



## County of Marin

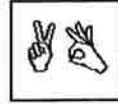
### Integrated Pest Management Commission – Revised Agenda w/ times

Friday, January 28th, 2011 9 AM–12 noon

Marin Civic Center, Room 410 B

- I. 9:00 Call to order
- II. Introductions
- III. Approval of Agenda – with a bio-break about midway
- IV. Approval of minutes of October 22, 2010 (attached)
- V. Open time for public expression, up to 3 minutes per speaker, on items not on agenda
  
- VI. 9:15 IPM Commission Bylaw Revisions (previously sent) – discuss and vote to recommend to BOS
- VII. 9:25 Nominating Committee – slate of officers for April 2011 to April 2012 – vote
  
- VIII. 9:30 IPM Commission’s Annual Report (previously sent) – discuss, finalize, and vote to send to Board of Supervisors
- IX. Date of when commissioners seats expire – has been updated by County Clerk
  
- X. 9:50 Coordinator’s Annual Report – for comments by Commissioners – sent separately
- XI. 10:20 Proposed Pesticide Product List
- XII. 10:30 Bio Break
- XIII. 10:45 IPM Coordinator’s Report on items not handled above – including site specific plans, pesticide use reports, volunteer summary, exemptions – to be sent separately
  
- XIV. 11:00 IPM Media & Outreach Task Force – report and possible action item(s)
- XV. 11:10 Commission Calendar – discuss schedule format (attached) and vote
  
- XVI. 11:20 Mill Valley Sausalito Bike Path – MOMAS reports 2 incidents of backpack spraying – discussion of who, where, when & with what do they treat – has County notified neighbors of its IPM program & pesticide use constraints? Possible action
  
- XVII. 11:35 Reports for items not handled above - Parks Landscape DPW
- XVIII. Reports & Announcements - Commissioners Chair
- XIX. Adjourn to next meeting: April 27, 2012, 9am – 12 noon

For the health and comfort of all, please refrain from wearing fragrances and scented products to this meeting. Meeting materials available from County Parks & Open Space, [ehulme@co.marin.ca](mailto:ehulme@co.marin.ca)



In accordance with the Americans with Disabilities Act, if you need special assistance (i.e. auxiliary aids or services) in order to participate in this public meeting, please contact the Clerk of the Board of Supervisors by calling (415) 499-6172 (TTY) or (415) 499-7331 (voice) **at least five (5) business days prior to the meeting.**

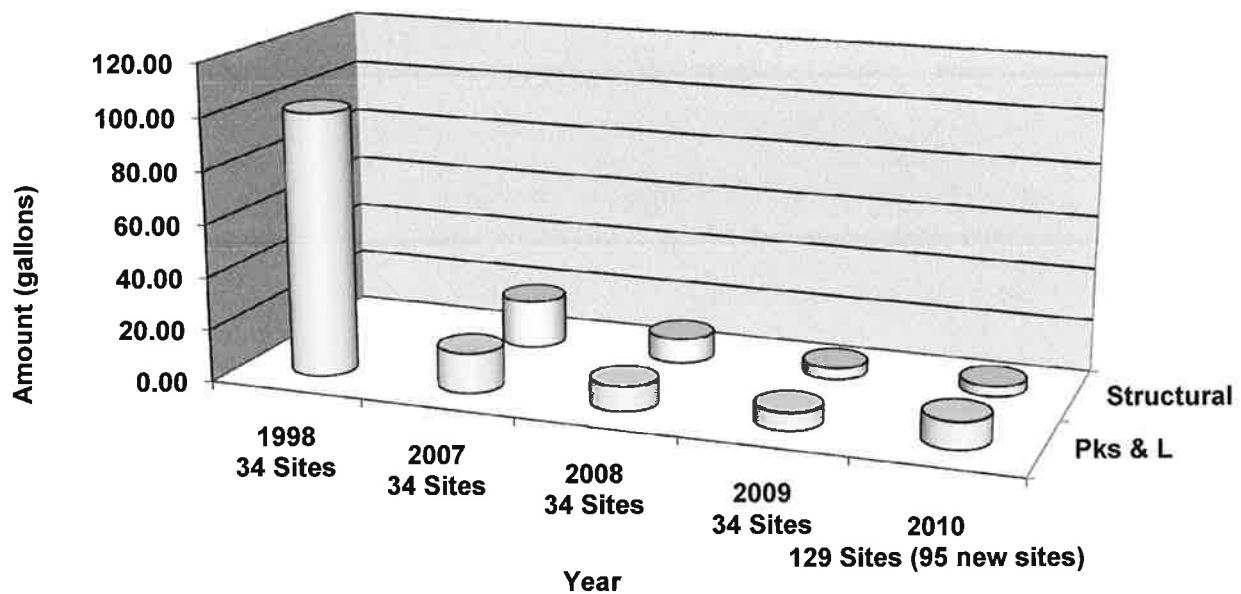
**IPM COMMISSION**

**Revised AGENDA FOR 1/28/11 MEETING**

# IPM Coordinator's Annual Report 2010

Presented to the  
Marin County Board of Supervisors  
Tuesday, February 15, 2011

## Dramatic Reduction in Use of Materials Between 1998 and 2010



## Executive Summary

It has been a busy year. Evaluating where we are, and how best to meet the goals and challenges of the new IPM Ordinance and Policy has been very expensive and time consuming. The IPM Website is up and very actively reporting our progress as well as providing notification of all scheduled pesticide use. The most notable achievements of the IPM program in 2010 have been the improved transparency and the increase in the number of County properties where IPM is being actively implemented, while simultaneously maintaining a trend toward a dramatic reduction in the amount of pesticides used at County sites. Records of monthly maintenance activities indicate that significant progress has been made toward implementation of the IPM Ordinance and Policy, in spite of budget constraints and a reduction in staff available to support the program.

Switching from baiting to trapping rats has made a huge difference. The rat population is generally under control at this time. However, this practice alone has cost the County an additional \$10,000 per year.

