

EXHIBIT C

Attachments Concerning the County's Integrated Pest Management (IPM) Program

- **2011 Annual IPM Program Status Report**
- **Public Comments on the 2011 Annual IPM Program Status Report**
- **County Staff Responses to Public Comments**

Contra Costa County Integrated Pest Management Advisory Committee

2011 Annual IPM Program Status Report

to the

Transportation, Water, and Infrastructure Committee of the Contra Costa Board of Supervisors

From 2002 to 2009, an informal IPM Task Force met to coordinate implementation of the IPM Policy that was adopted by the Board of Supervisors in November 2002. A formal body, the Integrated Pest Management (IPM) Advisory Committee, was created by the Board of Supervisors in November 2009. This report is the second annual status report from the IPM Advisory Committee.

BACKGROUND

Purpose of the IPM Advisory Committee

The purpose of the Committee is to:

1. Protect and enhance public health, County resources, and the environment;
2. Minimize risks and maximize benefits to the general public, staff, and the environment as a result of pest control activities conducted by County staff and contractors;
3. Promote a coordinated County-wide effort to implement IPM in the County in a manner that is consistent with the Board-adopted IPM Policy;
4. Serve as a resource to help the Agriculture, General Services, and Public Works Departments (hereafter referred to as the Departments) and the Board of Supervisors review and improve existing pest management programs and the processes for making pest management decisions;
5. Make policy recommendations upon assessment of current pest issues and evaluation of possible IPM solutions; and
6. Provide a forum for communication and information exchange among members in an effort to identify, encourage, and stimulate the use of best or promising pest management practices.

Members of the IPM Advisory Committee

In 2010 the IPM Advisory Committee added its twelfth member, a representative from an environmental organization. Currently the Committee has 8 voting members and 4 non-voting members. The 8 voting members include

- One representative from Contra Costa Health Services
- One representative from the County Storm Water Program
- One representative from the County Public and Environmental Health Advisory Board
- One representative from the County Fish and Wildlife Committee
- One representative from an environmental organization
- Three at-large members of the public.

The four non-voting members are one representative each from the County Departments of General Services, Public Works and Agriculture, and one representative from the County's pest management contractor.

Committee Priorities for 2011

In January of this year, the IPM Advisory Committee set the following priorities for themselves:

- A. Roadside vegetation management: understand the County's current roadside vegetation management program and explore alternatives to herbicide use
- B. IPM and design review: understand how design of buildings and landscapes is approved in the County and consider ways to incorporate attention to pest prevention and maintenance costs in the process
- C. Data collection and management: understand the data currently collected by the County with respect to pest management and consider which data are important to collect and why, in order to characterize and track the progress of the County's IPM program
- D. Consider whether the County should adopt an IPM ordinance
- E. Review revised IPM Plans from the Departments

2011 ACCOMPLISHMENTS OF THE IPM ADVISORY COMMITTEE AND THE IPM COORDINATOR

Accomplishments of the IPM Committee

The IPM Advisory Committee (the Committee) held six regular meetings during 2011 to address their priorities. The accomplishments of the IPM Committee and the IPM Coordinator are as follows:

- Priority A: Roadside vegetation management: understand the County's current roadside vegetation management program and explore alternatives to herbicide use
The Committee formed a subcommittee to work on roadside vegetation management with the Public Works Department. The IPM Coordinator was designated as staff to the subcommittee. The subcommittee met three times and accomplished the following:
 1. Gained a better understanding of the responsibilities and challenges of the Roadside Vegetation Management crew.
 2. Gathered information to compare the Contra Costa roadside vegetation management program with that of Santa Clara.
 3. Met with the San Ramon Valley Fire District to gather information about priorities for fire prevention along roadsides to make sure the County's priorities for vegetation management are aligned with fire prevention priorities.
 4. Next steps for the subcommittee are to meet with other fire districts and to determine estimated costs for using pesticide alternatives for vegetation management.
- Priority B: IPM and design review: understand how design of buildings and landscapes is approved in the County and consider ways to incorporate attention to pest prevention and maintenance costs in the process

The Committee formed a second subcommittee to work on the inclusion of pest prevention practices in the County's design process for buildings and for landscapes. The IPM Coordinator was designated as staff to the subcommittee. The subcommittee met three times and developed two lists of prevention measures, one for buildings and one for landscapes. The IPM Advisory Committee will be reviewing these lists in the new year for inclusion in appropriate County documents and policies.

- Priority C: Data collection and management: understand the data currently collected by the County with respect to pest management and consider which data are important to collect and why, in order to characterize and track the progress of the County's IPM program

The Committee formed a third subcommittee to research data collection and management in county departments that perform pest control. The IPM Coordinator was designated as staff to the subcommittee. The subcommittee met six times and accomplished the following:

1. Reviewed annual IPM reports from San Francisco and the County of Santa Clara and recorded and categorized data in the reports.

2. Interviewed representatives from the Departments of Agriculture, Public Works, and General Services about the data they currently collect.
 3. Discussed ways of evaluating Contra Costa's IPM program that involve more than simply pesticide use figures.
 4. Next steps for the subcommittee involve analyzing the information collected and discussing how to use department data in an IPM performance standard that allows the County to track where it is along the IPM continuum.
- **Priority D:** Consider whether the County should adopt an IPM ordinance. The IPM Committee had worked on this issue since 2009 when it was referred to them by the Board of Supervisors. The Committee heard and discussed presentations from Santa Clara and Alameda Counties about their IPM programs and discussed information provided by the IPM Coordinator, members of the public, and County Counsel. A final vote on the issue was delayed to allow the new environmental organization representative to be seated first. In May of 2011 the Committee unanimously (6-0) approved a recommendation to the Board of Supervisors to use the IPM Policy, through the adoption of an administrative bulletin, as the administrative tool for implementing the County's IPM program.

