

## **Attachment B**

### **Integrated Pest Management Annual Update 2006-07**

#### **Introduction:**

On April 4, 2000, the County of Santa Barbara Board of Supervisors adopted an Integrated Pest Management (IPM) Strategy and directed County Departments to implement procedures for pesticide use reduction outlined in that document. A Grounds Management Committee(GMC) was charged with implementing the IPM Strategy.

County departments have greatly reduced pesticide use and, in many cases, have ceased using pesticides all together. The GMC has established a process for reviewing requests for the use of new products by each department.

Santa Barbara County's IPM mission is to promote environmentally sensitive pest management while preserving County assets and protecting the health and safety of the public and our employees. As part of this mission, all costs and impacts associated with pesticide use, including community and environmental health, will be considered.

The IPM Strategy will require updates of all pesticide use and report on them annually. The County is committed to its Integrated Pest Management Strategy and has incorporated a variety of resources in support of that Strategy.

This report provides that update for 2006-07. Information is provided from the following departments:

#### **General Services**

The County of Santa Barbara Board of Supervisors adopted an Integrated Pest Management (IPM) Strategy and directed County departments to implement procedures for pesticide use reduction outlined in that document.

Consistent with that policy, General Services Facilities have directed and works with our pest control contractors to insure the use of the least hazardous alternatives available. These contractors are trained in "Integrated Pest Management"

## **Public Works Flood Control**

### IPM Strategy Activities

In response to the Board of Supervisors adopted Integrated Pest Management Strategy the following summarizes the Flood Control District's activities for the period, January 2006 to December 2006.

Staff participated in meetings of the Grounds Management Committee (GMC), and retained the same staff member as Pest Management Coordinator (PMC) to manage the District's IPM program. No new chemical controls or products were requested to be added to our use list. We did return to the use of Diuron and Telar as pre-emergents in 2006. In 2005 we tried Pendulum as a replacement pre-emergent but it was not successful in eliminating growth on the levee and our use of Glyphosate went up accordingly. With the return of Diuron and Telar our Glyphosate use dropped again. The District PMC also set up the annual training in IPM and worker safety for department staff last spring, and has done so again this spring. The District also sent staff to further Integrated Pest Management training.

The District routinely posts notices, in English and Spanish, 24 hours before an application of herbicide is to be made in all locations where these materials will be used. The notices remain in place for at least 24 hours after the application. **(This has been a District practice since 1992).**

**Mulch** - In the past year the District has used approximately 2200 tons of wood chips and mulch in the weed control program. The Resource Recovery and Waste Management Division provides the wood chips and has delivered the material to some of the sites.

**Mechanical** – In place of herbicides in some areas, vegetation control has been accomplished with mechanical mowing. The Flood Control District purchased our first mower in November 2004. In July of 2006 we purchased another mowing machine which operates on rubber tracks with very low ground pressure. This allows the machine to operate on side slopes that would be dangerous for the conventional rubber tired tractor, thus increasing the variety of areas that can be mowed. We plan to add another tractor mounted mower in Fiscal Year 2007-2008 since we have so many areas that have slopes that this type of machine does very well. This year roughly 300 acres of weeds along access ways have been mowed. Because of the heavy rains in April 2006 (440% of normal for the month) District staff had to mow all of the areas that we are responsible for countywide at least twice and many areas three times, especially on the south coast.



**Mulch in Orcutt**



**Tractor mounted mower/More mowing fewer herbicides**



**Low ground pressure rubber tracked mower to reduce herbicide use**



The District has also researched alternative pest control pieces of equipment, products and techniques; an item that was listed under “Future Actions” in the Strategy adopted by the Board in 2000.

**Santa Barbara County Water Resources Division Annual Pesticide Summary**

The following table reports Flood Control’s pesticide use between January 1, 2006 and December 31, 2006 and compares it with the prior year’s usage.

