

Department: Public Works – Road Division
Contact Name: John McGray / Scott Roberts
Contact Extension: X3336 / X7773
IPM Coordinator: John McGray / Scott Roberts

IPM Strategy Activities

In response to the Board of Supervisors adopted **Integrated Pest Management Strategy**, the following summarizes the Road Division’s activities for the period, January 1, 2005 to December 31, 2005.

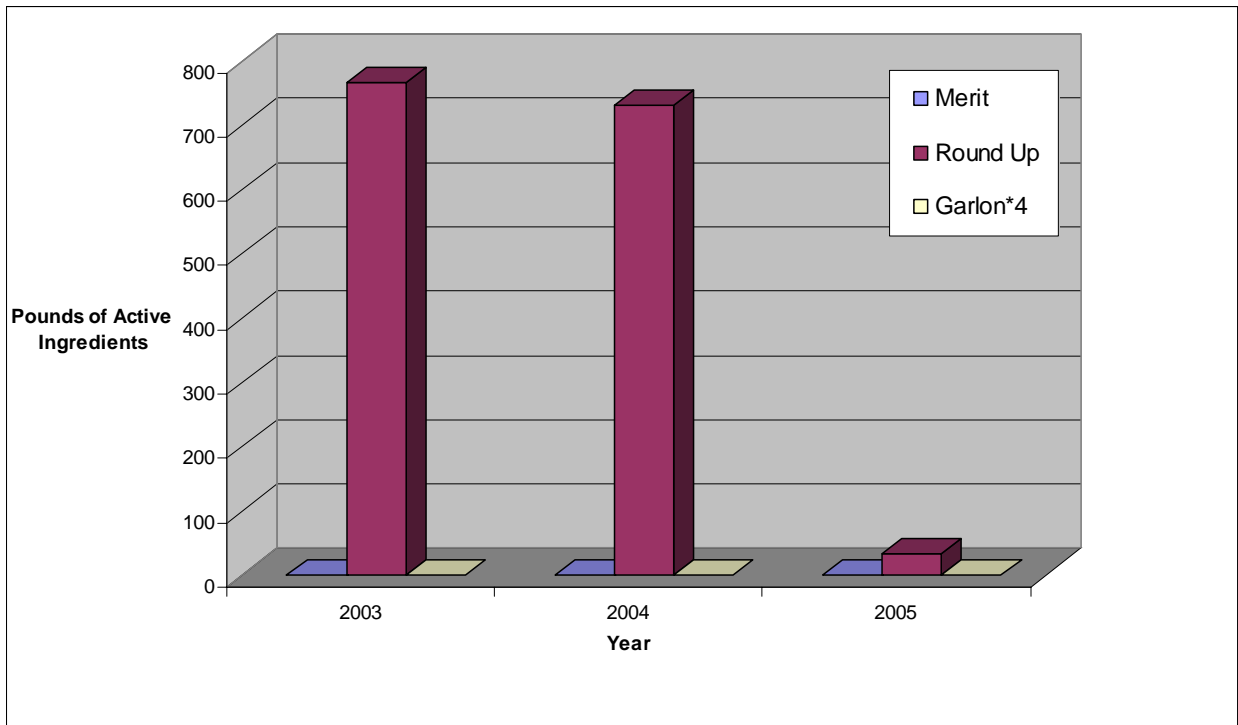
Staff participated in meetings of the Grounds Management Committee (GMC), and retained the same staff member (Scott Roberts) as Pest Management Coordinator (PMC) to manage the Division’s IPM program. No new chemical controls or products were requested to be added to our list for use in the field.

The Transportation Division is continuing to train approximately 25 employees annually as pesticide handlers, following the County Agricultural Commissioner Office’s guidelines and training materials.

Transportation Division Annual Pesticide Use Summary

The figures listed below in Table 1 break down the pesticides used into pounds of active ingredients, (i.e., 4lbs Glyphosate is contained in one gallon of Round Up). This method of comparison provides accurate quantification between liquid herbicides and dry herbicides.

Table I - Santa Barbara County Transportation Division Annual Pesticide Use Summary							
Pesticide Usage		2003		2004		2005	
Product	% Active Ingredient	Actual Usage	Pounds of Active Ingredient	Actual Usage	Pounds of Active Ingredient	Actual Usage	Pounds of Active Ingredient
Merit	.11% Imidacloprid	--	--	2.5	0.0125	--	--
Round Up	4lbs. per gal. Glyphosate	191.8 gal.	767.2	182.85 gal.	731.4	8.6 gal.	34.4
Garlon*4	Triclopyr	2.3 gal.	0.3375	--	--	0.25gal.	0.063
Total Pounds of Active Ingredients			767.54		731.4		34.46
Percent Reduction from 1999			59.41 %		61.32 %		98.18%
Percent Reduction from Previous Year			--		4.71 %		95.29%
Percent Increase from Previous Year*			195.07%		--		--



We had a sharp increase in herbicide usage in 2003 and 2004 due to increased vegetation growth. At that time we were spraying off road bike ways and shoulders.

