



MDA • CELEBRATING 40 YEARS OF SERVICE

# 40 years





*Governor Martin O'Malley*



*Lt. Governor Anthony G. Brown*



*Secretary Earl F. Hance*



*Deputy Secretary Mary Ellen Setting*

### **Mission Statement**

To provide leadership and support to agriculture and the citizens of Maryland by conducting regulatory, service and educational activities that assure consumer confidence, protect the environment, and promote agriculture.

### **Vision Statement**

To achieve excellence in programs and in services that preserve and protect agricultural resources and the environment, promote profitable agriculture and consumer confidence, and enhance the quality of life for all Marylanders.



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Department of Agriculture**

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**Dear Friends,**

Our hardworking and dedicated Maryland farmers have been providing us with a safe and nutritious food supply since our earliest founding. Each year, I become more impressed by how much farmers are able to nurture and grow while continuing to incorporate new science-based techniques into their land management practices. I thank all of our farmers for their collective efforts to restore the Chesapeake Bay. This FY 2013 Annual Report from the Maryland Department of Agriculture highlights the many programs and activities we conduct at the state level to support this vital and critically important industry.

I commend MDA on its 40th anniversary of serving the people of Maryland and thank the hardworking men and women at MDA for their commitment to Maryland farmers. Together, we are protecting our family farms and businesses, retaining agricultural and resource-based jobs, and preserving Maryland's beautiful open spaces.

Together, we will keep Maryland smart, green and growing for generations to come.

Sincerely,

A handwritten signature in cursive script, appearing to read "Art Hays".

**Governor**



## Celebrating 40 Years at the Maryland Department of Agriculture

The Maryland Department of Agriculture (MDA) has been serving the agriculture community and the people of Maryland since 1973. While our look has changed over the years, our mission and vision has remained steadfast: to protect consumers, preserve the environment, and promote Maryland agriculture.

Prior to 1973, agricultural interests were served by the University of Maryland at College Park. After a blue ribbon task force concluded that Maryland agriculture should be represented by a separate department headed by a secretary appointed by and directly responsible to the governor, the Maryland General Assembly established MDA. This new agency took on regulatory and advisory functions while agricultural research and extension service functions remained at College Park as they do today.

As the department has evolved, so has the way it does business. Programs across the agency, from routine administration to field inspections of all sorts, have become more efficient and precise with the use of ever more sophisticated technologies and more professionally trained and educated staff members.

In its early years, the department was headquartered in temporary offices in Parole on the outskirts of Annapolis. By 1978, the department had initiated architectural studies for a brand new headquarters building in Annapolis. Completed in 1982, the new facility symbolized the importance of agriculture to Maryland as the state's number one industry. By 1991, MDA had a new laboratory wing attached to its headquarters housing weights and measures, state chemist and pesticide regulation. Under one roof, MDA could now boast of advanced laboratories and offices to protect the state's agricultural economy, consumers and the environment. Wayne A. Cawley, Jr., the department's second secretary, served for 12 years and is the longest serving secretary to date. Upon his retirement in 1991, then-Governor William Donald Schaefer named MDA's headquarters complex the Wayne A. Cawley, Jr. Headquarters Building – one of the most attractive office buildings in state government.

As we at MDA celebrate 40 years of service to the people of this state, we re-dedicate ourselves to the programs and services that preserve and protect agricultural resources and the environment, promote profitable agriculture and consumer confidence and enhance the quality of life for all Marylanders. For us at the Maryland Department of Agriculture, it is a pleasure and an honor to serve you. We look forward to continuing our proud tradition of service for another 40 years.

We invite you to visit our webpage and watch a 12-minute Soundbook by award-winning photographer Edwin Remsberg that summarizes our history and accomplishments. [www.mda.maryland.gov](http://www.mda.maryland.gov)



**Dear Friends,**

I am pleased to present the Maryland Department of Agriculture's FY 2013 Annual Report. This year we celebrate the department's 40th anniversary and the state's dedication to our number one industry. A successful and robust agriculture industry depends on many disciplines and many professionals working together – from Animal Health to Weights and Measures. I encourage you to peruse this report and consider the diverse and important work that we do across the state. In these pages, you will get a sense of the many challenges we have faced and many goals we have achieved across the agency during the past year.

MDA promotes farm animal health, detects and helps mitigate the effects of invasive plants and pests, administers the food quality assurance and turf and seed programs, trains and regulates the pesticide application industry, supports the analytical work of the State Chemist, operates the state's weights and measures program, preserves critical farm lands, assists farmers with their nutrient management plans, and much more. During FY 2013, we continued to work with stakeholders across the agricultural and environmental communities to meet our milestones and come ever closer to our shared goal of restoring the Chesapeake Bay.

As we at MDA celebrate 40 years of service to the people of this state, we re-dedicate ourselves to the programs and services that preserve and protect agricultural resources and the environment, promote profitable agriculture and consumer confidence and enhance the quality of life for all Marylanders. My thanks to Governor Martin O'Malley and Lt. Governor Anthony Brown for providing farmers with critically needed resources and for their unwavering support of Maryland's farm families. Of course, I extend my warm thanks to all MDA staff members for their hard work, dedication and commitment to Maryland agriculture – our state's leading and most important industry.

Sincerely,

A handwritten signature in cursive script, appearing to read "Paul Hume".

**Secretary**



## Maryland Agricultural Commission

The Maryland Agricultural Commission is an advisory group to the Maryland Secretary of Agriculture. Its 30 members represent the state's major commodity groups as well as representatives from the University of Maryland, consumer interests, food processing and other agricultural business segments.

The commission meets monthly and discusses issues of agricultural consequence. This year the commission had notable speakers and subsequent in-depth discussions on the subjects of: the Maryland Agricultural Land Preservation Foundation, the Maryland Poultry Industry, Nutrient Trading, the Phosphorus Site Index, the updates to the University of Maryland Campus Farm, Maryland's Farm to School Program,

the Maryland's Best Program, the Sensitive Crop Locator Program, MDA's Turf and Seed Program, the Animal Disease Traceability Program, LEAD Maryland Foundation, Maryland Agricultural & Resource-Based Industry Development Corporation and legislative issues.

These topics, along with reports from each of the represented commodity and business groups, keep the commission current with agricultural issues and ensure the fulfillment of the commission's statutory mission. In addition, the commission conducted its bi-annual farm tours in Anne Arundel County and Baltimore City in the fall, and Howard and Montgomery counties in the spring.



## Office of the Assistant Attorney General

The Office of the Assistant Attorney General (OAAG) provides legal advice and counsel to MDA, including the Maryland Agricultural Land Preservation Foundation (MALPF) and the State Board of Veterinary Medical Examiners (SBVME). In addition to advising the Secretary and the numerous boards and units within MDA, the attorneys prosecute and defend cases brought by and against MDA in state court, federal court, and the Office of Administrative Hearings. They review for legal sufficiency regulations and legislation proposed by units within the agency, as well as intergovernmental agreements and contracts that the agency seeks to enter for goods and services. They also produce educational programs for agency staff.

In addition to the duties described above, some highlights of the OAG office during FY 2013 are described below.

- Supported the Maryland Agricultural Land Preservation's efforts to enforce and defend preservation easements it holds, including successfully defending at the circuit court level an adverse possession claim on land subject to a Foundation-held easement. Continued to work with landowners and their attorneys to resolve easement violations informally.
- Successfully argued to the Court of Special Appeals that it should affirm the decision of the Circuit Court for Howard County, finding that a farm under a Foundation-held easement may not be subdivided without the Foundation's approval.
- Defended on appeal the Foundation's action to approve the request of a landowner, whose land is subject to

a Foundation-held easement, to operate a creamery in conjunction with his dairy farm. The OAAG successfully argued to the Court of Appeals of Maryland that the person challenging the creamery operation does not have standing to contest it under the Charitable Trust Doctrine. (The matter has been remanded to the circuit court.)

- Supported MDA's enforcement of the state's Nutrient Management Law; and reviewed for legal sufficiency new regulations proposed by MDA governing the application of nutrients in this state.
- Continued to assist MDA in defending competing claims by the Waterkeepers Alliance and the Maryland Farm Bureau over whether certain nutrient management records maintained by MDA are subject to disclosure under the State's Public Information Act. The OAAG successfully argued to the Court of Special Appeals of Maryland that certain records should not be disclosed. (The Alliance has appealed this decision to the Court of Appeals.)
- Assisted the State Board of Veterinary Medical Examiners in its enforcement of the Veterinary Practice Act. (In FY 2013, the SBVME received and reviewed 81 new complaints.) The OAAG helps the SBVME to process new complaints efficiently through informal resolutions. The OAAG also assisted the SBVME in legislative, regulatory, licensing, and Public Information Act matters. The OAAG continued to implement a protocol for summarizing and scanning closed disciplinary files to the cloud for interim storage.



## Maryland Agricultural Land Preservation Foundation

The Maryland General Assembly created the Maryland Agricultural Land Preservation Foundation (MALPF) in 1977 to preserve productive agricultural and forested land that provides for the continued production of food and fiber for present and future citizens. Preserved agricultural and forested land helps curb the expansion of random urban development, protects wildlife and preserves the environmental quality of the Chesapeake Bay and its tributaries.

If a landowner's property meets the minimum eligibility criteria for soils, size, and location, as established in statute, the landowner may apply to sell an agricultural land preservation easement to MALPF. An easement restricts the land to agricultural use in perpetuity, limits the ability of the land to be subdivided or developed for residential, commercial, or industrial use, and requires good stewardship practices.

For the third straight cycle, due to limited funding, MALPF combined appropriations from FY 2012 and FY 2013 so that it could conduct one easement acquisition offer cycle and

maximize the number of acres purchased. MALPF has nearly \$53.6 million available for this cycle. Of this, about \$12.4 million was county funding used to match state funds at a ratio of 60 percent state to 40 percent county dollars. By the end of the fiscal year, MALPF had secured acceptances on 54 offers which represent almost 6,749 acres. At the end of FY 2013, MALPF had purchased easements on a cumulative total of 2,101 properties, permanently preserving 285,799 acres.

The General Assembly adopted legislation affecting MALPF during the 2013 legislative session. *See Government Relations, page 11.*

MALPF partners, with other state agencies and local governments, are working to meet a legislative goal (SJ 10, 2002) of preserving 1,030,000 acres of agricultural land by 2022. As of September, 2013, Maryland has preserved 574,838 acres of agricultural land under MALPF, Rural Legacy, GreenPrint, and through local land preservation and transfer of development rights programs. This represents about 56 percent of the goal.

### GOALS AND OBJECTIVES

**GOAL: THE PRESERVATION OF ADEQUATE AMOUNTS OF FARMLAND, WOODLAND AND OPEN SPACE IN MARYLAND TO ENSURE THE CONTINUED PRODUCTION OF FOOD AND FIBER AND TO PROTECT THE AGRIBUSINESS INFRASTRUCTURE FOR THE FUTURE.**

**Objective:**

By the year 2022, preserve 1,030,000 acres of farmland, woodland and open space land in Maryland through the purchase of permanent easements, local government land preservation programs, local Transfer of Development Rights (TDRs), and similar programs (SJ10-2002).

Performance Measures	2013 Actual
<b>Output:</b> Total number of easements, cumulative	2,101
<b>Outcome:</b> Total acres under easements	285,779



## Communications & Public Information

MDA's Communications and Public Information Office serves as MDA's liaison to the media, government agencies, elected officials, the agriculture industry, MDA employees and the general public. Its goal is to ensure all stakeholders understand the state of Maryland's agriculture industry, MDA activities and the department's policy initiatives.

MDA uses a media management system to track and research media contacts, distribute news releases, maintain media lists for targeted stories, and distribute news clippings of interest to the agency and its constituencies. During FY 2013, staff distributed 297 news releases to 439 news outlets and interested parties, which generated 297 logged inquiries from the media. Each business day, news stories are identified, linked to the agency's website and distributed to all staff and other interested parties.

During the fiscal year, the Communications Office redesigned its monthly electronic newsletter into a quicker reading, more user-friendly news digest, which is distributed every 4 to 6 weeks, as events warrant. The digest highlights selected news releases, website additions and updates, as well as

social media campaigns. It is distributed to more than 1,800 subscribers.

The office continued the agency's presence on the internet, making it the first point of contact for many citizens. There were 374,471 visits to the site during FY 2013, of which 67 percent were new visitors during the year. The visitors viewed 903,473 pages. The most popular pages, after the home page, were pages with information about news clippings, farmers' markets, licenses and permits, agri-tourism sites, and plant and pest management.

The office expanded its social media presence during the year not only to provide the agency with additional communication and information distribution tools but also to drive more traffic to its website.

During FY 2013, the office launched MDA's official Facebook page. As of June 30, 2013, the page enjoyed 269 followers with a reach of 2,501. The largest group of followers was in the 24 to 35 age range – an important demographic given that the average age of a Maryland farmer is 57 years olds.

The office intends to build on that foundation going forward. The office reactivated its Twitter account during FY 2012 and focused on expanding its reach during FY 2013. The account saw a 65 percent increase in followers during the year, from 3,093 at the beginning to 4,781 followers at the end. In addition, the accounts, taken together, consistently held a Klout score of 55, while the average is 46. (Klout measures engagement and effectiveness, rather than raw numbers of followers.) The Communications and Public Information Office also coordinates and monitors social media efforts undertaken by the agency's marketing office, Farm to School Program and Horse Industry Board – all of which showed growth during the year.

As part of the O'Malley-Brown Administration's efforts to provide transparency in government, the public information staff maintains an online regulatory action center to inform the public about the department's enforcement actions, which range from civil penalties imposed after weights and measures inspections to announcing disciplinary actions imposed against veterinarians. The goal of the regulatory action center is to give the public a better understanding of how MDA protects consumers, businesses and the environment on a daily basis. It is also intended to be a deterrent of future violations of the law by the regulated agricultural community. Information on this portion of the site also generates significant media attention.

Some of the biggest news stories handled by the office during FY 2013 were related to proposed changes to nutrient management regulations, record-breaking participation in the cover crop program, state consideration of the first farmland preservation easement termination request, the agricultural drought, ongoing environmental regulatory issues related to the U.S. Environmental Protection Agency's Watershed Implementation Plan, the new Maryland's Best Ice Cream Trail, the Governor's Buy Local Cookout, mosquito control spraying and the agricultural photo exhibit debut in the Miller Senate Office Building by award-winning photographer Edwin Remsberg. The office works closely with the MDA marketing staff to promote farmers' markets and other Buy Local initiatives as well as the Farm to School program and Maryland Homegrown School Lunch week. The office also assisted with various seasonal promotions and continued its efforts to promote conservation practices that homeowners can use to do their part to help restore the Chesapeake Bay. The office worked closely with the Maryland Horse Industry Board to promote its monthly Touch of Class Award program, which recognizes excellence in Maryland's equine industry.

This office took the lead for MDA in working with Maryland Public Television, the Maryland Grain Producers and many other agricultural organizations in the state to develop a 13-part television series called "Maryland Farm and Harvest," set to air in November 2013.

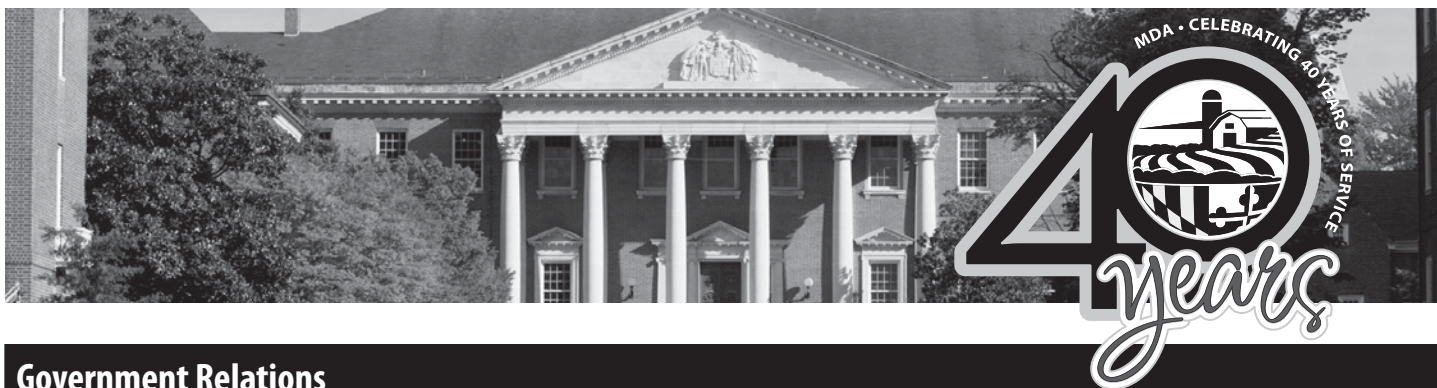
The staff also takes a leadership role in organizing several high profile events, including Governor Martin O'Malley's Buy Local Cookout, which is held at his official residence and promotes the Buy Local Challenge Week. The office also spearheads the editing and publication of the Buy Local Cookbook and all promotional materials and announcements leading up to and following the event. This Cookout was held for the fifth straight year in FY 2013.

The office also represents MDA with exhibits at the Maryland State Fair and conferences sponsored by the Maryland Municipal League, the Maryland Association of Counties, and the Maryland Farm Bureau.

Planning for emergency communications in the event of plant and animal disease outbreaks, as well as natural disasters, is an important component of the program. The office is actively involved in several multi-agency efforts to refine response and communications plans in the event of an animal disease outbreak or natural disaster. During the past year, the office participated in a Dairy Industry Crisis Drill in Arlington, a day-long disaster drill at the Maryland Emergency Management Agency (MEMA) that simulated a statewide power outage, and planning drills for the Maryland Pet Sheltering Network. During FY 2013, staff took shifts at MEMA headquarters during the State Heat Emergency and worked remotely to support them through Hurricane Sandy, handling information requests from traditional and social media and the public.

During the year, staff also represented the agency on the Maryland Agricultural Education Council. Additionally, staff is actively involved in the leadership of the Communications Officers of State Departments of Agriculture, and works regularly with USDA's Emerald Ash Borer public information working group and the state Smart, Green and Growing Communications Committee.

A University of Baltimore Schaefer Center Survey found that the public has an increasingly positive view of the agency's priority activities – farmland preservation, purchase of local products and environmental stewardship by farmers, an indication that MDA's public information efforts are becoming increasingly successful.



## Government Relations

The Maryland Department of Agriculture put forward two departmental bills during the 2013 Legislative Session that were adopted by the General Assembly and signed by Governor O'Malley. Senate Bill 53 (Department of Agriculture – Administration Review of Contested Cases) repealed MDA's Board of Review, and Senate Bill 180 (Department of Agriculture – State Chemist Funds) consolidated four different special funds, which support programs administered by the State Chemist.

Other legislation impacted the department.

**House Bill 378- Maryland Agricultural Land Preservation Foundation (MALPF) – Refunds** authorizes MALPF to reimburse landowners who paid the Foundation for the release of unrestricted or family lots but are no longer able to complete the process. Reimbursements may be obtained when: the dwelling has not been constructed; the lot, if subdivided, has been reunited with the remainder of the easement; and the request is made before the preliminary release becomes void.

**House Bill 561 / Senate Bill 748 Agriculture – Nutrient Management – Limiting Applicability** was a technical correction bill to the 2011 Fertilizer Law. It clarifies areas subject to the setback requirements intended for urban fertilizer use enacted by The Fertilizer Use Act of 2011. The original legislation referenced an existing definition of “waters of the state” found in the Environment Article which includes the 100 year floodplain and ground water, areas never intended to be subject to the fertilizer application setback requirements.

**House Bill 1327, Agricultural Commodity Assessment – Collection**, repeals the requirement that an assessment on an agricultural commodity be collected annually, among other things. Title 10, Subtitle 1 of the Maryland Agriculture Article (Promotion of Use and Sale Agricultural Commodities), establishes a process whereby Maryland farmers may elect

among themselves to deduct and collect an assessment from the sale of their commodity, also referred to as a “commodity check-off.” The assessment funds are used to support activities of mutual benefit to the commodity producers including crop production research, education and marketing. The 2013 General Assembly also passed legislation to established several new programs within MDA.

**House Bill 767 / Senate Bill 820 – Animal Welfare – Spay/ Neuter Fund – Establishment** established a fee on dog and cat food registered in the state to create a Spay and Neuter Fund, which will provide grants to programs that facilitate and promote spay and neuter services.

**Senate Bill 1029, Maryland Agricultural Certainty Program** created a program to accelerate the implementation of agricultural best management practices necessary to address soil conservation and water quality issues on farms and to meet the agricultural nutrient and sediment reduction requirements under the U.S. Environmental Protection Agency Total Maximum Daily Load (TMDL) for the Chesapeake Bay and the Watershed Implementation Plan developed in Maryland to meet the Bay TMDL by 2025.

Finally, legislation passed that established several task forces involving the department.

- House Bill 775 / Senate Bill 675 established the Maryland Pesticide Reporting and Information Workgroup, which MDA is staffing;
- House Bill 936 established the Maryland Botanical Heritage Workgroup; and
- House Bill 1019 / Senate Bill 586 created the Task Force to Study the Implementation of a Hub and Spoke Program in the Southern Maryland Region.

## Administrative Services

The Office of Administrative Services manages all technical and support services for MDA. It is comprised of five sections – Human Resources, Central Services, Fiscal Services, IT Services and Emergency Management. MDA has about 500 permanent and seasonal employees, and the Human Resource Office facilitates the recruitment, training, appropriate compensation, and retention of qualified individuals. Additionally, the office assists with the transition of those employees leaving government service. Programs and services for employees include risk management, employee leave bank, teleworking, wellness, blood drives, and training as well as employee recognition. Central Services manages facilities, records, inventory, telecommunications, warehousing, the agency motor fleet, and the distribution

of supplies and mail. The office also oversees departmental procurement and is responsible for the maintenance of facilities. The motor pool provides quality maintenance and repairs of the department's 261 vehicles in addition to semi-annual inspections on all vehicles. The MDA fleet traveled more than 2.3 million miles last year. Fiscal Services handles all centralized accounting transactions for MDA. This encompasses all phases of the budget, grants management, accounts receivable, accounts payable and leave management. Emergency Management for MDA addresses all emergencies within MDA. The department is in the process of completing a new management plan that will be tailored to MDA and in concert with the statewide emergency operations plan. Additionally, MDA continues to provide annual training and drills for first responders.

## USDA/National Agricultural Statistics Service

The Maryland Field Office of the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS) provides the public with data relating to the production of most crops grown and livestock raised in the state. Annual information is provided on the general economic well being of the state's agricultural sector. NASS statistics are used to administer and support USDA farm programs that benefit Maryland farmers, to determine the feasibility of new ventures affecting our state's farmers, and to direct program research and development.

NASS has a rich history of collecting and distributing agricultural statistics, dating back more than 145 years. Each year the employees of NASS conduct hundreds of surveys and prepare reports that impact every facet of Maryland's agricultural community. Its mission to provide timely, accurate and useful statistics in service to U.S. agriculture would not be possible without the voluntary cooperation of Maryland farmers who take valuable time to respond to NASS surveys.

In 2012 – the most recent year that annual statistics are available for this report – agriculture generated nearly \$2.33 billion in cash receipts for the state's farmers, not accounting for the additional impact provided by related jobs and

services. Maryland's leading cash commodities were broiler chickens, greenhouse/nursery products, corn, milk and dairy products, and soybeans. The Maryland Field Office of NASS estimated there were 12,800 farms in 2012 with an average size of 160 acres. Total land in farms in Maryland was 2.05 million acres, one-third of the state's entire land area.

In 2012, conventional tillage was used on 10 percent of the major crops in Maryland. No-till, a procedure whereby a crop is directly planted into a seedbed not tilled since harvest of a previous crop, was practiced on 67.5 percent of the major acreage. Soybeans showed the highest percentage of no-tillage, with 82.1 percent planted soybean acres.

In 2012, NASS conducted a Pesticide Use Survey in cooperation with MDA, which was the first such report since 2004. The report covers usage in 2011, which was voluntary, included farmers, private applicators, commercially licensed businesses and public agencies that are permitted by MDA to apply pesticides. The results were published in May 2013 and are available on the MDA website.

