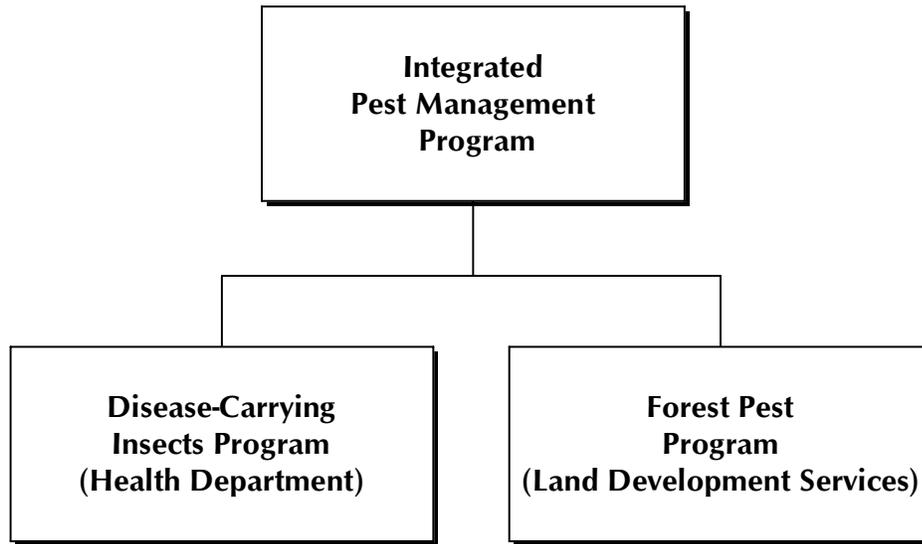


# Fund 116

## Integrated Pest Management Program



### 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 2008, 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.

# Fund 116 Integrated Pest Management Program

## Budget and Staff Resources

Agency Summary		
Category	FY 2007 Actual	FY 2008 Adopted Budget Plan
Authorized Positions/Staff Years		
Regular	10/ 10	10/ 10
Expenditures:		
Personnel Services	\$823,878	\$836,351
Operating Expenses	1,067,769	1,707,847
Capital Equipment	0	0
<b>Total Expenditures</b>	<b>\$1,891,647</b>	<b>\$2,544,198</b>

## SUMMARY OF ALL AGENCY LOBS (FY 2008 Adopted Budget Data)

Number	LOB Title	Net LOB Cost	LOB Number of Positions	LOB SYE
116-71	Disease-Carrying Insects Program	\$945,780	3	3.0
116-31	Forest Integrated Pest Management Program	(\$692,327)	7	7.0
<b>TOTAL</b>		<b>\$253,453</b>	<b>10</b>	<b>10.0</b>

## 116-01: Disease-Carrying Insects Program

Fund/Agency: 116/71		Health Department	
LOB #: 116-01		Disease-Carrying Insects Program	
Personnel Services			\$329,804
Operating Expenses			\$1,208,442
Recovered Costs			
Capital Equipment			\$0
<b>Total LOB Cost:</b>			<b>\$1,538,246</b>
Federal Revenue			\$0
State Revenue			\$0
User Fee Revenue			\$0
Other Revenue			\$592,466
<b>Total Revenue:</b>			<b>\$592,466</b>
<b>Net LOB Cost<sup>1</sup>:</b>			<b>\$945,780</b>
Positions/SYE involved in the delivery of this LOB			3 / 3.0

<sup>1</sup>Net cost is supported by revenue to the fund as well as fund balance.

# Fund 116

## Integrated Pest Management Program

### ► LOB Summary

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 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 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

# Fund 116

## Integrated Pest Management Program

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.

### ► Method of Service Provision

Regular merit and limited term employees provide the services of this line of business. Hours of Operations are Monday through Friday, 8:00 a.m. – 4:30 p.m.

### ► Mandate Information

There is no federal or state mandate for this LOB.

## 116-02: Forest Integrated Pest Management Program

<i>Fund/Agency: 116/31</i>		<i>Land Development Services</i>	
<i>LOB #: 116-02</i>		<i>Forest Integrated Pest Management Program</i>	
Personnel Services			\$506,547
Operating Expenses			\$499,405
Recovered Costs			\$0
Capital Equipment			\$0
<b>Total LOB Cost:</b>			<b>\$1,005,952</b>
Federal Revenue			\$0
State Revenue			\$0
User Fee Revenue			\$0
Other Revenue			\$1,698,279
<b>Total Revenue:</b>			<b>\$1,698,279</b>
<b>Net LOB Cost<sup>1</sup>:</b>			<b>(\$692,327)</b>
Positions/SYE involved in the delivery of this LOB			7 / 7.0

<sup>1</sup>Net cost is supported by revenue to the fund as well as fund balance.