<b>Santa Barbara County Public Works Department/Flood Control District</b>								
<b>Annual Pesticide Use Summary</b>								
	<b>Amount Used 2001<sup>2</sup></b>	<b>Amount not to exceed in 2002<sup>3</sup></b>	<b>Actual Use 2002</b>	<b>Amount not to exceed in 2003<sup>4</sup></b>	<b>Actual Use 2003</b>	<b>Actual Use 2004</b>	<b>Actual Use 2005</b>	<b>Actual Use 2006</b>
Glyphosate <sup>1</sup>	1233 gal.	986 gal.	452 gal.	789 gal.	256 gal.	174 gals.	419 gals.	116 gals.
Diuron	805 gals.	644 gals.	443 gals.	515 gals.	337 gals.	39 gals.		223 gals.
Telar	62 lbs.	50 lbs.	32 lbs.	40 lbs.	16 lbs.	3 lbs.		15.3 lbs.
Pendulum	No baseline use established					13 gals.	265 gals.	22.8gals

**Notes on the Table**

1. Glyphosate is the active ingredient in both Round Up and Aqua Master (formerly Rodeo)
2. Amount used in 2001 is the basis for calculating reductions for the succeeding year.
3. 2001 base amount less 20%.
4. 2002 target less an additional 20%

It should be noted that the reduction in materials used is a result of several factors. There was a conscious effort to use less herbicide by using other weed control methods such as mulch, mechanical and hand removal.

In addition the District applied 72 pounds of Vectobac G to various facilities for mosquito control. This material was added to the use list in 2003 in anticipation of concerns about West Nile Virus by County residents. This material is an extremely specific pesticide. Its mode of action is such that it only prevents the larvae of mosquitoes and biting black flies from emerging as adults. It has no adverse effects on other aquatic organisms, either other invertebrates or vertebrates.

## **Pilot Project 2006 Results**

One of the Flood Control District's pilot projects for 2006 was aimed at expanding the use of wood chip mulch to control weeds on access ways rather than applying a pre-emergent herbicide. In addition to continuing the application started in 2001 on an access area next to Sycamore Creek at Soledad Street, and an access road along a tributary to Devereux Creek in 2003 staff expanded the use of mulch to assist in controlling vegetation where it can be effectively used. District staff applied mulch to many access roads in the Santa Maria and Orcutt areas where the substrate is sandy. The problem identified at the Devereux site previously is that a very thick layer of mulch has to be laid down to prevent most of the weed growth. That thickness of mulch, on certain types of soil, where some District access roads are, can keep the substrate so wet that it is likely that equipment would not be able to use the access road during the winter.

As noted in last year's report the weeds are not controlled as effectively using mulch as when the area is sprayed with an herbicide, however there are many areas where it is not necessary to have the control any more complete than what was achieved.

The use of mulch is more time consuming and thus is more costly because the mulch takes longer to apply initially and has to be reapplied. The cost estimates in last year's description of the project were accurate. The herbicide application on the Sycamore site costs about \$12 but the mulch cost about \$250 for the year, all in labor costs (the site is small so the mulch has to be spread by hand). Similarly the Devereux site cost about \$25 to spray (even though it is a much longer stretch) and about \$300 to mulch each time because a piece of equipment can be used to spread it. Thus the total cost to mulch the Devereux site is \$600 for the year because it had to be done twice last year.

Areas where mulch works in Santa Maria and Orcutt have been found. Several areas have been mulched to minimize herbicide use, especially where the substrate is sandy and the problem of equipment getting stuck has not developed. Thus this is a useful weed abatement tool and has been used as appropriate.

In 2004 the District implemented another pilot project. The use of pre-emergent herbicide was discontinued on certain portions of the Santa Maria River Levee. Specifically, the District did not spray the lower levee road or the slope of the levee on the side away from the river. The tractor mounted mower, previously described, has very effectively controlled this vegetation. This project has continued through 2006 and will continue into the future.

## **New Pilot Projects for 2007**

District staff will continue to review all of the sites that have been in the spray program in the past prior to any further application to insure that there is a clear necessity to continue treating those sites with herbicide. It is possible that some sites can be removed from treatment and simply prepped mechanically if or when access is needed.

In the past staff have placed raptor perches along the Santa Maria River Levee and in the field south of the new Public Works office building on Foster Road, to help with ground squirrel control rather than use rodenticides. Recently owl boxes were added in a reach of the levee near the north end of Preisker Lane to help with the control of nocturnal rodents for the same reason.