*Complete results of NASS reports are available at [www.nass.usda.gov/Statistics by State/Maryland](http://www.nass.usda.gov/Statistics_by_State/Maryland).*



## Marketing and Agribusiness Development

MDA's Marketing and Agribusiness Development section develops marketing opportunities for Maryland farmers and serves as a conduit for federal resources and policy information specific to the agricultural sector. During FY 2013, Marketing focused its efforts on building demand for Maryland farm products through promotions, advertising, and business development activities with grocery store chains, food processors, chefs and other buyers. The market for local products is increasing in the state with more than 78 percent of Marylanders saying they would prefer to buy food grown in Maryland, according to the University of Baltimore Schaefer Center for Public Policy. Another key area of activity includes international marketing, with staff facilitating meetings with Maryland food companies and farmers, and international buyers from Russia, Cuba, China and Japan.

### Buy Local

Through a combination of press releases, paid advertising on public and commercial radio, as well as in online and print publications, and through promotional events, Marketing developed demand for local products throughout FY 2013. Primarily funded by the U.S. Department of Agriculture, promotions encouraged consumers to buy Maryland-grown fruits, vegetables, flowers, nursery products, wine and Christmas trees. Because of restrictions on federal funds, state funds were used to promote dairy, meat, poultry and the agri-tourism sectors.



More than 3 million consumers received promotional messages from MDA during the year through radio, print and online advertising. Press releases promoting Maryland agriculture products were distributed to more than 400 media outlets.

For consumers, the Maryland's Best website ([www.marylandsbest.net](http://www.marylandsbest.net)) is the primary source of information for local farm stands, farmers markets and Maryland farms. The website includes contact farm information, directions and video interviews with farmers about their farming operations. Some 37,477 Marylanders used the website to connect with farmers during FY 2013.

Governor Martin O'Malley supported MDA's Buy Local program and Maryland's Best by kicking off the 2012 Buy Local Challenge Week with the fifth annual Buy Local Cookout at his residence in July. This event included farmers, food writers, chefs, grocery store representatives and media, as the Governor encouraged Marylanders to seek out Maryland-grown food. Media students at Loyola University in Baltimore City designed and published a cookbook with recipes used at the cookout. Marketing used these cookbooks to promote the Maryland products included in each entry.

Marketing staff met with buyers from many national supermarket chains at the annual Produce Marketing



*Students get a first-hand look at where their food comes from during the annual Homegrown School Lunch Week.*

Association convention in Anaheim, Calif., and at the New England Produce Council's Produce and Floral Expo in Boston. Also, Marketing worked with counterparts at the Delaware Department of Agriculture to develop a New England promotion of watermelons grown in Maryland and Delaware. This promotion targeted grocery store chains in Boston and surrounding areas. The project increased sales of Delmarva watermelons to New England by 10% according to sales figures tracked by the National Watermelon Board.

MDA's annual Buyer-Grower meeting, connecting farmers directly with buyers, had more than 60 farms and 350 buyers in FY 2013. This event has grown from fewer than 30 attendees a decade ago.

## **Maryland Farm to School**

In September, educators, farmers, and government officials gathered with North Dorchester High School students in Dorchester County to kick off the 5th annual Maryland Homegrown School Lunch Week September 17-21, 2012 by eating healthy lunches, full of locally-grown fruits, vegetables and bison. Students (and officials) also enjoyed special displays and interaction with local farmers whose products were featured during lunch throughout the day. More than 500 students at North Dorchester High School in Hurlock,

Dorchester County, enjoyed lunches that included bison burgers and sweet potatoes. The bison meat, the first to be served in a school lunch program on the East Coast, and fresh fruits and vegetables were purchased from nearby farms.

Other county schools are also creatively incorporating local protein and developing infrastructure for local farmers into the Homegrown School Lunch Week. Northern Garrett County High School (Garrett Co.) agricultural students raised hogs, thanks to a national FFA grant, which were made into sausage. The students also raise chickens that produce 60 dozen shelled eggs per week for the school system's meals. Students from Southern Garrett County High School grew hydroponic lettuce for the school system. Washington County Public Schools (WCPS) used cheese from Palmyra Farms (Washington Co.) as part of the Chesapeake Mac & Cheese; Harford County Public Schools recently installed a central walk-in cooler for local farmers to deliver directly to the school system, and the school system will distribute the local product to its schools.

All 24 school systems in the state participated by buying local products for school lunches during the week.

## **Mid-Atlantic Farm-Based Educators Network**

In 2012, MDA partnered with the Maryland Agricultural Education Foundation (MAEF) to create the Mid-Atlantic Farm-Based Educators Network as part of the Maryland Farm to School Program. MDA and MAEF held several workshops in 2012 which were designed to provide important information to farms that work with schools groups K-12. The workshops featured an educational overview of standards-based teaching; information about working with school districts, environmental literacy, and Farm to School initiatives.

## **Specialty Crops**

MDA's Marketing Section administers USDA's Specialty Crop grants. During FY 2013, MDA awarded \$393,851 to five projects that enhanced the competitiveness of specialty crops in Maryland. Some projects are designed to:

- Increase specialty crop sales of fruits and vegetables to low-income population;
- Develop a series of culinary heritage events that can be replicated in different regions in Maryland celebrating the unique, historically significant specialty crop foods of those regions.



- Highlight Maryland grown grapes and other fruits used in the production of Maryland wine by developing a weekend-long program that will bring national media on a tour of select specialty crop producers around the state, and showcase the industry and local producers the use of social media, and to introduce new products from Maryland specialty crops to customers and new media.
- Reinforce the importance of locally produced food through effective, timely advertising, promotional events and marketing of Maryland's Best and to strengthen consumer awareness of local specialty crops and connect specialty crop farmers with markets.
- Offer technical and economic assistance through Food Quality Assurance training programs to producers developing Good Agricultural Practices (GAP) programs and to increase the number of producers participating in and implementing GAP program.

## Farmers Markets

The Farmers Market Nutrition Program (FMNP) works with farmers markets in all 23 Maryland counties and Baltimore City. More than 240 Maryland farmers received \$535,750 from the FMNP program in FY 2013. Funded primarily by the USDA's Food and Nutrition Service, FMNP is designed to increase access to local produce for low income and senior citizens. This benefited almost 150,000 Women, Infants and Children (WIC) and 4,000 Senior recipients in Maryland.

## International Marketing

Marketing's international component represents Maryland's processed food companies in Southern United States Trade Association (SUSTA) activities. MDA is a member of SUSTA through its membership in the Southern Association of State Departments of Agriculture. SUSTA activities for Maryland included food trade shows in South Korea, Japan, Russia and in-bound buyers from Korea.

MDA Marketing is a member of the United States Livestock and Genetics Export (USLGE) Association. With funding from this organization, MDA promoted Maryland livestock genetics in Russia in FY 2013. A DVD showcasing Maryland farms was created in Russian and distributed to livestock producers in Russia by the U.S. Department of Agriculture's Foreign Ag Service office in Moscow. One dairy goat producer in Washington County has reported sales and potential sales as a result of this activity.

## ACReS and Crop Insurance Promotion

Marketing Services administers two federally funded programs: crop insurance promotion and the Maryland Agricultural Conflict Resolution Service (ACReS), an agricultural mediation program. The crop insurance promotion program is funded with \$371,000 from the USDA Risk Management Agency. Through press releases, newsletters, presentations and advertisements in agricultural media, MDA has increased participation of Maryland farmers in federal crop insurance programs to 6,806 farmers in FY 2013, up from 5,240 in FY 2007. Farmer investment in crop insurance helps stabilize the Maryland agriculture economy as weather and market volatility make farming a challenging sector. In FY 2013, more than \$420 million of agricultural production is insured on more than 923,000 acres.

Farmers and others in the agricultural community who may be embroiled in disputes with family members, neighbors, government agencies, or even lenders can get a fresh start by trying mediation through the Maryland ACReS, a no- or low-cost service offered by MDA for the past 11 years to help resolve agricultural-related disputes before they end up in court.

MDA's USDA-certified mediation service is a voluntary, confidential process in which a neutral third party (i.e., the mediator) assists farmers, agricultural lenders, agencies, families and citizens to resolve disputes in a non-adversarial setting outside of the courts and regulatory process. Mediators are trained to help participants develop a solution that meets their needs. An initial consultation with program staff and initial mediation session (about two hours) is provided at no charge. If additional mediations sessions are needed, costs are shared by the parties, with full or partial waivers of fees based on income. During FY 2013, there were seven requests for mediation services and 19 requests for information about the program.

## GOALS AND OBJECTIVES

### GOAL 1. CREATE NEW MARKETS AND SUPPORT EXISTING MARKET OPPORTUNITIES FOR MARYLAND FARMERS AND AGRIBUSINESSES.

#### Objective 1.1

Increase direct to consumer sales opportunities for Maryland agricultural producers by 3 percent per year.

Performance Measures	2013 actual
<b>Output:</b> Number of Producers Participating in FMNP <sup>1</sup>	240
Amounts of FMNP Checks Redeemed by Producers <sup>2</sup>	\$535,750

<sup>1</sup> Bank list of farmers authorized to accept FMNP checks. <sup>2</sup> Bank reports of checks paid.

#### Objective 1.3

Increase the international sales by Maryland agribusinesses and the export of Maryland agricultural products to international markets.

Performance Measures	2013 Actual
<b>Input:</b> Number of Producers Participating in MDA Activities	424
<b>Outcome:</b> Number of Reported Sales	16
Dollar Amount of Sales	\$63,000,000

### GOAL 2. PROVIDE EDUCATIONAL AND OUTREACH PROGRAMS TO FARMERS TO IMPROVE THE ECONOMIC WELL BEING OF THE MARYLAND AGRICULTURAL INDUSTRY.

#### Objective 2.1

Increase percentages of insurable crop acres in Maryland with buy-up levels of crop insurance to 65 percent by 2013.

Performance Measures	2013 Actual
<b>Input:</b> Insurable Acres on Maryland farms	1,330,800
<b>Outcome:</b> Percentage of Insurable Acres with Buy-Up Coverage	64%
Total Crop Protection in Force	\$420,000,000
Number of Crop Insurance Policies Sold	6,806



## Animal Health Program

The MDA Animal Health Program prevents and controls infectious and contagious diseases in Maryland livestock and poultry with particular emphasis on those diseases that threaten public health, endanger food supplies or threaten the economic security of animal industries. Staff members work closely with federal counterparts and those from other states as well as partners in the animal industries, local, state and federal governments and the public to ensure an efficient team effort for disease prevention, detection and control. Key components of the MDA effort include Animal Health Headquarters and Administration with seven full time staff, the Field Operations with eight full or part time staff, and the Diagnostic Laboratory System with 15 full- or part-time staff.

The Animal Health Program also responds to all animal emergencies under the State Emergency Operations Plan, Emergency Support Functions 6 and 16. Animal emergencies are categorized as 1) animal health emergencies, such as a disease outbreak in livestock or poultry; and 2) animals in emergencies, such as assisting with feed provisions or managing pet sheltering operations in a natural disaster. The Animal Health Program provides secondary support to other state agencies managing emergency support functions. MDA has a small but important regulatory role in protecting

and promoting animal welfare that is limited to livestock at auction markets and certain aspects of animal transport and exhibition. MDA frequently assists local animal control agencies and other agencies to protect animal welfare through field consultation, training, investigative support, and diagnostic evaluations of affected animals.

### Program Operations

Regulatory and outreach activities are designed to help support compliance with animal health regulations and other efforts to promote animal health, public health and agricultural productivity.

**Interstate Movement:** All animals moving into or out of Maryland, or being imported or exported into or from Maryland, must be examined for signs of contagious or infectious disease, have required vaccines and disease testing, and be accompanied by a Certificate of Veterinary Inspection. Animal Health staff processed certificates of movement for 38,214 animals in FY 2013, a significant decrease of 19.9 percent from movement in FY 2012 (47,717), likely related to the long term economic stagnation nationally.

**Animal Exhibitions and Non-commercial Herds and Flocks:**

Animal Health staff performed 93 inspections of exhibitions (fairs and shows) and processed 7,937 exhibition health certificates in FY 2013, an 11.5 percent decrease in exhibitor entries from FY 2012 (8,966). The field inspection staff, augmented by other MDA program staff, federal partners, exhibition officials and trained volunteers, inspected and tested livestock and poultry upon entry to events and during the course of the exhibition. Animals with signs of infectious or contagious disease were isolated and excluded from the exhibition. Due to a novel strain of swine influenza that affects people circulating in swine and initially detected in Midwest exhibitions in June 2012, MDA increased inspections and developed and disseminated outreach and education to swine owners, exhibitors and the general public working in concert with exhibition sponsors, Maryland Extension, and the Maryland Department of Health and Mental Hygiene. Despite these efforts, 13 cases of H3N2v swine influenza in swine and 12 human cases of influenza A (H3N2v), all associated with one Maryland fair were detected in August 2013 (FY 2014). Fortunately, none of the infected individuals or swine developed serious illness or were hospitalized. No cases of swine influenza have been detected in Maryland since August 2013. Rapid detection of swine influenza, conducted at the Salisbury Animal Health Laboratory, and the extensive outreach and education was considered highly effective in containing the spread of swine influenza in Maryland in 2013. Outreach and education efforts, particularly for zoonotic diseases affecting humans and animals, continued throughout the year.

During FY 2013, Animal Health staff continued outreach, inspection and training in the noncommercial poultry sector, as this sector continues to increase in size and disease risk due to the popularity of “backyard” chicken flocks. Animal Health provides consultation to the many municipalities contemplating zoning changes to allow urban poultry flocks. In FY2013, Animal Health collaborated with the University of Maryland Extension in presenting non-commercial poultry education, including information regarding the Maryland Poultry Testing Agent Program, as part of the 2013 Maryland Poultry Expo. As part of the Poultry Testing Agent program, Animal Health certifies individuals in poultry sampling techniques for Salmonella pullorum and avian influenza, allowing them to provide low-cost services to owners and producers who wish to exhibit or sell birds in Maryland or other states. Animal Health held two trainings in FY2013, training 16 new testers, for a total of 70 certified Poultry Testers.

**Livestock and Poultry Auctions and Dealers:** During FY 2013, Animal Health staff inspected all 236 commercial livestock auctions conducted in Maryland. During the inspections, animals are observed for signs of infectious or contagious disease, including foreign animal diseases, and for compliance with welfare, identification and other market regulations. Disease surveillance is conducted for diseases of concern such as avian or swine influenza. Live Bird Market System oversight continued from the previous year with a continued commercial interest in and movement and sales of spent hens from Pennsylvania breeder facilities to several farms in Southern Maryland. No major violations of market regulations and no avian or swine influenza or other diseases of significance were detected in livestock or poultry at auction markets in FY 2013. A total of 12 inspections of livestock dealer operations or facilities were conducted.

**Biologics:** The Animal Health Program evaluated 32 commercial animal biological products, most being vaccines and issued authorization letters to pharmaceutical companies, distributors, veterinarians or researchers allowing them to import, manufacture, market, distribute or use the biologic agent in Maryland.

**Tissue Residue Inspections:** In FY 2013, Animal Health staff performed five Violative Tissue Residue Investigations for the U.S. Food and Drug Administration (FDA). The FDA contracts with the Animal Health Program to conduct follow-up investigations of violations of antibiotic or other drug residues in food animals. This service is one of the tools used to address this high priority public health matter.

**Contagious Equine Metritis (CEM) Import Quarantine Station:** MDA operates two CEM quarantine stations in partnership with private businesses; one of these stations, opened in August 2009, remains in provisional approval status. At the quarantine station, imported horses receive extensive testing to ensure they are free of CEM prior to being released for breeding activity in the United States. CEM is a disease that is common around the world but has been eradicated in the United States. MDA issued 133 import permits through the CEM program in FY 2013, a slight increase (2%) from FY 2012 activity (130).

**Animal Disease Traceability (ADT) Program:** In January 2013, the USDA published the final rule for Animal Disease Traceability, initiating increased activities in this program as the regulations began to take effect in February 2013. The eventual goal of ADT is to use automated record keeping, similar to that used for tracking packages, to trace the



*MDA's Animal Health Diagnostic Laboratories support producers, farm animal veterinarians and other animal agencies to maintain both animal and public health.*

movements of animals implicated in a disease outbreak within 24-48 hours. Traceback tests for cattle, swine and poultry in FY 2013 indicated that Maryland can meet the 24-48 hour proposed federal standard for tracing individual animals. MDA began full use of the federal Surveillance Collaboration Services (SCS) CORE ONE database in 2013 to maintain identification data to enable tracing of many animals rapidly when necessary in a disease outbreak investigation. The Core One system, installed at MDA headquarters in FY 2012 and replacing an antiquated USDA system, is compatible with systems in use by other states and will better enable rapid sharing of data between states during a disease event. While identifying animals of concern is a priority, an equally important priority is identifying those animals, farms and facilities which are not involved in a disease investigation so they can maintain normal commerce with little or no delay, minimizing economic losses and business disruptions.

Premise registration is one means to improve the ability to trace animals. To date, property owners and operators with livestock have registered 1,696 premises in Maryland, an increase of 5 percent from FY 2012 (1,606). This represents about 20 percent of Maryland livestock producers. Livestock premise registration is expected to continue to increase with

the implementation of the new federal law. Under Maryland law, most poultry premises must be registered with MDA. In the event of disease outbreaks, the database allows staff to quickly identify nearby premises, test birds and provide appropriate information to producers. MDA staff aggressively registers poultry premises as they are encountered. Local jurisdictions are beginning to require MDA registration as part of the local approval process for backyard flocks. To date, 4,115 poultry premises are registered under the state program, with 349 new premises registered in FY 2013, a 9 percent increase from FY 2012 (3766), largely resulting from local requirements for new urban flocks to comply with state premise registration requirements before being permitted to have poultry.

A second major means to improve traceability of animals is requiring animals to be tagged with traceable identification tags, or "official identification tags". Most cattle are now, as of February 2013, required to have official tags to move interstate as part of the new federal ADT rule. To implement this requirement, Animal Health conducted outreach and education to producers, market operators and veterinarians throughout the state. Since February 2013, Animal Health has distributed 5,700 official identification tags to producers

and veterinarians free of charge, funded by the federal ADT Cooperative Agreement.

## Emergency Response Readiness

The Animal Health program maintains a robust capacity for emergency response. Through continued training and a department-wide Agriculture Responders unit, MDA personnel are assigned and trained to respond to all agricultural emergencies, including animal emergencies. Staff is trained in and routinely uses the Incident Command System and the Web EOC system in emergency events under the departmental Emergency Operations and Incident Command System/Unified Command Plan. In addition, Animal Health personnel continue to collaborate with the Maryland Department of Health and Mental Hygiene, the Maryland Emergency Management Agency (MEMA), the State Board of Veterinary Medical Examiners and the Maryland veterinary community to recruit, train and organize the State Voluntary Veterinary Corps, a group of about 230 veterinarians and technicians willing to support emergency operations when activated.

In FY 2013, Animal Health staff participated in two actual state-wide emergency responses and MEMA activations -- the first was in October 2012 for Hurricane Sandy and the other was in June 2013 for Tropical Storm Andrea emergency and animal sheltering events. MDA set up and staffed three state pet shelters for 72 hours during the Hurricane Sandy response.

No major disease outbreaks occurred that required ongoing emergency activity; swine influenza response work was usually done during routine work. Activities for emergency disease response readiness included a joint Maryland-Delaware and Industry field training in emergency poultry depopulation and additional training and practice held in house to hone skills with this specialized technology and equipment. The Animal Health Program is a national leader with other Delmarva partners in developing improved technologies and tactics for detecting and responding to emergency poultry diseases and protecting worker health during outbreak response, and is a member of the Delmarva Emergency Poultry Disease Task Force.

FY 2013 was the second year of MDA participation in the Mid Atlantic Secure Milk Supply (SMS) initiative, a multistate continuity of business planning effort for the dairy industry in the event of a foot and mouth disease (FMD) outbreak. The voluntary initiative is partially funded by USDA with

significant contributions by the industry and participating states. During FY 2013, two additional states (WV and DE) joined the original five states (VA, SC, NC, TN, MD) as full members. Recruitment of other state members is ongoing. The greater the participation among states, the greater the ability of the dairy industry to ship milk across state borders with minimal delay or disruption during an FMD outbreak which results in less market disruptions and less financial hardship to producers, processors and haulers.

The primary focus of FY 2013 activities were as follows:

- Test the draft plan by pilot visits to a representative sample of dairies, processing plants and haulers in the participating states. Based on findings, revise, modify or otherwise improve the plan.
- Begin training activities focused on the pilot activities for involved state regulators, industry representatives, Extension personnel and others. These training activities also have longer term benefit as both informational outreach tools and serve as a foundation for future additional training.
- Conduct additional outreach to the industry, agencies with a regulatory interest and others, to include states not presently participating in SMS that send or receive significant amounts of raw milk across the borders of member states
- Develop information systems to share essential information among member states in the event SMS is activated by an FMD event in the US.

## Disease Surveillance and Response

The Animal Health program oversees or conducts ongoing routine, active or enhanced surveillance for several livestock and poultry diseases, including foreign animal diseases. The program has two federal-state Cooperative Agreements for disease control programs, consolidated from nine in FY 2012 but still covering the same or similar activities, which fund much of the enhanced surveillance and outreach and education. Enhanced surveillance is an increased frequency or number of tests for a disease of particular significance or risk. Specific surveillance programs and/or investigations are highlighted below.

**Quarantines:** As a result of disease surveillance and response efforts in FY 2013 24 quarantines ("hold orders") were placed

and 20 quarantines were released on farms for: suspect tuberculosis in cattle and goats; suspect equine infectious anemia and equine herpes virus and neurologic syndrome in horses; rabies or rabies suspect in cattle, goat, and horses; infectious laryngotracheitis, infectious bronchitis virus, *Mycoplasma gallisepticum* and *Mycoplasma synoviae* in poultry; suspect *Salmonella pullorum* and suspect avian influenza in poultry (negative in both cases); trichinella in swine; vesicular stomatitis in horses; scrapie in goats; and Epizootic Hemorrhagic Disease in cattle. 240 routine 30-day quarantines for swine entering the state were placed through the Swine Permit process. In addition, there were 133 quarantine actions associated with horses moving through the CEM Quarantine Import Stations in Maryland.

**Foreign Animal Disease:** No foreign animal disease (FAD) was detected in Maryland during FY 2013. Nine foreign animal disease (FAD) investigations, in cattle and equine, were conducted. Three FAD trainings for Maryland Accredited private practice veterinarians were conducted as part of the CORE training for new Maryland Accredited veterinarians. MDA has four qualified Foreign Animal Disease Diagnosticians or Practitioners on staff.

**Avian Influenza:** The program continues enhanced surveillance for avian influenza and other high consequence diseases of poultry in commercial and non-commercial flocks with federal funding, and maintains readiness to respond to avian influenza outbreaks in the state or Delmarva region. In December 2012, Animal Health updated the extensive "Initial State Containment and Response Plan for High Path Avian Influenza" in collaboration with the Delaware and Virginia Departments of Agriculture and poultry producers, especially Delmarva Poultry Industry, Inc. which represents the broiler industry on Delmarva, and submitted it for approval to the USDA. MDA performed 9,004 tests in FY 2013. No avian influenza was detected. Avian Influenza surveillance requirements were imposed on poultry shipments (spent hens) from Pennsylvania entering the Maryland Live Bird Market System, primarily for distribution from farms in Southern Maryland. Maryland Poultry testing agents continue to be approved to conduct testing of birds moving into the New York/New Jersey/Pennsylvania Live Bird Market System in addition to their long-standing service testing poultry for exhibitions.

**Tuberculosis:** Maryland remains free of bovine tuberculosis (BTB); nevertheless, the ongoing reemergence of BTB in cattle and white tailed deer elsewhere in the United States during the past several years is of concern. Animal Health

staff initiated refresher training for BTB testing for Accredited Veterinarians in response to an identified testing concern. Four BTB responders were identified and retested in 2013 with all four being determined healthy. The Animal Health program is heavily involved in national efforts to develop programmatic changes needed to re-establish better control over this threat to public and animal health.

Other livestock and poultry diseases and issues that continue to be part of MDA's surveillance programs include: Brucellosis in cattle, goats and swine; pseudorabies in swine; bovine spongiform encephalopathy (aka BSE or mad cow disease) in cattle; illegal garbage feeding to swine; *Salmonella pullorum* and exotic Newcastle disease in poultry; and scrapie in sheep and goats.

