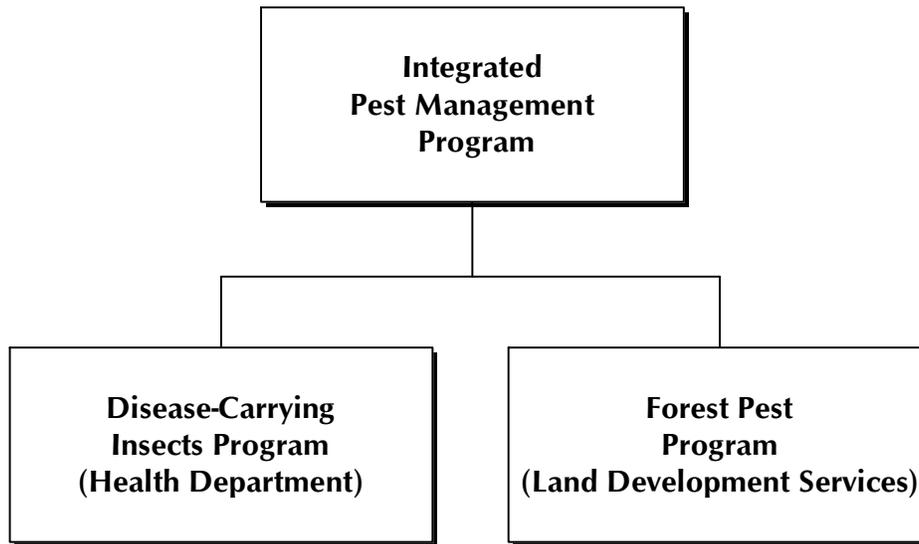


# Fund 116

## Integrated Pest Management Program

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### Mission

To suppress forest pest infestation and insect transmitted human disease throughout the County through surveillance, pest and insect control, and public information and education, so that zero percent of the County tree cover is defoliated and human morbidity and mortality are minimized while protecting the environment.

### Focus

Fund 116, Integrated Pest Management Program, includes two separate programs – the Forest Pest Program managed by Land Development Services (Department of Public Works and Environmental Services) and the Disease-Carrying Insects Program managed by the Health Department. The Forest Pest Program currently focuses on preventing the spread of gypsy moth caterpillars, cankerworms, and emerald ash borers in the County. The Disease-Carrying Insects Program focuses on controlling the spread of the West Nile virus and Lyme disease, as the prevention of epidemics and the spread of disease is one of the core functions of the Health Department.

A countywide tax levy financially supports Fund 116 activities and this levy is subject to change annually due to funding requirements based on the level of infestation. Since FY 2001, the Board of Supervisors-approved tax rate has been \$0.001 per \$100 assessed value and has provided support for both the Forest Pest and the Disease-Carrying Insects Programs. In FY 2009, the same tax rate, along with the existing fund balance, will continue to support both programs.

### THINKING STRATEGICALLY

Strategic issues for the department include:

- Coordinating inter-jurisdictional and multi-agency activities to maximize program results;
- Preventing and/or minimizing the occurrence of West Nile virus cases through surveillance, management, public education activities and inter-jurisdictional cooperation ; and
- Preventing defoliation from forest pests while minimizing any resulting environmental impacts.

### Forest Pest Program

The Forest Pest Program is a cooperative program with the United States Department of Agriculture (USDA) Forest Service and the Virginia Department of Agriculture and Consumer Services (VDACS). VDACS maintains a list of insects that are eligible for control by this Program. Currently, three insects are listed – the gypsy moth, the cankerworm, and the emerald ash borer.