### ► LOB Summary

As part of a Federal-State-County Cooperative Program, the Fairfax County Forest Integrated Pest Management Program locates tree-damaging gypsy moth, emerald ash borer, and fall cankerworm infestations countywide and selects appropriate control activities to minimize tree defoliation, tree mortality, and forest insect nuisance. The program is effective because staff has the technical

## Fund 116

# Integrated Pest Management Program

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knowledge to treat the appropriate areas at the correct time. The program is environmentally sound because it spot-treats only endangered areas and uses minimum concentrations of the most environmentally sound insecticides. Gypsy moth and fall cankerworm infestations can be extensive. A government program can treat these large infestations at a cheaper cost than individual homeowners due to economies of scale. All citizens and businesses in Fairfax County benefit from this program since public and private land is monitored and treated when necessary. Citizen organizations and individual citizens are educated to protect their property from low-level infestations.

The Forest Integrated Pest Management Program is funded by a countywide tax levy. The amount of the tax rate has varied annually due to the cyclical nature of the gypsy moth and fall cankerworm populations. For example, the rate was at \$0.0010 per \$100 assessed value in FY 1997. From FY 1998 through FY 2000, no tax assessment was necessary. For FY 2001, the Board-approved tax rate was \$0.001 per \$100 assessed value to provide for treatment of the cankerworm as well as the gypsy moth. Since FY 2002 the tax rate has remained at \$0.001 per \$100 assessed value.

The Forest Integrated Pest Management Program began in the early 1980's, as the Gypsy Moth Program, and was formed in response to the arrival of the gypsy moth caterpillar into Virginia. The gypsy moth caterpillar is a forest pest that was accidentally introduced from Europe and attacks most of the species of hardwood trees found in Fairfax County. After repeated defoliations, wide spread tree mortality is possible. Large gypsy moth infestations were not found in the county until the mid 1980's and large amounts of defoliation were not evident until the early 1990's. In 1999, large infestations of the fall cankerworm appeared in the Mount Vernon and Lee Districts prompting the Board of Supervisors to add fall cankerworm to the list of insects that the program can control. The fall cankerworm is a native insect that feeds on many of the same tree species as the gypsy moth. Though not usually a serious pest, periodic outbreaks require control. As a result of this program, tree mortality, defoliation, and homeowner nuisance have been kept to a minimum.

The emerald ash borer is an exotic beetle from Asia and was discovered feeding on ash trees in the state of Michigan in 2002. It has since spread to several mid-western states, killing more than 20 million ash trees. Unfortunately, a tree nursery from an infested area of the Midwest shipped infested ash trees to a nursery in Maryland. During the summer of 2004, 13 of these ash trees were planted at the Colvin Run Elementary School site located in Dranesville District. These trees were subsequently removed by the Virginia Department of Agriculture and Consumer Services (VDACS) and inspected for life stages of EAB.

The removed trees contained evidence that adult beetles escaped into the environment. In order to prevent the beetles from becoming established in Fairfax County, the federal government and VDACS, in cooperation with the Fairfax County Forest Pest Program (FPP), conducted an Emerald Ash Borer Eradication Program. It was ordered by the federal government that all ash trees within a one-half mile radius of the school site be removed and incinerated. This area included a total of 278 ash trees, 90 of which were on 29 residential properties. All of the ash trees in the removal area were cut down and incinerated in March of 2005. Staff of the FPP in cooperation with VDACS has implemented monitoring programs in the Vienna and Fort Hunt areas of Fairfax County every year since the initial trees were removed. Staff of the Maryland Department of Agriculture (MDA) implemented similar monitoring and control programs.

# Fund 116

## Integrated Pest Management Program

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### **Funding**

Originally the program was funded through the General Fund. In 1993 the Board of Supervisors created the “Special Service District for the Control of Gypsy Moth Infestations.” This is a countywide service district and continues to be the funding vehicle for this program. Federal and state agencies contribute to some treatment efforts and are instrumental in providing technical guidance. The tax rate since FY 2002 has been \$0.001 per \$100 of assessed value.