## New Initiatives

**MDA Animal Sheltering Program:** Animal Health continued to spearhead MDA efforts to better meet animal sheltering missions assigned to MDA under the State Emergency Operations Plan, particularly in light of the increased frequency of Mid-Atlantic hurricane events. An MDA Pet Sheltering Task Force was set up and Memorandums of Understanding agreements were established with the American Society for the Prevention of Cruelty to Animals (ASPCA), the National Animal Rescue and Sheltering Coalition (NARSC) and the American Veterinary Medical Association (AVMA) to provide emergency assistance for pet sheltering during disasters. Also, MDA purchased additional pet shelter supplies including trailers and animal crates to enable initial MDA response for up to four state shelters; participated in pre-season site visits to mass state shelters with the Department of Human Resources to ensure adequate co-located pet facilities; and participated in a state emergency exercise for emergency pet sheltering.

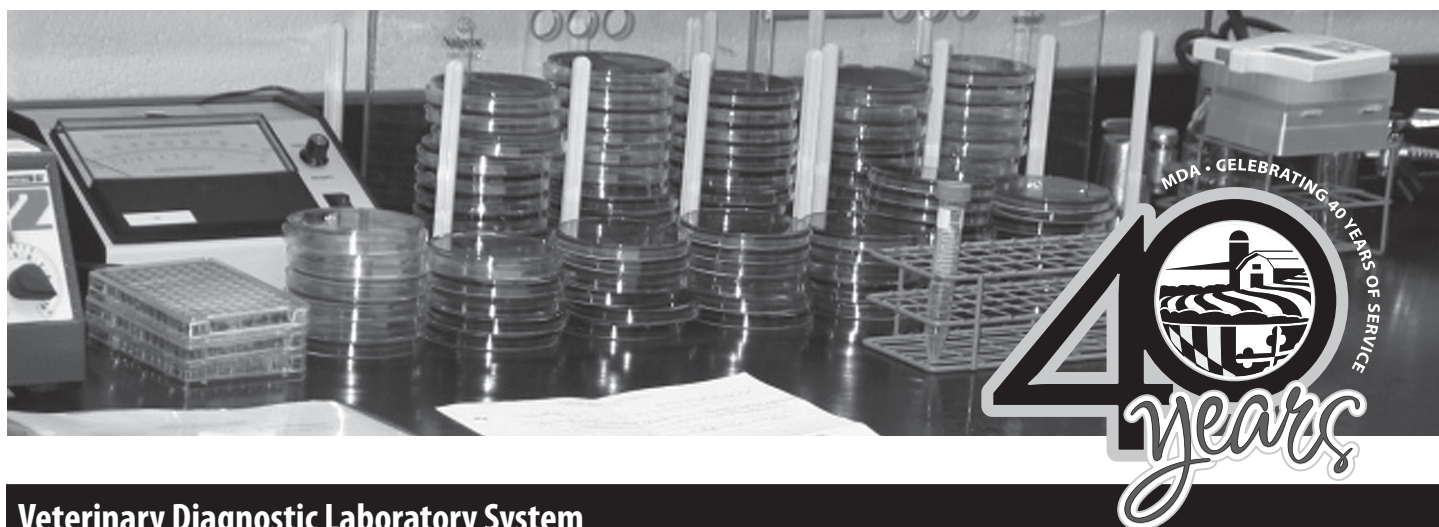
**Other Animal Health Program Activities:** Other MDA Animal Health program activities include: the licensing of livestock markets and dealers, accreditation of federal-state veterinarians, and active participation in the National Poultry Improvement Plan which provides standard monitoring and certification programs for commercial poultry for significant diseases including avian influenza and salmonella, and for hatchery sanitation.

A summary of selected Animal Health activities is provided on the next page.

**MDA ANIMAL HEALTH PROGRAM FY 2012 – SELECTED PARAMETERS**

Parameter	Total Number
Animals Certified to Move In, Out or Within Maryland	38,214
Biological Authorizations	32
CEM Permits (Quarantines)	133
Dealer Inspections	12
Drug Residue Inspections	5
Equine Health Certificate – Export	4,422
Equine Health Certificate – Import	4,661
Exhibition Inspections	66
Export Certificates (Non Equine)	14,559
Foreign Animal Disease Investigations	9
Import Certificates (Non Equine)	23,655
Inspections and Investigations – Total Combined	384
Intrastate Certificates Total (Show)	7,937
Livestock Dealer Licenses	50
Market Inspections	236
Quarantines Issued for Disease Investigations	24
Swine Permits Issued (Quarantines)	240





## Veterinary Diagnostic Laboratory System

MDA operates a veterinary diagnostic laboratory system consisting of a livestock health laboratory in Frederick and a poultry health laboratory in Salisbury. The system provides regulatory diagnostic support to the Animal Health Program, the USDA and other state agencies. Additionally, the laboratories provide diagnostic services in support of Maryland producers and farm animal veterinarians. Both laboratories are long-standing members of the National Animal Health Laboratory Network (NAHLN), a USDA program. Both laboratories serve as Basic Sentinel Clinical Laboratories for the Maryland Department of Health and Mental Hygiene.

During FY 2012, both laboratories completed preparation to meet the laboratory accreditation requirements of the American Association of Laboratory Accreditation (A2LA). In June 2012, both facilities successfully completed an on-site accreditation audit visit by A2LA. Full A2LA accreditation was presented to both labs on August 20, 2012. In June 2013, both facilities received a successful annual review by A2LA. This accreditation is valid until September 30, 2014. During FY 2013, the Salisbury lab expanded its accredited scope of work to include Newcastle, Velogenic Newcastle Disease and swine influenza in addition to avian influenza and salmonella. Frederick Laboratory performs avian influenza and contagious equine metritis under the A2LA accredited scope of work.

Membership in NAHLN and A2LA allows the laboratories to perform certain diagnostic activities important to Maryland livestock and poultry producers. Laboratory accreditation demonstrates competence, impartiality, performance capability, and data traceability that meets or exceeds national and international standards.

## Laboratory System Missions and Staff

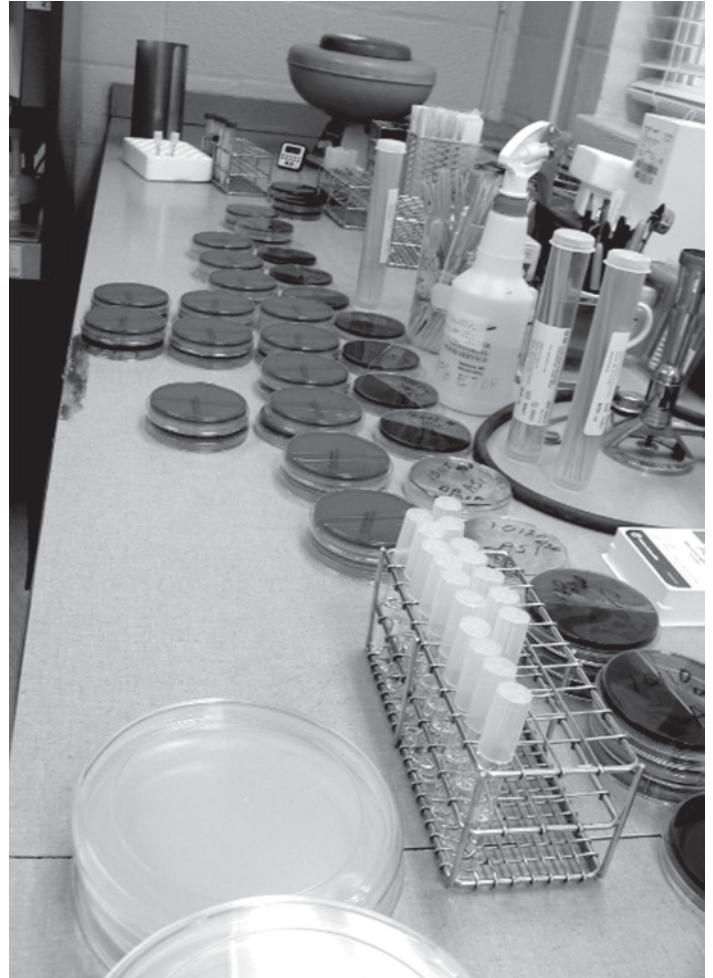
The Animal Health Laboratory System supports the animal and public health regulatory and emergency response missions of MDA, other state agencies, and local and federal governments. It assists veterinarians, livestock and poultry producers, and the equine industry in maintaining healthy herds and flocks. The regulatory activities of other state, federal and local governmental entities involved in animal health depend on the surveillance and compliance testing carried out in these laboratories. Examples include the diagnosis of certain high consequence pathogens of poultry such as avian influenza in support of national disease control programs of the USDA, in support of the FDA Center for Veterinary Medicine initiative to promote animal and human health by investigating potential problems with animal feeds and animal drugs, support to the Department of Health and Mental Hygiene in diagnosing animal rabies and other animal diseases of public health significance, and support to the Department of Natural Resources for diseases of wildlife consequence such as chronic wasting disease in deer. Additionally, the system provides post mortem and related diagnostic support to animal control agencies for certain matters involving cruelty and neglect.

To accomplish these missions, the system performs a wide array of diagnostic procedures on a variety of specimens and samples submitted by producers, agricultural businesses, animal owners, veterinarians and government agencies. To ensure full continuity of services on a day to day basis as well as providing surge capacity in the event of a disease outbreak, the laboratory scientists in the system are cross trained so that a minimum of three are able to perform each critical diagnostic test.

The Laboratory System also provides educational and training opportunities to a diverse group of students, including students of the Virginia-Maryland Regional College of Veterinary Medicine and other U.S. veterinary schools, the University of Maryland, Salisbury University, other U.S. college and universities, veterinary pathology residents from Johns Hopkins University, and the Armed Forces Institute of Pathology, poultry industry veterinarians and high school interns. Students in the laboratory system are mentored by the directors and members of the staff.

Within the broad system missions, each laboratory has specific geographic and technical missions. The primary mission of the **Frederick Laboratory** focuses on food animal livestock and horses. Secondary missions include diagnostics for high consequence diseases of poultry, to include regional service and back-up for the poultry laboratory at Salisbury during an emergency. The Frederick laboratory primarily serves constituents on the western shore of the state. Four laboratory scientists perform diagnostic activities in bacteriology, serology, parasitological, virology and mycology as well as important duties of supervision, quality assurance, safety assurance and operational support.

The director is a veterinary pathologic diagnostician with responsibility for all activities of the laboratory. The director also serves as the lead diagnostician, conducting post mortem examination of animals and interpreting results generated by the science staff. The laboratory capability includes rabies, contagious equine metritis, equine herpes



virus, equine infectious anemia, Lyme disease, Johne's disease, and most recently, avian influenza. Avian influenza testing of poultry was added to the Frederick mission in FY 2011 to provide the agency with additional equipment and trained staff to support that activity in the event of a poultry health emergency requiring a substantial surge in testing capability at the Salisbury Laboratory.



*Both MDA Animal Health Laboratories were accredited during FY 13 by the American Association of Laboratory Accreditation for meeting international standards on selected diagnostic tests.*

The primary mission of the **Salisbury Laboratory** focuses on infectious diseases of poultry. Secondary missions include full service post mortem diagnostic support for certain diseases of public health significance such as Salmonellosis, support to disease and welfare investigations involving mammals, and equine infectious anemia testing for horses. The Salisbury Laboratory primarily serves the commercial poultry industry of Delmarva and the Eastern Shore region of Maryland. The laboratory is served by four scientists and a laboratory technician performing diagnostic activities in bacteriology, serology, parasitological, virology and mycology as well as important duties of supervision, quality assurance, safety assurance and operational support.

The director is a veterinary poultry pathologic diagnostician with responsibility for all activities of the laboratory. The director also serves as the lead diagnostician, conducting post mortem examination of animals and interpreting results generated by the science staff. The facility has a large molecular diagnostic capability that is dedicated primarily to the detection of avian influenza, Newcastle disease, infectious bronchitis virus, infectious laryngotracheitis, and mycoplasmal diseases.

The laboratory also performs equine infectious anemia and salmonella diagnostics. Laboratory personnel participate in

disease outbreak surge capacity programs with cross training in house and cross training with the Maryland Department of Health and Mental Hygiene public health laboratory scientists. The facility has a close working relationship and shares a laboratory information management system with the University of Delaware Poultry Diagnostic Laboratory. Together they operate a poultry health diagnostic network that seamlessly serves poultry producers of the Delmarva.

A summary of testing carried out in FY 2013 at MDA Animal Health diagnostic laboratories for regulatory or otherwise select significant diseases is provided below:

### ANIMAL HEALTH PROGRAM LABORATORY STATISTICS

Diagnostic Activity	Number	Test Results
Mammalian Necropsy	186	n/a
Poultry Necropsies	6,578	n/a
Avian Influenza	9,004	All negative
Rabies	90	7 positive
Equine Infectious Anemia	14,417	All negative
Contagious Equine Metritis	1,577	All negative
Equine Herpesvirus (EHV-1)	20	0 positive
Johne's Disease in Cattle	2,745	144 positive



## Maryland State Board of Veterinary Medical Examiners

The State Board of Veterinary Medical Examiners (SBVME) sets the standards that veterinarians, registered veterinary technicians (RVTs), and veterinary hospital owners must comply with. These standards are set by statutes adopted by the General Assembly or regulations adopted or amended by the SBVME. The SBVME also licenses and registers veterinarians; licenses and inspects veterinary hospitals; licenses animal control facilities; registers veterinary technicians; provides disciplinary information to other state veterinary boards and the public; and submits licensure verification to other state licensing boards upon request. Additionally, the SBVME investigates consumer complaints, initiates its own investigations, and determines whether disciplinary action shall be taken against licensees or registrants. Requests for approval of continuing education credits are reviewed by the SBVME. A Veterinary Technician Committee, which falls under the SBVME's jurisdiction, makes recommendations to the SBVME for changes to the laws and regulations governing registered veterinary technicians in the state.

The SBVME is comprised of seven members appointed by the Governor to serve five-year terms. Five members are veterinarians – at least two of whom must be primarily

large animal practitioners. The remaining two members are consumer advocates. After serving two full-terms, for a total of 10 years, the SBVME's vice president stepped down. A new member, representing large animal medicine, began his first five-year term in June 2013. SBVME staff consists of an executive director, administrative specialist, office secretary, investigator, and two inspectors. The inspectors divide their time between the SBVME and the Maryland Horse Industry Board, which inspects and licenses public horse stables. SBVME staff and its members welcomed a new investigator to fill a position that was vacated in late FY 2012.

The SBVME is an active, voting member of the American Association of Veterinary State Boards (AAVSB), a non-profit organization that provides programs and services to veterinary boards to assist them in carrying out their statutory responsibilities for the public's protection. The organization is comprised of 57 state veterinary medical boards and veterinary technician committees across the country. In addition to sending a delegate annually to represent the State of Maryland, SBVME members have participated on the bylaws committee and on a committee to study and recommend acceptance of complementary and alternative veterinary medicine for continuing education credit.

## Online Licensure Renewal System

To determine ease of use, problems encountered, and suggestions for improvements to the SBVME's online licensure renewal system, an online survey was created. A collaboration between SBVME staff, MDA's information technology department, and the Maryland Department of Information Technology, the survey provided valuable information to the SBVME. Modifications were made to the system, and an increase in electronic application submissions was noted. More changes are anticipated in the coming years, with the ultimate goal being a paperless renewal process.

## Legislation

The SBVME and its staff reviewed and commented on several pieces of legislation that had the potential to impact its licensees and the pet-owning public.

One bill that received considerable attention, and which the SBVME supported, was House Bill 767 / Senate Bill 820 – Animal Welfare – Spay/Neuter Fund. See Government Relations, page 11.

In late FY 2013, the SBVME and its staff communicated

## SBVME SELECTED STATISTICS

Category	2011	2012	2013
Licenses Issued to New Veterinarians	169	161	150
Registrations Issued to Veterinarians	2,164	3,652	2,679
Registrations Issued to Registered Veterinary Technicians*	123	193	142
Licenses Issued to Veterinary Hospitals	528	651	582
Percentage of Veterinary Hospitals Inspected and in Compliance	99	97	99
Number of New Complaints Received**	87	70	89
Number of Complaints Closed	82	104	92

\*Veterinary technicians are required to re-register every three years. This number reflects a combination of initial, first-time registrants, and individuals registered in prior years who re-registered.

\*\* For 2011, this number includes two complaints filed against non-veterinarians and two complaints filed against veterinarians not licensed in Maryland. For 2013, this number does not include five complaints that were separated into different docket numbers because multiple veterinarians were involved.

with the Maryland Board of Pharmacy on issues involving drug compounding and the accessibility of much-needed medications in small quantities for animal patients. Concerns were raised by the Maryland Department of Health and Mental Hygiene when an out-of-state pharmacy was found to have produced medication that was responsible for the illnesses and deaths of several individuals. To safeguard against similar occurrences elsewhere, the Maryland Board of Pharmacy is tightening its requirements on businesses that compound and those that are not sterile, but need to be registered as such. In recognition of the need for veterinarians to have access to customized medications for their patients, the American Veterinary Medical Association has submitted policies to a Senate committee on veterinary

compounding, compounding from unapproved (bulk) substances in non-food animals, and compounding from unapproved (bulk) substances in food animals.

### Regulations

FY 2013 also saw amendments to regulations affecting registered veterinary technicians. Recommendations and draft language were proposed by the Veterinary Technician Committee and accepted by the SBVME in late FY 2012. In part, these changes establish requirements for those seeking registration as veterinary technicians who do not have degrees from accredited veterinary technology programs.

## GOALS AND OBJECTIVES

Performance Measures	FY 2013
Registrations Issued for Veterinarians	2,679
Licenses Issued for Veterinary Hospitals	582
Number of Hospitals Inspected	285
Number of Initial Inspections (New Hospitals/Owners)	14
Total Number of Inspections Conducted	294
Number of Hospitals Receiving Follow-Up Inspections	12
Quality: Percent of Hospitals Passing Inspection	99



## Weights and Measures

The regulation of weights and measures is one of the oldest functions of government. The Weights and Measures Program ensures that consumers get what they pay for whether it is a gallon of gasoline or a pound of hamburger. Purchases that require measurement affect virtually every consumer in the state and involve millions of individual transactions annually. Having uniform standards of measurement creates fairness and confidence in the marketplace and benefits both buyers and sellers.

MDA is an active, voting member of the National Conference on Weights and Measures (NCWM), which provides a forum for the discussion and development of uniform policy and protocols that guide the regulation of weights and measures. The NCWM is comprised of state and federal government officials, and private industry representatives throughout the United States.

There are a total of 60,806 weighing and measuring devices in commercial use in Maryland at 9,160 separate businesses locations. MDA has 18 inspectors who are specially trained and certified to test and inspect these devices according to established protocols to make sure they are within the required tolerances. Devices failing inspection may be taken out of service until corrected by the owner. Inspectors also visit stores to verify that packaged products contain the quantities specified and that consumers are being charged the correct prices at checkout.

In FY 2013, the field staff conducted 38,932 device inspections. Inspectors also tested 8,733 individual lots of

prepackaged commodities. Price verification inspections were conducted at 145 stores. Inspectors found significant deviations from the advertised prices in a number of these stores. Eighteen firms received civil penalties for misrepresenting unit price violations. In FY 2013, Weights and Measures imposed \$53,900 in civil penalties for violations.

In FY2013, the field staff investigated 553 consumer complaints. The majority of the complaints were related to gasoline sales. Consumer complaints are given priority over routine inspections and require a significant amount of staff hours to investigate.

The registration of approximately 7,000 businesses has been used to create a database that has become an effective management tool. It allows the administrative staff to target the most critical areas and provides each field inspector with a tool to plan their inspection work more efficiently, thereby reducing driving time and providing more uniform inspection coverage. This information has helped management prioritize the use of limited program resources to better protect Maryland consumers and maintain a level playing field for industries that operate in the state.

Maryland's Metrology Laboratory maintains primary standards of mass, length, volume and temperature that are legally traceable to the National Institute of Standards and Technology (NIST) and provides a measurement capability at the state level that is consistent with national measurement goals. The Laboratory is recognized by the National Voluntary Laboratory Accreditation Program (NVLAP) for compliance

with criteria set forth in The International Standard ISO/IEC 17025:1999 and relevant requirements of ISO 9002:1994. The NVLAP is an independent agency under NIST which accredits testing and calibration laboratories that are found competent to perform specific tests or calibrations, or types of tests or calibrations.

The Weights and Measures Program also participates in the National Type Evaluation Program (NTEP) which tests and inspects the accuracy of new measuring devices and

measuring systems before they are approved for use in commerce. NTEP laboratories are authorized by the National Conference on Weights and Measures. Meeting the required NTEP performance standards and procedures denotes a high degree of technical and professional competence. Authorization is specific to a type of weighing or measuring device. The Maryland NTEP laboratory is authorized in 14 areas of evaluation. All related costs are paid by the participating manufacturers requesting NTEP services.

### WEIGHTS AND MEASURES ACTIVITIES TABLES: FIELD INSPECTION AND TEST EFFORT

	2011		2012		2013	
	% Violations	Total Tests	% Violations	Total Tests	% Violations	Total Tests
<b>A. Weighing Systems</b>						
Large Scales	23.6	881	21.5	1,067	25.9	850
Medium Scales	17.6	574	16.0	743	16.5	557
Small Scales	13.7	8,291	16.1	8,385	16.1	6,900
<b>B. Liquid Measuring Systems</b>						
Retail Gasoline Meters	18.2	25,837	19.6	28,970	24.1	28,894
L P Gas Meters	33.9	527	27.8	481	16.0	400
Vehicle Tank Meters and Other Large Meters	13.0	1,278	12.0	1,104	15.4	1,120
<b>C. Grain Moisture Meters</b>	13.3	120	24.6	134	13.4	112
<b>D. Programmed Tare Inspections</b>	8.1	2,282	11.9	2,072	12.3	1,686
<b>E. Price Scanning and Method of Sale</b>	5.0	19,942	3.4	16,002	3.1	9,977
<b>F. Delivery Ticket Inspections</b>	1.9	1,326	0.7	1,294	1.2	1,849
<b>G. Package Lots</b>	20.9	9,256	19.4	8,261	16.4	8,733

*Inspection and testing of packages involve not only correct weight or measure determinations, but compliance with method of sale and labeling requirements.*



## WEIGHTS AND MEASURES ACTIVITIES TABLES: LABORATORY EFFORT

Inspection and Test	2011 Tested	% Rejected	2012 Tested	% Rejected	2013 Tested	% Rejected
Weights	2,828	10.2	1,726	13.3	1,006	9.1
Volumetric Measures, (Non-Glass)	81	75.3	34	41.2	30	66.7
Length Devices	0	0.0	0	0.0	0	0.0
Temperature Devices	117	0.0	31	0.0	104	0.0
Timing Devices	7	0.0	2	0.0	6	0.0
Volumetric (Glass)	0	0.0	0	0.0	0	0.0
Scales/Meters	0	0.0	0	0.0	0	0.0
Standard Grain Samples	372	N/A	405	N/A	451	N/A

*The laboratory provides technical support for field inspection and provides a base of measurement utilized by Weights and Measures officials. Additionally, it provides measurement traceability for other state agencies and a broad range of Maryland industries.*

## WEIGHTS AND MEASURES ACTIVITIES TABLES: ADMINISTRATIVE CONTROLS AND MISCELLANEOUS

	2011 Number	2012 Number	2013 Number
Weighing and Measuring Devices Registration Certificates, Issued	7,128	7,091	7,026
Type Evaluation of Devices Conducted (NTEP)	29	58	48
Citizen Complaints Received and Investigated	562	584	553
Disciplinary Hearings, Criminal Arrests, Summonses Obtained and/or Civil Penalties	64	93	56

*Aside from day-to-day administration, coordination and support of the laboratory and field activities, Weights and Measures is involved in the registration of commercial weighing and measuring devices, and the examination and licensing of individuals for specific functions.*



## Food Quality Assurance

### Grading Services

The Grading Services section offers producers and processors a voluntary certification program for agricultural commodities including meat, poultry, eggs, fruit, vegetables and grain. MDA graders sample commodities and compare them with standards developed by the U.S. Department of Agriculture and/or MDA for microbial, chemical and/or physical contamination, quality, size, labeling and packaging. Commodities that meet the state and federal standards are certified by MDA graders. Official certification provides a uniform basis for agricultural commodities that enhances their marketability. Foreign countries, wholesale food suppliers, large grocery store chains, and state institutions, among others, often require official certification to ensure they are purchasing agricultural commodities that meet their specifications. A cost-effective and service-oriented grading program is crucial to Maryland producers competing in these markets.

