of city pesticide use.

With budgetary challenges, pressure will increase in 2010 on staff and the committee to accept a decrease in maintenance service levels at many parks (reduction in aesthetic quality) and/or utilize more pesticides. The budgetary challenges have already been

realized by loss of park staff dedicated primarily to weed abatement. This means more weeds that are aesthetically unpleasing to a portion of the public.

With the associated need for labor related to least toxic methods, we continue to believe that developing a well coordinated, volunteer program will help the long term effectiveness of the IPM program. Expanding the Rose Garden volunteer system, for example, and ensuring volunteers can sign up easily (via email online) should be part of a program that, with some investment by the City, might actually result in reduced labor hours with the benefit of increased outreach to the community.

The Advisory Committee will continue to work with staff, elected officials, and members of the public to ensure a quality program that protects the City's assets while not compromising human and environmental health.