### **Key Accomplishments**

- Completed and maintained a Geographic Information System (GIS) layer of the forest cover types in Fairfax County. This layer is used by the Forest Pest Program as a management tool to identify those areas highly susceptible to forest insect pests and to analyze and evaluate the proper means in controlling forest insects. This layer is also used by other agencies within the County to meet their program needs.
- Completed and maintained a GIS layer delineating the community associations located within Fairfax County. This layer is used by the Forest Pest Program to facilitate the communication between the office and community associations in regards to matters concerning all aspects of forest pest control. This layer is also used by other County agencies, including the Board of Supervisors, to help meet their program needs.
- Initiated and implemented legislation that allowed local service districts to control gypsy moth, emerald ash borer (EAB) fall cankerworm infestations.
- Accomplished, annually, the program goal of zero percent tree defoliation in Fairfax County by monitoring the gypsy moth population, educating homeowners, and by successfully implementing a spray program.
- Planned and implemented a program to address the fall cankerworm in Fairfax County. In the spring of 2000, the Forest Integrated Pest Program successfully treated 7,000 acres in the Mount Vernon and Lee Districts. Subsequent surveys for the fall cankerworm indicate that populations are down significantly.
- Enhanced the gypsy moth treatment program by using a Global Positioning System, a computerized tracking and positioning system to define the treatment areas. This system benefits the citizens of Fairfax County by increasing spray accuracy and reducing the amount of staff needed to treat gypsy moth infested areas, thus reducing overall treatment costs.
- Developed documents to go on the Land and Development Services’ (LDS) Web Page, which provides information about the forest pest, spray locations for the current year, and spray materials used for treatment.
- Planned and implemented an EAB monitoring and control program.

# Fund 116

## Integrated Pest Management Program

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### Key Initiatives

- Development and implementation of a customer service forest pest outreach program. Such as placing documents on the Land Development Services' (LDS) Web Page, having a booth at the Fairfax County Fair, and meeting with civic associations.
- Provide resources and information to civic organizations, homeowners, the Board of Supervisors, and other agencies when insect related issues arise.
- Offer GIS assistance and resources to the LDS' Divisions, along with other County agencies, and private organizations.

### Future Initiatives

Expand web-based applications to include more comprehensive treatment history pages, more brochures, and to create forms that homeowners can fill-out via the Internet and submit on-line. In addition, this program would like to explore the possibility of including Forest Integrated Pest Program information on the County's Intranet page.

### Trends

Since the late 1990's, gypsy moth populations have been low. Recent surveys indicate that the Northeastern United States is once again on the verge of a large outbreak. Staff predicts large treatment programs in the coming years for gypsy moth caterpillars as well as the corresponding response from citizens who will demand this service.

Fall cankerworm populations appear to be stable and staff will continue monitoring efforts.

### ► Method of Service Provision

Regular merit employees provide the services of this line of business. Private vendors through state or County contracts provide aerial and ground treatment.

Hours of Operations are Monday through Friday, 8:00 a.m. – 4:30 p.m.

### ► Mandate Information

There is no federal or state mandate for this LOB.

## **AGENCY PERFORMANCE MEASURES**

### Objectives

- To control the infestation of gypsy moths, cankerworms, and emerald ash borers through detection and abatement programs so that County tree defoliated is minimal 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	LOB Reference Number
	FY 2006 Actual	FY 2007 Estimate/Actual	FY 2008	FY 2009	
<b>Output:</b>					
Gypsy moth/cankercworm field surveys completed annually in areas known or suspected to be infested	3,200	4,000 / 3,200	4,000	4,000	116-02
Mosquito larvicide treatments of catch basins to control West Nile virus	113,117	125,000 / 101,118	115,000	115,000	116-01
<b>Efficiency:</b>					
Gypsy moth/cankercworm field surveys conducted per staff	800	1,000 / 800	1,000	1,000	116-02
West Nile virus program cost per capita (1)	\$1.05	\$1.10 / \$1.66	\$1.63	\$1.63	116-01
<b>Service Quality:</b>					
Percent of County households in gypsy moth and cankerworm treatment areas notified of abatement efforts	100%	100% / 100%	100%	100%	116-02
Percent of targeted catch basin areas treated with mosquito larvicide within the scheduled timeframe	100%	100% / 100%	100%	100%	116-01
<b>Outcome:</b>					
Percent of County tree defoliation resulting from gypsy moth and cankerworm infestation	0%	0% / 0%	1%	1%	116-02
Confirmed human cases of West Nile virus in Fairfax County, Fairfax City and Falls Church City as reported by VDH (2)	0	3 / 1	3	3	116-01

(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