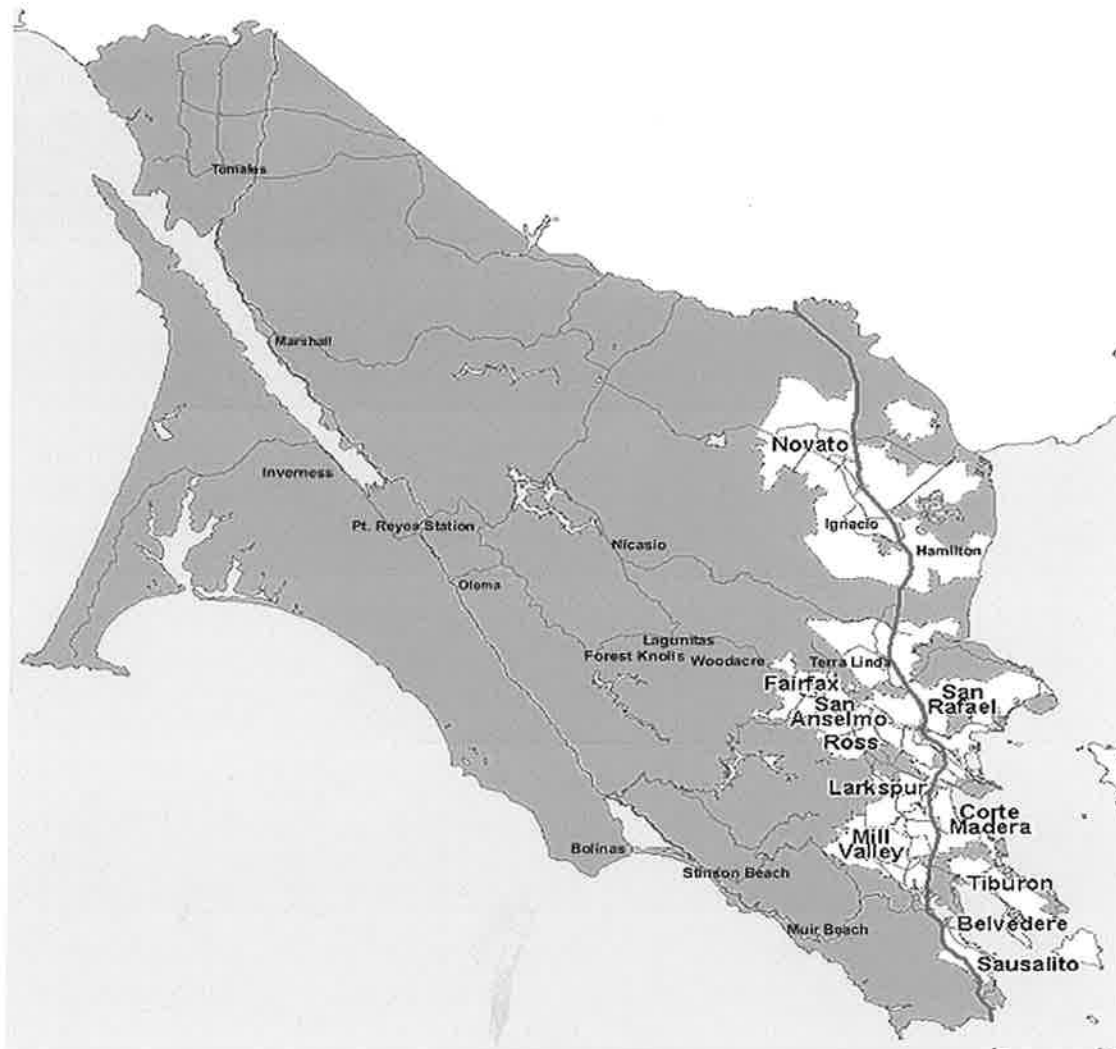
The switch to Organic Materials Research Institute (OMRI) products for structural pest control has been very significant. Only 1.1 gallons of non-OMRI products were used the whole year, and that includes treatment of two significant termite infestations.

Volunteer labor continues to be a critical component of the IPM program. Pest Specific and Site Specific Management Plans were completed for several of our most troublesome pests and some of our representative County managed sites. Opportunities for IPM communication and training are increasing in the Bay Area, as effective networks for collaboration and exchange of information between IPM Coordinators have developed.

Word about the County's IPM Program is getting out and we are fielding more and more calls and request for information; the ripple effect is spreading. We are trying to get IPM concepts in to all planning projects and activities; the range is quite extensive, SMART train projects, the Novato Narrows projects and utility pole treatment to name a few. In light of the County's current budget constraints, the most significant challenge moving forward will be securing sufficient resources for IPM non-chemical practices, and operating funds and staffing to support the continued monitoring, implementation, tracking and effectiveness of the IPM program.

### 1. IPM Sites

The Marin County Department of Public Works, Parks and Landscape Divisions together manage 129 sites, including parks, bike paths, roadway medians, and County owned buildings, structures and facilities throughout Marin County. Prior to the adoption of the updated IPM Ordinance and Policy in 2009, only 34 of these 129 sites were subject to the IPM ordinance. Yet, even with adoption of the "new" IPM Ordinance and Policy that made the remaining 95 sites fully subject to IPM in 2010, (a nearly three-fold increase), the total amount of materials, Organic Materials Research Institute (OMRI) and non-OMRI product use remain comparable to amounts applied in 2009.



County of Marin

**2. Pesticide Use**

Considering the significant increase in the number of sites subject to IPM, it is important to recognize that **95 of the 129 IPM sites in the County were managed 100% pesticide free in 2010, with zero use of chemicals.** OMRI materials were used this year with increased frequency, preferred over the non-OMRI materials, particularly at sites like the Marin Health and Wellness Center Campus, which is frequented by some of our most sensitive members of the public. Roundup has been replaced with Aquamaster, a glyphosate product combined with a soy-based additive (organic), with early indications of success.

**3. Proposed Additions to the Pesticide List**

Four additional products are proposed to be added to the Pesticide List for 2011: Botanigard, an organic material (currently being applied under an approved exemption), is a naturally occurring fungus used to control mealy bugs and scale on plants in the Civic Center Atrium Planter. The second product proposed is Fusillade II, a Caution material for use in the control of goat grass and other noxious grass weeds. The third product is Precore, also a caution material, for use in the control of fleas and bedbugs. The fourth product is ProCitro, Caution rated, for crack treatment to control cockroaches and ants inside of buildings. The complete list and details about proposed pesticide products for 2011 are included in Appendix 1. A list of 2011 exemption approvals is also included in Appendix 1, and is now available for viewing on the IPM website.

**4. Pesticide Use in 2010**

Pesticide use is now being tracked at over 129 sites throughout Marin. The monthly summaries of pesticide use are available on the IPM website. Any County sites not listed or shown means that there has not been any reported chemical product use there (95 sites). The County's monthly pesticide use reports indicate that a Category II pesticide (Warning label) "Safer Soap", an approved OMRI product, has been used in several instances.

Total amounts of OMRI and non-OMRI materials used in 2010 on Parks and Landscape\*

New Ordinance Sites		Old Ordinance Sites	Total Use 2010
OMRI	3.5 gallons	.97 gallons	4.47 gallons
Non-OMRI	4.4 gallons	1.27 gallons	5.67 gallons

\*See Figure 2, Summary Annual Pesticide Use Report – Parks and Landscape Use.

For the purpose of comparison, note the total amounts of OMRI and non-OMRI materials reported used in 2009 on Parks and Landscape properties:

OMRI	7.1 gallons
Non-OMRI	<u>5.4 gallons</u>
Total:	12.5 gallons

\*See Figure 3, 2010 Summary Annual Pesticide Use Report: Parks and Landscape Use – Sites covered by prior IPM Ordinance - Before 2010.