In order to minimize the use of Vectobac G for mosquito control, staff will work on some of the basins in the Orcutt area that hold fairly small amounts of water. The source of water during the summer mosquito season is usually runoff from the local business and residential areas. This runoff is from landscape irrigation, car washing, etc. These small areas will be graded to more effectively drain so the water can't pond or "dry wells" will be installed. A dry well is constructed by digging a hole six to ten feet deep and filling with gravel. Thus the nuisance flows don't pond.

In addition the District will continue to monitor usage and work with the Grounds Management Committee and attend IPM training as time and the training budget allow in a continuing effort to search for alternative methods of weed control.

## **IPM Strategy Activities**

In response to the Board of Supervisors adopted **Integrated Pest Management Strategy** the following summarizes Resource Recovery & Waste Management's activities for the period January 1, 2006 through December 31, 2006. In addition to all of the County operated landfills and transfer stations, 2006 is the first year that Laguna Sanitation is being included in the program.

Resource Recovery & Waste Management did not submit a report for 2005 because no pesticides/herbicides were used that year. In 2006 the Division decided that some use of herbicides was warranted due to the large amount of weed growth from a wet rain year. However, weed control was mainly done through mechanical means rather than chemical. Chemical use was limited to 7.49 gallons of Round-Up concentrate for calendar year 2006.

## IPM Programs

Mulch: the Resource Recovery & Waste Management Division produces thousands of tons of mulch each year as a product of grinding curbside green waste and other vegetation that is brought to the transfer stations and landfill. The mulch is used within the division for weed abatement at several sites including the closed Foothill Landfill. It is also used by other Public Works divisions along with other departments for weed abatement and amending soil. The product has also become a very important tool to many agricultural enterprises as its use increases water retention and inhibits weed growth. The use of the County's mulch continues to decrease the use of herbicides throughout our county as well as other counties.

Mowing and Weed Whacking: much of the weed control at the various sites is done by weed whacking, and whenever possible a tractor-pulled mower is used. Weed control in this manner often takes place several times per year over the same area due to the ability of the weeds to come back again and again.

### Resource Recovery & Waste Management Division's Annual Pesticide Use Summary

The only herbicide that Resource Recovery & Waste Management used was Round-Up, and only at the Tajiguas Landfill, the Santa Ynez Valley Recycling & Transfer Station, the Ballard Canyon Closed Landfill, and at Laguna Sanitation. A total of 7.49 gallons was used (see table below), and that was applied to weeds along internal roads and grounds and around uninhabited structures (Ballard Canyon Closed Landfill).

Location	Round-Up 2004	Round-Up 2005	Round- Up 2006
Tajiguas Landfill	0.5 gal	0.0gal	0.63 gal
South Coast Recycling & Transfer Station	0	0	0
Santa Ynez Valley Recycling & Transfer Station	0.25 gal	0	0.19 gal



New Cuyama Transfer Station	0	0	0
Ventucopa Transfer Station	0	0	0
Ballard Canyon Closed Landfill			1.27 gal
Laguna Sanitation			5.4 gal
<b>Totals</b>	<b>0.75 gal</b>		<b>7.49 gal</b>

### **Pilot Project 2006 Results**

The closed Foothill Landfill, across from the South Coast Recycling & Transfer Station, has undergone a change to its eastern and southern slopes. With the help of the public community and with Growing Solution's guidance and work, thousands of native plants have been planted to help stop the intrusion of non-natives and to also provide erosion control and to simply beautify the area. Lots of hand labor has been used to pull castor bean as well as other invasive weeds. The hard work has proven very beneficial. The project will continue through 2007.

### **New Pilot Projects for 2007**

Resource Recovery & Waste Management Division of Public Works will continue to be a cautious user of pesticides and herbicides. With Laguna Sanitation's entry into the program, ways to reduce its use of herbicides will be explored.

### **Agricultural Commissioner's Office**

The Agricultural Commissioner is involved in a variety of multi-agency projects for weed abatement and management. In the annual Agricultural Production Report 2006, there are 2 pages devoted to Sustainable Agriculture and Biological Control Efforts. Bio-control agents target pests in Santa Barbara County. Agents are released in infected sites which supports the limited pesticide policy of the County. Following is a list of biological control agents that the agricultural commissioner has been instrumental in the release of or monitoring in the county.