The primary commodities graded by the section this year were:

- 271.3 million pounds of poultry
- 28.2 million dozens of shell eggs

- 14.9 million pounds of meat
- 7.4 million metric tons of grain
- 9.4 million pounds of fruits and vegetables.

### Compliance Audits

Many buyers require compliance audits of production practices as well as product certification. The Grading Services section conducts compliance audits to ensure agricultural production facilities comply with standards related to animal welfare, good agricultural practices, food security, food safety and quality assurance. As buyers and consumers continue to demand verification of compliance with these standards, MDA anticipates increased demand for compliance audits and is training additional staff members to meet that demand.

The Food Quality Assurance Program has adapted to continual changes in the agricultural commodity industry by offering the services necessary for the industry to market its products. The number of Good Agricultural Practices (GAP) audits conducted has continued to increase not only because more wholesale and retail chain buyers require the audits but also because the U.S. Food and Drug Administration proposed regulations as a result of the Food Safety Modernization Act for the safe production of fruits and vegetables during

FY 2013. MDA has received \$600,000 in grants from USDA during the past seven years to develop and implement a GAP programs that will be effective for both small and large producers of fruits and vegetables. During FY 2013, GAP training sessions were held for producers that covered basic food safety practices, writing and implementing food safety plans and specific information for the safe production and handling of high risk crops. The program also continued conducting audits to verify producers participating in the MDA GAP program are complying with established food safety standards. These programs will help producers meet increasingly stringent buyer and federal requirements for producing fresh fruits and vegetables.

### Egg Inspection

The Egg Inspection program enforces the Maryland Egg Law. Inspections are performed at the producer, wholesale, food service and retail levels to ensure eggs sold in Maryland meet the standards for quality, size, refrigeration, microbial and physical contamination, labeling and record keeping. The section also registers egg wholesalers and packers. Portions of the labeling, record keeping and registration requirements provide traceability in case of a Salmonella enteritidis outbreak. Other sections of the law were established to reduce the risk to consumers of food-borne illness. Eggs found to be out of compliance with the established standards are removed from sale, and violation notices are issued to the responsible parties. Inspection activities are funded through the collection of \$.0026 per dozen of eggs sold in Maryland. The percentage of sampled eggs found to be in compliance with the Maryland Egg Law decreased to 85.42 percent this year from 86.48 percent last year. The number of lots being inspected continued to decrease because of vacancies in the program and other activities conducted by program employees. The egg inspection chart shows comparison data for the eggs inspected and violations.

MDA continues to conduct Country of Origin labeling reviews for USDA in conjunction with egg inspections. Federal reimbursement for Country of Origin reviews has helped reduce the costs of conducting egg inspections; however, the assignments from USDA were reduced again in FY2013 as a result of federal budget issues.

### Organic Certification

The USDA-accredited Maryland Organic Certification Program certified 76 farms and 24 handlers of organic products during

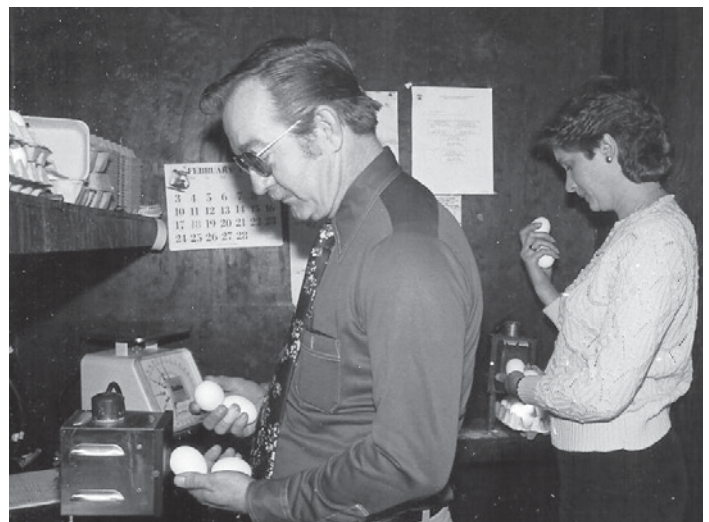
FY 2013. The program also registered an additional 18 farms as organic that are exempt from the inspection requirements. Maryland organic producers continue to benefit from the federal Cost-Share Reimbursement Program funded by USDA. This cost-share program allowed MDA to reimburse 75 percent of the inspection costs growers paid for certification. This program is expected to continue through FY 2014 for producers only. As a part of federal budget cuts funding is no longer available for organic handlers.

### Grain Laws

All persons in the business of buying, receiving, exchanging or storing grain from a grain producer are regulated by MDA. Licenses are issued to businesses that meet requirements set by law for insurance and financial status. There are four categories of licenses issued based on the number of bushels purchased in a calendar year. Fees range from \$50 to \$300. A *Directory of Licensed Grain Dealers* is published and distributed annually. MDA licensed 35 businesses with 67 locations in FY 2013.

### Poultry and Rabbit Slaughter

The poultry and rabbit slaughter program helps small poultry and rabbit producers to slaughter their animals on farm and sell them to restaurants, at farmer's markets and other locations in Maryland. The program consists of food safety training, basic food safety requirements during slaughter, and inspections to verify that good food safety practices are followed. Producers who follow the requirements are certified by MDA. The program began in May 2010 and already more than 300 producers have been trained, and 39 producers have been certified.





## Maryland Agricultural Fair Board

The Maryland Agricultural Fair Board was established by an act of the state legislature in 1937. Originally known as the Maryland State Fair Board, the office was based at the Maryland State Fairgrounds in Timonium. When the Maryland Department of Agriculture was established the office was moved to Annapolis and renamed the Maryland Agricultural Fair Board. The Board falls under Marketing and Agribusiness Development.

The Board is composed of nine members appointed by the Governor. Term of office is five years and a member may serve a maximum of two terms. They may come back on the board after a break in service. The current board divided the state into regions that each board member manages. When a Board vacancy occurs, all activities funded within that region may nominate a replacement. The Board meets three times a year and communicates throughout the year by phone and e-mail. The Board is managed by a part-time executive secretary.

Funding comes through the Racing Commission through a special grant and is made up of unclaimed pari-mutuel tickets and various fees. The current annual budget is \$1.6 million. The grant process starts in December and is finalized by May 15. Grants to fairs and shows may be used for ribbons, awards, and premiums. Currently, the Board funds about 165 events. These range from the Maryland State Fair, to county fairs, to local community shows, to youth activities in 4-H and FFA.

The Board publishes an annual guide to fairs and shows in Maryland that they fund. These brochures are placed in all Welcome Centers on state highways, all Extension Offices, all Fairs and Shows, all Chambers of Commerce, all Maryland libraries and on the MDA website.

Racing revenue continues to be in a state of change and this affects the grants given out by the Board. The Board holds regional budget meetings throughout the state to meet with each group to review their request, financial reports, and fair activities.



## Maryland Horse Industry Board

The Maryland Horse Industry Board (MHIB) consists of the Secretary of Agriculture or his designee and 11 members from a cross-section of the horse industry appointed to four-year terms by the Governor. New appointees during FY 2013 include Jay Griswold (General Public) and Karin DeFrancis (Organized Shows & Events). During FY 2013, MHIB celebrated its 15<sup>th</sup> anniversary.

Maryland law defines six statutory duties of MHIB. These duties are to: (1) promote the use and development of horses in Maryland; (2) support research related to equine health and related issues; (3) create public awareness of the value of equine activities as they relate to green space preservation; (4) develop and disseminate information concerning the equine industry; (5) advise MDA regarding matters affecting the state's horse industry; and (6) license and inspect commercial stables that solicit business from the public, either by giving lessons, boarding horses, renting them for activities such as trail rides, or offering them a rescue or sanctuary.

As the commodity board for the Maryland horse industry, MHIB develops projects to help grow the recreational horse industry and to help re-establish the prominence of the Maryland horse racing and breeding industries. Toward that end, MHIB began in FY 2012 embarking on a five-year strategic marketing plan to put "more seats in saddles, and more seats in seats (at equine spectator events)"; to continue work on developing the concept of a Maryland Horse Park or branded Maryland Horse Park System; and to help unite the industry to maintain and grow jobs, open space, and overall to enhance the rich 350-year heritage of the state's association with horses.

Key accomplishments of MHIB in FY 2013:

- **Publication of the first comprehensive Official Guide to Maryland's Licensed Stables.** This full-color, 100-page handbook included profiles and detailed maps of 383 licensed stables, 15 pages of feature stories and 130 photos. In addition to 6,000 printed copies, the Guide is available in a click-through format on the MHIB website. A total of 5,000 print copies were distributed to 188 members of the state legislature; the state's county library system and Enoch Pratt Central Library; various county tourism and 4-H extension offices; at 35 events such as the Maryland State Fair and Horse World Expos in Maryland, Pennsylvania and Delaware attended throughout the year by MHIB personnel; and to people who contacted the MHIB office requesting copies. About 1,000 print copies remain for distribution in FY2014 before another Guide is published in early FY 2015.
- **Publication of the "A Year of Touch of Class Awards" brochure** (full color, 12 pages, 10,000 copies) and a 4-page, full-color brochure listing the state's 50 top equine spectator events (2,000 copies). MHIB also received a \$6,000 grant from the State Highway Administration to develop a Maryland horse trails brochure.
- **MHIB licensed 619 stables in 2013** -- an increase of 41 licensed stables over the previous year. The increase was due, in part, to an aggressive effort to contact stables in non-compliance; legislation passed the previous year that required stables with "one or more horses" rather than "five or more horses" to be licensed; and increased marketing efforts.

- **MHIB continued the process of developing a Maryland Horse Park or branded Maryland Horse Park System by acquiring funding for Phase II of a Maryland Horse Park System Feasibility Study.** The cost of Phase II of the study, commissioned by MHIB and the Maryland Stadium Authority (MSA), is \$70,000. MHIB contributed \$21,000 to the study and worked with the Maryland Department of Business and Economic Development (DBED) to receive the rest of the funding (\$49,000) with a grant from DBED to MSA. Phase II of the study is scheduled to start in the fall of FY 2014.

- **MHIB entered Year Two of implementation of the MHIB Five-Year Strategic Marketing Plan. Key components of Year Two include:**

**a. Development of social media and Horse Pals programs:** MHIB hired a part-time contractual employee to develop Facebook, Twitter and YouTube social media accounts and to coordinate and grow activities of the MHIB Horse Pals affinity club. By end of FY 2013, MHIB had more than 400 Facebook friends, nearly 400 Twitter followers and 450 Horse Pals. The first Horse Pals monthly activity started in June 2013 with a farm tour and picnic at Winbak Farm in Chesapeake City and will continue throughout FY 2014. Horse Pals welcomes anyone with an interest in horses, free of charge, and coordinates monthly activities at stables and equine spectator events to encourage them to engage in equestrian activities. The level of activity of the participants can be measured through progression of the program.

**b. Continuation of the Touch of Class Awards program and implementation of an MHIB Speaker Series and Events Forum.** By the conclusion of Year Two of the Touch of Class program, MHIB and the Maryland Department of Agriculture had honored 48 people and 21 horses representing 20 different equine disciplines from 12 different Maryland counties who are all national or international champions. MHIB began the Speaker Series program in March 2013 with Steve Day, CEO of Dover Saddlery, addressing equine marketing issues and continued in June 2013 with Todd Gralla of Populous talking about his experiences developing Olympic venues and horse parks throughout the world. The MHIB equine events forum attracted nearly 70 attendees. State tourism officials addressed the gathering and resulted in at least two events

(Legacy Chase and Columbia Classic Grand Prix) receiving grants from their county tourism offices.

**c. Continued development of four marketing committee work groups and subcommittees, including Promotions, Approved Experience Centers, Elementary School Horse Clubs and Maryland Equine Heritage.** Promotions included a nearly year-long “Maryland is Horse Country” Window Display at the Northbound I-95 Welcome Center and the decoration of 1,000 stick horses at the Maryland State Fair. Working groups began to meet to establish criteria for a statewide network of approved Equine Experience Centers at licensed stables and a network of elementary school junior horse clubs. More than 20 members joined the Maryland Equine Heritage committee and started work on identifying and inventorying historic equine sites in the state. Development of the first horse history trail began in Worcester County.

**d. National and International Outreach.** MHIB created a 20-slide PowerPoint presentation and was asked to present elements of its marketing program to the national marketing committee of the American Horse Council (AHC) at its annual meeting in June 2013. The presentation was well received and MHIB was invited to be a key player in AHC marketing activities. In August 2012, an MHIB delegation visited the Ordos International Cultural Horse Festival in China and in March 2013 hosted a Swedish delegation on a three-day tour of Maryland horse country.

**e. Participation at 35 events promoting Maryland’s horse industry.** Since July 2012, MHIB participated in these events either with a booth or a presentation: Totally Thoroughbred Horse Show, St. Margaret’s Jousting Tournament, Maryland State Fair, Green Cup Polo, Maryland Horse Council Barbecue, North American Mounted Police Games, Days End Farm Fall Festival, Maryland Million, Harrison Mule Days, Timonium Elementary School Sports Festival, Howard County Farm Bureau, Maryland Travel & Tourism Summit, Lisbon Horse Parade, Maryland Horse World Expo, Presidential Inaugural Parade reception, Baltimore City Trails Summit, Maryland Horse Council Horseman of the Year dinner, American Farm Bureau Equine Committee, Pennsylvania Horse Expo, MDA Ag Week display, Delaware Horse Expo, Maryland Steeplechase Association spring

kickoff, Brock Bridge Elementary School Career Day, Woodstock Park Grand Opening, World Trade Center Institute annual dinner, National Tourism Day, Selima Room Secretariat Celebration, Preakness Turcotte Film Premiere at American Film Institute, Lady Legends Day at Preakness, Maryland Special Olympics, Pony Up For Pediatrics, Ride For Life, Winbak Horse Pals picnic, Maryland Steeplechase Association Awards Party and American Horse Council annual meeting.

- **MHIB awarded \$25,350 in grants to 22 Maryland horse organizations and individuals.** MHIB raised the

amount that it awards recipients in its grants program by nearly \$4,000 from the previous year, distributing the second highest amount of grant money in MHIB's 15-year history.

- **MHIB continues the work of six committees and created the new Research Committee.** The committees include Health Advisory, Strategic Planning, Marketing, Budget Review, Grants, Touch of Class and the new Research Committee, which will study ways to fund equine research grant requests.

Below are program statistics from the past three fiscal years:

## MHIB SELECTED STATISTICS

	2011	2012	2013
Category			
Number of Stable Licenses Issued	601	578	619
Number of Inspections Performed Annually	481	468	367
Percentage of Facilities Inspected and in Compliance	100%	100%	100%
Revenue Collected from Licensing Horse Stables in Maryland	\$74,375	\$72,250	\$76,750
Revenue Collected from Assessment Based on Tons of Horse Feed Sold in Maryland	\$205,807	\$194,462	\$200,315
Outcomes			
Total Amount of Money Distributed as Grants for Promotional, Educational or Research Projects for Maryland Horse Industry	\$17,693	\$21,444	\$25,350
Percentage of Total Revenue Distributed as Grants for Maryland Horse Industry	8.6%	11.0%	8.3%
Staffed Booths or Presented Talks at Trade Shows, Conferences, Fairs and Exhibitions Promoting Maryland Equine	10	33	35



## Plant Protection and Weed Management

*Note: Because of the seasonal nature of this program and its federal reporting requirements, data are reported on a calendar year basis. The information below pertains primarily to CY 2012, which includes the last half of FY 2013.*

### Apiary Inspection

MDA's Apiary Inspection Program controls honey bee diseases, parasitic mites, and other pests to maintain healthy colonies for the pollination of Maryland crops. Honey bees pollinate crops valued at more than \$40 million. Maryland fruit and vegetable growers rent 5,000 colonies a year to improve pollination. Beekeepers' colonies are essential to Maryland because two parasitic mites have nearly eliminated feral bee colonies.

**American foulbrood** is the most serious brood disease of honey bees and can destroy a colony in one year. The 21 colonies that inspectors found to have American foulbrood were destroyed to control the spread of this bacterial disease to healthy colonies. The incidence of disease remains relatively low – 1.2% of the colonies inspected.

**Varroa** populations were very high in Maryland in 2012, and brood problems were attributed to varroa mite in the season. The varroa mite is resistant to Apistan®, the primary product used to control this parasite. Four additional products are now available to control varroa.

**Tracheal mite populations**, as documented by the USDA honeybee laboratory, are so low that tracheal mite is no longer considered a threat to honeybees if colonies are monitored on a regular basis.

**Africanized honey bees** arrive occasionally on cargo ships coming from South or Central America. Swarm traps for collecting and monitoring bees were placed at 35 sites at marine terminals and other shipping locations. No swarms were collected in 2012. MDA is working with two groups – the Mid-Atlantic Apiculture Research and Extension Consortium (MAAREC) to provide information to the general public about emergency incidents, and the Apiary Inspectors of America (AIA) for information on the control of movement, other than through natural spread.

**The small hive beetle** was detected in packaged bees and reported or detected in all 23 counties this past year. Colonies are treated and monitored to ensure successful control of the beetles. There have been reports of larval damage to established colonies. The small hive beetle is a pest mainly in stored equipment and in honey houses, although it can render stored honey in the hive unmarketable.

**Permits** were issued for 3,616 honey bee colonies to move into Maryland, primarily for overwintering, and 1,641 colonies to move out of Maryland for pollination services. For the seventh year, Maryland beekeepers sent colonies to California for almond pollination. Some 2,500 colonies were transported to California during the winter of 2012 for this purpose.



Maryland participated in a **National Honey Bee Survey** funded through the Farm Bill in 2011 and continued in 2012. Twenty five apiaries in eight counties were surveyed to document which bee diseases/parasites/pests of honey bees are present in the United States. This survey is in collaboration with USDA Agricultural Research Service (ARS), and designed to determine the presence/absence of exotic pests such as the Asian honey bee (*Apis cerana*) and parasitic mites in the genus *Tropilaelaps* in the United States. The samples collected by MDA apiary inspectors were sent to ARS for virus analysis and to Pennsylvania State University for analysis of nosema, tracheal mites, small hive beetle, *Tropilaelaps*, and other pests. Sample results are sent to the cooperating apiarist. An additional 24 apiaries were surveyed in 2013.

### Nursery Inspection and Plant Quarantine

The nursery and greenhouse industry continues to be a leading part of Maryland's agricultural economy, currently ranking second among commodities, with about \$960 million

in farm income. Other horticultural products and services sold boosted total gross receipts to more than \$1.96 billion. A primary goal of state plant protection and quarantine efforts is to facilitate the production, sale, and distribution of Maryland nursery stock. This is accomplished in large part by inspection and certification activities conducted on-site by Plant Protection and Weed Management staff. Maryland law and reciprocal agreements with other states require that plant material at each producing nursery be inspected annually prior to its subsequent sale to other states to ensure that materials are free of dangerously injurious plant pests. In 2012:

- 92 state phytosanitary certificates that assure specific compliance with established domestic quarantines were issued to 14 states and U.S. territories.
- 588 federal phytosanitary certificates required to export Maryland nursery stock were issued to 53 foreign countries.



*MDA uses a specially trained dog to detect diseases in honey bee colonies.*

Plant Protection and Weed Management staff continued to pursue further cooperative agreement opportunities and followed revised protocols that have streamlined and improved the preparation of Maryland nursery stock for sale that was distributed to both foreign and domestic markets. Plant Protection and Weed Management staff inspected plant material at 488 locations to intercept dangerously injurious or exotic pests. The general health of Maryland-produced nursery stock was found to be excellent.

## Pest Survey

The Cooperative Agricultural Pest Survey (CAPS) is a joint project involving MDA, USDA's Animal and Plant Health Inspection Service (APHIS), and USDA's Plant Protection and Quarantine (PPQ). USDA recommends specific pests of quarantine export significance as survey priorities and provides funding for these surveys. MDA adapts the appropriate survey methods and conducts the actual surveys. This cooperative program has provided necessary data used to certify Maryland products for export to many countries. In 2013 additional surveys, funded through the 2008 Farm Bill Section 10201, are being conducted in tomato fields and stone fruit orchards. Future specialty crop surveys are expected to continue with the assistance of Farm Bill funding.

CAPS surveys document the presence or absence of exotic pests in Maryland, support PPQ exotic pest survey activities, and provide state-specific data for exotic pests in the United States. If any of these species were to become established, they would pose a significant threat to agricultural production and have a negative impact on Maryland's ability to export agricultural commodities. Early detection of exotic pests before they become established aids in eradication or control efforts and protects Maryland agriculture and the environment from potentially devastating losses. Federally funded surveys included exotic wood borers, exotic grape pests, imported fire ant, giant hogweed, noxious weed/*Khapra* beetle, emerald ash borer, and *Sirex noctilio*. Outreach and education is an important component of MDA activities.

MDA deployed and monitored 3,009 insect traps in 2012. Through various types of surveys, MDA collected 6,726 samples. Trapping techniques involved a wide range of devices, including purple prism traps, bucket traps, and Lindgren funnel traps. Pheromones, food baiting, and host volatile attractants are all employed for specific pests. The surveys target pests that are not known to occur in Maryland. Six extensive surveys targeting 22 exotic pests that impact trees, stored products, field, nursery stock, and natural areas

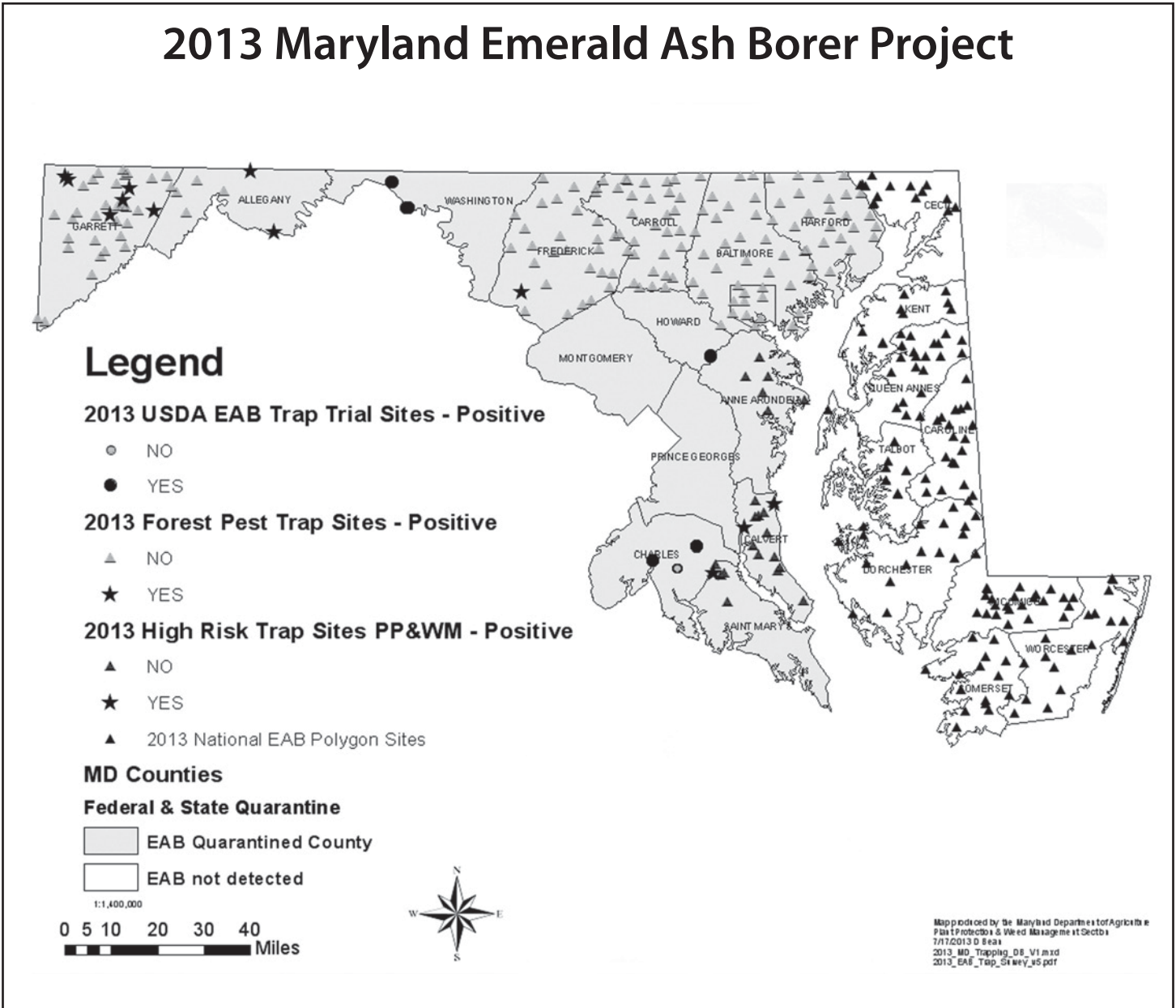
were conducted. MDA conducted exotic wood borer surveys in 10 counties and in Baltimore City at 16 sites; and surveyed for exotic cyst nematodes by pulling soil samples from 30 fields in three counties. No target pests were detected. A few pests, such as the emerald ash borer and imported fire ant, required departmental action.