Total amounts of OMRI and non-OMRI materials used in Structural applications in 2010\*:

OMRI	2.8 gallons
Non-OMRI	.2 gallons
Exemption Materials	<u>.09 gallons</u>
Total:	3.89 gallons

\*See Figure 4, "2010 Summary Annual Pesticide Use Report: Structural Use".

Again, for the purpose of comparison, structural use in 2009 was 4.32 gallons at 34 sites.

Where reductions in chemical applications have taken place there has been the need for more labor intensive efforts to keep weeds from taking over. For example, Sir Francis Drake Boulevard median strips have been maintained in 2010 without the use of pre-emergents, but this has caused an increase in the amount of post emergent weed control that was needed. Weed control is within acceptable levels, however, with considerable additional expense in labor costs. IPM weed management often takes the focus away from other needed horticultural practices, such as irrigation management and pruning.

## 5. Pest Management Projects

Rat control continues to be an issue at certain County properties. However, in 2010, use of baits and attractants has been entirely eliminated. Instead, traps are used in these locations. The contractor and/or staff checks and resets the traps two to three times a week, depending on the level of rodent activity. For details on rodent control, see Appendix 2.

Yellow jackets and wasps pose a seasonal danger to the public. An extensive trapping program was done this year with good success in trapping queens before they reproduced. Limited and strategic use of Special Use products, mostly Wasp Freeze, has been necessary for emergency wasp nest destruction.

## 2010 Summary Annual Pesticide Use Report

Parks and Landscape Use - Sites Covered Under IPM Starting in 2010

ANNUAL USAGE												
											TOTAL	
<b>Organic Materials:</b>												
	Liberate	0.75	6	50	6	24	14	14	6	24	6	68.8
	Matran					150	80					230
<b>Organic Total:</b>		<b>0.75</b>	<b>6</b>	<b>50</b>	<b>6</b>	<b>174</b>	<b>14</b>	<b>94</b>	<b>6</b>	<b>24</b>	<b>6</b>	<b>68.8</b>
											<b>450 oz</b>	
											<b>3.5 gallons</b>	
<b>Non Organic Materials:</b>												
	Aquamaster									19	122	22.5
	Habitat (special use)	5.75	6	77	36		73			10		114
	Roundup Pro										9	10
	Roundup ProMAX						9				9	18
	Waspfreeze (special use)									35		31.5
<b>Non Organic Total:</b>		<b>5.75</b>	<b>6</b>	<b>77</b>	<b>36</b>		<b>73</b>			<b>54</b>	<b>132</b>	<b>40.5</b>
											<b>114</b>	
											<b>569 oz</b>	
											<b>4.4 gallons</b>	
<b>TOTAL</b>											<b>1019 ounces</b>	
<b>TOTAL</b>											<b>7.93 gallons</b>	

# 2010 Summary Annual Pesticide Use Report

Parks and Landscape Use - Sites Covered by IPM Before 2010

ANNUAL USAGE						
		Civic Center	McNears Beach Park	Novato Stafford Bike Path	Pacheco Valley Bike Path	TOTAL
<b>Organic Materials:</b>						
	BotaniGard	16				16
	Liberate	10	5	6	24	45
	Safer Fruit and Vegetable Insect Killer	64				64
<b>Organic Total:</b>		<b>90</b>	<b>5</b>	<b>6</b>	<b>24</b>	<b>125 oz</b>
						<b>0.97 gallons</b>
<b>Non Organic Materials:</b>						
	Aquamaster	15	42	12	24	93
	Imicide (special use)	1				1
	Waspfreeze (special use)	70				70
<b>Non Organic Total:</b>		<b>86</b>	<b>42</b>	<b>12</b>	<b>24</b>	<b>164 oz</b>
						<b>1.27 gallons</b>
<b>TOTAL</b>						<b>289 ounces</b>
<b>TOTAL</b>						<b>2.25 gallons</b>

Note: Use at sites covered under IPM in 2009 was 5.7 gallons

Note: Use at these 4 sites in 2009 was 2.68 gallons

# 2010 Summary Annual Pesticide Use Report

## Structural Use

ANNUAL USAGE												
											TOTAL	
<b>Organic Materials:</b>												
	Eco-Exempt IC2	2	2	224	9.75	35						
<b>Organic Total:</b>		2	2	224	9.75	35	2.5	65			8 8 356.25	
							2.5	65			8 8 356 oz	
											<b>2.8 gallons</b>	
<b>Non-Organic Materials:</b>												
	Max Force Ant Bait Gel (special use)						1.35	1.5	0.25	3.25	0.6	0.15
	Max Force Ant Gel, bait station (special use)				0.5	5.25				1	3.5	7.1
	Max Force FC Roach Bait Gel (special use)			0.75		0.5						10.25
	Terro PCO (special use)							1.5		2	0.5	1.75
<b>Non Organic Total:</b>				0.75	0.5	5.75	1.35	3	0.25	5.25	1	5.1
											2	2.15
												27 oz
												<b>0.2 gallons</b>
<b>Exemption Materials:</b>												
	Terimidol SC			19						97.5		
<b>Exemption Total:</b>				19						97.5		
												116.5
												<b>117 oz</b>
												<b>0.9 gallons</b>
<b>TOTAL</b>												
<b>TOTAL</b>												500 ounces
												3.89 gallons

Note: Use in 2009 was 4.32 gallons to maintain 34 sites. We currently maintain 129 sites.

## **6. Exemptions and Violations**

A total of nine exemptions were approved. Six exemptions were issued in the month of January, 2010, for structural use of pesticides to control ants, spiders, and cockroaches in the Civic Center complex. These products were approved by the Board of Supervisors for the Allowed Use list the following month, February, 2010. In July, one exemption was approved for use at 10 N. San Pedro Road for termite control. In October, an exemption was approved for the use of an organic product to control mealy bugs on the interior landscaping in the Civic Center Atrium. Finally, in November an exemption was approved for termite control during a repair and construction project at the Fairfax Library. The project sites were closed to the public throughout construction.

Two exemption requests were denied. One request was for an exemption from the requirement for posting public notice four days prior to application. Instead, application was delayed, and the site was posted according to Ordinance and Policy requirements. The second request involved treatment of utility poles, and was denied due to lack of information. Utility poles fall under a joint powers agreement with other municipalities that have not adopted their own IPM Ordinances and Policies. However, we are working with these agencies to promote best management practices and a well thought out IPM process prior to the treatment of utility poles.

There was a significant violation of the IPM Ordinance and Policy when a contractor working for the County applied 100 pounds of Ronstar G (a pre-emergent Warning label product not on the approved product list) on a new landscape median project on Alameda del Prado. Subsequent to, and as a direct response the violation, in the County has changed the contract language and included penalties for non-compliance the IPM Ordinance and Policy.