The IPM Coordinator and the Committee Chair drafted an administrative bulletin which was approved by the Committee on September 7 and forwarded to the Transportation, Water and Infrastructure Committee (TWIC) of the Board of Supervisors. At their October 24 meeting, TWIC concurred with the recommendation to adopt an administrative bulletin, which will be forwarded to the County Administrator's Office to be finalized.

The Committee will review the administrative bulletin two years after it goes into effect.
 - **Priority E:** Review revised IPM Plans from the Departments. The Committee reviewed and discussed the revised IPM Plans on September 7 and on November 2, and voted to accept the plans as written with suggested changes and additions.

Accomplishments of the IPM Coordinator

The additional accomplishments of the IPM Coordinator are as follows:

Bed Bugs

The common bed bug continues to be one of the most serious pests in the County, a pest that has provoked citizens to misuse pesticides to an alarming extent. Pesticides do not solve the problem, and in many cases make the problem worse. People have reported spraying cribs with pesticides before laying infants down to sleep, spraying bed linens and clothing, and spending \$100 on pesticides that were used in one household over the course of a week.

In an effort to educate County staff and the public about bed bugs, the IPM Coordinator

- Continued to organize and staff the County's Bed Bug Task Force; the Task Force meets monthly and advocates for increasing public awareness of bed bug problems and for developing sound bed bug management policy throughout the County
- With the help of the Bed Bug Task Force, investigated a number of bed bug infestations that came to the attention of the Health Services Department
- Created fact sheets to help low income families cope with bed bugs; the IPM Coordinator has written 6 fact sheets for different audiences, and these are available on the Health Services web site in both English and Spanish
- Developed a specific bed bug prevention protocol for the County's homeless shelters and a general prevention protocol for other homeless shelters and group living situations; presented the protocol to the Contra Costa Intra-jurisdiction Council on Homelessness
- Developed and presented training in the use of the bed bug prevention protocols to the County's homeless shelter staff

- Presented a bed bug awareness training to County Public Health Nurses, various other groups of County staff, and to PTA representatives from across the County
- Gave presentations on the formation of the County's Bed Bug Task Force to the statewide Association of Applied IPM Ecologists and to the regional chapter of the California Environmental Health Association

IPM Training

- Collaborated with Central Contra Costa Sanitary District, the City of Walnut Creek and the City of Richmond to develop and put on a landscape IPM workshop for County and municipal staff.; 75 people attended
- Collaborated with the County Clean Water Program and the Bay Area Urban Pesticide Committee to develop and put on a structural IPM workshop for municipal staff, 35 people attended
- Trained all County staff who apply pesticides in the County's IPM Policy

Outreach

- Organized a meeting of the Bay Area IPM Coordinators group to network and share new ideas
- Facilitated a list serve for the IPM Coordinators group to share information on difficult pest management issues
- Participated in an IPM Roundtable organized by the City of Richmond's IPM Coordinator
- Reviewed and commented on the City of Richmond's proposed IPM ordinance
- Responded to a number of requests for pest management information from County staff and citizens

County Departments

- Researched information on various pest management issues and alternatives for each Department, such as live trapping of ground squirrels, effective methods of dispatching ground squirrels caught in live traps, gopher trapping, buffer zones for court enjoined pesticides, bed bug resistant beds for the County homeless shelters, new ideas for bed bug prevention and treatment, native and no-mow turf varieties for the Grounds Division, plant problems associated with recycled water use, coyote management in urban areas, and less-toxic pesticides.
- Met with Department staff to continue work on developing a pesticide screening process for the County

2011 DEPARTMENT IPM PROGRAM HIGHLIGHTS AND CHALLENGES

Agriculture Department

IPM Program Highlights

- All historically treated noxious weed sites were surveyed and treated again this year
In order to achieve eventual eradication of target noxious weeds, all sites that have not been declared eradicated must be surveyed and treated each year. Significant progress was made in the Department's eradication and control effort this year. The department program involves sixteen target terrestrial noxious weed species. Over 550 sites ranging from one acre to more than 5,000 acres in size and totaling over 90,000 acres were surveyed and 378 net acres were treated.

Treatment involved hand removal, mechanical removal and targeted treatment with pesticides. With rare exception, pesticide treatment involved highly focused spot spraying using backpack sprayers. In some newly treated areas, treatment involved focused area spray using a vehicle mounted sprayer. The program involved over 4,500 hours of direct field time by staff. Of this, approximately 90-95% of the time was spent in surveying and monitoring with the remainder being spent on pesticide application.
- No new Japanese dodder (*Cuscuta japonica*) sites found this year
Japanese dodder is a very aggressive parasitic plant that has the potential to severely alter the composition and function of riparian areas. It also affects ornamental plantings and agricultural crops. It is native to Southeast Asia and was first discovered in the county in spring of 2004. Forty-three of the forty-six historically infested sites in the county have been free of Japanese dodder for three or more years, which

meets the criteria for eradication on these properties. Only three properties were found to have very small amounts of residual Japanese dodder this year.

Removal by the Department is accomplished without the use of pesticides by using only hand and power tools.