## SUSTAINABLE AGRICULTURE BIOLOGICAL CONTROL EFFORTS

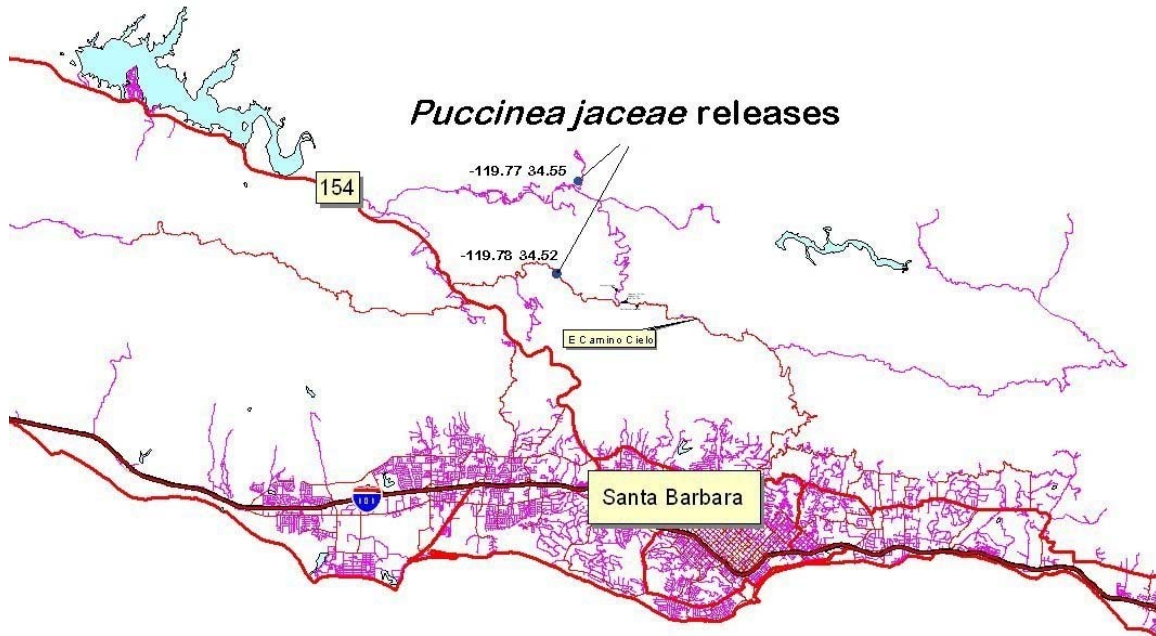
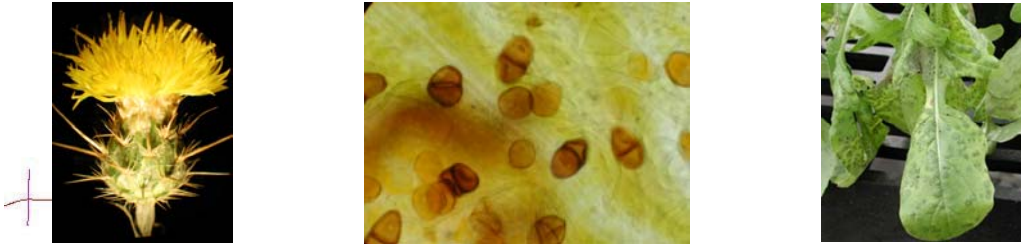
PEST	BIO-CONTROL AGENT	SCOPE OF PROGRAM
Ash Whitefly <i>Siphonius phillyreae</i>	Hymenoptera (parasitic wasp) <i>Encarsia partenopea</i>	County-wide+
Western Grapeleaf Skeletonizer <i>Harrisina brillians</i>	Diptera (larval parasitic fly) <i>Ametadoria sp.</i>	6 sites (Cuyama Valley)+
Grape Leafhopper <i>Erythroneura elegantula</i>	Hymenoptera (egg parasitic wasp) <i>Anagrus epos</i>	200 acres (Santa Ynez)
Russian Wheat Aphid <i>Diuraphis noxia</i>	Hymenoptera (parasitic wasp) <i>Aphelinus sp.</i> <i>Diaeretiella rapae</i>	40 acres (Santa Ynez and Santa Maria)+
Woolly Whitefly <i>Aleurothrixus floccosus</i>	Hymenoptera (parasitic wasp) <i>Cales sp.</i> <i>Amitus sp.</i>	Various sites (County-wide)+
Horn and Face Flies <i>Musca autumnalis</i> <i>Haematobia irritans</i>	Coleoptera: Scarabaeidae <i>Onthophagus taurus</i> <i>O. gazella</i> <i>O. alexis</i>	76,000 acres (County-wide)
Ice Plant Scale <i>Pulvinaria mesembryanthemi</i>	Hymenoptera (parasitic wasp) <i>Metaphycus sp.</i>	Various sites (County-wide)+
Eugenia Psyllid <i>Trioza eugeniae</i>	Hymenoptera (parasitic wasp) Eulophidae: <i>Tamarixia sp.</i>	Various sites (County-wide)+
Blue Gum Psyllid <i>Ctenarytaina eucalypti</i>	Hymenoptera (parasitic wasp) <i>Psyllaephagus pilosus</i>	Various sites (County-wide)+
Red Gum Lerp Psyllid <i>Glycaspis brimblecombei</i>	Hymenoptera (parasitic wasp) <i>Psyllaephagus bliteus</i>	Various sites (County-wide)
Eucalyptus Longhorned Borer <i>Phoracantha semipunctata</i>	Hymenoptera (parasitic wasp) <i>Avetianella longoi</i> (egg parasite) <i>Syngaster lepidus</i> (larval parasite) <i>Doryctes sp.</i> (larval parasite)	Various sites (County-wide)
Eucalyptus Snout Beetle <i>Gonipterus scutellatus</i>	Hymenoptera (parasitic wasp) <i>Anaphes nitens</i>	3 sites (Summerland, Carpinteria & Goleta)
Yellow Starthistle <i>Centaurea solstitialis</i>	<i>Bangasternus orientalis</i> (a bud weevil) <i>Eustenopus villosus</i> (Hairy weevil) <i>Larinus curtis</i> (a flower weevil) <i>Urophora sirunaseva</i> (a gall fly) <i>Chaetorellia succineas</i> (seedhead fly) <i>Puccinia jaceae</i> (a rust disease)	Several sites (Los Padres National Forest)