## **7. Site Specific Plans and Pest Specific Plans**

The IPM Program Update and Summary Workplan for 2010-2011 includes the task to prepare Site Specific Plans for Integrated Pest Management. These plans include Key Pests, Constraints to Maintenance, Management Goals, Conditions That Encourage Pest Problems, Pest Population Activity Levels and Monitoring, Appropriate Treatments and Timing, and other issues as deemed appropriate for each site. Once comprehensive records of chemical use are assembled, Special Use chemical products can be benchmarked for an anticipated target level reduction of 10% per year. Consideration will be given to benchmarking glyphosate products, where possible, as part of a complete IPM program. Site Specific Pest Management Plans have been prepared by consultant Michael Baefsky for the following sites: Sir Francis Drake Boulevard (median strips), Corte Madera Creek Multi-Use Pathway, Civic Center Interior Complex (atrium), Mill Valley to Sausalito Multi-Use Pathway, McInnis Park, Stafford Lake, McNear's Beach Park, and Civic Center (landscaped exterior areas). Site Specific Pest Plans for the Civic Center Complex (structural) and a Site Specific Plan for Gness Airport will be prepared. See Appendix 3, "IPM Coordinator's

Summary of Site Specific and Pest Specific Plans 2010” for current summaries of each Site Specific Plan and Pest Specific Plan.

### **8. Volunteer Labor**

Non-chemical IPM work; hand weeding, installation of sheet mulching, flaming, etc. for 2010 came to over 19,000 hours, staff and volunteer combined, with volunteer hours making up close to 50% of the total effort. We are very proud of those efforts. Given budget and staffing constraints, the demonstrated success of the IPM program in 2010 was dependent on substantial volunteer participation. To the extent that the number and availability of volunteers fluctuates even under the County's excellent volunteer recruitment and training strategies, volunteer labor is a variable that is ultimately somewhat out of the control of the IPM Coordinator and County staff. This dependence on 50% volunteer labor is a weak link in the IPM program, and sustaining a high level of volunteer participation in the future will require additional resources for recruitment, coordination, training, and recognition. See Appendix 4, "2010 Non-Chemical IPM Management & Practices Staff and Volunteer Hours, Summary and Highlights" for details.

### **9. IPM Trainings Offered in 2010**

Parks and Landscape Divisions have a yearly training program for the "Safe Handling and use of Pesticides" that takes place every year. It covers the use of OMRI and Commercial pesticide applications. All employees who work with these chemicals are required to take this four hour class. This includes proper use of equipment, personal protective gear, organic alternatives to commercial chemicals, "best management practices" to reduce the need for applications, mapping sites and monitoring and how to read a chemical label and a pesticide recommendation, etc. All employees who may work with any chemicals, whether they have a spray license or not, are required to take the class.

All employees who have a 'Qualified Applicators Certificate' are required by state law to receive ten hours of continuing education each year. Most of these classes are presented by the 'Pesticide Applicators Professional Association (PAPA). The topics range from proper sheet mulching, calibration of equipment, laws and regulations, insect and weed identification, turf management, plant diseases and best management practices. Each seminar covers IPM methodology and practices in addition to commercially recognized methods of pest reduction.

In addition to the on-going training of Department Liaisons for the IPM program, staff conducts a range of training activities for the hundreds of volunteers who contribute thousands of labor hours to non-chemical IPM practices on County properties. The Association of Bay Area Governments (ABAG) is now hosting IPM Coordinator Quarterly Meetings to ensure that Best Management Practices are shared throughout the Bay Area. The IPM Coordinator will include BMP updates and other information obtained at ABAG meetings in on-going IPM training activities.

## **Conclusion**

The County's IPM Program continues to set a high standard for emerging IPM programs nationwide. Agencies from Washington, Oregon, and Colorado are looking to the Marin County IPM Coordinator for guidance and support. It is important to remember that, even prior to adoption of the County's original IPM Ordinance in 1998; the use of pesticides in Marin County has historically been extremely low, in comparison to other counties. The considerable achievements of the IPM program over 10 years, most dramatically evidenced in 2010, have been attained by changing over to the use of relatively benign materials when chemical use is necessary, while simultaneously shifting labor and resources from other DPW, Parks and Landscape projects and programs in order to fully implement the IPM program. While this has resulted in exciting progress in fulfilling the County's IPM policy goals, it is unlikely to be sustainable unless additional funding and labor can be dedicated to this worthy program. Achieving a balance between maintaining existing levels of IPM service at 129 sites while maintaining the historic levels of service in other areas of responsibility is the main challenge we face in the coming year.

## **Figures**

- Figure 1 Dramatic Reduction in Use of Materials Chart 1998 to 2010
- Figure 2 2010 Annual Summary Pesticide Use Report: Parks and Landscape Use – Sites Covered Under IPM Starting in 2010
- Figure 3 2010 Annual Summary Pesticide Use Report – Parks and Landscape Use – Sites Covered by IPM Before 2010
- Figure 4 2010 Annual Summary Pesticide Use Report – Structural Use

## **Appendices**

- Appendix 1 Proposed Pesticide Products 2011
- Appendix 2 Detailed Service Report-Rodent Station Activity Summary
- Appendix 3 IPM Coordinator's Summary of Site Specific and Pest Specific Management Plans 2010
- Appendix 4 2010 Non-Chemical IPM Management & Practices Staff and Volunteer Hours, Summary and Highlights

Landscape Allowed									
Active Ingredient	Material	Signal Word	EPA Reg #	Use	Groundwater List	Prop 65	EPA Carcinogenicity	Criteria for Use & Limitations	
clove oil and wintergreen oils - OW	Matran EC - Matran 2	Caution	N/A	herbicide	No	No	Not Listed	Weed management, some concern with applicator safety - wear goggles; has prolonged odor - limited efficacy, use only on small, young plants <b>OMRI</b>	
glyphosate SF	Aquamaster	Caution	524-343	herbicide systemic, landscape & aquatic weeds	No	No	Not Listed	Certain annual and perennial weeds, various locations. Landscape Services to evaluate efficacy. Noxious weed mgt. Needs surfactant such as Liberate - will be benchmarked when part of a site plan	
ethyl oleate	Competitor	Caution	CA 2935-50173	surfactant	No	No	Not Listed	Modified vegetable oil as a surfactant	
iron phosphate SF, EW, OW	Sluggo	Caution	67702-3	molluscicide	No	No	Not Listed	Snail and slug bait for landscape - <b>OMRI</b>	
lecithin, alcohol ethoxylate	Liberate	Caution	34704-50030-AA	surfactant	No	No	Not Listed	Soy based surfactant; Use with Aquamaster and other materials needing a surfactant - <b>OMRI</b>	
mint oil, sodium lauryl sulfate, SF, EW	Victor Wasp & Hornet Killer	Caution	N/A	insecticide	No	No	Not Listed	Emergency wasp nest destruction. - Organic - has variable success	
neem tree extract SF, OW	Neem Oil	Caution	70051-2	Botanical insecticide and	No	No	Not Listed	Civic Center Atrium and certain landscape plants - <b>OMRI</b>	
petroleum oil, SF	Saf-T-Side	Caution	48813-1-54705	insecticide	No	No	Not Listed	Dormant oil spray to treat scale, mealybug, aphids, whitefly and certain other plant infesting insects	
phosphorous acid, SF	Agri-fos	Caution	71962-1	fungicide-Sudden Oak Death	No	No	Not Listed	Sudden Oak Death (SOD) treatment. To only be used on high value trees in high risk areas that pose a threat if failure occurs. Not for use on wild land trees	
polyethylene glycol, SF	Pentra-bark	Caution	83416-50001	surfactant-used only for Sudden Oak Death	No	No	Not Listed	Surfactant for Agri-fos, used in combination for SOD treatment. To only be used on high value trees in high risk areas that pose a threat if failure occurs. Not for use on wild land trees	
potassium salts of fatty acids, ethyl alcohol, SF, OW	Safer Fruit & Vegetable Insect Killer	Caution	36488-36-ZD-42697	insecticide	No	No	Not Listed	Ready to use formulation for spot treatments to landscape plant material - <b>OMRI</b>	