**Red Imported Fire Ant** - The red imported fire ant, *Solenopsis invicta*, a stinging insect native to South America, is occasionally shipped out of the southern United States in spite of a federal domestic quarantine that restricts its movement. A wide variety of commodities must be treated and/or certified free of fire ants before they can be transported to Maryland. This insect's ability to colonize quickly in a variety of habitats and its aggressive foraging behavior would pose serious health and economic barriers to plant and livestock producers if established in Maryland. Coordinated inspection of trucks transporting tropical foliage plants from quarantined areas in the southern United States into Maryland has proven an effective strategy to retard movement of fire ants by targeting tropical plant brokers and their delivery sites. State agriculture officials in infested areas of the United States have been notified of violations by MDA and have given guidance to infested shipping nurseries. Cooperation with officials in those states, and the brokers and recipients in Maryland, as well as survey and eradication efforts have had a positive impact on the incursion of fire ant. Forty-seven isolated infestations have been eradicated in Maryland since 1989; and 124 surveys at 111 sites in eight counties and Baltimore City in 2012 yielded eight positive sites. Not unexpected were six detections in Ocean City, one in Baltimore City, and one in Anne Arundel County, all associated with tropical plants. Eradication treatments under an MDA Treatment Order and with departmental oversight have been completed at all positive sites detected in 2012.

**Emerald Ash Borer (EAB)** - Eradication efforts undertaken since the 2006 rediscovery of the emerald ash borer (*Agilus planipennis*) in Prince George's and Charles counties have been redirected because removing ash host material near positive trees was not eliminating the pest. A new action plan using all available strategies, including quarantine enforcement and chemical and biological control, are being undertaken to limit the spread of EAB. Trap trees in the immediate vicinity of known populations are being treated with systemic insecticides in conjunction with the release and monitoring of three parasitic wasps that specifically target and destroy EAB eggs or larvae.

With material and assistance from USDA, MDA released 31,551

# 2013 Maryland Emerald Ash Borer Project



parasitoids in 2012 at 12 sites with known infestation. Larvae and adult EAB were collected and provided for propagation of additional parasitoids. Surveillance efforts included 501 purple prism traps monitored in 23 counties and Baltimore City. In 2012, a new federal survey model was deployed resulting in a large reduction of EAB traps in Maryland. There were 183 submitted samples from the prism traps, identifying 301 EABs from 33 positive sites. Three new counties (Montgomery, Garrett and Saint Mary's) were detected during the trapping survey. Other detection methods included girdled trap trees, destructive sampling (where entire trees were debarked) and visual surveys. Federal and state quarantines are in effect for all counties west of the Chesapeake Bay and Susquehanna

River (western shore counties). The EAB population in Maryland is continuing to spread, as documented by the 2013 detections in Frederick and Calvert counties.

**Khapra Beetle** – The Khapra Beetle (*Trogoderma granarium*) is an exotic insect pest that feeds on seeds and grain products, and is known as one of the world's most destructive insect pests. Due to its risk of possible establishment in the United States, it is of great concern at all ports of entries, including airports and marine ports. The larval form of this insect causes the most destruction, feeding mainly on seeds, grain and cereal products. Because of its ability to survive for long periods of time without food and moisture, it is

difficult to control. MDA staff surveys a large warehouse that receives seed from countries known to have an established population of the Khapra beetle. There are 10 traps placed in the warehouse from early spring through fall. The survey has been ongoing since 2002 and there have not been any Khapra beetle detections.

## Diagnostic Laboratories

The Plant Protection and Weed Management diagnostic laboratories provide testing and analyses that support MDA programs and provide answers to inquiries from outside the department.

**Entomology Laboratory:** Among the hundreds of plant, animal, and diseased specimens received during 2012, some are particularly worth noting. Plants submitted included: 'joy perfume' tree (*Michelia/Magnolia champaca*), a fragrant tropical container tree with large flowers; daisy fleabane (*Erigeron strigosus*), a fall flowering composite which is popular with pollinators; and Japanese sacred lily (*Rohdea japonica*), an evergreen perennial that grows well in dry shade as a companion to hostas.

Vertebrates included an Eastern hognosed snake (*Heterodon platyrhinos*), which is harmless and famous for feigning death; as well as winter trunk-feeding damage by voles (prob. *Microtus pennsylvanica*), which severely damaged junipers and cherrylaurels in a landscape.

Along with the ever-increasing submissions of bed bugs (*Cimex lectularius*), odorous house ants (*Tapinoma sessile*), subterranean termites (*Reticulitermes* sp.), plus a few giant European hornets (*Vespa crabro*) that accidentally entered homes and alarmed residents, there were some unusual detections by nursery inspectors. They included: persimmon bead gall (*Eriophyes theopyri*), which causes small leaf bumps; magnolia leafminer (*Phyllocnistis magnoliella*), which produces meandering silver 'trails' in various species; and Japanese maple leafhoppers (*Japananus hyalinus*), a small long-headed, long-tailed pest of Japanese maples.

Snailcase bagworms (*Apterona helix*) blanketed a mailbox in western Maryland. These small, close relatives of common bagworms form tiny coiled cases that protect the soft body inside. Hundreds of large grubs that crawled into a backyard swimming pool were identified as green June beetle larvae (*Cotinus nitida*). The pool skimmer was overwhelmed.

Last year's most unusual inquiry was about a possible

scorpion wandering in someone's back yard. As surmised, it proved to be a large crayfish that had left a nearby stream.

**Plant Pathology Laboratory:** The Plant Pathology Laboratory evaluates plant samples for plant pathogens and diseases. General activities include: evaluating plant samples in support of the Nursery Inspection Program to ensure that all plant material in Maryland intended for distribution or sale is disease free; diagnosing plant diseases submitted by other sections of MDA, other Maryland agencies, home gardeners, homeowners, consultants, and industry representatives; providing technical and diagnostic support for virus-free certification programs; supporting the Cooperative Agricultural Pest Survey program through laboratory assays for specific diseases; and supporting USDA-APHIS and MDA regulatory functions through diagnostic assays for pathogens of regulatory importance. During 2012, active recruitment was underway for the position of Plant Disease Specialist, and the position was filled in May 2013.

**Greenhouse Laboratory:** Mile-a-minute weed plants (*Persicaria perfoliata*) were produced for the integrated pest management and biological control program that require food for insect colonies and plant material for research. These were used to raise colonies of the stem boring beetle weevil, *Rhinoncomimus latipes*. Four hundred twenty five tropical ash, *Fraxinus uhdei*, were maintained in the greenhouse in support of the EAB biological control program. Virus testing on nine varieties of strawberry (*Fragaria*) and two varieties of brambles (*Rubus*) was conducted, and plants to support the testing were maintained throughout the year. A variety of support programs takes place at the greenhouse on a yearly basis. These include: plants produced to support the MDA displays at the Timonium Flower and Garden Show as well as the Maryland State Fair; maintenance of a collection of herbaceous perennials used for teaching and testing purposes by the Certified Professional Horticulturist Program, in conjunction with the Maryland Nursery and Landscape Association.

## Plant Certification

The **Maryland Ginseng Management Program** protects American ginseng, *Panax quinquefolius*, by monitoring the harvest and by licensing diggers and dealers of wild, wild-simulated, woods-grown and cultivated ginseng. MDA conducts a management program in cooperation with the U.S. Fish and Wildlife Service (FWS) that follows established protocols and the Convention on the International Trade in Endangered Species (CITES) regulations to ensure the

continued viability of this potentially threatened native resource and to protect it from over-harvest. Harvested ginseng is certified through the program to enable licensed dealers to sell this wild-harvested plant product in international markets. MDA also works with growers of wild-simulated and woods-grown ginseng to allow them to market and export their highly valued crops. The dried roots are highly prized, especially in China and Korea, for properties that putatively promote good health. During the 2012-2013 season, the program licensed 10 ginseng dealers and 270 ginseng collectors in the state.

During the 2012-2013 harvest and sales season, the certification program inspected, collected size and age data from, weighed, and certified 153.5 pounds of dry wild ginseng root, 230 pounds of artificially propagated dry ginseng root, and 28 pounds green root. The wild harvest and certification numbers were similar to those in 2011-2012. (For the purposes of this report, wild simulated ginseng has been classified as artificially propagated.) As is generally the case, fluctuations in the amount of Maryland ginseng certified and sold likely reflects the demand and pricing on the international market, and does not necessarily reflect the status or abundance of wild American ginseng in Maryland. Harvest and sales data were gathered and reports were submitted in accordance with FWS requirements.

The amount of ginseng cultivated, including woods-grown and wild-simulated designations in Maryland, and certified by the department, kept pace with the amount of wild ginseng harvested and certified in the state. This reflects both continuing interest in ginseng as an alternative crop, and the ability of Maryland growers to produce high quality ginseng. In this way, harvest pressure on wild ginseng may be reduced, in turn allowing wild ginseng populations in Maryland to rebound. As has been the case for many years, a number of responses to the annual questionnaires mailed to ginseng collectors and dealers at time of licensing continued to express concern that the incidence of out-of-season poaching of wild ginseng in Maryland remains high. To facilitate remediation of this problem, MDA continued its cooperation with the Maryland Department of Natural Resources, providing training, information and support to enable more effective policing and prosecution of violators of the regulations and laws that protect Maryland ginseng. In addition, the MDA Ginseng Management Program coordinator worked with the State Botanist (DNR Heritage) and with a non-profit group that helped compile 30 years of data from the MDA Ginseng Management Program for population trend and other data analysis. This information

will be used by the Maryland State Botanist to help evaluate population trends for wild American ginseng in Maryland. In 2012, MDA continued to evaluate harvest trends and watch for positive developments resulting from a regulation change made July 1, 2010. As of that date, the harvest season for wild American ginseng in Maryland was changed from August 20 through December 15 to September 1 to December 15. This change effectively gives the ginseng fruit longer to ripen, on average, and insures a higher percentage viability of seed. This will allow wild ginseng populations a better opportunity for recovery from harvest pressures. It remains to be seen if these changes have affected any population increase in the field. It is expected that any change will be gradual, and that detection of positive trends may not happen for several years. The change also complies with harvest season modifications highly recommended by the U.S. Fish and Wildlife Service to not only bring all states with wild American ginseng populations into harmony in terms of parallel harvest season dates, but is also based on long term research that indicates the change as necessary to ensure long term survival of wild American ginseng in its native range. To date, neighboring states of West Virginia, Virginia and Pennsylvania have made the recommended changes to their harvest season.

## Weed Integrated Pest Management (IPM)

Plant Protection and Weed Management Section entomologist and staff continued to work with the Maryland Department of Transportation, State Highway Administration (SHA) to conduct an IPM program to provide biological control to certain targeted weed species on SHA right of ways. Weed IPM research activities were conducted at field plots at the Western Maryland Research and Education Center in Keedysville and along State Highway Administration rights of ways. MDA weed management and biological control research projects have been conducted over each of the past 15 years, and have involved cooperation with the SHA, the Howard County Department of Recreation and Parks, the Maryland National Capitol Park and Planning Commission, the Maryland Department of Natural Resources, the U.S. Department of Agriculture (Both ARS and APHIS), and the U.S. Forest Service. Integrated Pest Management investigations now target the suppression of mile-a-minute weed *Persicaria perfoliata* and Purple Loosestrife, *Lythrum salicaria*. MDA personnel rear, release and monitor biological control agents for each of these species.

During the past 15 years, research has focused on one or more of the following: the evaluation of organisms for potential biocontrol, testing herbicide formulation efficacy, and

evaluating the use of competitive vegetation (including native grasses and forbs), in an effort to provide environmentally sound and cost-effective methods for suppression of noxious thistle species in Maryland. MDA is now focused strictly on biological control of the above two plant species using very specific insect biological control agents.

MDA has entered into a new one year agreement with the Landscape Operations Division of the SHA to administer a rearing program for the *Galerucella* spp. leaf beetle, an herbivore of purple loosestrife, *Lythrum salicaria* and to continue a release program to establish this biocontrol agent on additional populations of purple loosestrife on state highway right of ways. MDA also continued to implement a strategy for biocontrol of mile-a-minute weed, *Persicaria perfoliata* on state highway right-of-ways that includes lab and greenhouse rearing and field release and monitoring of the weevil, *Rhinoncomimus latipes*. Funding for rearing and release of the weevil is provided in part by SHA and in part by USDA APHIS. In 2012, MDA staff reared 500 *Galerucella* leaf beetles. Of those reared, all were released two times at two sites proximal to SHA right-of-ways.

MDA also continued the rearing program for the mile-a-minute weevil, *Rhinoncomimus latipes*. The program involves both rearing of the host plant; the mile-a-minute weed, *Persicaria perfoliata*, as well as the weevil. The host plants are grown in the MDA greenhouse in Annapolis. In 2012, more than 3,000 *P. perfoliata* plants were grown. At the MDA Plant Protection and Weed Management Section Insect Rearing Lab, MDA staff reared more than 3,500 weevils in 2012. Of those reared, more than 2,600 were released at eight SHA right-of-way sites. Release numbers were supplemented by 2,000 additional weevils acquired from NJDA. Weevils were released in Allegany and Charles counties where no prior releases had been made. *R. latipes* has now been released by MDA staff in those counties as well as Washington, Frederick, Baltimore, Carroll, Prince Georges, Montgomery, Anne Arundel, Cecil and Wicomico counties.

Public relations and outreach efforts were made regarding the joint MDA/SHA weed biocontrol program. In particular, a release of MAM weevils on a MAM weed population in an SHA storm water mitigation project was witnessed, recorded and reported on by news staff from the *Baltimore Sun* and appeared in print and in other media. Also, the principle researcher authored "Invader of the Month" article for Maryland Invasive Species Council on mile-a-minute weed biocontrol using the mile-a-minute weevil, *Rhinoncomimus latipes*.

MDA continued to partner with the University of Delaware in a regional mile-a-minute weed biological control program. In this program, the University of Delaware coordinates a supply of mile-a-minute weevils provided by the New Jersey Department of Agriculture. The MDA entomologist coordinating the project in Maryland chooses and coordinates sites for release, makes the field releases, coordinates and/or performs the monitoring of the release sites and the impact of the weevils on mile-a-minute weed, and collects and collates data, which is then presented to the primary research coordinator for the regional project at the University of Delaware.

## Noxious Weed Management

This program supports the control and eradication of designated noxious weeds in order to reduce their economic and aesthetic impact on farmers and landowners. Noxious weeds (Johnsongrass, shattercane, thistles, and multiflora rose) cause losses in excess of \$25 million annually to Maryland agriculture due to reduced quality and yields of crops and forages, increased control costs, and increased roadside and development property management cost. The Maryland General Assembly enacted the first Nuisance Weed Law on Johnsongrass in 1969. In 1987, the Nuisance Weed Law was rewritten and renamed the Noxious Weed Law (Title 9, Subtitle 4, Agriculture Article, Annotated Code of Maryland). The Noxious Weed Law requires that a landowner, or a person who possesses and manages land, eradicate or control the noxious weeds on that land by using practices prescribed by the department, including mowing, cultivating, or treating with an approved herbicide. The law prohibits the importation and transportation of these weeds in the state and prohibits the presence of viable noxious weed seed and rhizomes in seed, topsoil, mulch, nursery stock, on farm machinery, or any other article. The Noxious Weed Law also provides that MDA may enter into an agreement with a county or political subdivision to provide technical and financial assistance for implementing a weed control program.

A weed control advisory committee has been established in each of 17 participating counties, with representatives from farming organizations, governmental agencies, local farmers and other property owners. Each committee provides advice or input into planning the noxious weed control program in that county. A county weed control coordinator, usually employed on a part-time basis, determines the degree of noxious weed infestations within the county, locates

uncontrolled infestations, provides information on currently recommended control practices, and initiates agreements with landowners to implement a control program. In many counties, the local weed control coordinator also performs spot-spraying on roadsides, in cooperation with the Maryland State Highway Administration, to help eliminate Johnsongrass or thistles and to control noxious weeds on private or public lands for a fee. In counties with no weed control coordinator, MDA Weed Control Program employees handle complaints.

The weed control program provides no grant assistance to the 17 participating counties. The County Grant Agreements have subsequently been rewritten as Cooperative Agreements. The county programs have had to rely on increased spray revenues or fee for services to offset the loss of the financial component. Spray revenues for all the county programs was more than a million dollars. The county programs are supervised by the state personnel as specified by agreement.

Noxious weed advisory notices were mailed to 228 managers of property infested with a noxious weed. Generally these notices were effective in obtaining compliance. When necessary, MDA sent follow-up correspondence, resulting in compliance. The Weed Control Program responds to citizens' requests for technical assistance in controlling invasive, difficult to control, persistent weeds, such as phragmites, kudzu, mile-a-minute, tree of heaven, Japanese stilt grass, purple loosestrife, and knotweed.

**Giant hogweed** (*Heracleum mantegazzianum*) is a federal noxious weed that was first detected in Maryland in 2003 at 29 sites in Baltimore and Harford counties. In 2005, eight additional sites in Garrett County were added to this list, as was one additional site in 2007. No new sites were found in 2008-2009. There are currently 10 sites in Garrett County that have undergone several years of eradication treatments and this year no new plants were detected. Only two sites needed treatment in Baltimore County this year and none in Harford County. An eradication effort is a multi-year effort. The Weed Control staff partnered with the Maryland Department of Natural Resources (DNR) for the 13th year in providing a phragmites management program. Upon request from landowners or managers, the Weed Control Program staff supplied technical and spraying assistance for control. DNR provided 100 percent of the cost of the herbicide (Rodeo®) applied in the nine Eastern Shore counties for spraying phragmites. Total spray revenue for phragmites control was more than \$80,000 for treating about 83 acres in 311 locations in 13 counties. In all counties, the Noxious Weed Control Program's spraying service was offered to landowners participating in the Conservation Reserve Program (CRP) or Conservation Reserve Enhancement Program (CREP). It is thought that seed contamination at planting is responsible for the occurrence and spread of noxious weeds in these plantings. Due to the likelihood of weed problems occurring on land in these programs, spraying services were offered for noxious weed control.



## PLANT PROTECTION AND WEED MANAGEMENT SUMMARY OF ACTIVITIES

	2011 (CY 2010*)	2012 (CY 2011*)	2013 (CY 2012*)
Beekeepers Registered	1,425	1,616	1,782
Honeybee Colonies Registered	10,011	11,844	13,924
Honeybee Colonies Inspected	7,610	3,244	3,841
Ginseng Dealers Registered	13	16	16
Ginseng Collectors Licensed	298	323	291
Nurseries Certified	336	334	330
Plant Dealers and Brokers Licensed	1,432	1,506	1,362
Phytosanitary Certificates Issued	277	732	364
Plant Pest Surveys # Target Pests	33	19	39
Plant Pest Surveys # Samples Processed	20,537	19,244	3,771
Target Pests Detected	10	11	10
Management Decisions Based on Target Pest Detected	64	168	57
Number of Noxious Weed Advisory Notices Issued	405	188	147

*\* Because of the seasonal nature of this program and calendar year federal reporting requirements, data are reported on a calendar year basis.*

### Other Activities

During 2012, MDA continued to take a leadership role in the Maryland Invasive Species Council (MISC), a forum for information exchange and consensus building among diverse interests in public and private agencies or organizations concerned with invasive species. Several MDA staff members were directly involved with MISC and were able to assist other members or individuals with technical expertise, as well as partner with other agencies on grants to control invasive species. Through MISC, the MDA has been able to disseminate information on many of the serious pests cited in this report.

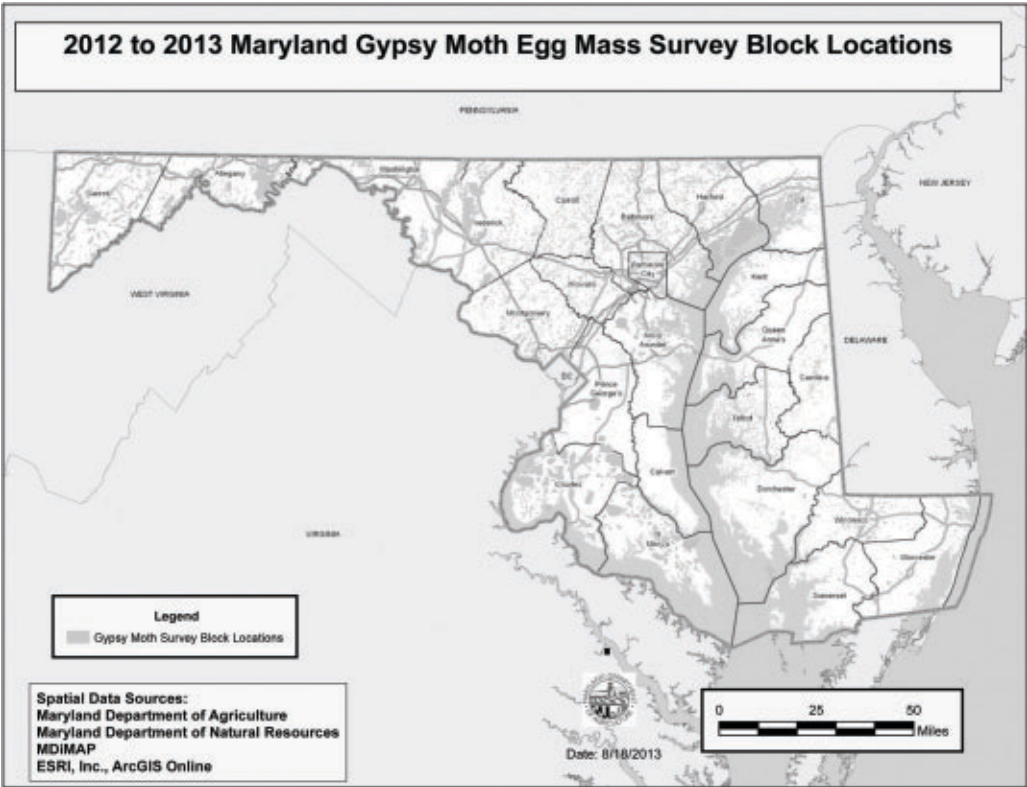
MDA continued to administer basic and specialist examinations for the Maryland Certified Professional Horticulturist program. This program was developed by the

Maryland Nursery and Landscape Associations (MNLA) to raise and improve the professional standards of Maryland's nursery, landscape, and garden center industries by giving special recognition to individuals who have shown a high level of competence in the principles and practices of these industries. Certification also allows this high level of attainment to be recognized by the gardening public.