Biological control is the control of plant or animal pests: by the introduction of natural predators or parasites, etc that are only harmful to the pest. Biological control is intended to be self-supporting. When successful, the use of pesticides is precluded.

Hairy weevil:



The following photos demonstrate the work that is being accomplished in this regard. *Puccinea jaceae* var. *solstitialis*, a fungus, has been introduced to slow the growth of Yellow Starthistle at sites in the Los Padres National Forest.



The following four projects are of interest in regards to inter-departmental and inter-agency cooperation:

**1. Pampas grass control near Elings Park:** Caltrans provided over \$15,000 of in-kind labor and machinery to dig out pampas grass along Las Positas Rd and Cliff Drive.

**2. Santa Cruz Island Native Plant Restoration Project:** The SBCWMA is cooperating primarily with The Nature Conservancy, Channel Islands National Park, and UCSB to eradicate periwinkle from Santa Cruz Island. Channel Islands Restoration is contracted to conduct the weed control and project and volunteer coordination. See <http://www.channelislandsrestoration.com/sci/index.htm> for more information.

**3. Carpinteria Creek Arundo Removal Project:** The Agricultural Commissioner's Office is working to eradicate *Arundo donax* from Carpinteria Creek. We are working as part of the Carpinteria Creek Watershed Coalition, which is led with assistance from the Community Environmental Council.

Specific intra-county governmental cooperation occurred with Flood Control's inclusion of the Project's workplan in Flood Control's Annual Maintenance Plan, which greatly streamlined permit requirements for the Carp Ck Arundo Removal Project. See <http://www.carpinteriacreek.org/> for more information. See <http://carpinteriacreek.org/PlantProjects.html> for pictures.

**4. Lookout Park Arundo Removal Project:** The Coastal Resources Enhancement Fund, a county administered grant program funded by mitigation fees paid by oil companies, is paying for the removal of arundo from Lookout Park. The Agricultural Commissioner's Office is managing this project which is being conducted on a county park.