- Red sesbania (*Sesbania punicea*) removal

This was the sixth year of red sesbania removal at the primary infestation site of Kirker Creek, Dow Wetlands. This small woody tree has a high potential for environmental damage by displacing native plants and wildlife in riparian areas. This exotic invasive noxious weed is native to South America, and is poisonous to humans, livestock, and many native vertebrates. After going through an official abatement process, the red sesbania was removed from this property. All historic sites were surveyed, and a total of 2,838 plants were removed this year compared to 1,899 in 2010; 2,059 in 2009; 492 in 2008; 833 in 2007 and 878 in 2006. A few individual red sesbania plants were removed in Grayson Creek and lower Walnut Creek by County Public Works. The Agriculture Department discovered one new infested residential property this year. All but two of the 2,838 plants removed this year were seedlings that germinated from the existing seed bank (seeds that remain on, or in the soil). The fact that more plants were removed this year than any previous year demonstrates that red sesbania seeds are long-lived, and that the seed bank is healthy and persistent. In addition, weather this past year may have been particularly favorable to germination.

Removal of red sesbania is performed mechanically or by hand-pulling.

- Kangaroo thorn (*Acacia paradoxa*) removal

The County has one site infested with kangaroo thorn. The removal of the existing infestation in 2005 involved 52 hours of staff time. At that time the infestation covered a little less than one net acre. This year, it took only 3 hours of staff time to accomplish the surveying and seedling removal. Only small seedlings of less than one foot in height were found, and the infestation area totaled less than one hundredth of an acre.

Each year the Department removes by hand-pulling all new seedlings sprouting from the old seed bank.

- Smooth Distaff Thistle (*Carthamus baeticus*)

There is only one known smooth distaff thistle infestation site in the county. It originated from the movement of a tractor from Fallon, Nevada to the site off Christie Road in Martinez. The small infestation was first found in 2005 by one of the Department's Biologists. Our staff has been spot spraying for six years. This year we intended to use only mechanical treatment. Although we mechanically removed plants in the original area, we unfortunately found a new, small infestation very close to the original site. This new area required spot pesticide treatment.

- Departmental IPM plan updated

The Department performed a detailed review and revision of the Department's IPM plan. It was submitted for approval to the IPM Advisory Committee.

- Work on pesticide screening process continued

The Deputy Agricultural Commissioner met regularly with the Public Works Vegetation Manager and the IPM Coordinator to work on developing a screening process for pesticides used in the County.

- Critical infrastructure protection continued

The Department continues to protect critical infrastructure including levees, earthen dams, railroad beds and roadways from damage by ground squirrels

Agriculture Department Challenges

- Raptor perches and ground squirrels

Studies continued on the effectiveness of 20 raptor perches that were installed in three separate areas in the fall of 2009 under a Fish & Wildlife Committee grant. This is an effort intended to test whether attracting raptors to a site can reduce or maintain ground squirrels at an acceptable population level

through natural predation without the use of conventional pesticide-treated baits. Unfortunately, our study so far has failed to show that the perches have had any effect on reduction or control of nearby ground squirrel populations. There was no evidence of ground squirrel take at the base of the perches where bits of fur and bone would be expected. In fact, one of the perches was undermined by ground squirrel borrows. Only once has a red-tail hawk pair been observed using a perch; no other raptors capable of taking ground squirrels have been seen using the perches. The perches have been used by other raptors, including kestrels and owls, which do not hunt ground squirrels. There was significant evidence of predation on small rodents, including gophers and mice; and on Jerusalem crickets. On a few occasions territorial kestrels were observed harassing red-tail hawks and chasing them away from the area of the perches.

The department considers this study as completed though we intend to monitor the perches a couple times a year.

- South American Spongeplant (*Limnobium laevigatum*)
South American spongeplant was discovered for the first time in the Delta in the summer of 2010. An extensive survey and treatment was performed late spring and early summer this year by the California Department of Food and Agriculture (CDFA). The survey confirmed that this new pest threat to the Delta is still in an incipient stage. Small numbers of plants were found near Webb Tract in Contra Costa County and other populations were found in the southern Sacramento County portion of the Delta. This pest is a CDFA “A” rated noxious aquatic weed that has a greater potential for harm to agriculture and recreation than water hyacinth. The Department is working with CDFA, the Department of Boating and Waterways, and the Agricultural Commissioner of Sacramento County in an attempt to find a viable solution to stop the spread and to eradicate this pest.
- Finding alternatives to the herbicide Telar®
The Department’s trials on herbicide alternatives to Telar® (chlorsulfuron) showed that Telar® is significantly more effective than other materials that were tested on certain noxious weeds, especially perennial pepperweed. In the case of perennial pepperweed, this concurs with other studies. Roundup® (glyphosate), Garlon® (triclopyr), Clarity®, and Milestone® (aminopyralid) were all tested. The Department intends to continue to use Telar® where its use is appropriate, considering label restrictions and safety aspects. Telar® is the material recommended by the University of California Statewide IPM Program for use on perennial pepperweed as well as on certain other noxious weeds.

General Services Department

IPM Program Highlights

- Pestec, the structural IPM contractor, is providing excellent service
The Department hired Pestec IPM Providers in December 2009 for the County’s structural pest management. They have been doing an outstanding job reporting on conditions conducive to pests (“deficiencies”) in County buildings. Since they visit all County buildings, and visit them more frequently than Facilities Management staff, Pestec’s reports provide regular updates on building conditions that are extremely valuable to the Facilities Manager, over and above their use in pest management. Pestec has developed a very good relationship with their customers in County buildings.
- Pestec continues to innovate in pest management techniques
Pestec has been working with the IPM Coordinator on the bed bug infestation at the County’s Concord Homeless Shelter and has provided many new ideas to experiment with in managing the infestation. At 1650 Cavallo Rd. in Antioch, they also used a device called a “bat cone” to allow a single bat living in the roof to exit, but not return.
- Rat problem almost non-existent in downtown Martinez
Pestec has reported that they find little evidence of feeding on rodent monitoring blocks in downtown Martinez. These non-toxic monitoring blocks contain ingredients that attract rats to feed. The monitoring

blocks are used inside traditional, tamper-resistant rat bait stations placed around the outside of buildings to detect the presence of rodents in an area. When Pestec finds evidence of feeding on one of the monitoring blocks, they replace the block with a snap trap to catch the rodent. Owls have been observed nesting in redwood trees in downtown Martinez as well as in the “tower” of the County Administration building at 651 Pine. It is a good possibility that the resident owl population is significantly reducing the rodent population. Pestec finds a distinct difference in downtown Martinez from other similar areas without owls.