Pilot Project 2005 Results

The Transportation Division stopped spraying herbicides outside of the roadway for 2005. As a result of not spraying unpaved bikeways and shoulders, we reduced our herbicide usage by 95.29% from 2004 for a total of 98.15% reduction since the adoption of the County's Integrated Pest Management Strategy.

New Project for 2006

The Transportation Division will purchase a selective spray system called WeedSeeker. The WeedSeeker is a self contained, trailer mounted unit that will use advanced optics and computer circuitry to sense the presence of vegetation in the roadway. The product will work in the dark or low light conditions. When vegetation enters the sensor's field of view, it will deliver a precise amount of herbicide to the plant. This unit will reduce the amount of herbicide used by eliminating unnecessary spraying of the area around the plant.

JM: IPMRoadsUpdate

Integrated Pest Management – Board of Supervisors Update

Department: Parks
Contact Name: Jim Isaac
Contact Extension: x5651
IPM Coordinator: Richard Lindley

IPM Strategy Activities

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, 2005 through February 28, 2006.

As of July 1, 2005, County Parks no longer maintained any parks or open spaces within the boundaries of the City of Goleta.

Pesticides were not used at the following parks:

- Lookout Park, Summerland
- Arroyo Burro Park, Santa Barbara
- Santa Barbara County Courthouse Sunken Garden
- Woof Pack Park, Santa Maria
- Technical Services Demonstration Garden, Santa Maria

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.

Integrated Pest Management – Board of Supervisors Update

**Table 1
Weed Control Methods
Estimated Costs**

Weed Control Method	Avg. Cost per square foot.	Notes
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 2005 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 the 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

Integrated Pest Management – Board of Supervisors Update

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.

Integrated Pest Management – Board of Supervisors Update

**Table 2
SANTA BARBARA COUNTY PARKS
PESTICIDE USE
1999 TO 2005**

Pesticide Product	1999 Base Year	2000 Use & % Change	2001 Use & % Change	2002 Use & % Change	2003 Use & % Change	2004 Use & % Change	2005 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%
Surflan herbicide	57 gal.	22.3 gal. -61%	7.5 gal. -71%	2.8 gal. -63%	.3 gal. -89%	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%
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%
Rat Baits	15 lbs.	6.5 lbs. -57%	4.5 lbs. -31%	0	14 lbs. +211%	2 lbs. -86%	12 lbs. +500%
Pestcon Fumitoxin rodenticide	0	69.4 lbs.	0	0	3.7 lbs. -94%	5.9 lbs. +59%	4.9 lbs. -17%
Fire Power herbicide	0	0	0	0	9.2 gal.	0	0
M-Pede for bees	0	0	0	340 oz.	148 oz. -56%	13 oz. -91%	20 oz. +54%
Sevin SL for bees	0	0	0	10 oz.	27 oz. +170%	3 oz. -89%	98 oz.

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

Integrated Pest Management – Board of Supervisors Update

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 (SCRTS)(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.

Integrated Pest Management – Board of Supervisors Update

- 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.

Pilot Projects Implemented in 2005/2006

- Parks discontinued the use of herbicides in all South County Parks, Open Spaces and County Grounds on July 1, 2005.
- Three additional green parks were created where pesticides are not used. They are Rhoads, Thunderbird, and Calle Barquero Open Spaces.
- A “PHAER Zone” notification information system at Waller County Park is being installed. The system entails the installation of information centers with color-coded maps of the park showing any park areas that receive chemical treatment. The goal is to provide park users with the information they need to decide where they want to recreate in the park.

New Projects for 2006/2007

In July of 2006, we will further reduce the use of pesticides by:

- We will install raptor perches at Toro Canyon Park to reduce the number of ground squirrels and gophers in the park.
- New planter beds are planned for Rhoads and Calle Barquero Open spaces. Weed fabric will be used to control weeds in these new beds.

Integrated Pest Management – Board of Supervisors Update

- Parks will complete 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.

Last year the Parks IPM update provided a brief comparison of the Integrated Pest Management Programs at Santa Barbara City Parks and Recreation and the County Park Department. As of the date this report was prepared, the Santa Barbara City Park's annual pesticide usage report was not yet available for comparison.

Department: General Services
Contact Name: Jack T. Williams
Contact Extension: x2533
IPM Coordinator: Jack T. Williams

IPM Strategy Activities

In response to the Board of Supervisors adopted **Integrated Pest Management (IPM) Strategy**, the following summarizes the General Services Department's activities for the period, March 2005 to April 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 Department's IPM program.

The General Services Department contracts with Western Exterminator Services and Hydrex to provide pest services for County Facilities. Both are licensed, registered pest control companies that are aware and familiar with the County's IPM policy.

During the past year, the two vendors were instructed to use "Eco Exempt" formulas for pest control wherever possible. The formulas are "non-reportable" (i.e. not on Agricultural Commissioner Office's list of reportable substances) and non-hazardous. This change has decreased the amount of hazardous chemicals used on County buildings.

Ongoing IPM in County Buildings

General Service's staff will continue to respond quickly to any reported pest related issues to ensure they are treated appropriately and rapidly.