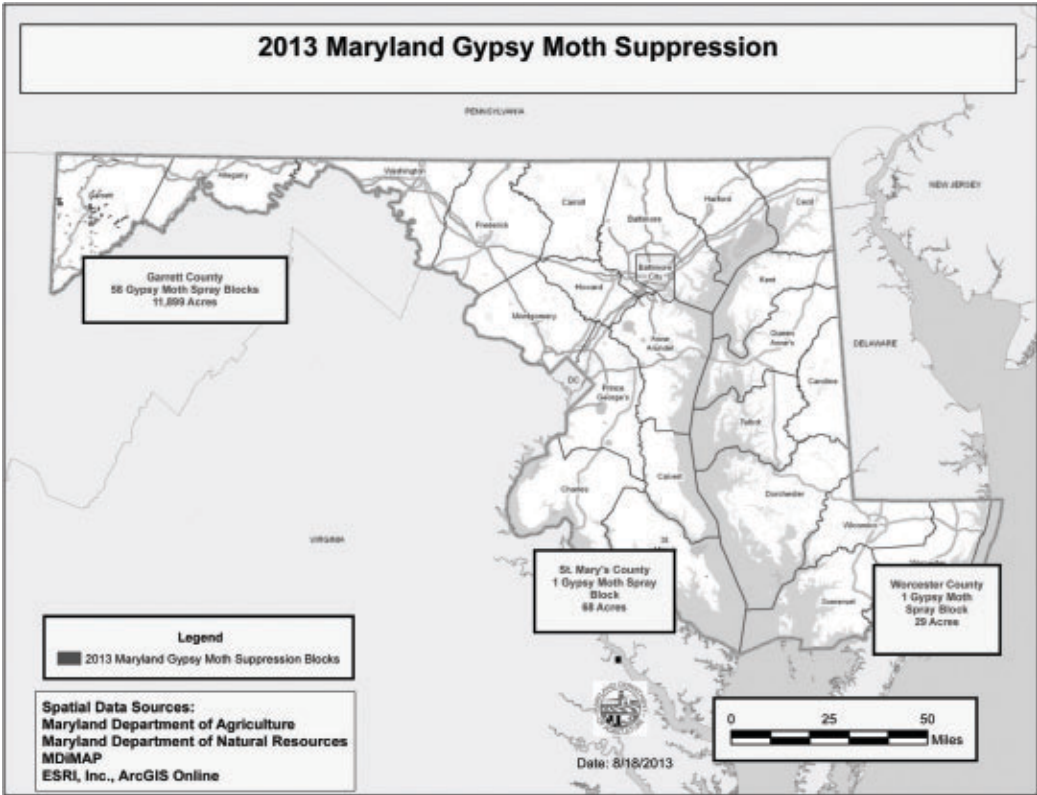
This voluntary program is available to those wishing to demonstrate their horticultural proficiency. After meeting a combination of educational and work experience, and studying the written manual which is the heart of the program, an applicant must pass a comprehensive examination to be certified. The examinations include both written and practical elements that are set up, proctored, and graded by MDA staff. The actual certification is issued and maintained by MNLA.



# Forest Pest Management

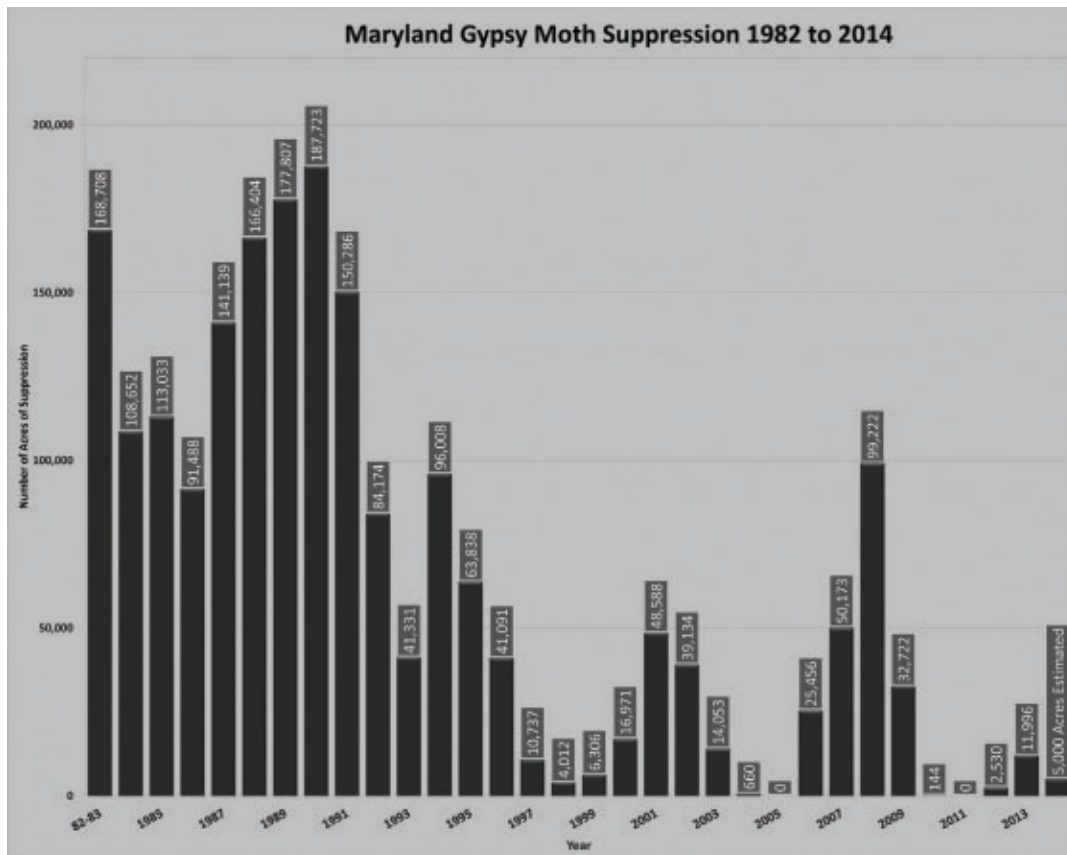
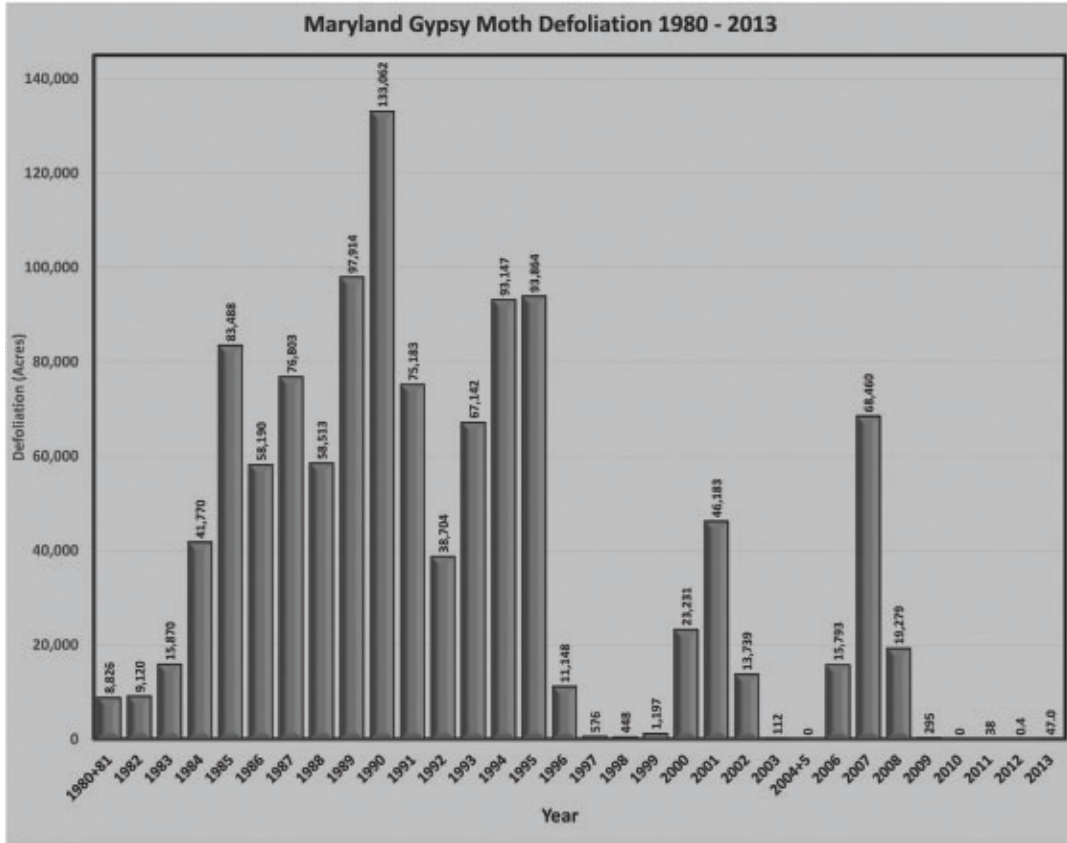


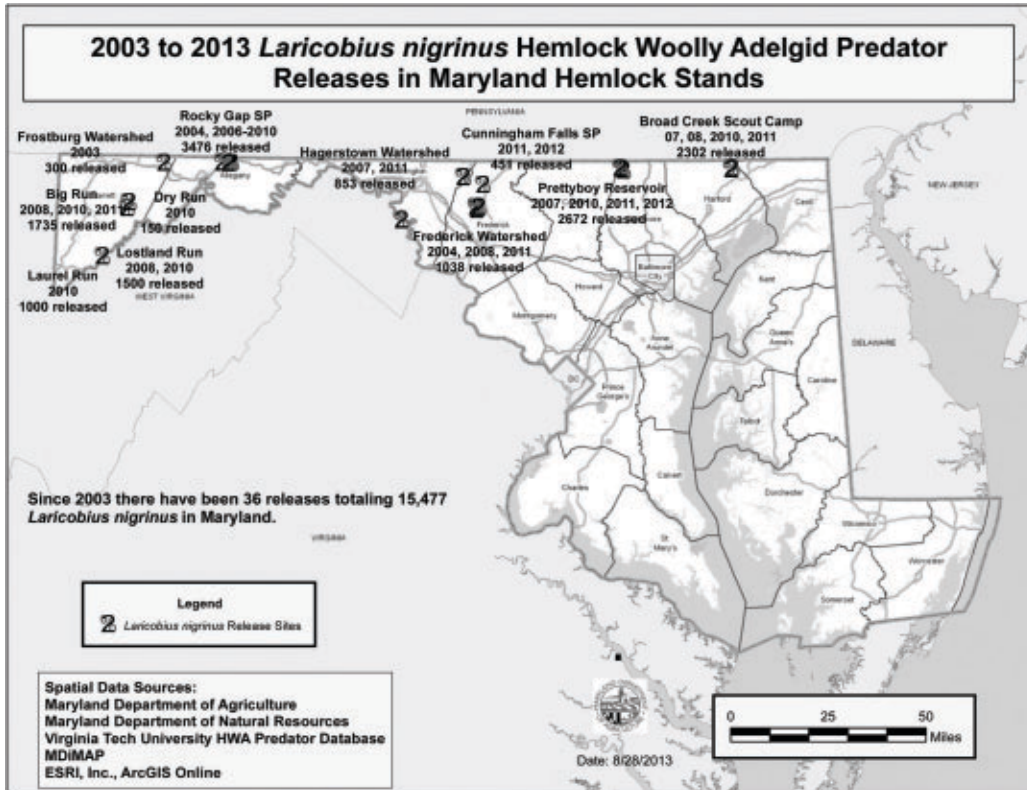
**Gypsy Moth** is the most serious threat to oak forests in the United States. The first eggs were detected in Maryland in 1971, and the first extensive defoliation occurred in 1981. Each fall and winter, MDA conducts an extensive survey for gypsy moth egg masses to determine potential areas of defoliation. From August 2012 to March 2013 MDA conducted gypsy moth egg mass surveys on 527,837 acres of "high value" forested lands. "High value" forested sites include areas with development, recreational use, managed forest and wildlife resources and other site conditions that render dieback and mortality to be economically and socially important. The survey results indicated that the current populations were sufficient to cause moderate to heavy defoliation on 12,404 acres of high value rural and urban forest in 2013. During 2013, MDA sprayed 11,996 acres in 61 spray blocks. The insecticide was Foray 48B. All spray areas were in Garrett, St. Mary's and Worcester Counties. Application started May 3 and concluded May 30, 2013.



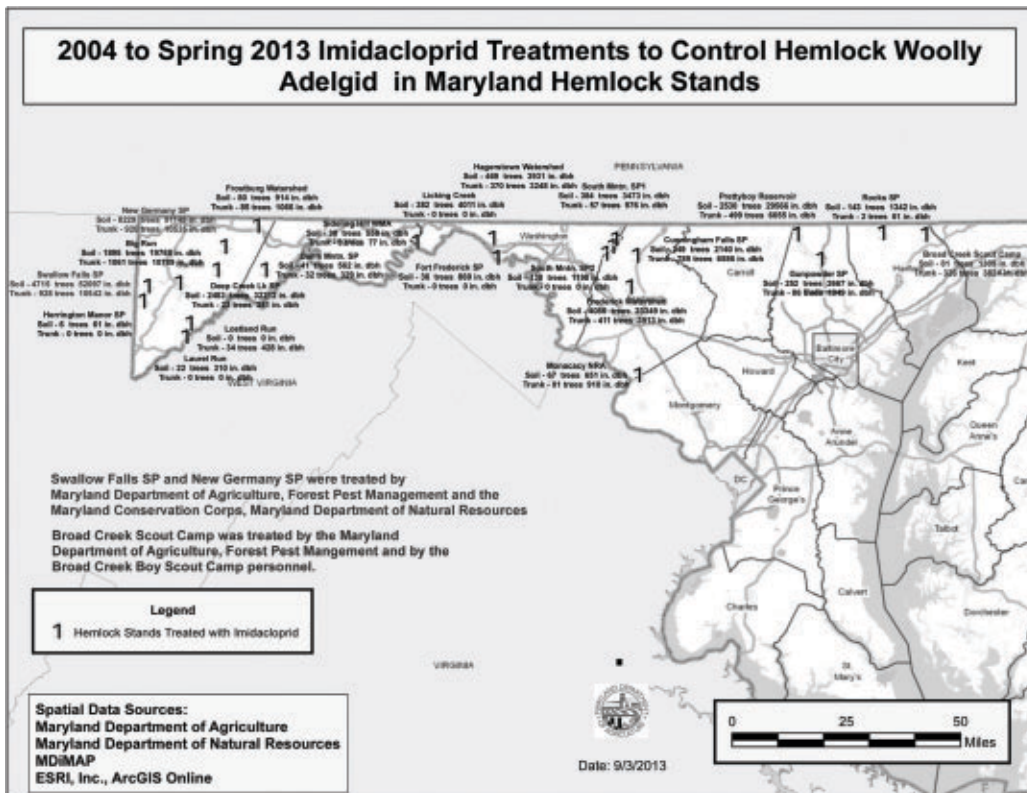
**2012 - 2013 MARYLAND GYPSY MOTH EGG MASS SURVEY SUMMARY**

County	Number of Blocks Surveyed	Number of Acres Surveyed	Number of Points Surveyed
Anne Arundel	55	22,657	282
Allegany	180	52,789	1,068
Baltimore	225	33,167	774
Baltimore City	0	0	0
Caroline	293	22,451	747
Carroll	102	25,506	456
Cecil	64	83,876	180
Charles	6	3,848	26
Dorchester	32	2,799	86
Frederick	340	61,707	1,127
Garrett	256	69,549	1,569
Harford	150	26,546	548
Howard	109	10,526	368
Kent	15	1,746	30
Montgomery	188	20,561	585
St. Mary's	38	33,585	115
Somerset	10	711	33
Talbot	64	6,359	156
Washington East	76	24,236	386
Wicomico	123	9,063	250
Worcester	34	2,418	78
Washington West	73	13,737	368
<b>TOTAL</b>	<b>2,433</b>	<b>527,837</b>	<b>9,232</b>





**Hemlock Woolly Adelgid (HWA)** remains the major threat to the health of eastern hemlock. Infested hemlocks occur in the metropolitan area between Baltimore and Washington and in natural stands from Harford to Garrett counties. *Laricobius nigrinus*, a predatory beetle of the hemlock woolly Adelgid, has been released in several areas since 2004.



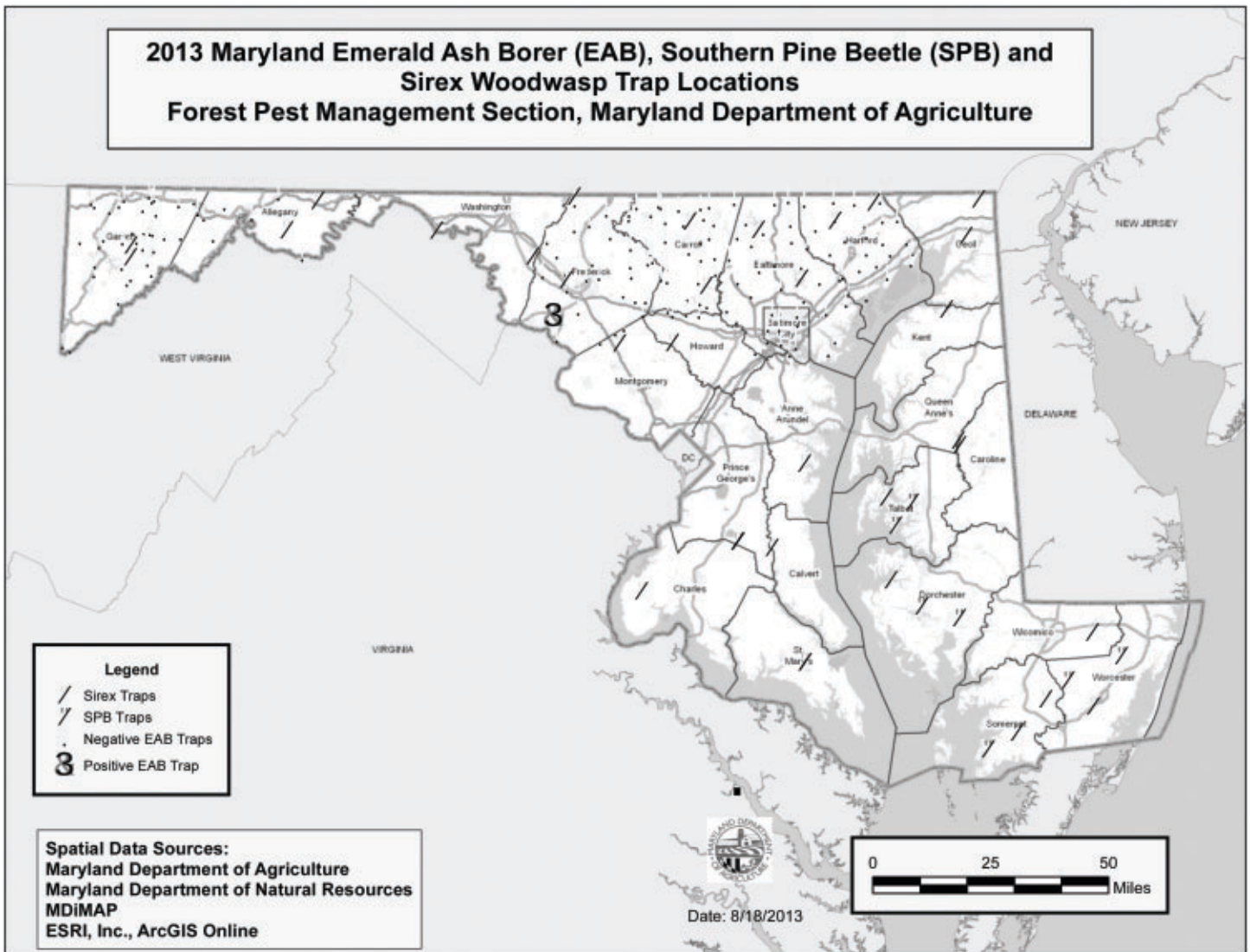
**Hemlock Woolly Adelgid Suppression** A joint task force of MDA and Maryland Department of Natural Resources (DNR) addressed the multi-disciplinary needs of the HWA infestation. The task force prioritized more than 50 hemlock stands and selected them as the sites where suppression might be attempted. Only publicly owned sites would be part of this suppression project. MDA in conjunction with Boy Scout volunteers treated 381 trees by soil injection. MDA, in conjunction with DNR Park Service treated 552 trees by injection and 7,980 trees by soil injection. MDA staff alone treated 1,205 trees by injection and 2,436 trees by soil injection.

**Southern Pine Beetle (SPB)** is one of the most destructive insect pests of pines. Maryland is at the northern edge of its range, and the SPB is commonly found on the lower Eastern Shore and Southern Maryland. Since 1989, Maryland has participated in a SPB survey throughout the southern United States using pheromone-baited traps. Trap data indicated that SPB numbers would continue to remain low in 2013. Populations have been below outbreak level since 1994.

**Sirex notillio (Wood Wasp)** has been the most common species of exotic wood wasp detected at United States ports-of-entry associated with solid wood packing materials. Recent detections of the wood wasp outside of port areas in

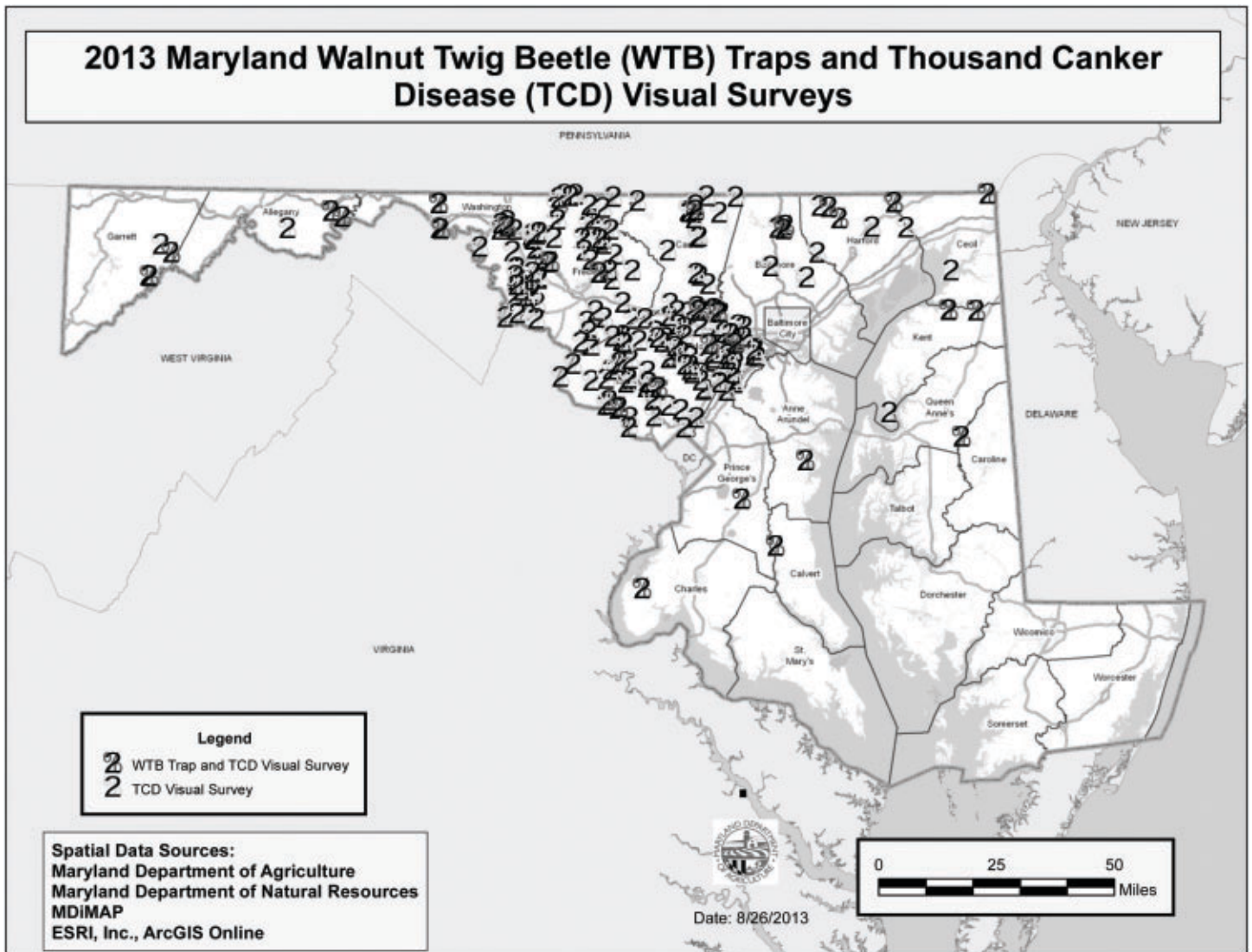
the United States have raised concerns because this insect has the potential to cause significant mortality of pines. The sirex wood wasp has not been detected in Maryland but is known to be in Pennsylvania. To detect this insect, MDA places two traps per county on the northern tier counties and one trap for all other counties, for a total of 30 traps in pine woods. All traps were negative during FY 2013

**Emerald Ash Borer (EAB)** MDA's Forest Pest Management Section put up 163 EAB purple traps in the quarantined counties of Maryland. MDA traps picked up a new EAB find in Frederick County.