- Correcting structural deficiencies in buildings continues
The Department has been as attentive as limited budgets allow to correcting all the structural deficiencies that Pestec has reported. Staff has been installing doorsweeps, sealing cracks, screening windows, sealing pipe entries, and screening off areas under steps going to buildings.
- Structural IPM program pesticide use remains low
In FY 09/10, 17 lbs. of active ingredient were used in the approximately 2.75 million sq. ft. of County structures. In FY 10/11, only 5 lbs. of active ingredient was used in County buildings. In the past fiscal year, 79% of the visits Pestec made to County buildings resulted in no chemical use at all.
- Additional calls for pest control services continue to decline
In 2008, the Facilities Division received 161 additional calls for service for various pest problems. These are calls for service that are outside the regularly scheduled monitoring service of the pest control contractor. As the number of these calls goes down, we can assume that the conditions conducive to pest invasion are diminishing in County buildings. In 2009, the Division received 86 calls for additional service, and in 2010, only 40 calls.
- Grounds Division staff training
Kevin Lachapelle, Grounds Division Manager, and Jerry Tourte, Lead Gardener, attended trainings to fulfill the continuing education requirements for the licenses they hold from the Department of Pesticide Regulation (DPR). Other staff attended several trainings on turf maintenance, and a general IPM training. The IPM Coordinator trained all grounds staff on the County’s IPM Policy.
- Changes to Livorna Park
This year Grounds has made changes to improve the aesthetics and maintainability of Livorna Park. Dead portions of the existing no-mow turf on the slopes were raked out, and the area was over-seeded with a no-mow native fescue blend from Delta Bluegrass Company. The cool and variable weather this spring made getting the seed to germinate a challenge. The seeds germinated over a period of many weeks and only the extra care and vigilance by the Grounds Crew, including hand watering and hand cutting of seed heads from weeds, made it possible to have the beautiful stands of no-mow, drought-tolerant turf there this fall.

Grass on the back side of the park was removed and replaced by mulch. No-mow turf between trees in other areas where no one picnics was also removed and replaced by mulch.

Because of the high quality of the job done by the Ground Crew and the enhanced beauty of the park, Public Works has funded this park at a higher level to allow Grounds to maintain it properly.
- Changes to landscaping around buildings
Grounds has been systematically cutting off irrigation to plants that are at or near the end of their lives, are diseased, or otherwise decrepit and unsightly. Not much more damage can be done to the vegetation in this state, and it is not worth wasting water on these plants, especially since the funds to properly care for or replace these plants does not exist. As the plants actually die, they will be removed, but not replaced until budgets allow.
- Licensing for Grounds Crew
Two more members of the Grounds Crew are interested in obtaining a Qualified Applicator’s Certificate from DPR, and the Department is helping them to have time to study to pass the exam.

- Contracting out hand weed abatement
The Department was able to afford some contracting with Phoenix Enterprises for hand weed abatement behind Juvenile Hall and at 50 Douglas in Martinez as well as in Special District Zone 27 (Bettencourt Ranch) in Alamo. Valley Crest was hired to clear slopes by hand in the Shadow Creek Special District in Alamo.
- Departmental IPM plans revised
Some of the suggestions from the IPM Committee were incorporated into the Grounds IPM Plan.

General Services Department Challenges

- Pest Exclusion in County Buildings
It is very important that all deficiencies flagged by the pest management contractor be addressed in order to reduce pest intrusion into County buildings. This reduces call-backs and saves the County considerable money. Budget cuts that have reduced staff in the Facilities Division have slowed the correction of these deficiencies. As staff visits sites to work on other projects, they are incorporating repairs to fix deficiencies reported by Pestec. Repairing deficiencies is particular challenge at buildings whose pest control services are paid for by the General Fund. The Department provides as much repair service to these buildings as possible, but some General Fund buildings will have to wait for repairs until at least April of 2012 in order for General Services to be sure there are sufficient funds in the budget to cover those repairs.
- Pest Exclusion in Leased Buildings
Reducing pest intrusions into leased buildings continues to be more of a challenge since the responsibility often falls to the landlord.
- IPM Awareness among County Employees
Pestec still encounters employees who are unaware of the County's IPM Policy and are confused about how structural pest problems are handled in the County.
- Bed Bugs in County Buildings
Bed bugs are particularly difficult and costly to control. The Concord homeless shelter is experiencing a continual bed bug infestation which takes a considerable amount of staff time to deal with. The Department hopes that the new bed bug prevention protocol will make it possible to eliminate this infestation. As bed bugs become more prevalent, other County buildings may be affected. Staff and budget cuts may make implementing prevention measures a challenge.
- Inadequate Funding for Landscape Maintenance in the County
The Grounds Division is still not funded at a level that allows adequate maintenance on County property, but it seems that this will be the state of affairs for a number of years to come. Grounds does as much work as they possibly can and continues to explore new ways to reduce the maintenance costs at sites around the County. County staff want more work to be done at their sites, but are beginning to understand that funding is not available.
- New Equipment Needed for Grounds
Grounds needs new equipment to operate more efficiently including a new tree chipper (cost is in excess of \$40,000), chain saws, and 25 gallon spray tanks.
- Inadequate Funding to License all Grounds Staff
It would be ideal to have all members of the grounds crew licensed by the Department of Pesticide Regulation; however, it would be extremely difficult to pay for their time and the tuition for continuing education to keep up their licenses.