# Fund 116

## Integrated Pest Management Program

The gypsy moth program and the cankerworm program investigate tree damage due to both pests by conducting annual monitoring surveys. The surveys check egg masses and larval densities, have an approximate 20 foot radius, are conducted every 2,000 feet throughout the County and are Forest Service approved. Forested areas with high gypsy moth and cankerworm populations are identified for possible treatment the following spring. The proposed treatment plan and resource requirements for these pests are submitted annually to the Board of Supervisors for approval in February; the County may also be eligible for partial reimbursement for aerial treatment costs from the federal government assuming funding is available. Treatment is conducted in late April through early May before the gypsy moth and cankerworm can damage trees. Throughout the year, staff conducts public hearings, displays information at fairs and exhibits, and distributes brochures, educating Fairfax County communities about pest suppression methods and measures that they may take to alleviate potential forest pest population infestations.

The emergence of the emerald ash borer in Fairfax County was identified by VDACS in late 2003. In an effort to ensure that the insects did not spread any further, guidance was given by the USDA Animal Plant Health Inspection Service (APHIS) regarding eradication. Eradication efforts took place in spring 2004 before the adult borers emerged. Those efforts were coordinated among Fairfax County Forest Pest program staff, APHIS, and VDACS; and, federal funding for eradication efforts was provided to the State. Forest Pest program staff continued to assist in eradication efforts through monitoring and surveying of the treated area; however, County financial assistance in these efforts is not expected to have a significant impact on Fund 116 due to the relatively low emerald ash borer populations found in monitoring years 2005, 2006 and 2007, and potential financial assistance from the Commonwealth of Virginia.



It is noted that the size of pest populations for gypsy moths and cankerworms is cyclical. Populations will be high for a period of years, and then drop for a period, only to rise again. For example, in the early to mid 1990s, annual treatment requirements for the gypsy moth fluctuated from 3,000 to 45,000 acres. Gypsy moth populations have moderated in recent years. Since FY 2001 treatment acreage has fluctuated between 5,500 acres and zero acres annually with the average being 2,100 acres. Based on field surveys conducted in the fall of 2007, staff estimates that 10,000 acres will require treatment in FY 2008.

Cankerworm populations have also moderated in recent years. Treatment has not been necessary since 2003 and none is anticipated for FY 2008. The proposed FY 2009 budget plan provides capacity to treat 2,500 acres of gypsy moths and 2,500 acres for cankerworms, should the egg mass surveys conducted between August and January of that fiscal year indicate the need. Prior to treating, the confirmed number of acres requiring treatment will be presented to the Board of Supervisors for approval.

*On average, County staff annually treats 2,100 acres to combat the gypsy moth infestations.*

### **Disease-Carrying Insects Program**

The West Nile virus (WNV) is transmitted from birds to humans through the bite of infected mosquitoes, and it continues to be a public health concern. The first sign of the virus in Fairfax County was in 2000 when a positive bird was detected, and subsequently it has been found in mosquitoes, horses and eventually in humans. To date there have been 21 human cases detected in the County (13 in FY 2003, three in FY 2004, one in FY 2005, zero in 2006, three in 2007 and one in 2008), with two fatalities, one occurring in FY 2003 and one in FY 2005.

In order to address the presence of emerging diseases, the County established a multi-agency mosquito surveillance and management committee and the Health Department secured contract services in 2002 to

# Fund 116

## Integrated Pest Management Program

carry out specialized activities in avian (bird) and mosquito surveillance and mosquito control. In FY 2003, the County hired a medical entomologist to further develop and guide the West Nile Virus (WNV) program. Currently the program consists of three major components: surveillance, control and outreach/education. Inter-jurisdictional cooperation is also a key component of the WNV program, allowing for coordination of surveillance and management activities on public lands and with surrounding jurisdictions.

Since the 2004 WNV season (May to October), avian and mosquito surveillance activities have been performed by County staff in lieu of contracted services. However, the contracted services have been retained for the more labor-intensive preemptive control activities that require a significant fleet of vehicles and specialized equipment. The County continues to proactively treat the storm water catch basins in an effort to reduce the population of *Culex* mosquitoes that transmit WNV. Catch basins are treated in several six week cycles from May through October. Treatment cycles totaling 115,000 catch basins are projected to ensure the aggressive suppression of the disease. Weather conditions are the principal factors that determine the number of catch basins that will be treated any given year. Inspection and larviciding activities are carried out in targeted areas of the County identified as significant mosquito breeding areas. A comprehensive larval surveillance program was carried out in FY 2005 and FY 2006 to evaluate the actual extent of breeding sites in the County. The cost per capita reflects the combined funding of West Nile virus activities provided under the Health Department (General Fund) and Fund 116, Integrated Pest Management Program.