## Weed Management Area for Santa Barbara County

Santa Barbara Audubon has been instrumental in the formation of a Weed Management Area (WMA) for Santa Barbara County. Members of the Conservation Committee have been concerned about the impact of invasive weeds on the native habitat areas and the reduction on wildlife habitat value. This was the impetus for the [Pampas Grass Control Project](#), recently completed in the Goleta Slough. Santa Barbara Audubon has partnered with the WMA in 2001-2002 to continue Pampas grass control in the Goleta Slough Management Area. There are now 32 Weed Management Areas active or forming in California, generally encompassing a county-wide area.



*Arundo donax, "Giant Reed" in Hidden Valley Park, photo courtesy David Chang*

On October 27, 2000 Audubon invited interested individuals and representatives of agencies and organizations to attend an informational meeting at the University of California.

Seventeen interested people attended. Steve Schoenig of the California Department of Agriculture was present to give us some guidance in the formation of a WMA. Part of Steve's job is to provide support for forming and established Weed Management Areas.



*Yellow Star Thistle,  
photo courtesy CalFlora*

In February 2001 organizational meetings were held regarding formation of a WMA for Santa Barbara County. David Chang of the Agricultural Commissioner's office has devoted some of his time as Coordinator of the Weed Management Area. The guidelines for the initial \$15,000 State grant suggested 60% of the funds be used for control of invasive weeds, 15% for mapping, 15% for education, and 10% for administrative costs. The Santa Barbara County WMA now has a Memorandum of Understanding for partner agency and groups and a Strategic Plan which includes our "target weeds" and implementation plans for eradication/control and education. The first projects were a cost-share program for Yellow Star Thistle control and the Pampas Grass Control in the Patterson Ag block. We are now initiating an Arundo Control Project on the Arroyo Burro Creek Watershed; eradication should begin in spring 2003.

The Weed Management Area has recently partnered with Elings Park and CalTrans to begin eradication of Pampas Grass in the vicinity of the Arroyo Burro estuary. The County has awarded a Coastal Resource Enhancement Fund (CREF) grant of \$21,888 to initiate this project. Planning should begin early 2003.

Please see the [website](#) on the Weed Management Area of Santa Barbara County for up-to-date information on our goals, projects, and next meetings or events.



*Weed Management Area and Santa Barbara Audubon partnership.  
Pampas grass removal by backhoe from Ward Drive to protect Goleta Slough from re-infestation by wind-dispersed seed. July 2002. Photo by Darlene Chirman.*

## **Santa Barbara County Parks**

In response to the Board of Supervisors adopted **Integrated Pest Management Strategy**, County Parks wishes to report the following summary of the year's activities from March 1, 2006 through February 28, 2007.

### **Pesticides were not used at the following parks:**

- Lookout Park, Summerland
- Arroyo Burro Park, Santa Barbara
- Santa Barbara County Courthouse
- County Administration Building
- Woof Pack Park, Santa Maria
- Technical Services Demonstration Garden, Santa Maria
- Thunderbird Open Space
- Rhoades Open Space
- All other County buildings maintained by Parks

### **In addition, herbicides were not used:**

- Within 50 feet of playgrounds
- On lawn areas
- Around picnic tables & group picnic areas
- In the unincorporated open space areas of the 2nd Supervisorial District

Parks does occasionally use pesticides to treat botanical specimen plants and trees in order to protect their health and control exotic pests that attack them. We also use pesticides to control disease carrying vectors like rodents and mosquitoes. Occasionally, pesticides are used to control dangerous insects such as yellow jackets and Africanized bees. The material of first choice in all cases is always the least toxic material currently available to us. Using non-chemical methods for landscape weed control is more expensive than chemical control, because it is more labor intensive. However, once control is gained, costs may be reduced by adequate ongoing maintenance and the use of weed barriers, mulches, etc. Table 1 depicts the different weed control methods available to us and their estimated costs.

**Table 1  
Weed Control Methods  
Estimated Costs**

<b>Weed Control Method</b>	<b>Avg. Cost per square foot.</b>	<b>Notes</b>
Pesticide (RoundUp Pro)	\$0.01/ sq ft	Cost efficient, you usually spray twice a year.
Aquacide Unit (Hot Water)	\$0.13 / sq ft	This method is slow, taking about 5 times as long as weed spray. No toxicity issues and its use is more flexible. It must be done at least twice a year.
Hand Weeding (Hoe, etc.)	\$0.35 / sq ft.	The slowest and most expensive control. No toxicity issues. Might be done 4 times a year.
Weeding (Mechanized Tools)	\$0.10 / sq ft.	Slower than spraying. No toxicity issues. However, this operation must be performed 4 times a year.