Public Works Department

IPM Program Highlights

- New Routine Maintenance Agreement finalized with the California Department of Fish and Game
For eight years the County had an MOU with the California Department of Fish and Game (CDFG) to conduct routine maintenance along and in creeks and flood control channels. In October 2010, CDFG asked for a Routine Maintenance Agreement (RMA) instead of a MOU. Negotiations started in October and only in April of 2011 did CDFG finalize the agreement with the County. This agreement allows Public Works to do routine maintenance, including vegetation management, minor bank repair, and sediment and debris removal. The RMA is much clearer than the MOU, which makes compliance easier. The County pays a yearly fee of \$12K to \$15K to CDFG for the RMA. CDFG uses this money for education, staff (wardens), preserving habitat, and mitigation projects in various areas.
- Staff participated in habitat assessment training
A large number of Public Works Maintenance crew members received a rigorous training in habitat assessment for endangered and threatened species in order to comply with the RMA. The RMA stipulates that before work can commence in an area, an assessment must be conducted to identify endangered species habitat. This year crews trained to identify potential habitat spent a total of 378 hours performing habitat assessments from April to October. If habitats are identified, they must be reported to CDFG, which will then provides County staff with guidelines to move forward. These guidelines may include full time monitoring of the jobsite by a licensed biologist.
- Buffer zones for certain pesticides enjoined by the courts have been implemented
Several lawsuits brought by environmental organizations against the EPA have been temporarily settled by the delineation of buffer zones in and around habitat for a number of endangered or threatened species in the Bay Area. The Department worked with the IPM Coordinator and the California Department of Pesticide Regulation to understand and implement these complex injunctions.
- Departmental IPM Plans Revised
The Department completed a detailed IPM Plan for Roads, Flood Control Facilities, and Real Property in 2010 and the plans were reviewed and updated as needed in 2011.
- Multi-year grazing study has begun
Goats were used to abate weeds at various sites in the County. A total of 66 acres of weeds was grazed with goats. The Department will be collecting data from this study to inform business decisions about where, when, and how much to use grazing as an additional vegetation management tool.
- Pesticide application tracking will be enhanced
The Department has started to use a computerized control system designed to help collect and track pesticide applications via GPS for one of its four spray trucks.

Public Works Challenges

- Staffing
The recent retirement of the Vegetation Management Supervisor and previous attrition of vegetation management staff have reduced the crew to only three personnel from a staff of 6 three years ago.
- Weather
Mowing, as well as the application of herbicides, to manage weeds is highly dependent upon weather conditions. Weather can substantially alter the size of the weed load or its distribution over time. The Department has a limited capacity to use mowing because of a number of factors including the 50% reduction in vegetation management staff, the Department's limited budget for weed abatement, and the limited number of tractor mowers (two). The Department faces a continued challenge of balancing the use of herbicides to control weed growth with the Department's capacity to mow or graze with goats or sheep within the confines of our budget and timeline in order to prevent fires.

PESTICIDE USE BY THE COUNTY OF CONTRA COSTA

Starting in FY 00/01, the IPM Task Force annually reported pesticide use data to the Transportation, Water, and Infrastructure Committee for the three departments involved in pest management: Agriculture, General Services, and Public Works. The IPM Coordinator has continued this task. Since FY 00/01, pesticide use has decreased in all areas except Special Districts.

Table 1, below, compares figures for FY 00/01, FY 09-10, and FY 10/11.

Table 1. Comparison of Pesticide Use in FY 00/01, FY 09-10, and FY 10/11

Department	Total Lbs. of Active Ingredient used in FY 00/01	Total Lbs of Active Ingredient used in FY 09/10	Total Lbs. of Active Ingredient used in FY 10/ 11	Change in Use from Beginning of IPM Program (FY 00/01) to FY 10/11
Public Works	16,569	8165	6439	-61%
Agriculture	1,413	695	795	-44%
General Services-Grounds	927	46	113	-74%
General Services-Facilities	FY 07/08 21	17	5	-88%*
Public Works Special Districts	FY 07/08 11	10	45	+300%*

*The IPM Program did not report pesticide use data for Facilities and Special Districts until FY 07/08.

Trends in Pesticide Use

A change in pesticide use from one year to the next does not necessarily indicate a long-term trend. Long-term trends are more meaningful than short-term changes. It is important to understand that pesticide use can increase and decrease depending on the pest population, the weather, the invasion of new and perhaps difficult to control pests, the use of new products that contain small percentages of active ingredient, the use of chemicals that are less hazardous but not as effective, the addition or subtraction of new pest management projects to a department's workload, and cuts to budgets or staff that make it difficult or impossible to use alternate methods of control.

The County's pesticide use trend follows a trend typical of other pollution reduction programs. Early reductions are dramatic during the period when changes that are easy to make are accomplished. When this "low-hanging fruit" has been plucked, it takes more time and effort to investigate and analyze where additional changes can be made. The County is entering this period, and if further reductions in pesticide use are to be made, it will require time for focused study and additional funding for implementation.