**Thousand Canker Disease of Black Walnut (TCD) and Walnut Twig Beetle (WTB):** Eastern black walnut planted in the western United States have experienced dieback and mortality. The WTB spreads the TCD. An infested tree usually dies within three years of visible symptoms. This beetle and disease had not been reported in the natural range of the eastern black walnut until it was discovered in Tennessee

in 2010. Since then, it has been found in Pennsylvania and Virginia. Maryland, with other mid-Atlantic states, started surveying for this disease in 2011. In 2013, MDA staff visually inspected black walnuts for visible symptoms of TCD. So far, the disease has not been seen in Maryland. Twenty-nine traps baited with a pheromone for the WTB were set statewide. No WTB have been found.



**Forested Pest Damage:**

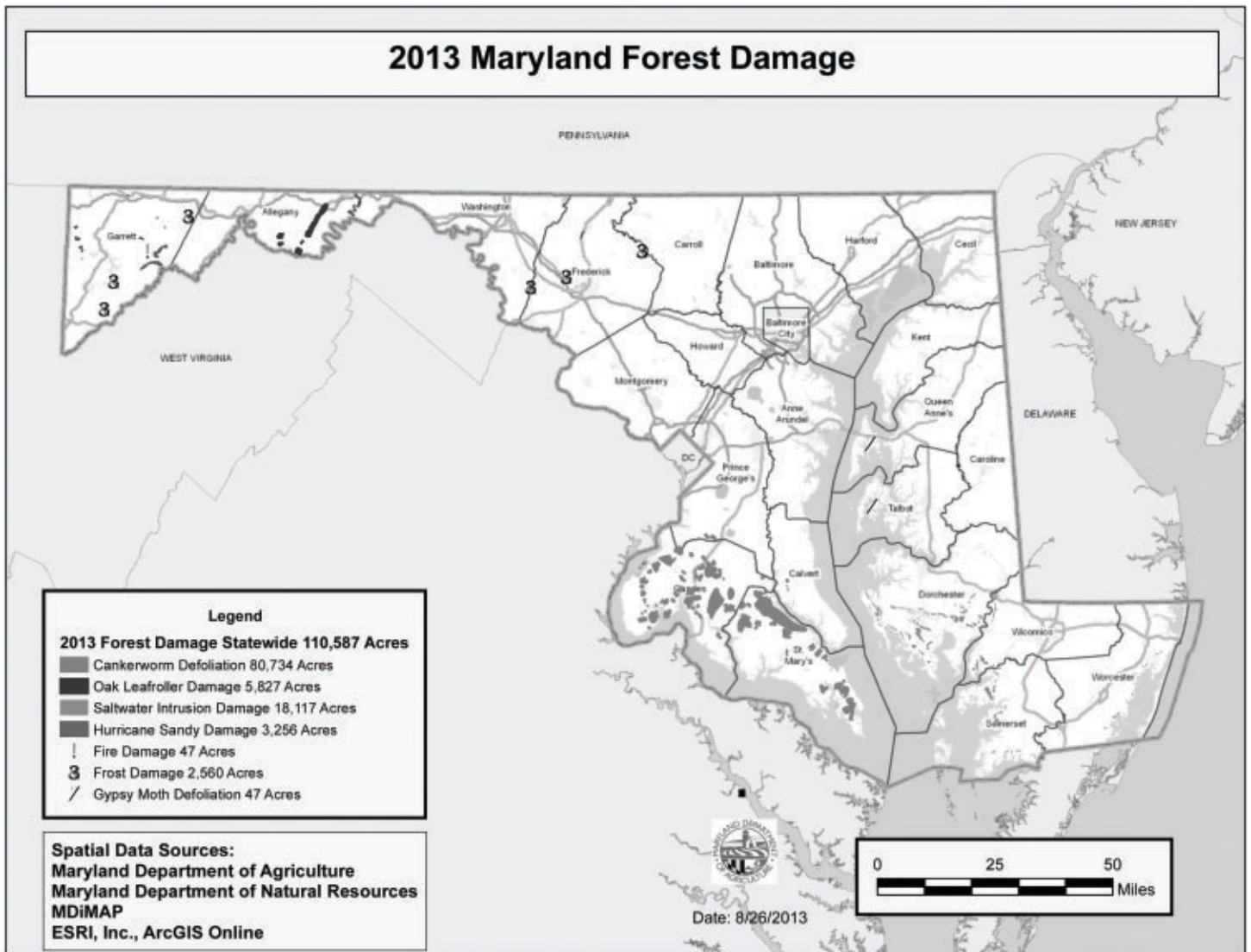
**Gypsy Moth** – 47 acres defoliated in Talbot and Queen Anne’s counties. These counties did not participate in the gypsy moth cooperative gypsy moth suppression project this year.

**Cankerworm** – A native species incurred 80,587 acres of defoliation in Prince George’s, Charles, St. Mary’s and Calvert counties.

**Oak Leaf Roller** – Also a native species, incurred 5,827 acres of defoliation in Allegany County.

**Salt Water Intrusion** – killed 18,117 acres of trees.

**Also** – see forest damage map below.





## Mosquito Control Section

The Mosquito Control Program continues to provide an important public health service to Maryland residents in 2,614 communities through mosquito abatement, arbovirus surveillance, public education and enforcement. The program is staffed by 12 classified employees, three long-term contractual employees, and 60 seasonal contractual employees in offices in College Park, Hollywood and Salisbury. Program administration is in the MDA Headquarters in Annapolis. Mosquito Control activities are conducted under the authority of the Maryland Mosquito Control Law, Agricultural Article, Title 5, Subtitle 4. Participation in the mosquito control program is voluntary and requires cooperative agreements with counties, and local commitment to pay for services. West Nile virus continues to be an important public health concern in Maryland. The Maryland Department of Health and Mental Hygiene (DHMH) reported 47 human cases, including six fatalities, and three equine cases in 2012.

## Mosquito-Borne Disease Surveillance

The cooperative program between MDA and DHMH to monitor and report on the occurrence of mosquito-borne viruses continued for its 13th year in 2012. A total of 15,522 mosquitoes were collected by mosquito control employees and sent to the DHMH diagnostic laboratory for virus isolation. West Nile virus was detected in three samples (pools) collected in Montgomery and Worcester counties. Additionally, the Department of Defense identified West Nile virus in eight pools collected in Montgomery County. Since 2001, when the first human cases of West Nile virus were reported, human disease has occurred primarily in the central Maryland jurisdictions of Baltimore city, Anne Arundel, Baltimore, Montgomery and Prince George's counties. Between 2001 and 2011, only 11 human cases were reported from Eastern Shore counties. In 2012, 11 cases -- 23.4% of the total of confirmed cases -- were collected in Eastern



Shore counties. The reason(s) for this increased in regional virus activity are unknown. West Nile virus also returned to Western Baltimore County with cases in Catonsville, Sudbrook and Pikesville. Spraying in these areas was conducted in cooperation with the Baltimore County Department of Health.

## Heavy Equipment

A new Kubota Excavator, Model 080-3, was purchased from Security Equipment, Baltimore, and put into service in 2012. Before becoming operational, extensive modifications were necessary to ready the Kubota for work on the marsh. The Kubota was lifted from its tracks and attached to a set of pontoons that were recovered from an older, out of service unit. The arm of the excavating bucket was extended in length from 24 to 27 feet. This three-foot extension was necessary to overcome the added height from placing the Kubota on pontoons. The cost of the modifications was about \$75,000 less than the cost to purchase a new unit equipped with pontoons. The Kubota is in the Salisbury office and will service projects in Dorchester, Somerset and Worcester counties. Mosquito control staff will be seeking additional permits through the U.S. Army Corps of Engineers to conduct new marsh projects.

## Permanent Marsh Work

**Source Reduction:** Permanent work has high initial costs, is technically complex requiring a great deal of planning and acquiring permits from the Army Corps of Engineer and Maryland Department of Natural Resources, which are difficult to obtain. Once completed, permanent projects improve water quality, enhance species diversity and density, and require little if any additional use of insecticide to control mosquitoes. Permanent projects typically function and provide benefits for 20 years. All 2012 projects were for maintenance or repair of existing works.

## Permanent Projects

- **Crisfield Airport:** Opening the mouth of a tidal ditch and regular ditch maintenance allowed water to drain which relieved flooding and eliminated breeding in associated grasslands and wetland areas.
- **Ocean City Airport:** Ditch maintenance on 1,431 feet of tidal ditch blocked by vegetation. Project eliminated mosquito production of 10 acres.
- **Deal Island:** Ditch maintenance to relieve flooding on

county roads and eliminate standing water in residential areas.

- **Crisfield City Dike System:** Repaired multiple breeches in the dike and repaired or replaced four tide gates.
- **Repair of Crisfield Dike Damage from Sandy:** In December 2012, MDA in cooperation with the Commissioners of Somerset County began an assessment of the entire Crisfield tidal dike system. The purpose of our assessment was to determine the extent of damage resulting from the tidal surge associated with the passage of Hurricane Sandy. Our inspection verified that this earthen dike had experienced extensive inundation and subsequent damage from the storm system. During our inspection, we located 20 breaches of which four were large “blowouts” of the entire dike. In addition to this damage, eight tide gate culverts had to be replaced. Reconstruction operations began in late December and were completed by the first week in April 2013. MDA used its newly purchased Kubota amphibious excavator which was essential to remove debris and fallen trees, access the remote areas of the dike, and set in place the tide gate culverts. In addition to the excavator, MDA also used an all-terrain Argo ATV for personnel and equipment transport. Follow up inspections indicate that the repairs were successful and that the tide gates are operating effectively. MDA will continue to monitor this tidal dike system to ensure that the repairs are still functional in reducing residential flooding as well as reducing mosquito breeding habitat in the Crisfield community.
- **Biological Control:** The project identifies water impoundments that breed mosquitoes -- such as storm water management ponds, lagoons and other aquatic habitats -- and stocks them with fish that eat mosquito larvae. Over the life of this project, many sites have been successfully stocked with mosquito fish. Once fish are established, they thrive on consuming mosquito larvae and other food sources. A robust population of fish can reduce or eliminate the need for additional applications of insecticide to control mosquitoes. In 2012, 5,425 fish were stocked in ponds in Baltimore, Calvert, Prince George's, Talbot, Wicomico and Worcester counties.

## Public Education

The predominant type of public education this season was media interviews, since there was intense media interest in

## MOSQUITO CONTROL ACTIVITY SUMMARY

	CY 2010	CY 2011	CY 2012
Communities Participating in Mosquito Control Program	2,165	2,030	2,614
Number of Light Trap Nights	2,676	2,909	2,682
Percent of Light Trap Nights Below Threshold	68%	66%	71%
Number of Landing Rate Counts Performed	26,189	25,140	20,789
Percent of Landing Rate Counts Below Action Threshold	33.6%	34%	48%
Number of Public Service Requests	3,414	3,597	3,641
Number of Mosquitofish Stocked	6,939	2,306	5,425
Acres Managed by Open Marsh Water Management	824.5	640	283
Acres Treated with Insecticide	1,492,387.5	1,817,514.2	1,359,100
Acres Treated for Mosquito Larvae	5,276.58	7,432.9	6,234
Acres Treated for Adult Mosquitoes	1,487,110.9	1,810,087.3	1,352,866
Acres Treated by Aircraft	105,653	309,469	151,066
Acres Treated by Ground Equipment	1,386,734.5	1,508,045.17	1,208,034
Number of Mosquitoes Tested for Arboviruses	23,043	24,474	15,522
Number of Human Cases of West Nile Virus Statewide	23	19	47*
Number of Human Cases of West Nile Virus in Areas with Mosquito Control	2	2	8
Number of Cases of Arbovirus in Domestic Animals	1	2	3
Number of Mosquito Pools Positive for Arbovirus	8 <sup>2</sup>	15 <sup>3</sup>	11 <sup>**</sup>

1. Department of Defense collected 1 positive pool at military reservation in Montgomery County.

2. Department of Defense collected an additional 3 positive pools at military reservations in Montgomery County.

\*6 Fatalities

\*\*3 Collected by MDA, 8 collected by the Department of Defense

mosquito populations after the increase in West Nile virus cases in 2012. There were 37 interviews done this season by mosquito control or public relations office employees, with both print and TV media outlets throughout the state.

Outreach was done at 12 different school functions, all in Prince George's County. These included a children's nature camp, a career day and the county's science quiz show, The Science Bowl. Mosquito control employees spoke at four community meetings in Prince George's and Anne Arundel counties, and did one mass-yard inspection for Asian tiger mosquito breeding sites in Prince George's County.

Employees spoke at two professional meetings – the annual meeting of the Mid Atlantic Mosquito Control Association and a University of Maryland Extension Service training seminar. MDA hosted a month-long exhibit in three different Prince George's County libraries (Greenbelt, Surratts/Clinton, and

New Carrollton) in 2012; one in May, one in June, and one in July. Baltimore County public schools continue to use a second grade education unit, Skeeters, that was developed by mosquito control staff entomologists. This age/grade appropriate unit teaches young learners about mosquitoes and helps to raise awareness of mosquitoes and health-related concerns. Here is a breakdown of public education outreach by county: Prince George's: 19; Baltimore County: 17; Anne Arundel County: 4; Eastern Shore: 4; Howard/Montgomery/DC metro area: 8.

Many of these public education efforts are impossible to quantify, particularly the media interviews. However, more than 400 people attended the events with known participant levels. Public education continues to be an important part of our mosquito control program, particularly with the continuing problems created by the introduction and spread of the Asian tiger mosquito and West Nile virus.





## Pesticide Regulation Section

The Pesticide Regulation Section (PRS) is responsible for regulating the use, sale, storage and disposal of pesticides. The primary functions of the section are to enforce state and federal pesticide use laws and regulations and to ensure that pesticides are applied properly by competent individuals so that potential adverse effects to human health and the environment are prevented. The PPRS contains five major programs: (1) Pesticide Applicator Certification and Training; (2) Pesticide Use Inspection and Enforcement; (3) Pesticide Technical Information Collection and Dissemination; (4) Integrated Pest Management in Schools and on School Grounds; and (5) Special Programs.

### Pesticide Applicator Certification and Training

Two types of pesticide applicators are certified by the PRS -- private and commercial. Private applicators are farmers and other individuals applying restricted-use pesticides to their own land or rented land for the purpose of producing agricultural commodities. Commercial applicators apply general use and restricted use pesticides as employees of licensed pest control businesses, not-for-hire businesses or public agencies. A total of 149 new private applicators were certified in 2013 for a three-year period after passing a closed book examination administered by section personnel during exam sessions. One thousand five hundred ninety-four (1,594)

private applicators renewed their certificates by attending recertification training. Currently, there are 3,281 certified private applicators. Section staff approved and monitored 118 private applicator recertification training sessions that the University of Maryland Extension, MDA, or the pesticide industry conducted. A total of 596 new commercial pest control applicators and consultants were certified in 2013 in one or more of the 13 categories of pest control by satisfying minimum experience or education requirements and by passing written certification exams. The section certified 1,071 public agency applicators in 2013, bringing the total number of certified commercial, public agency applicators and consultants to 5,569. In 2013, a total of 18 exam sessions were held during which 1,922 exams were administered to 850 applicants. Once certified, commercial applicators are required to participate in at least one update training session approved by MDA each year in order to renew their certificates. Four hundred fifty-six (456) recertification training sessions for commercial pesticide applicators were approved and monitored by this section and were conducted by the pesticide industry, the University of Maryland Extension, or MDA. By attending recertification training, 3,212 applicators were recertified in 2013. During 2013, the section licensed 1,553 commercial businesses and 154 not-for-hire businesses to apply pesticides and to perform pest control services. Three hundred twenty-seven (327) public agency permits were

issued to governmental agencies that apply pesticides. Thirty-six (36) pest control consultant licenses were issued. A total of 4,905 registered employee identification cards were issued during 2013. MDA currently has registered 8,063 employees of pesticide businesses and public agencies to apply pesticides under the supervision of certified applicators. A total of 153 dealer permits were issued to businesses that sell restricted use pesticides.

## **Pesticide Use Inspection and Enforcement**

Besides enforcing state pesticide laws, MDA enforces federal pesticide laws under a Cooperative Enforcement Agreement with the U.S. Environmental Protection Agency (EPA). Routine inspection activities are conducted throughout the year and include use observations and inspections of businesses, public agencies, dealers, market places and producer establishments. Consumer complaint and pesticide misuse investigations also are conducted by the staff. In 2013, 601 routine business inspections were performed during which 142 businesses were cited for violations of the Pesticide Applicators Law and Regulations. Seventy-eight pesticide dealer inspections were conducted to ensure that restricted use pesticides were sold only to certified applicators. Eighty-two use observations were conducted, during which pest inspections and pesticide applications performed by commercial and private applicators were observed by section personnel. A total of 26 consumer complaints were investigated. Under the federal cooperative agreement, 30 pesticide producer establishment and 31 market place inspections were conducted. Other enforcement actions taken during 2013 included the assessment of six civil penalties totaling \$6,090. In FY 2013, the PRS continued conducting compliance assistance inspections at commercial agricultural pesticide application firms, custom blending operations and agricultural pesticide refilling establishments. PRS inspectors conduct inspections of bulk pesticide storage containers and mixing and loading pads at these facilities to ensure they are in compliance with state and federal regulations. These regulations were developed to protect the environment from agricultural pesticide releases at bulk storage sites and from agricultural spills and leaks resulting from pesticide refilling and dispensing (repackaging, mixing and loading) operations.

## **Pesticide Technical Information Collection and Dissemination**

A listing of pesticide sensitive individuals was first compiled in 1989. During 2012, MDA registered 167 individuals.

These individuals receive advance notification of pesticide applications made to adjacent properties by commercial ornamental plant and turf pest control businesses and public agencies. A mailing was sent to all commercial companies and public agencies licensed or permitted in the ornamental plant and turf pest control category.

Searchable databases of registered pesticide products, licensed pesticide businesses, commercial and private applicators and pesticide dealers continue to be posted on MDA's web site. These databases provide information to applicators and the public about pesticides that may legally be sold, distributed or used in Maryland and the names and addresses of licensed pesticide businesses. Pesticide dealers can check the certification status of pesticide applicators prior to selling them restricted use pesticides. This database is linked to EPA's registration database so that consumers can obtain information on each pesticide product queried, such as the EPA registration number, pest controlled, site of application, formulation active ingredient and the brand name.

## **Integrated Pest Management in Schools**

The section continues to promote and support implementation of the Integrated Pest Management (IPM) Program in Public Schools. Regulations that require schools to develop and implement notification and IPM plans for indoor pest control became effective in 1999, and regulations for notification and IPM plans for school grounds became effective in 2002. Staff provided technical assistance in the development of the plans and distribution of information on potential adverse effects of pesticides applied. The PRS staff continues to work with Maryland Public School districts on implementation of IPM on school property. In addition, PRS staff members serve as members of the Northeast Region IPM Center's School IPM Working Group, the Northeast Region's K-12 IPM Curriculum Subcommittee, and the Association of Structural Pest Control Regulatory Official's IPM in School Committee. PRS staff continues to work with the Maryland Public School district's on the use and implementation of IPM on school property. In FY 2013, the PRS staff began working on the development of IPM Information sheets for day care providers.

## **Training Events**

During 2013, the PRS inspectors and enforcement program coordinator attended the annual EPA Region III State

Pesticide Inspector's Workshop hosted by the Pennsylvania Department of Agriculture. Seventy-three inspectors from Maryland, Delaware, Pennsylvania, Washington D.C., Virginia and West Virginia attended. The agenda for the workshop included health and safety training for the inspectors as well as presentations on the importance of personal protective equipment (PPE) to prevent pesticide exposures, conducting inspections at pesticide producing establishments and market places where pesticides are sold, pesticide label interpretation, concerns and challenges of invasive species control, and investigating fish kills along with respirator fit testing.

## Special Programs

During 2013, the section offered its recycling program for empty plastic pesticide containers to growers and commercial pesticide applicators at 22 locations. Collection centers were maintained in seven counties (Frederick, Harford, Kent, Prince George's, Talbot and Washington) with the assistance of county government agencies. A total of 28 collection days were held from June through September. In addition, 13 pesticide dealer/custom applicators participated in inspection and collection of containers at their own facilities. A total of 42,242 containers weighing 36,500 pounds, were collected. The containers were processed for transporting to a plastic recycling facility. The Maryland Department of Agriculture's Pesticide Regulation Section staff continued to offer outreach and assistance to growers and pesticide dealers under the Worker Protection Program. The Worker Protection Standard (WPS) was established to minimize occupational exposure to agricultural pesticides. The WPS requires agricultural workers, who could be exposed to pesticides, to receive training on pesticide safety. Brochures on the WPS have been produced and widely distributed to the regulated community. To aid with on-farm compliance, the section has developed a pocket-sized WPS Compliance Evaluation Checklist which is available to all of the WPS regulated community. During 2013, the PRS conducted 35 worker protection compliance inspections at farms and grower sites to ensure compliance with regulations. The section also contracted with Telamon Corporation to provide pesticide safety training to farm worker. In 2013, Telamon members provided training in Spanish to 427 farm workers and 22 non-farm workers (health care providers). Telamon also provided pesticide safety and awareness training to 340 children of farm workers, from pre-K through eighth grade.

## Pesticide Sensitive Crop Locator

In 2013, the PRS launched a new online mapping application,



called a "Sensitive Crop Locator." This application shows the locations of crops sensitive to pesticide damage so pesticide applicators can take extra precautions to prevent drift, especially from herbicides, when spraying on nearby properties. Crops sensitive to pesticide damage include grapes, tomatoes, organic farms, tobacco, livestock, nurseries, and vegetables, among others. The site is accessed from the MDA website ([www.mda.maryland.gov](http://www.mda.maryland.gov)) under "Hot Topics." The Sensitive Crop Locator was developed to help strengthen diversity. Information in the statewide map is voluntarily provided by the grower of the sensitive crop(s). The map includes the name and address of the grower; the type of crop/commodity produced; contact information; and the specific location where each crop is grown. The website gives applicators the ability to pull up maps and satellite images to search for, locate and identify any sensitive/specialty crops in areas where they will be making pesticides applications. The mapping system also has the capability to measure distances and areas. The database is designed for individuals involved in commercial production. It does not include homeowners who may be growing a sensitive/specialty crop on their own property for their own use. Although designed for applicators, it is available to anyone online. Commercial growers who want their crop and/or commodity listed can submit an application to MDA for each field to be listed on the website.

**PESTICIDE REGULATION SECTION ACTIVITIES, 2011 – 2013**

	2011	2012	2013
Commercial Pesticide Businesses Licensed	1,522	1,755	1,553
Not-For-Hire Businesses Licensed	171	1,155	154
Commercial Pest Control Applicators Certified In One or More Category	3,481	3,300	3,410
Registered Personnel Employed by Licensed Businesses and Public Agencies	10,266	7,971	7,942
Public Agency Permits Issued	325	325	325
Public Agency Applicators Certified In One or More Category	1,102	1,077	1,072
Private Applicators Certified to Date	3,354	3,256	3,256
Dealer Permits Issued	141	148	148
Applicator Certification Examination Sessions Held	18	18	18
Individuals Taking Certification Examinations	824	931	850
Certification Examinations Administered in All Categories	2,158	1,978	1,922
Number of Businesses Inspected	1,099	750	601
Number of Businesses with Violations	324	222	142
Unregistered Employee Violations	24	19	13
Records Incomplete or Inaccurate Violations	110	143	97
Vehicles Not Properly Identified Violations	14	51	30
No Anti-siphon Device Violations	14	11	13
No First Aid/Safety Equipment Violations	14	5	10
Incomplete or No Customer Information Violations	49	18	11
Pesticide Dealer Inspections	89	89	78
Application Records Reviewed	990	978	709
Hearing and Investigational Conferences	6	1	2
Consumer Complaint Investigations	53	108	26
Pesticide Use Observations	75	186	82
Pesticide Samples Collected for Analysis	81	63	50
Market Place Inspections	61	33	31
Pesticide Producer Establishment Inspections	30	28	30
Container/Containment Inspections	8	8	9

## State Chemist Section

The State Chemist Section regulates the sale and distribution of pesticides, feeds, pet foods, fertilizers, compost, soil conditioners and agricultural liming materials in order to enhance and promote agricultural production, protect consumers and the environment from unsafe products, ensure the sale of effective products and provide the regulated industry with a competitive marketplace. Regulation is accomplished by product registration, laboratory analysis, inspection, and voluntary compliance and enforcement actions such as stop sale orders. The section is totally fee-supported.