Santa Barbara County General Services Department

Annual Pesticide Use Summary

Western - South County

Chemical	UM	2004	2005	Difference
Borid	lb	0.24	0.19	-0.05
Maki Block	lb	91.36	76.76	-14.6
Terro Ant Killer II	oz	0	0	0
Dragnet SFR	oz	11.4	4.8	-6.6
Suspend SC	oz	0.56	0	-0.56
Talster CA Granular	lb	16.66	19.6	2.94
Talstar Lawn & Tree	oz	0	0	0
Advance Ant Bait	oz	8	0	-8
Glue Board	ea	0	0	0
Western Rat Trap	ea	0	0	0
Western Mice Trap	ea	54	254	200
Bell LP Rat Station	ea	0	0	0
Cy-Kick	oz	19.08	7.07	-12.01
Termidor SC	oz	11.39	5.85	-5.54
Cynoff EC	oz	0.85	2.88	2.03
CB-80 Insecticide	oz	0	0	0
Maxforce insect bait	oz	1	10.2	9.2
PreEmpt cockroach	gr	0	0	0
Echo Exempt	lb	15	0	-15

*Negative numbers indicate pesticides with decreased use in 2005

IPM GenServ2005-06

Santa Barbara County General Services Department

Annual Pesticide Use Summary

Hydrex - North County

Chemical	UM	2004	2005	Difference
Talstar Granuals	lb	588	410	-178
Cy-Kick	oz	0	0	0-
Tempo WP	oz	0	0	0
Delta Dust	oz	0	0	0
Suspend SC	oz	0	0	0
PT - 565	oz	3	0	-3
Maxforce insect bait	oz	2	0	-2
Dragnet SFR	oz	16	0	-16
Maki Black	lb	0	0	0
Demand CS	oz	54	0	-54
Echo Exempt	lb	12	243	231

*Negative numbers indicate pesticides with decreased use in 2005

Department: Public Works - Flood Control
Contact Name: Larry Fausett
Contact Extension: x3437
IPM Coordinator: Larry Fausett

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 2005 to December 2005:

Staff participated in quarterly 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. The District PMC also set up the annual training in IPM and worker safety for department staff last spring and will do so again this spring. The District also sent staff to additional Integrated Pest Management training.

The District routinely posts notices in English and Spanish, 24 hours before an application of herbicide. 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 1,200 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, vegetation control has been augmented with mechanical mowing. The Flood Control District purchased a mower in November 2004 and this year, roughly 300 acres of weeds along access ways have been mowed. Because of the heavy rains in April (440% of normal for the month), District staff have had to mow all of the areas that we are responsible for countywide at least twice and most of the areas on the south coast three times. This spring, we also purchased a different type of mower that operates on rubber tracks with very low ground pressure. This construction enables the machine to operate on side slopes that would be dangerous for the conventional rubber tired tractor, thereby increasing the variety of areas that can be mowed.

LF: IPMFloodControlUpdate



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, 2005 and December 31, 2005 and compares it with the prior year's usage.

Santa Barbara County Public Works Department/Flood Control District							
Annual Pesticide Use Summary							
	Amount Used 2001²	Amount not to exceed in 2002³	Actual Use 2002	Amount not to exceed in 2003⁴	Actual Use 2003	Actual Use 2004	Actual Use 2005
Glyphosate ¹	1233 gal.	986 gal.	452 gal.	789 gal.	256 gal.	174 gals.	419 gals.
Diuron	805 gals.	644 gals.	443 gals.	515 gals.	337 gals.	39 gals.	
Telar	62 lbs.	50 lbs.	32 lbs.	40 lbs.	16 lbs.	3 lbs.	
Pendulum	No baseline use established					13 gals.	265 gals.

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 from 2001 through 2004 is a result of several factors. There was a conscious effort to use less herbicide by using other weed control methods such as mulch, and mechanical and hand removal.

In addition the District applied 58 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 2005 Results

One of the Flood Control District's pilot projects for 2005 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, 2004, and 2005, 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 rather than spraying the area with an herbicide. There are many areas, however, where using mulch achieves a satisfactory level of weed control. The use of mulch is more time consuming, because the mulch takes longer to apply initially and has to be reapplied. As a result, using mulch is more costly. The cost estimates in last year's description of the project were accurate. The herbicide application on the Sycamore site costs about \$12 per application, with an average frequency of once or twice a year, whereas the application of mulch costs about \$250 for the year (given the small site area, the mulch is spread by hand). All of these costs pertain to labor. Similarly the Devereux site costs about \$25 per application to spray (even though it is a much longer stretch) versus \$300 per application of mulch using a piece of equipment to spread it. Thus, the total cost to spread mulch on the Devereux site totaled \$600, 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. It has taken two winters to get enough growth of weeds to get to the point that vegetation control was required. The new mower, previously described, has very effectively controlled this vegetation. This project has continued through 2005 and will continue into the future.

New Pilot Project for 2006

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 ensure that there is a clear necessity to continue treating those sites. It is possible that some sites can be removed from treatment and simply prepped mechanically, if or when access is needed.

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