DEPARTMENTAL INTEGRATED PEST MANAGEMENT PRIORITIES FOR 2012

Agriculture Department Priorities for 2012

- Continue the County's highly effective Noxious Weed Program
Contra Costa's highly effective Noxious Weed Program has been in operation for 32 years. A major objective of the Agriculture Department is to continue to monitor and treat targeted noxious weeds on all historic sites before the weeds set seed. Preventing seed set is the most important factor in reducing weed populations and in depleting existing seed banks. By doing this, the hours of labor needed and amounts of herbicides applied in successive years to a particular area will be reduced. These reductions allow the department to add previously untreated sites to the noxious weed program bringing local eradication of the targeted weed species one year closer.
- Continue work on the pesticide screening process
The Department will work with the IPM Coordinator to screen all pesticides used by the Department.

- Continue attending IPM training and sharing the information with other Departments
The Agriculture Department will continue to have staff attend outside IPM seminars and training sessions given on a variety of pest management issues. The Department will develop a training database so that personnel who return from IPM seminars and workshops can store training and outreach materials in a way that will be easily accessible to other County staff members.
- Explore the use of traps for ground squirrel control
The department will continue to explore and test the practicality of live ground squirrel trapping as a control method. Preliminary tests last season showed that this is a very labor intensive method that involves stress to captured animals, a higher exposure of county technicians to zoonotic diseases, and problems with euthanizing captured animals.

General Services Department Priorities for 2012

- Continue work fixing structural deficiencies in County buildings
- Work with the IPM Coordinator to coordinate outreach about the County's IPM Policy
When the County's new administrative bulletin on IPM is finalized at the County Administrator's Office (CAO), it will be sent out to all Department Heads. At the same time an email can be sent from the CAO to every County employee to reinforce the information in the administrative bulletin and remind employees that structural pests are handled by the County's contractor and that pesticides from home are not allowed in the workplace. The Facilities Manager and the IPM Coordinator will also meet with County Safety Officers to explain the administrative bulletin, pest prevention in buildings, and the prohibition on pesticides from home.
- License two new members of the Grounds Crew through Department of Pesticide Regulation
- Complete a Tree Policy for the County
- Work on Landscape Design Guidelines with the IPM Coordinator

Public Works Department Priorities for 2012

- Continue work on the pesticide screening process
The Department will continue to work with the IPM Coordinator to develop a hazard screening process for all pesticides used by the Department.
- Outfit another spray truck with computerized control system on-line for regular data collection.
- Continue grazing study
The Department will continue our multi-year study of grazing and chemical weed control methods.
- Continue to refine IPM practices
The Vegetation Manager will continue to refine the Department's IPM practices and investigate new methods of weed control.
- Revise the Departmental IPM plan
The Vegetation Manager will revise the Department IPM Plan keeping in mind the suggestions from the IPM Advisory Committee.

December 14, 2011

TWIC presentation

Susan JunFish, Parents for a Safer Environment

The language change to the IPM Policy presented to the IPM Advisory Committee and to TWIC were the same, however the view of the edits were very different, as PfSE had submitted copies of the hard copies provided both to the IPM Advisory Committee and to TWIC. Again, the copy given to the Advisory Committee had all changes showing on the right hand column that had smaller font and was difficult to read. The version given to TWIC had larger font and the tracked changes were right next to the original language that were crossed out, making it clear what was changed. In the future, we would appreciate significant changes as these be provided to the IPM Advisory Committee in a clear fashion and that if significant language changes were made, for Ms Drlik to provide an accurate account. We request that the IPM Policy be re-submitted to the IPM Advisory Committee after the new appointments are made and convened in January 4, 2012.

The IPM Advisory Committee members may appreciate another chance to review the changes in the IPM policy, with attention given to the following:

On page 1, the last sentence originally stated, "Require county departments to use IPM programs."

The new version states, "County Departments routinely use IPM."

On page 2, 1st line originally stated, "Incorporate County IPM policies and practices into county pest control contracts."

The new version states, "County pest control contracts incorporate County IPM policies and practices."

On page 2, 1st large font header originally stated "Require Departments to Use IPM Programs."

The new version states, "County Departments Routinely use IPM Programs."

December 14, 2011

To: The TWIC Committee

From: Maks Tsetchov, Parents for a Safer Environment

- PfSE does not classify "bad actor pesticides." "Bad Actor Pesticides" is a term created by Pesticide Action Network, North America, a non-profit organization that has effected policy change around pesticides of concern at the state, national, and international levels. PEHAB's 2001 report, "Pesticides in Contra Costa," refers to Bad Actor Pesticides and why it's important to try and eliminate their use to protect public health and the environment.
- PfSE has been asking the county departments and staff since 2006 to include salts of bad actor products since these products are diluted in water prior to application, and become the bad actor "parents." We have had no response from the county on this issue in the past 7 years except that PfSE is not explaining the issue clearly. This is basic high school chemistry and we're not sure how clearer we can get with describing how chemicals bound to salts ionize in the presence of water and lose their salts and become parents. So if the county departments are preparing pesticide products bound to salts by diluting them in water prior to spraying, they are essentially applying bad actor pesticides. The studies done in research usually use the ionized forms since they are also diluted in water prior to laboratory experiments, whether in tissue culture or exposed to animals. This is the easiest way to measure and administer chemicals, in a liquid form, thus the toxicological data that PANNA utilizes refers to the ionized form and that is how PANNA's database presents the data, directly from US EPA and other major database administrators without any interpretation. Dr Pimentel of Cornell University, IPM Cooperative Extension and Dr Kegley of the Pesticide Research Institute and the developer of the PANNA database also agree that salts of bad actor products are expected to behave the same way and have the same toxicological properties.
- In addition, we have asked that the county include the acutely hazardous products that is a category of bad actor pesticides, per PANNA, as PfSE has submitted in several IPM Advisory Committee and TWIC meetings. We still have not received a response from county staff or anyone on the IPM Advisory Committee. The only retired chemist on the IPM Advisory Committee, Ted Shappas, asked at the November 2nd meeting, that he still is not clear as to the definition of a Bad Actor pesticide. The county staff has