<b>Landscape Special Use</b>									
<b>Active Ingredient</b>	<b>Material</b>	<b>Signal Word</b>	<b>EPA Reg #</b>	<b>Use</b>	<b>Groundwater List</b>	<b>Prop 65</b>	<b>EPA Carcinogenicity</b>	<b>Criteria for Use &amp; Limitations</b>	
Imazapyr	Habitat	Caution	241-426-A	herbicide (specifically for invasive grasses and woody plants)	Probable	No	Evidence of non-carcinogenicity	Needed as part of the Bay area wide Spartina project. Also for use in cut stump applications for invasive woody species (i.e. Ailantus; Tree of Heaven and Matenus; Maytens trees on Open Space	
imidacloprid, SF	Imicide	Caution	7946-16-AA	Insecticide, systemic injectable	Possible	No	Evidence of non-carcinogenicity	Where Neem oil has been ineffective; last resort for control of Whitefly, Mealybug etc. in areas where public access is restricted during application. Injectable form for use in Civic Center Atrium - ground water contamination potential very limited; less than 3 ounces used in 2008	
imidacloprid, SF	Merit 75 WP	Caution	3125-421-AA	Insecticide, systemic soil drench	Possible	No	Evidence of non-carcinogenicity	Where Neem oil has been ineffective; last resort for control of Whitefly, Mealybug etc. in areas where public access is restricted during application. Soil drench for Civic Center Atrium (ground water contamination not possible) Less than 3 ounces used in 2008. Use of worm casting to be evaluated	
Glyphosate	Roundup Pro	Caution	524-475-ZA	herbicide, systemic	No	No	Not Listed	RoundupPro formulation being phased out by manufacturer. Certain annual and perennial weeds in various locations. Noxious weed mgt. - will be benchmarked when part of a site plan	
Glyphosate	Roundup ProMax	Caution	524-579	herbicide, systemic	No	No	Not Listed	Certain annual and perennial weeds in various locations. Noxious weed mgt. - will be benchmarked when part of a site plan	
potassium Salts of Fatty Acids, Ethyl Alcohol, SF, OW	Safer Soap	Warning	42697-59	insecticide	No	No	Not Listed	Civic Center Atrium and certain landscape plants; concentrate form <b>OMRI</b>	
trans allethrin phenothrin, SF, EW	Wasp Freeze	Caution	499-362	insecticide	No	No	EU Endocrine Disruptor	Emergency wasp nest destruction for spray treatment of in ground or aerial wasp nest posing significant hazard to public	
triclopyr, SF	Garlon 4 Ultra	Caution	62719-527	woody broadleaf systemic herbicide	Possible	No	Group 'D' not classified as carcinogenic	Woody weeds, very limited use when glyphoste is not effective - keep out of waterways	
<b>Landscape Use - Exemption Required</b>									

**Landscape Use - Exemption Required**

Active Ingredient	Material	Signal Word	EPA Reg #	Use	Groundwater List	Prop 65	EPA Carcinogenicity	Criteria for Use & Limitations
isoxaben	Gallery (various)	Caution	62719-145	pre-emergent herbicide	Possible	Not listed	US-EPA Possible carcinogen	High Traffic Medians that pose significant hazard to employees (i.e. SFD Blvd.) Will be benchmarked with site plan
permethrin	Astro	Caution	279-3141	insecticide, beetles associated with Sudden Oak Death	Not likely	Not listed	US-EPA Possible carcinogen, EU Endocrine Disruptor	SOD treatment. High value trees in high risk areas that pose a threat if failure occurs. Not for use on wild land trees
proflamime	Barricade (various)	Caution	100-834	pre-emergent herbicide	No	Not listed	US-EPA Possible carcinogen	High Traffic Medians that pose significant hazard to employees (i.e. SFD Blvd.) Will be benchmarked with site plan
pyrethrin and piperonyl butoxide	Drione	Caution	432-992	insecticide	No	No	US-EPA Possible carcinogen	Emergency wasp nest destruction. For treatment of wasp nest posing significant hazard to public. Very limited use; 4 ounces used in 2008
triclopyr, SF	Turfion	Caution	62719 -258	broadleafed herbicide - systemic	Possible	No	Group 'D' not classified as carcinogenic	Very limited use for Turf Field Renovation - Field must be closed to public use during application and renovation.

**Proposed new Products**

Active Ingredient	Material	Signal Word	EPA Reg #	Use	Groundwater List	Prop 65	EPA Carcinogenicity	Criteria for Use & Limitations
Beauvaria bassinia, Strain GHA	BotanaGard	Caution	82074-2	interior plant pests	No	No	Not listed	Product contains viable fungal spores which affect only damaging insects. For use on interior plants. Proposed to be moved to allowed list.

**Landscap Use - Exemption Required**

Fluazafop	Fusilade II	Caution	100-1084	For Goat Grass eradication	Probable	Yes	Likely	Used for control/reduction of Goat Grass - for Special Use Category; use with extreme caution and protect waterways
SF = Active ingredient/products on San Francisco's list OW = on Our Water Our World List EW = Active ingredient/products on the Eco-Wise list								

**Proposed Pesticide Product List  
Structural Allowed**

**Applied and monitored by licensed professional applicators**

Active Ingredient	Material	Signal Word	EPA Reg #	Use	Groundwater List	Prop 65	EPA Carcinogenicity	Criteria for Use & Limitations
2-phenethyl propionate, SF, OW	ECO PCO ACU	Caution	67425-14-AA	insecticide-crawling insects	No	No	Not Listed	Structural Insects - OMRI
phenethyl propionate, eugenol, SF, EW, OW	EcoExempt D	Caution	N/A	insecticide-crawling insects	No	No	Not Listed	Structural Insects, exterior, clove oil - OMRI
rosemary, peppermint, and eugenol, SF, EW, OW	EcoExempt-IC2	Caution	N/A	insecticide-field roaches, crawling insects	No	No	Not Listed	Structural Insects - OMRI