**Santa Barbara County Park Department's - Annual Pesticide Use Summary**

Table 2 reports Park's pesticide use for the calendar year of 2006 and compares usage for prior years back to 1999. The products listed were used at various County parks, open spaces, and facilities at various times. The quantities of pesticides used are a reflection of several variables, including weather. Park's use of herbicides has tended to decline, while our use of rodent baits has varied from year to year as a reflection of rodent activity. Trapping rodents is usually infeasible due to the labor required, so rodenticide use becomes essential to control their numbers at acceptable levels.

In order to meet to directives and mandates from County Fire Department for weed abatement in some of the larger North County open spaces and in New Cuyama, applications of Roundup Pro were required. Herbicide was the only cost effective method available to us to meet the required abatement guidelines based on staffing, site location and budget constraints. North County Operations does not have the optional equipment, such as the Aquacide Weed Control System, that is used in the South County to address weed control issues. The open spaces that required chemical treatment are large (over 10 acres), undeveloped, areas, often including steep terrain. Applications have been reduced in the new areas that first required treatment last year. However, should additional, new directives come from the Fire Department, it may be necessary to

increase herbicide applications to maintain weed control. As a possible mitigation, County Fire may be able to provide a “Hot Shot” crew to assist us with some of our weed abatement projects in the future. We also placed a \$50,000 budget expansion request in Park’s 2004-2005 budget to enable us to contract with the California Department of Forestry for fire suppression and weed abatement work in these areas so less herbicide would be required for initial weed control. This request has been removed from the 2006-2007 budget due to the availability of the aforementioned “Hot Shot” crew. M-Pede, an insecticidal soap for the control of bee swarms, and Sevin SL, an insecticide for bees are present in this pesticide use update. Through an oversight, these products were not included in previous reports and have now been included.

**Table 2  
SANTA BARBARA COUNTY PARKS  
PESTICIDE USE 1999 TO 2006 (Calendar Year)**

Pesticide Product	1999 Base Year	2000 Use & % Change	2001 Use & % Change	2002 Use & % Change	2003 Use & % Change	2004 Use & % Change	2005 Use & % Change	2006 Use & % Change
Round Up herbicide	57 gal.	54 gal. -5%	32 gal. -41%	28.8 gal. -10%	11.7 gal. -59%	14.9 gal. +27%	7.0 gal. -53%	7.6 gal. +9%
Surflan herbicide	57 gal.	22.3 gal. -61%	7.5 gal. -71%	2.8 gal. -63%	.3 gal. -89%	0	0	0
Wilco Gopher II rodenticide	160 lbs.	169 lbs. +6%	152.6 lbs. -10%	161.8 lbs. +6%	78.5 lbs. -51%	137.4 lbs. +75%	96.3 lbs. -30%	177.95 lbs. +85%
Wilco Squirrel rodenticide	24 lbs.	192 lbs. +700%	100.7 lbs. -47%	103.8 lbs. +3%	21 lbs. -80%	94.7 lbs. +351%	99.5 lbs. +5%	84lbs. -16%
Rat Baits	15 lbs.	6.5 lbs. -57%	4.5 lbs. -31%	0	14 lbs. +211%	2 lbs. -86%	12 lbs. +500%	5lbs. -58%
Pestcon Fumitoxin rodenticide	0	69.4 lbs.	0	0	3.7 lbs. -94%	5.9 lbs. +59%	4.9 lbs. -17%	0
Fire Power herbicide	0	0	0	0	9.2 gal.	0	0	0
M-Pede for bees	0	0	0	340 oz.	148 oz. -56%	13 oz. -91%	20 oz. +54%	Contracted service
Sevin SL for bees	0	0	0	10 oz.	27 oz. +170%	3 oz. -89%	98 oz.	Contracted service



It should be noted that pesticide use is a reflection of several variables. For example, when resources and funding are available we choose to use less herbicide and rely more on weed control methods that cost more in time and labor such as flame torch units, hot water applicators, ceramic infra-weeders, mechanical weeders & mowers, and hand tools. Weather also plays a role in the quantity of pesticides used. For example, a dry winter results in less weed growth due to shorter growing conditions in late winter and early spring before the soil dries out. Our staff continues to pre-notify park users of planned pesticide use by posting signs in the areas to be treated at least 48 hours before applications occur. The English/Spanish notices also remain in place 48 hours after the application.