the responsibility to bring this issue onto the agenda but have averted the issue for many years. Discussing the toxicity of the products being currently used by staff is uncomfortable for county departments that are currently applying Bad Actor Pesticides. But this is not a sensible justification for not discussing Bad Actor Pesticides and their elimination. The only time when the issue was briefly addressed was when county staff has stated that we need to talk about how Bad Actors shouldn't be phased out since it's an important tool for the county departments. We need representation on the IPM Advisory Committee of community members who have a background in pesticides and their relationship to public health and the ecosystem.

Currently, and for the past decade, the county has been under reporting a significant portion of the bad actor pesticides used. For example, PfSE submitted at the November 14, 2011 meeting the actual pounds of bad actors applied by the Public Works Department being 1654% higher than what was reported by County Staff at the TWIC meeting in December 22, 2010. The reason for this is because county staff is leaving out both the acutely toxic bad actors as well as all salts of bad actors that are identical to the parent bad actors as soon as staff dilutes the products in water prior to application.

12/14/11

Dec 14, 2011

Bellal Daunish, Concord Resident

TWIC Presentation

Good Morning Board Members Piepho and Mitchoff:

County staff has been providing the year 2000 as a baseline to compare recent pesticide usage data, showing a high % drop. Considering that usage in 2000 was off the charts compared to any other county, we're not sure how a % drop from 2000 provides any useful information. We are glad that the County IPM Advisory Committee has voted to at least show most recent fiscal year county pesticide usage from the previous fiscal year. However, it would be hardly any more work and provide much more information to show consecutive years on a graph so that decision makers can easily see trend of pesticide usage from year to year. Since calculations are done anyway, it is not more work to simply keep the earlier years' calculations on the graphs to observe trend and % change from year to year.

PfSE has observed that other county departments are tracking pesticide usage by each distinctive program. We see the value in tracking progress of each IPM program by tracking pesticides used separately. For example, in General Services Department, the contractors handling the building pest control use only least toxic alternatives that are sometimes referred to as FIFRA or Eco-Exempt, since there is very little chance of exposure. It makes no sense to add the lbs from these products that are in bait stations for example, with the toxic herbicides being used by the staff for weed control in landscapes. These programs need to track pesticide usage separately. Same goes for the Public Works Department. Pesticide usage for each Right of Way, Flood Control Channel, Empty Lots, and Airport, need to be all tracked separately. This shouldn't be difficult since the department already report their pesticide usage grouped in this way to the State and the County their reporting requirements. Our county staff merely has to not combine them and keep them separate upon reporting. For the Department of Agriculture, it is simple to report the herbicides used for invasive weeds separately from the rodent poisons being used, and separately from insecticides used.

The County is not providing the total pounds of pesticide products applied by each department, although the calculation is required prior to calculating the pounds of active ingredients, which is reported annually. Considering that "inactive" ingredients can be more toxic to humans than the active

ingredients used to target plants for example, the total pounds of pesticide products should be presented, as being done by other county IPM programs. It is not any more work to do this.

PfSE, again, would appreciate if county staff would include the calculations used for each year's annual tracking of pesticides used by each department. Transparency of the work would allow us to quickly distinguish differences upon finding significantly varying numbers from PfSE's calculations and county's staff calculations. PfSE has provided our complete spreadsheets to the county departments upon being asked, however, we still have not received the county's spreadsheets to review after several verbal and written requests.

PfSE agrees that pesticide reduction can be more dramatic when a pesticide reduction program is first implemented. Then it can taper off as more challenging reduction methods are addressed. PfSE is not questioning this normal trend. We are merely requesting that numbers calculated for previous years should be transparently provided from year to year, so that not only are trends observable over the long run, but so are the absolute quantifiable numbers. Our county departments are still applying multitudes more pesticide products than neighboring counties' departments combined, so maybe we should present neighboring counties' total usage in our annual reports as a measure of how we're doing.

Also, we know of no other county where pesticide usage actually goes up in departments over a period of three recent years. Usage may taper off, but does not go up as we're seeing in the Department of General Services and the Agriculture Department, for example as high as 38% for bad actor used. This is not a normal trend and does not follow a typical trend as other counties.

Dec 14, 2011

Supervisor Mary Piepho

Supervisor Karen Mitchoff

Transportation, Water and Infrastructure Committee

RE: Why isn't Contra Costa County doing everything feasible to reduce pesticide usage?

The foundation of Integrated Pest Management is to investigate the least toxic pest management methods. The County departments are not required to document their attempts to review the least toxic alternatives. Are they missing an opportunity to move beyond the status quo?

PfSE appreciates that the Department of Agriculture is conducting pilot trials using predatory perches for ground squirrels, and that the Department of Public Works, Flood Control Division has tried a limited sheep grazing trial, although we have urged them to stick with proven goats for weed control that have minimal to no negative side-effects. However, it is clear that the County departments are not incorporating long-term sustainable measures to decrease pesticide usage at rates comparable those of neighboring counties.

The pests Contra Costa County departments address overlap by over 80% with those addressed by other county departments. The climate and degree of pest challenges are very comparable to those of neighboring counties such as Santa Clara. PfSE asks that financial costs for each pest control program be delineated and tracked. We are in the process of comparing the financial costs of comparable programs in neighboring counties. We have learned that the data retrieved by our County staff from Santa Clara County for their roadside management is not available. We seek greater transparency on this issue.