As WNV is an emerging disease in the County, the response to the virus is relatively new and will be adjusted as time progresses. This has already been demonstrated by the adjustment of the timing of catch basin treatment cycles and larval surveillance program. Program activities will continue to be modified in order to better conform to new information and data as it becomes available, allowing the WNV program to have a more focused approach to managing WNV in the County.

The outreach and education component of the WNV program is aimed at increasing residents' awareness of actions that can be taken for self protection and reduction of potential mosquito breeding areas on private property. The program continues to produce and distribute outreach material in English, Chinese, Farsi, Korean, Spanish, Urdu and Vietnamese. In FY 2007, the program produced and printed a third edition 18-month calendar with complementary captions, facts, figures, important dates, and helpful reminders of things for readers to do around the home to manage mosquitoes and ticks and protect residents from mosquito and tick-borne diseases. General facts, local figures and brief descriptions of the County's efforts were included to educate the public about basic mosquito biology and inform them specifically about mosquitoes and West Nile virus in Fairfax County. Early in FY 2008 the program updated and printed four new brochures, replacing some of the old ones. All of the newly produced material is also posted on the Web.

A pilot tick surveillance program was added to the Disease Carrying Insects Program in 2005 and has continued on a yearly basis. The program involves the collection and identification of tick species in the County to determine their distribution and infection rate with Lyme disease, as well as an outreach and education component aimed at increasing public awareness of actions that can be taken for self protection. Outreach and education of ticks and tick-borne diseases was enhanced in FY 2007.

### New Initiatives and Recent Accomplishments in Support of the Fairfax County Vision

 Maintaining Safe and Caring Communities	Recent Success	FY 2009 Initiative
The Health Department will continue to closely monitor a comprehensive in-house mosquito surveillance program, serving as the first indicator for the presence of the West Nile virus, its distribution throughout the County, the mosquito species involved in transmission, as well as the magnitude of infection rate of these mosquitoes.	☑	☑

## Fund 116 Integrated Pest Management Program

 <b>Maintaining Safe and Caring Communities</b>	<b>Recent Success</b>	<b>FY 2009 Initiative</b>
In cooperation with the Virginia Department of Health, a tick surveillance program will be continued to understand the magnitude of tick-borne disease in the County and define the areas of greatest risk. The program began as a pilot in FY 2005 and involves the identification and distribution of tick species in the County, and seeks to improve the level of community understanding for how Lyme disease is transmitted to residents of the County.	☑	☑
 <b>Building Livable Spaces</b>	<b>Recent Success</b>	<b>FY 2009 Initiative</b>
Continue to enhance the protection of forest cover in residential, public and urban environments of Fairfax County by continuing to eliminate dead trees and monitoring pests that contribute to forest infestation and safety. A healthy forest complex, in new and old neighborhoods, is critical in maintaining a quality of life that Fairfax County residents desire.	☑	☑
 <b>Practicing Environmental Stewardship</b>	<b>Recent Success</b>	<b>FY 2009 Initiative</b>
Continue to utilize Integrated Pest Management (IPM) techniques for gypsy moth, emerald ash borer, and cankerworm control. IPM ensures that pesticide use is minimized and that residents are educated about alternative control options. Forest Pest Program staff monitors pest populations and determines the level of aerial pesticide application necessary, eliminating the need for individual homeowners to spray. The impact is that less spray material is delivered to an area because it is done in a controlled manner.	☑	☑
 <b>Creating a Culture of Engagement</b>	<b>Recent Success</b>	<b>FY 2009 Initiative</b>
Continue to update and distribute an 18-month calendar that has proved successful as an outreach tool to educate the public about basic mosquito biology and provide specific information about mosquitoes and West Nile virus in the County.	☑	☑
Continue to enhance outreach campaign by conducting public meetings, promoting educational activities, and distributing materials on the Forest Pest and Disease Carrying Insects (DCI) programs. Public meetings help ensure that residents are aware of County treatment activities and that they have ample opportunity to provide input into the planning process. Activities involve interactive web pages, fair exhibits, and meetings tailored to citizens' informational needs. Educational materials for Forest Pest and DCI will be distributed in English and Spanish and will be disseminated through news releases, interviews, mailings, and public service announcements via several media outlets. In addition, DCI materials will be distributed in Chinese, Farsi, Korean, Urdu and Vietnamese.	☑	☑