**Structural Special Use Products**

**Applied and monitored by licensed professional applicators**

Active Ingredient	Material	Signal Word	EPA Reg #	Use	Groundwater List	Prop 65	EPA Carcinogenicity	Criteria for Use & Limitations
boric acid SF, EW, OW, SS	DRAX Nutrabait; orthoboric acid a.i. = 5%	Caution	9444-131-AA	ants	No	No	Not Listed	EU Endocrine Disruptor - Naturally occurring substance, gel bait, applied in cracks and other areas where public is excluded. Public Health concerns from insects.
	Niban Granular; orthoboric acid a.i. = 5%	Caution	64405-2	Insects, roaches, ants, silverfish, snails, slugs, earwigs	No	No	Not Listed	EU Endocrine Disruptor - Naturally occurring substance applied in cracks or secured bait stations in food preparation areas; or other areas where the public is excluded. Public Health concerns from insects.
	Borid; orthoboric acid a.i. = 99%	Caution	9444-129	Insects, roaches, ants, silverfish, termites	No	No	Not Listed	EU Endocrine Disruptor - Naturally occurring substance applied in cracks or crevices where public is excluded. Public Health concerns from insects.
	Turbo Dust; orthoboric acid a.i. = 20%	Caution	9444-150	roaches, termites, ants	No	No	Not Listed	EU Endocrine Disruptor - Naturally occurring substance with petroleum distillates, applied in cracks and crevices; indoor use only where public is excluded. Public Health concerns from insects.
diatomaceous earth, SF, OW, SC	Mother Earth	Caution	499-509	fleas, crawling insects	No	Yes	Not Listed	Insecticide: naturally occurring substance applied in cracks or secured bait stations; where public is excluded
	Concern Diatomaceous Earth	Caution	73729-1-50832	fleas, crawling insects	No	Yes	Not Listed	Insecticide: naturally occurring substance applied in cracks, crevices, electrical boxes; where public is excluded.
flupromil, SF, EW, OW, SS	Max Force Ant Gel, bait station a.i. = 0.001%	Caution	432-1256	insects, ants	No	No	US-EPA Possible Carcinogen	applied in cracks or secured bait stations; where public is excluded; this reduces the need for spray treatment
	Max Force FC Roach Bait Station a.i. = 0.01%	Caution	432-1257	insects, roaches	No	No	US-EPA Possible Carcinogen	applied in cracks or secured bait stations; where public is excluded; this reduces the need for spray treatment
hydroprene a.i. = 9%, SF	Genrol IGR - Precore	Caution	2724-351-ZA	cockroaches, drain flies, bedbugs and stored products pests	No	No	Not classifiable as to human carcinogenicity	Insect Growth Regulator with petroleum distillates, surface spray/paint brush, crack and crevice treatment

**Proposed Pesticide Product List**

**Structural Special Use Products** Applied and monitored by licensed professional applicators

sodium tetraborate decahydrate a.i. = 5.4%	Terro PCC;	Caution	149-B-AA-64405	insects, ants	No	No	Not Listed	EU Endocrine Disruptor - Naturally occurring substance applied in secured bait stations only; where public is excluded. Public Health concerns from insects.
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**Exemption Required** (use only approved with exemption process) Applied and monitored by licensed professional applicators

Active Ingredient	Material	Signal Word	EPA Reg #	Use	Groundwater List	Prop 65	EPA Carcinogenicity	Criteria for Use & Limitations
cholecalciferol, EW; a.i. = 0.075%	Quintox -Vitamin D	Caution	12455-39	rodenticide, rats & mice	No	No	Could find no listing	Health Advisory Required. Considered only after all non-chemical methods (trapping) have failed. Concerns regarding lack of antifeedant. Must be used with tamper resistant bait stations. May be used in sewers
cyfluthrin, EW a.i. = 20%	Tempo 20 WP	Caution	3125-380-AA	insecticide; fleas, termites, carpenter ants	No	No	Not likely to be carcinogenic to humans	"Knockdown" product. Certain structural situations, spot, crack and crevice application. Synthetic pyrethroid; toxic to fish and bees
fipronil, a.i. = 0.1% SF, EW, OW, SS	Termidor SC	Caution	7969-210	insecticide, termites	No	No	US-EPA Possible Carcinogen	Termite treatment only; this product should be used only when all other less toxic options have been examined
warfarin, a.i. = 0.025% OW	Kaput Rat & Mouse Bait	Caution	72500-6	rodenticide, rats	No	Yes	Not Listed	Health Advisory Required; only considered after all non-chemical methods have failed. Must be used only in tamper resistant bait stations

**Proposed New Products**

Active Ingredient	Material	Signal Word	EPA Reg #	Use	Groundwater List	Prop 65	EPA Carcinogenicity	Criteria for Use & Limitations
d-Limonene	ProCitra	Caution	499-497	insecticide-crawling insects	No	No	Not Listed	Interior use only for crack and crevice applications prior to sealing - for cockroaches and ants
Hydroprene	Precore	Caution	2724-352	fleas, bedbugs	No	No	Not listed	Insect growth regulator - for bedbugs and fleas (i.e. County Jail)

SF = products on City and County of San Francisco's list

EW = products on the Eco-Wise list

OW = Our Water Our World

SS = products on the Marin Model School IPM Project List

## Detailed Service Report - Rodent Station Activity Summary

	Location	# Rodent Stations	# Times Activity Detected	# Rodents Caught	Additional Notes
<b>JANUARY</b>					
	Cascades, Lagoon, Maint. Bldg.	18	21	7	continual activity throughout the month
	McNears	10	0	0	no activity
<b>JAN TOTAL:</b>		<b>28</b>	<b>21</b>	<b>7</b>	
<b>FEBRUARY</b>					
	Cascades, Lagoon, Maint. Bldg.	18	15	1	almost continual activity throughout the month
	McNears	11	0	0	no activity
<b>FEB TOTAL:</b>		<b>29</b>	<b>15</b>	<b>1</b>	
<b>MARCH</b>					
	Cascades, Lagoon, Maint. Bldg.	18	13	2	almost continual activity throughout the month
	McNears	11	0	0	no activity
<b>MARCH TOTAL:</b>		<b>29</b>	<b>13</b>	<b>2</b>	
<b>APRIL</b>					
	Cascades, Lagoon, Maint. Bldg.	18	14	7	almost continual activity throughout the month
	Field Office, 18 Jeanette Prandi	11	0	0	no activity
	McNears	11	3	2	continual activity throughout the month
<b>APRIL TOTAL:</b>		<b>40</b>	<b>17</b>	<b>9</b>	
<b>MAY</b>					
	Cascades, Lagoon, Maint. Bldg.	10	2	2	continual activity throughout the month
	McNears	11	10	6	continual activity throughout the month
<b>MAY TOTAL:</b>		<b>21</b>	<b>12</b>	<b>8</b>	
<b>JUNE</b>					
	Auditorium (only)	5	1	0	some activity
	Cascades, Lagoon, Maint. Bldg.	18	11	4	continual activity throughout the month
	Civic Center (Cafeteria)	13	1	0	some activity (mostly flies and termites)
	Civic Center (Hall of Justice)	20	14	5	continual (heavy) activity throughout the month
	County Garage	16	8	1	continual activity throughout the month
	Elections Dept./Planters H.O.J 1st	14	4	0	some activity
	Exhib. Hall Vending Booths	19	3	2	some activity
	Freeway Signage (Civic Center)	4	3	2	continual activity throughout the month
	Juvenile Hall / Kitchen	5	6	2	continual activity throughout the month
	Juvenile Service Center	5	5	1	continual activity throughout the month
	Marin County Jail	8	8	3	continual activity throughout the month
	McNears	11	7	3	continual activity throughout the month
	Sign & Paint Shop (5600 Nicasio V)	13	24	10	almost continual activity throughout the month