If the County is not able to show that alternatives were tried prior to using pesticides, can the County claim that it is doing Integrated Pest Management? Investigation, data collection, and documentation, should be high priorities for County staff, and the public should have access to information important to the integrated pest management process. Prior notification to the community before pesticide spraying, after alternatives have been explored and the use of pesticides deemed the final resort, is essential to public safety and should be part of the IPM program.



Katharine Barrett,

Orinda Resident and

Board President of EarthTeam

c.c. Supervisors Uilkema, Glover, and Gioia; Steve Goetz, Michael Kent, Dave Twa, Wendell Brunner, Randy Sawyer, William Walker, Members of the IPM Advisory Committee.

MEMO

Date: December 29, 2011

To: Contra Costa Board of Supervisors
Supervisor Mary Piepho, Chair

From: Tanya Drlik, Integrated Pest Management (IPM) Coordinator

Re: Concerns about Pest Management in the County raised by Parents for a Safer Environment at the December 14, 2011 Transportation, Water and Infrastructure Committee Meeting.

During the December TWIC meeting, Parents for a Safer Environment (PfSE) raised the following concerns. These concerns have been appended to the IPM Annual Report.

1. The version of the proposed changes to the IPM Policy presented to TWIC was different from the version presented to the IPM Committee.
2. The IPM Policy is being weakened.
3. The County has not classified as “Bad Actors” all the pesticides that PfSE classifies as “Bad Actors”.
4. The County is not reporting pesticide use in the way that PfSE wants the County to report.
5. Departments do not investigate least toxic methods for pest management before choosing to use a pesticide.

Responses to PfSE’s Concerns

1. *The version of the proposed changes to the IPM Policy presented to TWIC was different from the version presented to the IPM Committee.*

This concern was first submitted to TWIC on November 9, 2011, and the IPM Coordinator responded in writing on December 5, 2011.

The two versions were exactly the same. Microsoft Word can display tracked changes in different formats depending on the preferences chosen on the computer that is displaying the document.

2. *The IPM Policy is being weakened.*

This concern was first submitted to TWIC on November 9, 2011, and the IPM Coordinator responded in writing on December 5, 2011.

It was never the intent of the IPM Committee to weaken the IPM Policy, and staff is reviewing the language to make sure the Policy is not weakened. The IPM Policy is being brought up-to-date with wording in the present tense, and with language that describes “goals” and “objectives” since some of the wording was not consistent with how a goal or objective would normally be stated.

3. *The County has not classified as “Bad Actors” all the pesticides that PfSE classifies as “Bad Actors”.*
4. *The County is not reporting pesticide use in the way that PfSE wants the County to report.*

Response to #s 3 and 4:

On August 15, 2011 the IPM Coordinator and the chair of the IPM Committee met with Susan JunFish and two of her interns to resolve differences in the figures for County pesticide use. The results of this meeting were reported to TWIC on September 14. Other than the designation of “Bad Actors”, we found mostly minor differences in County figures and PfSE figures. The IPM Committee has agreed to review the designation “Bad Actor” pesticides at a future meeting. On some differences in reporting we agreed to disagree.

The County reports pesticide use in pounds of active ingredient. This follows the reporting method used by the California Department of Pesticide Regulation.

It is important to understand that a change in pesticide use from one year to the next does not necessarily indicate a long-term trend. Long-term trends are more important than short-term changes. As noted in the IPM Annual Report, pesticide use can go up and down from year to year depending on weather that may increase or decrease weed load and pest pressure, on the invasion or disappearance of pests, on the addition or subtraction of pest management projects to/from a department’s workload, and on cuts to budgets or staff that make it difficult or impossible to use alternate methods of control.

5. *Departments do not investigate least toxic methods for pest management before choosing to use a pesticide.*
This concern has been raised a number of times and the IPM Coordinator has responded in writing on September 7, 2011, October 17, 2011 and December 5, 2011.

Each Department investigates least toxic methods on a continual basis. Please see the IPM Annual Report for a summary of some of the alternatives the Departments are currently investigating and/or implementing. A separate issue of documenting the thought process that staff go through before they choose a management technique has been discussed several times in the IPM Advisory Committee. On November 2, 2011, the IPM Committee voted unanimously to recommend that “the IPM plans include a process to document the decision-making that went into the management of each pest being managed.” The subcommittee on Data Management is currently working with the Departments on a way to document the process.

PfSE has repeatedly asked that the County implement techniques or programs that other counties are using. Each county is unique in its resources, standards, scope of work, and programmatic elements as well as weather, geography, and pests. Because of these differences it is not simple or easy to copy what other counties are doing. We can certainly learn from other IPM programs, and we have investigated a number of the alternatives that PfSE has mentioned. The IPM Coordinator maintains close contact with all her counterparts in the Bay Area and meets with them regularly to discuss pest management issues.

The Departments are experimenting with several alternatives currently, for instance, goat and sheep grazing for vegetation management, live traps for ground squirrels, and raptor perches. Some alternatives we have found to involve considerably higher expenditures than current County practices—higher than current budgets would allow. This includes the increased use of roadside mowing. This year, the Roadside Vegetation Management subcommittee investigated the cost of Santa Clara County’s extensive roadside mowing program. Santa Clara County has almost exactly the same number of road miles to maintain as Contra Costa but expends 2.7 times more than Contra Costa on its roadside vegetation management program. Santa Clara has 9 tractor mowers and Contra Costa has 2 tractor mowers. It is neither physically nor fiscally possible for Contra Costa to implement Santa Clara’s roadside vegetation management plan at this time.