# Fund 116

## Integrated Pest Management Program

### Budget and Staff Resources

Agency Summary					
Category	FY 2007 Actual	FY 2008 Adopted Budget Plan	FY 2008 Revised Budget Plan	FY 2009 Advertised Budget Plan	FY 2009 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	10/ 10	10/ 10	10/ 10	10/ 10	10/ 10
Expenditures:					
Personnel Services	\$823,878	\$836,351	\$836,351	\$870,385	\$1,078,495
Operating Expenses	1,067,769	1,707,847	1,952,866	1,707,847	1,707,847
Capital Equipment	0	0	6,931	0	0
<b>Total Expenditures</b>	<b>\$1,891,647</b>	<b>\$2,544,198</b>	<b>\$2,796,148</b>	<b>\$2,578,232</b>	<b>\$2,786,342</b>

Summary by Program					
Category	FY 2007 Actual	FY 2008 Adopted Budget Plan	FY 2008 Revised Budget Plan	FY 2009 Advertised Budget Plan	FY 2009 Adopted Budget Plan
<b>Forest Pest Program</b>					
Authorized Positions/Staff Years					
Regular	7/ 7	7/ 7	7/ 7	7/ 7	7/ 7
<b>Expenditures</b>	<b>\$790,763</b>	<b>\$1,005,952</b>	<b>\$1,005,952</b>	<b>\$1,025,091</b>	<b>\$1,030,498</b>
<b>Disease-Carrying Insects Program</b>					
Authorized Positions/Staff Years					
Regular	3/ 3	3/ 3	3/ 3	3/ 3	3/ 3
<b>Expenditures</b>	<b>\$1,100,884</b>	<b>\$1,538,246</b>	<b>\$1,790,196</b>	<b>\$1,553,141</b>	<b>\$1,755,844</b>

Position Summary	
<u><b>FOREST PEST PROGRAM</b></u> 1 Urban Forester III 4 Urban Foresters II 1 Information Technology Technician III 1 Administrative Assistant II	<u><b>DISEASE-CARRYING INSECTS PROGRAM</b></u> 1 Environmental Health Supervisor 2 Environmental Health Specialists II
<b>TOTAL POSITIONS</b>	
<b>10 Positions / 10.0 Staff Years</b>	

### FY 2009 Funding Adjustments

The following funding adjustments from the FY 2008 Revised Budget Plan are necessary to support the FY 2009 program:

- ◆ **Employee Compensation** **\$34,034**  
 An increase of \$34,034 in Personnel Services is associated with salary adjustments necessary to support the County's compensation program. As a result of budget constraints, compensation adjustments for County employees have been reduced. For FY 2009, employee increases as part of the pay for performance system have been discounted by 50 percent and the impact of the lower pay for performance funding is reflected above.
- ◆ **Carryover Adjustments** **(\$251,950)**  
 A decrease of \$251,950 is due to the carryover of \$245,019 for one-time Operating Expenses and \$6,931 for Capital Equipment as part of the FY 2007 Carryover Review.