### **Non-Chemical Pest Control Methods Used**

We use several non-chemical pest control methods routinely:

- Earthworm castings are used to control giant white flies in plants at the Santa Barbara County Courthouse and other county grounds locations. The castings are mixed 1:1 with top dressing and applied in 2" thick layers under susceptible plants. Other than this treatment, there is currently no known control for this pest.
- Staff applied approximately 580 cubic yards of wood chips and mulch to control weeds in shrub beds. The materials come from the County South Coast Recycling and Transfer Station (SCRSTS)(operated by the Resource Recovery & Waste Management Division of the Public Works Department) and local tree service companies.
- Many acres of weeds were mowed as many as four times to prevent them from going to seed. Mowing continues until the weeds dry up.
- A Smithco Aquacide Environmental Weed Control System was used for weed control. The super heated water (up to 280° F+) it produces is applied to weeds to destroy their cellular structure, thereby killing them. This unit provides us with a non-toxic weed control method that does not require the operator to have State certification. Breathing protection or protective clothing is not required when using it, and no harmful by-products are left on the ground. The system can be used in windy or wet conditions and does not endanger people, pets, and wildlife in the application area. We use it to create mowing strips along roadways, fence lines, walkways, curbs, etc. Pre-notification postings are not required when using this unit. The Aquacide system contributes to cost reduction by reducing the amount of herbicide purchased for perimeter weed control, but it is more labor intensive to use. The system's real value lies in the lack of toxic impact on the operator, park users, and the environment. We plan to continue to use this equipment for revegetation projects and routine weed control as staffing permits.
- Propane Flame Unit – This unit consists of an open flame device attached by a hose to a portable Liquefied Petroleum Gas (LPG) bottle. The torch flame produces heat up to 2000 °F, which, when applied briefly to a growing weed, causes the plant's cells to burst, thereby killing it. The unit can be safely used in

sand, decomposed granite, and mineral soil. We use it on pathways, table pads, and cracks in pavement, roads, sidewalks, etc.

- Ceramic Infra-Weeder – The unit consists of a ceramic plate that is super heated by a LPG flame. It has the same effect as the propane torch and destroys the weed by disrupting its cellular activity. The application rate takes at least twice as long as spraying herbicide. It works well on paving cracks, gravel and decomposed granite paths, playgrounds with sand fall zones, edges of irrigated lawn, etc. However, caution must be used to prevent fires.
- Weed Fabric & Mulch – Staff continues to install weed fabric as time and funding permit. This application offers reliable weed control in smaller, confined areas that receive little traffic or public use. However, the scarcity of good, clean smelling mulch materials continues to be a problem. The mulch available at the SCRTS has an offensive sour odor and cannot be used close to neighbors.
- Mowing – Is an effective weed control method and will continue to be used where applicable.

### **Projects completed for 2006/2007**

In July of 2007, we will further reduce the use of pesticides:

- New planter beds for Rhoads and Calle Barquero Open spaces. Weed fabric will be used to control weeds in these new beds.
- Parks completed landscape standards for new County buildings to help ensure that the landscapes are designed with sustainable landscaping and integrated pest management strategies.
- Parks will continue to look for effective, clean, safe, least toxic methods to deal with our pest management problems, and we will implement successful methods that result from pilot projects as budget and staffing resources allow. County Parks is a member of the Regional IPM Coalition. This group makes it possible for diverse organizations to share IPM information, techniques, and innovations, and provides a forum to discuss emerging issues and problems, while seeking least toxic solutions to pest problems. Members are from City and County governmental agencies, local colleges, elementary and high schools, special districts, state agencies, community groups, manufacturers, and interested citizens. It is a priority in County Parks to look for effective, clean, safe, least-toxic methods to deal with our recurring pest management problems. Successful methods are implemented as budget, staffing resources, and opportunities permit.