	Location	# Rodent Stations	# Times Activity Detected	# Rodents Caught	Additional Notes
	Social Services (120 Redwood B)	14	0	0	no activity
<b>JUNE TOTAL:</b>		<b>165</b>	<b>95</b>	<b>33</b>	
<b>JULY</b>					
	10 & 20 N. San Pedro Road	11	2	0	continual activity throughout the month (only inspected once this month)
	Auditorium (only)	5	2	2	continual activity throughout the month
	Civic Center (Cafeteria)	1	0	0	almost continual activity throughout the month
	Civic Center (Hall of Justice)	20	31	15	continual (heavy) activity throughout the month
	County Garage	16	3	1	continual activity throughout the month (only inspected once this month)
	Exhib. Hall Vending Booths	19	18	9	continual activity throughout the month
	Field Office - 18 Jeanette Prandi Way	7	0	0	no activity
	Freeway Signage (Civic Center)	4	3	3	continual activity throughout the month
	Juvenile Hall / Kitchen	5	4	4	some activity
	Juvenile Service Center	5	8	8	continual (heavy) activity throughout the month
	McNears	10	16	6	continual activity throughout the month
	Cascades, Lagoon, Maint. Bldg.	19	14	10	continual activity throughout the month
	Sign & Paint Shop (5600 Nicasio V)	13	7	7	almost continual activity throughout the month
	Social Services (120 Redwood B)	14	6	3	continual activity throughout the month
<b>JULY TOTAL:</b>		<b>149</b>	<b>114</b>	<b>68</b>	
<b>AUGUST</b>					
	10 & 20 N. San Pedro Road	11	0	0	no activity
	Auditorium (only)	5	1	0	some activity
	Civic Center (Cafeteria)	1	0	0	continual activity throughout the month
	Civic Center (Hall of Justice)	20	29	10	continual (heavy) activity throughout the month
	County Garage	16	13	5	continual activity throughout the month
	Elections Dept./Planters H.O.J 1st	0	0	0	no activity
	Exhib. Hall Vending Booths	18	14	9	continual activity throughout the month
	Freeway Signage (Civic Center)	4	2	1	some activity
	Health and Wellness Center	0	0	0	no activity
	Juvenile Hall / Kitchen	5	2	1	some activity
	Juvenile Service Center	5	9	8	continual (heavy) activity throughout the month
	Marin County Jail	7	7	7	some activity
	McNears	9	18	9	continual activity throughout the month
	Cascades, Lagoon, Maint. Bldg.	18	20	8	
	Sign & Paint Shop (5600 Nicasio V)	13	14	7	continual activity throughout the month
	Social Services (120 Redwood B)	14	11	3	continual activity throughout the month
<b>AUGUST TOTAL:</b>		<b>146</b>	<b>140</b>	<b>68</b>	

	Location	# Rodent Stations	# Times Activity Detected	# Rodents Caught	Additional Notes
<b>SEPTEMBER</b>					
	10 & 20 N. San Pedro Road	11	2	2	continual activity throughout the month
	Auditorium (only)	5	2	1	continual activity throughout the month
	Civic Center (Cafeteria)	1	0	0	no activity
	Civic Center (Hall of Justice)	20	25	9	continual activity throughout the month
	Civic Center (Hall of Justice Interior)	0	0	0	no activity
	County Garage	15	8	4	continual activity throughout the month
	Exhib. Hall Vending Booths	17	10	7	some activity
	Freeway Signage (Civic Center)	4	1	0	some activity
	Juvenile Hall / Kitchen	5	1	1	some activity
	Juvenile Service Center	5	5	3	some activity
	Marin County Jail	0	0	0	some activity
	McNears	10	24	10	continual (heavy) activity throughout the month
	Cascades, Lagoon, Maint. Bldg.	18	49	24	continual (heavy) activity throughout the month
	Sign & Paint Shop (5600 Nicasio V)	14	17	11	continual activity throughout the month
	Social Services (120 Redwood B)	14	3	0	continual activity throughout the month (only inspected once this month)
<b>SEPT TOTAL:</b>		<b>139</b>	<b>147</b>	<b>72</b>	
<b>OCTOBER</b>					
	10 & 20 N. San Pedro Road	11	3	1	continual activity throughout the month
	Auditorium (only)	5	6	1	continual activity throughout the month
	Civic Center (Cafeteria)	1	0	0	no activity
	Civic Center (Hall of Justice)	20	18	9	continual (heavy) activity throughout the month
	Elections Dept./Planters H.O.J 1st	0	0	0	no activity
	County Garage	16	21	9	continual (heavy) activity throughout the month
	Exhib. Hall Vending Booths	19	14	6	continual activity throughout the month
	Field Office, Parks & Open Space	4	3	1	continual activity throughout the month (only inspected once this month)
	Freeway Signage (Civic Center)	4	0	0	no activity
	Greenbrae Property Owners Assoc.	12	14	12	continual (heavy) activity throughout the month
	Juvenile Hall / Kitchen	5	0	0	no activity
	Juvenile Service Center	5	4	1	continual activity throughout the month (only inspected once this month)
	Marin County Jail	21	31	9	continual (heavy) activity throughout the month