# Fund 116

## Integrated Pest Management Program

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### Board of Supervisors' Adjustments

*The following funding adjustments reflect all changes to the FY 2009 Advertised Budget Plan, as approved by the Board of Supervisors on April 28, 2008:*

- ◆ **Pay for Performance** **\$8,110**  
An increase of \$8,110 in Personnel Services is associated with the decision by the Board of Supervisors to eliminate the 50 percent reduction to employee increases as part of the pay for performance system. A reduction to pay for performance increases had been proposed in the FY 2009 Advertised Budget Plan due to budget constraints. However, as a result of the Board's decision, employees will be eligible for the full compensation increase for which they qualify based on performance.
  
- ◆ **Charges for Personnel Services** **\$200,000**  
An increase of \$200,000 in Personnel Services is included to allow the Integrated Pest Management Program to be charged for positions in Health Department general fund budget that work directly on the disease-carrying insects program. A commensurate reduction is shown in Agency 71, Health Department.

### **Changes to FY 2008 Adopted Budget Plan**

*The following funding adjustments reflect all approved changes in the FY 2008 Revised Budget Plan since passage of the FY 2008 Adopted Budget Plan. Included are all adjustments made as part of the FY 2007 Carryover Review and all other approved changes through December 31, 2007:*

- ◆ **Carryover Adjustments** **\$251,950**  
As part of the FY 2007 Carryover Review, the Board of Supervisors approved encumbered funding of \$251,950 in Operating Expenses and Capital Equipment for arborvirus prevention and program supplies which had been ordered but not yet received.

*The following funding adjustments reflect all approved changes to the FY 2008 Revised Budget Plan from January 1, 2008 through April 21, 2008. Included are all adjustments made as part of the FY 2008 Third Quarter Review:*

- ◆ The Board of Supervisors made no adjustments to this agency.

### **Key Performance Measures**

#### **Objectives**

- ◆ To control the infestation of gypsy moths, cankerworms, and emerald ash borers through detection and abatement programs so that no more than 1 percent of the County tree cover is defoliated in a given year.
  
- ◆ To suppress the transmission of West Nile virus from infected mosquitoes to the human population, holding the number of human infections to no more than three.

# Fund 116

## Integrated Pest Management Program

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2005 Actual	FY 2006 Actual	FY 2007 Estimate/Actual	FY 2008	FY 2009
<b>Output:</b>					
Gypsy moth/cankerworm field surveys completed annually in areas known or suspected to be infested	3,200	3,200	4,000 / 3,200	4,000	4,000
Mosquito larvicide treatments of catch basins to control West Nile virus	92,920	113,117	125,000 / 101,118	115,000	115,000
<b>Efficiency:</b>					
Gypsy moth/cankerworm field surveys conducted per staff	800	800	1,000 / 800	1,000	1,000
West Nile virus program cost per capita (1)	\$0.88	\$1.05	\$1.10 / \$1.66	\$1.63	\$1.63
<b>Service Quality:</b>					
Percent of County households in gypsy moth and cankerworm treatment areas notified of abatement efforts	100%	100%	100% / 100%	100%	100%
Percent of targeted catch basin areas treated with mosquito larvicide within the scheduled timeframe	100%	100%	100% / 100%	100%	100%
<b>Outcome:</b>					
Percent of County tree defoliation resulting from gypsy moth and cankerworm infestation	0%	0%	0% / 0%	1%	1%
Confirmed human cases of West Nile virus in Fairfax County, Fairfax City and Falls Church City as reported by VDH (2)	1	0	3 / 1	3	3

(1) Cost per capita in FY 2004, FY 2005, and FY 2006 was calculated by dividing the total WNV program budget by the service area population. Beginning in FY 2007, Cost per capita will be calculated based on estimated expenditures divided by the service area population.

(2) VDH = Virginia Department of Health

# Fund 116

## Integrated Pest Management Program

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### **Performance Management Results**

**Forest Pest Program:** Staff surveys for caterpillars and egg masses conducted in mid-summer and early fall of 2006, indicated that gypsy moth populations were increasing and some aerial treatment was necessary. To adequately address this increase, aerial treatment for the gypsy moth was 5000 acres in the spring of FY 2007. Surveys for the cankerworm completed this past winter indicated that no treatment was necessary during the spring. Defoliation surveys for both insects conducted in the summer of 2007 indicated that there were 89 acres of defoliation in Fairfax County during this timeframe.

**Disease-Carrying Insects (DCI) Program:** The goal of the DCI Program in FY 2009 is to continue to hold the number of human cases of West Nile virus (WNV) as reported by the Virginia Department of Health to no more than three cases.

WNV program costs are based on the number and size of treatment rounds in a given year, as well as education, outreach, and surveillance activities carried out in-house. Treatment rounds even though dependent on weather conditions remain relatively constant throughout the years, maintaining a relatively stable program cost. The total DCI program cost per capita was \$1.66 in FY 2007. This was higher than the target of \$1.10 per capita. The higher than anticipated costs were due to the need for aggressive larvicide and adulticide treatments in the Huntington area following the flood of June 2006 and increased surveillance and education activities in response to increased concern over Lyme disease. Cost per capita in future years may increase depending on environmental factors, insecticide treatments resulting from larval inspections and surveillance activities, as well as follow-up studies for the evaluation of the outreach program.

The pilot tick surveillance program initiated in late FY 2005 was expanded in FY 2007 in cooperation with the Virginia Department of Health. The objective of the pilot program is to understand the magnitude of tick-borne disease in the County and define the regions of greatest risk. The increased testing of ticks as the program expands is also expected to impact the cost per capita in future years.

# Fund 116

## Integrated Pest Management Program

### FUND STATEMENT

Fund Type G10, Special Revenue Funds	Fund 116, Integrated Pest Management Program				
	FY 2007 Actual	FY 2008 Adopted Budget Plan	FY 2008 Revised Budget Plan	FY 2009 Advertised Budget Plan	FY 2009 Adopted Budget Plan
<b>Beginning Balance</b>	\$2,570,650	\$1,954,953	\$3,072,756	\$2,567,353	\$2,567,353
Revenue:					
General Property Taxes	\$2,172,013	\$2,161,158	\$2,161,158	\$2,161,158	\$2,161,158
Interest on Investments	186,740	129,587	129,587	129,587	129,587
State Reimbursement	35,000	0	0	0	0
<b>Total Revenue</b>	\$2,393,753	\$2,290,745	\$2,290,745	\$2,290,745	\$2,290,745
<b>Total Available</b>	<b>\$4,964,403</b>	<b>\$4,245,698</b>	<b>\$5,363,501</b>	<b>\$4,858,098</b>	<b>\$4,858,098</b>
Expenditures:					
Forest Pest Program	\$790,763	\$1,005,952	\$1,005,952	\$1,025,091	\$1,030,498
Disease-Carrying Insects Program	1,100,884	1,538,246	1,790,196	1,553,141	1,755,844
<b>Total Expenditures</b>	\$1,891,647	\$2,544,198	\$2,796,148	\$2,578,232	\$2,786,342
<b>Total Disbursements</b>	<b>\$1,891,647</b>	<b>\$2,544,198</b>	<b>\$2,796,148</b>	<b>\$2,578,232</b>	<b>\$2,786,342</b>
<b>Ending Balance<sup>1</sup></b>	<b>\$3,072,756</b>	<b>\$1,701,500</b>	<b>\$2,567,353</b>	<b>\$2,279,866</b>	<b>\$2,071,756</b>
<b>Tax Rate Per \$100 of Assessed Value</b>	<b>\$0.001</b>	<b>\$0.001</b>	<b>\$0.001</b>	<b>\$0.001</b>	<b>\$0.001</b>

<sup>1</sup> Due to the cyclical nature of pest populations, the treatment requirements supported by this fund may fluctuate from year to year. Therefore, Ending Balances may also fluctuate depending on the level of treatment necessary to suppress gypsy moth, cankerworm, emerald ash borer or WNV-carrying mosquito populations in a given year.