	Location	# Rodent Stations	# Times Activity Detected	# Rodents Caught	Additional Notes
	McNears	10	18	7	continual activity throughout the month
	Cascades, Lagoon, Maint. Bldg.	17	47	27	continual (heavy) activity throughout the month
	Sign & Paint Shop (5600 Nicasio V)	15	33	21	continual (heavy) activity throughout the month
	Social Services (120 Redwood B)	14	6	1	continual activity throughout the month
<b>OCT TOTAL:</b>		<b>179</b>	<b>218</b>	<b>105</b>	
<b>NOVEMBER</b>					
	10 & 20 N. San Pedro Road	11	1	0	some activity
	Auditorium (only)	5	8	3	continual (heavy) activity throughout the month
	Civic Center (Cafeteria)	1	1	2	some activity
	Civic Center (Hall of Justice)	20	18	15	continual (heavy) activity throughout the month
	County Garage	17	24	16	continual (heavy) activity throughout the month
	Exhib. Hall Vending Booths	19	13	8	continual activity throughout the month
	Field Office, Parks & Open Space	5	1	0	some activity
	Freeway Signage (Civic Center)	4	1	0	some activity
	Greenbrae Property Owners Assoc.	12	0	0	no activity
	Juvenile Hall / Kitchen	5	7	4	continual activity throughout the month
	Juvenile Service Center	5	4	2	some activity
	Marin County Jail	21	7	0	continual activity throughout the month (only inspected once this month)
	McNears	10	7	2	continual activity throughout the month
	Cascades, Lagoon, Maint. Bldg.	17	20	11	continual (heavy) activity throughout the month
	Sign & Paint Shop (5600 Nicasio V)	15	35	9	continual (heavy) activity throughout the month
	Social Services (120 Redwood B)	14	0	0	no activity
<b>NOV TOTAL:</b>		<b>181</b>	<b>147</b>	<b>72</b>	
<b>DECEMBER</b>					
	10 & 20 N. San Pedro Road	11	4	1	some activity
	Auditorium (only)	5	6	3	continual activity throughout the month
	Civic Center (Cafeteria)	1	2	3	continual activity throughout the month
	Civic Center (Hall of Justice)	20	21	14	continual (heavy) activity throughout the month
	County Garage	15	22	13	continual (heavy) activity throughout the month
	Exhib. Hall Vending Booths	19	7	2	continual activity throughout the month
	Elections Dept./Planters H.O.J 1st	0	0	0	no activity
	Freeway Signage (Civic Center)	4	0	0	no activity

	Location	# Rodent Stations	# Times Activity Detected	# Rodents Caught	Additional Notes
	Greenbrae Property Owners Assoc.	12	4	1	continual activity throughout the month (only inspected once this month)
	Juvenile Hall / Kitchen	5	4	1	continual activity throughout the month
	Juvenile Service Center	5	4	2	continual activity throughout the month
	Marin Center	1	0	0	no activity
	Marin County Jail	21	18	6	continual activity throughout the month
	McNears	10	4	1	continual activity throughout the month
	Cascades, Lagoon, Maint. Bldg.	17	37	18	continual (heavy) activity throughout the month
	Sign & Paint Shop (5600 Nicasio V)	15	28	14	continual (heavy) activity throughout the month
	Social Services (120 Redwood B)	14	0	0	no activity
<b>DEC TOTAL:</b>		<b>175</b>	<b>161</b>	<b>79</b>	
<b>TOTAL:</b>		<b>1281</b>	<b>1100</b>	<b>524</b>	

**Note:** "activity" includes all activity detected at rodent stations, not just rodents successfully caught.

**Note:** yellow cells indicate rodent activity

**Note:** stations are usually checked multiple times each month, so a single station will often show activity multiple times in a single month.

Chart shows all detail currently available, no baiting is done, only trapping  
**Annual cost for IPM - trapping vs bait stations, 2009 vs 2010 = an increase of \$10,000 +-**

APPENDIX 3, SITE SPECIFIC PLAN  
SUMMARY WILL BE PROVIDED ON THE  
DAY OF THE IPM COMMISSION  
MEETING

**2010 Non- Chemical IPM Management & Practices  
Staff & Volunteer Hours Summary & Highlights**

<b>Month</b>	<b>Staff IPM Labor Hours</b>	<b>Volunteer Hours</b>	<b>Total Hours</b>
JANUARY	497	613	1,110
FEBRUARY	610	836	1,446
MARCH	1,081	715	1,796
APRIL	785	818	1,603
MAY	915	614	1,529
JUNE	575	589	1,164
JULY	1,270	725	1,995
AUGUST	1,169	946	2,115
SEPTEMBER	771	1,169	1,940
OCTOBER	621	753	1,374
NOVEMBER	658	894	1,552
DECEMBER	549	1,031	1,580
<b>Total:</b>	<b>9,501</b>	<b>9,703</b>	<b>19,204</b>

- Creekside Park Habitat Restoration: Local Boy Scout troop, remove weeds, prepare soil, plant natives, marsh gumplant, coyote brush and coffeeberry, then install mulch around plants for weed control
- Gift of Love on Valentine's Day: 300 volunteers from 13 local churches work at 7 park and landscape sites. 54 volunteers remove Fennel on slope above fishing pond at McInnis Park. 55 volunteers install sheet mulching in landscaped areas
- French broom, hand removal at Tiburon Uplands Nature Preserve: 12-15 Volunteers in January, February and March in partnership with the *Center For Volunteers In Non-Profit Leadership*.
- McNear's Beach Park beach cleanup & weeding: San Rafael High School Honor Society, 4-H club, Conservation Corps North Bay and various volunteers.
- Strategic Energy Innovations: Youth interns help with IPM and landscape improvements at various sites during 5 week program. 3 days spent at Pt. Reyes Playground removing weeds, spreading mulch. 2 days spent at the Sausalito/Mill Valley Multi-Use Pathway removing fennel seed heads and removing roots.
- Conservation Corps North Bay, Project Regeneration: 6 days over the summer with 12 volunteers. Bolinas Park weeding and mulching. White House Pool teasel removal. French broom removal at McNear's Beach Park. Litter removal, weeding in asphalt cracks, mulch spreading at Bayside Park.
- Bay Marin Community Church: 40 volunteers at Lagoon Park remove weeds, spread decomposed granite to repair circular pathway, remove large amounts of litter (rat attractant) after County Fair.

- Coastal Cleanup Day: Friday, September 24<sup>th</sup>: 341 students from Mill Valley Middle School remove litter and some weeds from Sausalito/Mill Valley Multi-Use Pathway. Saturday, September 25<sup>th</sup>: 190 volunteers remove litter at 7 park sites.
- Mitzvah Day (10/24): 62 Volunteers remove Mustard and other invasive weeds from habitat restoration site at Stafford Lake Park. Weeding and planting at McInnis skatepark. Weeding and raking at McNear's Beach Park. Removal of Russian thistle and trash from the Sausalito/Mill Valley Multi-Use Pathway.
- 4 Volunteers from McInnis Park work on litter removal and hand weeding at Pacheco Multi-Use Pathway and Mission Pass in October.
- Creekside Park planting event with Marin Primary and Middle School (11/6)- 31 Volunteers remove invasive Harding Grass and plant 91 Marsh Gumplants.
- Creekside Park planting event with local Boy Scouts (11/14). 29 Volunteers remove invasive Harding Grass, plant Marsh Gumplant and a variety of native, drought tolerant shrubs.
- Girl Scouts remove Russian Thistle from Sausalito/Mill Valley Multi-Use Pathway (11/26)- 26 Volunteers participate.