### Registration of Products

Pesticide products, commercial feeds, fertilizers, fertilizer/pesticide mixtures, liming materials, and soil conditioners are registered for sale or distribution only after careful review of the label to determine the material's nature, proposed uses and potential adverse impacts on agriculture, the environment, the general public, and the regulated industry. During FY 2013, the section registered 12,073 pesticide products; 3,620 fertilizers; 465 soil conditioners; 698 fertilizer/pesticide mixtures; 157 liming materials; and 15,138 commercial feeds. MDA inspectors also brought 324 previously unregistered products into compliance.

### Inspection

Field inspectors routinely sample randomly selected products at retail outlets, distribution centers, warehouses, and formulating facilities. These inspections enable MDA to maintain efficient regulatory control that ensures the sale, distribution and use of effective products that are safe for the consumer and environment, when used in accordance with approved label instructions. The inspectors sample a representative cross section of products for chemical analysis and obtain reliable data on the distribution, formulation and sale of these commodities. This enables the section to stop the sale or distribution of ineffective products or those that are harmful to humans, animals or the environment because of unacceptable levels of pesticides, plant nutrients, trace elements and/or toxic materials. During FY 2013, the State Chemist Section inspectors performed 963 on-site inspections.

### Enforcement

Any regulated product determined to be ineffective, misbranded or deleterious to the public, agriculture, or the environment is removed from the market place. Determination for product removal is based on inspection, laboratory analysis of official samples, information received from federal or state regulatory agencies, products offered for sale but not registered for use or distribution in Maryland, and review of labels or other materials submitted by companies to support product registration. See Table 3 for details relating to stop sale orders.

### Laboratory Analyses/Investigations

MDA's state-of-the-science laboratory is staffed with chemists who have expertise and experience in the use of highly sophisticated computer controlled instruments which are used to analyze agricultural chemicals and toxic contaminants in commercial products, crops and environmental samples (water, soil, fish, etc.). The laboratory staff provides reliable scientific data that are used to assist farmers and to initiate or support regulatory actions against violative products or violators of state and federal agricultural and environmental laws. The laboratory also provides support to the Maryland Department of the Environment, the Maryland Department of Natural Resources, the U. S. Department of Agriculture, and the U. S. Environmental Protection Agency. The section cooperates with surrounding states to ensure products and materials imported to Maryland are safe for agriculture, consumers and the environment.

### Homeland Security

#### **FERN (Food Emergency Response Network) for Chemistry:**

MDA's State Chemist Section's laboratory is the primary Food Emergency Response Network (FERN) chemistry laboratory for Maryland. It is an essential part of a national federal-state network that is expected to be in a state of readiness for quick response to a chemical terrorist attack on human and animal food supplies. In the event of an attack, the laboratory staff would provide rapid and accurate analysis of food, feed, crops and water samples to determine if such items would be embargoed or released for human and animal consumption. The laboratory is an active participant in a federal/state laboratory proficiency program for the analysis of highly toxic materials in food and water. Since 2005, MDA's



Maryland State Chemist laboratory has participated in 18 FDA/USDA/FERN collaborative check sample analysis studies involving highly toxic materials -- three of which are among the most deadly known natural toxins and two among the most deadly man-made toxic chemicals. The laboratory successfully identified the toxic materials in the collaborative check samples. The toxins/chemicals include heavy metals, ricin, alpha amanitin, cyanide, tetramine, melamine, sodium fluoroacetate, and pesticides.

**Ammonium Nitrate (Potential Explosive for Terrorist Activities):** MDA inspects fertilizer manufacturers and warehouses annually to determine the quantity of ammonium nitrate stored and to inspect sale and distribution records to ensure they are maintained in accordance with federal/state law.

**Antiterrorism:** Because of the nature of the duties and capabilities of the section, many of its activities have homeland security implications. MDA's State Chemist section cooperates with the Department of Health and Mental Hygiene, Laboratories Administration, the State Police, the Maryland Department of the Environment and all local health departments through its position on the Laboratory Emergency Preparedness Advisory Committee.

## Animal and Human Health Activities

**Monensin Overformulated Dairy Feed:** During the summer, the State Chemist was contacted by the Pennsylvania Department of Agriculture regarding the deaths of 29 dairy cows in a herd involving a medicated feed manufactured at a Maryland feed mill. Section inspectors, in cooperation with FDA, inspected the mill and obtained samples. Laboratory results indicated an overformulation of Monensin (growth promoter, milk production enhancer, coccidiostat) by a factor of approximately 100. MDA shared its finding with Pennsylvania regulatory authorities.

**Pathogen Laboratory Initiative:** The section is in the process of establishing a laboratory to screen pet food and animal feed for pathogens. Pathogens in pet food are not only a danger to pets but also to home owners who often handle and dispense pet food within and near the kitchen area. Many industry, state and federal recalls of pathogen contaminated pet food have been issued in recent years. The laboratory will also be used to screen for drugs found but not prescribed in animal feed as well as for assays of medicated feed to determine compliance with label declarations and amount as per FDA law.

**Aflatoxin and Vomitoxin (mycotoxin) Contamination – Grains:** MDA routinely monitors Maryland and imported grain products (i.e., livestock feed) for the mold by-products (mycotoxins) known as aflatoxin and vomitoxin (DON). Forty-one samples of winter wheat from different areas of the state were analyzed for mycotoxins as per requests of MDA's Food Quality Assurance Program. The analyses indicated the presence of Deoxynivalenol (a.k.a. vomitoxin) due to the cool and wet spring climate conditions. All samples were above the FDA 1.0 ppm guidance level for wheat intended for flour production. The range found was from 1.0 ppm to greater than 20.0 ppm, wheat containing these levels may be used as an animal feed ingredient. Levels greater than 20.0 ppm must be destroyed or plowed under. To address the use of DON contaminated wheat as an ingredient in animal feed, the section has increased its surveillance of feed with a special focus on swine feed as swine are the most susceptible to illness at levels of 1.0 ppm or greater.

**Nitrates, Prussic Acid and Aflatoxin Surveillance – Silage:** The inspection staff and laboratory continue to assist the farm community annually in ascertaining the levels of aflatoxin, nitrates and prussic acid in silage and feed to prevent livestock death or illness.

**Protein Adulteration Surveillance – Melamine:** The section continues to monitor for protein adulteration in pet foods by analyzing them for melamine. Since the pet food crisis in 2008, which resulted in many deaths of cats and dogs, and the hospitalization of many others, the section continues to monitor wet, moist and canned pet foods for melamine by an ELISA technique. If any pet foods are found to be over 10 parts per million they are confirmed by a second technique, HPLC-MS/MS. The section analyzed nine samples in FY 2013 for the presence of melamine; all were found negative.

**Bovine Spongiform Encephalopathy (BSE-Mad Cow Disease):** MDA continued an inspection program in conjunction with FDA that began in 1999 to determine if feed mills, retail and wholesale distributors, haulers and grain storage facilities within Maryland comply with FDA regulations pertaining to the prevention of bovine spongiform encephalopathy (BSE), also known as Mad Cow Disease. Feed mills and/or feed distributors are issued stop sale orders for products determined to be in non-compliance with state and FDA regulations. In FY 2013, the section completed 35 BSE inspections and collected 105 samples from feed mills, various retail and wholesale distributors, grain haulers/storage facilities and pet food manufacturers. All inspected facilities complied with FDA regulations.

Recent terrorist activities have resulted in placing additional emphasis on section inspection activities that go beyond protocols established by the FDA. Inspectors distributed handouts that list specific precautions that farmers, retailers, distributors and warehouses should follow to help ensure that ruminant animal feed manufactured or distributed in Maryland does not contain ingredients that may transmit BSE. The inspectors have been instructed to personally emphasize to mill workers, distributors, etc. the need to read, understand and follow the specific precautions that appear on the warning handouts. The economic havoc that would ensue from animal feed containing BSE transmissible ingredients inadvertently or deliberately fed to the ruminant farm animal populations could be ruinous to the beef industry and allied businesses (e.g., fast food companies, food stores, restaurants, etc). Beyond the economic considerations, public health concerns would be even greater because ingestion by humans of BSE-contaminated meat could result in incurable fatal brain cell degeneration.

**Drugs and Additives in Livestock Feed:** To help ensure the safe and effective use of drugs in livestock feed, MDA has expanded its feed analysis program. Any feed products containing drugs that do not meet the federal requirements relative to use, over-formulation or deficiency are removed from the market place. Removal of volatile products not only protects farm livestock but also protects the public from exposure to drug resistant bacteria. In FY 2013, the section analyzed 103 samples of feed for 12 different drugs. Distributors and registrants of defective feed products were notified and either stop sale orders or warnings of potential regulatory action were issued to remove unacceptable products from the marketplace. In addition to monitoring animal feed for drugs and phytase, the section randomly samples and screens ingredients that are used in the production of feed for pesticides and heavy metals. See Table 4.

**Food Safety Survey of Maryland Grown Produce:** Since 1992, the section has collected from roadside vegetable/fruit stands random samples of Maryland grown produce which were then tested for 400 different pesticides. The data will be sent to EPA and USDA for incorporation into national data banks. The section is pleased to report that the surveys indicated that Maryland grown produce does not contain any toxic levels of pesticides.

**Pesticide Data Program (PDP) USDA/MDA:** Since 1997, the USDA has contracted with MDA to sample various food items from principal distribution centers in the state. These samples consist of such diverse items as pineapples,

potatoes, processed food, processed fruit juices, produce, milk, and peanut butter which are analyzed by federal and state laboratories for several hundred different pesticides. In concert with the EPA Food Safety Program, the data will be used to establish new pesticide food tolerances with added emphasis on the diet of infants and children. See Table 2.

## Environment and Health

**Commercial Farm Fertilizer Regulation and Arsenic Contamination of Feed:** Since the early 1990's, the Maryland State Chemist Section has seen the need to mitigate the leaching of commercial fertilizer nutrients into tributaries of the Chesapeake Bay. The section issues Stop Sale Orders and Warnings to registrants of farm fertilizers that are over formulated with either nitrogen and/or phosphorus compounds. Maryland was the first to implement this regulatory policy. Other recent legislation (2012) requires poultry feed to not contain arsenic concentration above natural background levels. The section chemists are developing practical laboratory procedures and methods to precisely measure available phosphorus and slow release nitrogen materials in fertilizers as well as low levels of arsenic in poultry feed.

**Newly Passed Legislation Affecting Turf/Lawn Fertilizer:** Legislation passed during the 2009 and 2011 Legislative Sessions pertaining to phosphorous reduction in turf/lawn fertilizers has resulted in an increased emphasis by the registration and laboratory staffs in reviewing and monitoring of labeling, registration and analysis of fertilizers containing phosphorous. Six Stop Sale Orders were issued in FY 2013 for turf/lawn fertilizers with unacceptable phosphorous levels. The section will also record the distribution by tonnage of fertilizers sold for turf and lawn, golf courses, athletic fields, gardening, greenhouses and nurseries. These new laws present new challenges for the section's laboratory staff. The section's chemists must develop laboratory procedures/methods that will enable MDA to precisely and accurately measure organic and inorganic available phosphorus to determine compliance of commercial lawn/turf fertilizer products

**Commercial Fertilizer Distribution and Sales:** MDA's State Chemist Section continues to record the amount of commercial fertilizers, fertilizer-pesticide mixtures, soil conditioners and agricultural liming materials sold by the ton within the state. The section also records the distribution by tonnage of fertilizers for farm/non-farm use and by county. See Table 5.

## Compost Facility Operator Certification

The Maryland Commercial Compost Law requires a MDA-certified facility operator to be on site to oversee the entire compost manufacturing process. Before becoming a certified compost facility operator, an individual must pass an examination on the manufacturing of commercial compost. Since 1996, 131 people have taken the facility operator exam; 13 received a passing grade in FY 2013. Individuals passing

the exam must also attend section approved training courses and participate in facility inspections conducted by State Chemist staff to maintain their certification. In 2011 the "Environment – Composting" (HB 817) bill was passed. MDA, in cooperation with Maryland Department of the Environment and Environmental Service, will establish regulations for promoting composting (commercial and private) within the state.

### TABLE 1. PRODUCT REGISTRATION AND ENFORCEMENT ACTIONS

	FY 2011	FY 2012	FY 2013
<b>Product Registration</b>			
Pesticides	12,476	12,381	12,073
Fertilizers	3,701	3,608	3,620
Soil Conditioners	451	423	465
Fertilizer/Pesticide Mixtures	724	671	698
Liming Materials	148	153	157
Feeds	15,336	15,201	15,138
<b>Total</b>	<b>32,430</b>	<b>32,437</b>	<b>32,151</b>
Number of Companies with Registered Products	2,839	2,810	3,274
Registrants	2,330	2,315	2,753
<b>Non-Registered Notices Brought Into Compliance</b>			
Pesticides	4	4	5
Fertilizers	41	17	49
Soil Conditioners	1	3	0
Fertilizer/Pesticide Mixtures	3	1	0
Liming Materials	2	1	2
Feeds	455	256	268
<b>Total</b>	<b>506</b>	<b>282</b>	<b>324</b>
Non-Registered Stop Sale Orders	157	159	265

**TABLE 2. INSPECTION PROGRAM**

	FY 2011	FY 2012	FY 2013
Product Manufacturing Plants, Warehouses, Retailers - Sites Visited	961	1,109	963
Ruminant Tissue (BSE) in Feeds - FDA Regulations - Inspections	48	50	35
Pesticide Data Program (USDA/MDA) - Sites Visited	283	251	315
Pesticide Data Program (USDA/MDA) - Samples Collected	766	717	735
Maryland Grown Produce Food Safety (Farmer's Markets, Roadside Stands) - Sites Visited	64	162	93

**TABLE 3. STATE CHEMIST REGULATORY ACTIONS**

	FY 2011	FY 2012	FY 2013
Stop Sales - Active Ingredient Deficiencies			
Pesticides	0	1	0
Fertilizers	47	63	72
Feeds	36	44	47
Stop Sales - Active Ingredient Over Formulations			
Pesticides	0	0	0
Fertilizers	27	13	9
Feeds	1	5	7
Stop Sales - Mycotoxins in Feeds	17	0	0
Stop Sales - Label Violations	7	15	5
Warnings - Active Ingredient Deficiencies			
Pesticides	0	2	0
Fertilizers	24	14	7
Feeds	26	14	8
Warnings - Active Ingredient Over Formulations			
Pesticides	0	1	0
Fertilizers	10	7	11
Feeds	28	9	6
Warnings - Mycotoxins in Feeds	2	0	0

**TABLE 4. SAMPLES COLLECTED AND ANALYZED**

	Samples Collected FY 2011	Chemical Analyses FY 2011	Samples Collected FY 2012	Chemical Analyses FY 2012	Samples Collected FY 2013	Chemical Analyses FY 2013
Pesticides (Routine Marketplace Samples) - Active Ingredient	236	592	162	406	56	195
Fertilizers (Routine Marketplace Samples) - Nitrogen, Phosphorus, Potassium, Micro-Nutrients	257	2,044	206	1,640	319	2,552
Liming Materials (Routine Marketplace Samples)	33	124	40	150	39	146
Feeds (Routine Marketplace Samples) - Protein, Drugs, Phytase, etc.	1,072	6,025	597	3,355	596	3,488
Chicken (Mainly Broiler) Feeds - Phytase	22	44	59	118	67	134
Livestock Feeds - Drugs, Additives, Mineral Supplements, Ingredients	39	485	245	3,047	103	1,281
Ruminant Tissue (BSE) in Feeds - State Regulations	93	93	26	26	13	13
Toxic Metals - Feeds, Fertilizers, Liming Materials	62	763	51	623	44	522
Melamine - Feeds	25	25	10	10	9	9
Vomitoxin (DON) - Feeds	233	280	57	68	69	92
Aflatoxin - Feeds	151	180	88	105	154	184
Maryland Grown Produce Food Safety	64	16,640	162	28,000	93	24,180
Service Samples - farmers, Veterinarians, etc.	38	467	39	479	47	577
Quality Assurance - National and International Products	101	415	55	226	68	279
EPA Samples - Pesticide Misuse Investigations, Marketplace Monitoring	78	655	78	655	82	688
Ruminant Tissue (BSE) in Feeds - FDA Regulations	150	150	150	150	105	105
Food Emergency Response Network (FERN) Federal and State Laboratories Network	12	43	13	47	18	65

**TABLE 5. PRODUCT SALES - TONS**

	FY 2012	FY 2013
Fertilizers	336,954	343,004
Fertilizer/Pesticide Mixtures	11,464	11,502
Soil Conditioners	248,752	276,678
Liming Materials	195,589	232,972
<b>TOTAL</b>	<b>792,761</b>	<b>864,156</b>





## Turf and Seed

Seed is the single most important input to any agricultural system. To be successful, a grower must begin with quality seed. MDA's Turf and Seed Section conducts regulatory and service programs, including seed and field inspections, testing, certification and quality control services, which are designed to ensure the continued availability of high quality seed to Maryland's seed consumers. Today's seed industry exists in an environment of rapid change. The continued development of biotechnology and the expansion of genetically modified organisms has had an enormous effect on the production, distribution and marketing of seed and upon state seed programs. Seed regulatory, testing and certification programs throughout the country are being challenged to meet the demands brought about by these changes in seed technology.

### Seed Laboratory

MDA's seed testing laboratory supports regulatory, certification, supervised seed mixing and turfgrass activities. It also provides service testing for seed producers, dealers, farmers and other seed consumers. Turfgrass professionals depend upon the laboratory to test the purity, germination and noxious weed seed of lots destined for use on golf courses, sod production fields, public grounds and other areas demanding high quality turf. Commercial vegetable growers use the laboratory for specialized vigor and germination

testing, particularly for peas, garden beans and lima beans. The State Highway Administration relies upon the laboratory to test all grass, wildflower, shrub and other seed planted along Maryland's highways. Maryland farmers participating in the Maryland Agricultural Water Quality Cost-Share (MACS) Cover Crop Program use the laboratory to ensure that the seed they plant meets the quality standards required for that program. The laboratory also identifies seed submitted by farmers, veterinarians, health officials, other government agencies and the general public. The laboratory conducts Round-up® Ready testing of seeds for authorized seed producers to assist with their quality control programs. The laboratory also tests seeds used on wetland mitigation, restoration and conservation projects. Key to a successful laboratory operation is a well-trained staff. The Association of Official Seed Analysts (AOSA) maintains an accreditation program for seed analysts in official laboratories throughout the United States. Analysts who pass rigorous tests, which include both written and practical examinations, are certified as official purity and germination analysts. Currently, all six MDA seed analysts are certified by AOSA in both purity and germination testing. The laboratory staff also routinely participates in various seed referee tests. These referees develop new testing methodology and ensure uniform and accurate seed testing throughout the country, while also serving as continuing education requirements necessary for certified analysts to maintain their credentials.

## Seed Regulatory Activities

The Maryland Seed Law requires all seed offered for sale in the state to be labeled accurately. This includes agricultural, vegetable, flower, lawn and turf seed, as well as specialized seed such as seeds of trees, shrubs, native species, wildflowers and seed used in reclamation and wetlands mitigation and conservation projects. Quantities of seed range from small packets of vegetable and flower seed sold to home gardeners to bulk sales of thousands of pounds of crop seed sold to farmers. All seed distributed in Maryland is subject to inspection by MDA. For much of its seed needs, Maryland relies on other areas of the country and the world where climates are better suited to seed production. Thus, it is important that Maryland maintain a strong and effective regulatory program in order to prevent low quality seed from entering the state. MDA inspects both retail and wholesale seed dealers throughout the state. Inspectors review label claims, ensure that germination test dates are current and look for seed lots that have been found to be mislabeled or otherwise illegal for sale based on samples taken at other locations. Seed lots are sampled and submitted to the laboratory for testing. Lots found in violation of the Maryland Seed Law are placed under a stop sale order until they are brought into compliance. Corrective action may include re-labeling, reconditioning, destruction of the seed lot or its removal from the state. Seed dealers who fail to comply with a stop sale order are subject to civil penalties.

## Seed Certification

The seed certification program is adapting to changes in the seed business. As large investments in biotech research by private companies increases, demand for traditional certification services decreases as does the involvement of public institutions, which have been the source for most certified seed varieties. With the increased number of crop varieties being released by private companies, the demand for quality assurance inspections by third parties is strong, particularly from small to medium-sized seed companies that cannot afford their own quality control programs. Companies growing seed in Maryland look to MDA for expertise in field inspections, sampling, and laboratory analysis for quality control. MDA anticipates that quality control inspection acreage will increase as certified acreage decreases. Staff members help seed growers and conditioners produce a product that meets some of the highest quality standards in the United States. Maryland seedsmen have become a net exporter of wheat, barley, and soybean seed, adding much revenue to Maryland's agricultural economy. MDA cooperated

with the Maryland Crop Improvement Association, the Maryland Agricultural Experiment Stations, and the University of Maryland in the production and distribution of Maryland foundation seed. Much effort was spent to maintain the genetic purity of foundation seed of public varieties important to Maryland agriculture. This foundation seed was distributed to participating Maryland seedsmen for the production of Maryland certified seed.

## Supervised Seed Mixing

The supervised seed mixing system enables certification to be continued when certified lots of different kinds and varieties of seeds are mixed together. Demand from the industry and consumers for this service is strong. MDA's oversight of this process ensures that consumer receive quality seed, not low quality substitutions. All seed used on State Highway Administration projects and for the production of Maryland certified turfgrass sod is mixed under this program. Many county and local governments, school systems, golf courses, recreation departments and professional seeding contractors require that the seed they purchase be mixed under this program. Prior to mixing, component seed lots must be officially sampled and tested by the Maryland State Seed Laboratory. Seed lots that meet applicable standards are then mixed under the direct supervision of an MDA inspector who ensures that the mixer is free of contaminants and that only approved seed lots are used in the mixture. Special tags sewn onto each bag verify that the seed was mixed under MDA supervision.

## Turf Regulation

Maryland's Turfgrass Law requires that all turfgrass sod, plugs and sprigs be accurately labeled. Due to the overall high quality of sod produced by Maryland sod growers, staff efforts are usually limited to responding to complaints which are promptly investigated and resolved. In most cases, the problems are due to site preparation and other growing conditions rather than the quality or condition of the sod. The Maryland public continues to be able to purchase some of the highest quality sod available anywhere.

## Turf Certification

Maryland's turf certification program is a national model for certification programs. Growers must plant varieties recommended by the University of Maryland based on performance trials conducted in this region. All seed used in this program is tested by the Maryland State Seed Laboratory



and mixed under the supervision of MDA inspectors. All certified turfgrass fields are inspected for quality before harvest. Many sod specifications require Maryland certified turfgrass as a means of assuring the use of high quality varieties that are well adapted to this area.

### Customer Service

Providing good customer service is a priority of the Turf and Seed section. Because marketing and planting seed is time-sensitive and because weather has an impact, customers rely

on MDA staff to provide inspections, schedule supervised mixes, and send out seed test results rapidly to enable their businesses to remain successful in the seed market.

### 100<sup>th</sup> Anniversary of the Maryland Seed Law

On October 1, 1912, the Maryland State Seed Law was enacted. The Turf and Seed section celebrated its one hundred years of quality seed testing and service to Maryland’s agricultural industry during FY 2013.

## GOALS AND OBJECTIVES

### GOAL 1. ENSURE THAT SEED OFFERED FOR SALE IS ACCURATELY LABELED AND IN COMPLIANCE WITH MARYLAND SEED LAW IN ORDER THAT THE CITIZENS OF MARYLAND MAY RELY ON THE ACCURACY OF THE LABELING AND THUS BE ASSURED THEY ARE PURCHASING THE QUALITY OF SEED THEY DESIRE.

**Objective:** Ensure that 90 percent of seed lots offered for sale in Maryland are labeled correctly.

Performance Measures	Actual 2013
<b>Outcome:</b> Percent of Seed Lots Found to be Correctly Labeled	85.8

### GOAL 2. TO ENSURE THAT SERVICE SAMPLES OF SEED SUBMITTED TO THE LABORATORY ARE COMPLETED IN A TIMELY MANNER.

**Objective:** Ensure that all service purity analyses will be completed, on average, within three days of receipt of seed sample and all service samples submitted for germination testing will have been planted, on average, within three days of sample receipt.

Performance Measures	Actual 2013
<b>Quality:</b> Average Number of Days Between Receipt of Service Sample and Completion of Purity Analysis	3.7
Average Number of Days Between Receipt of Service Sample and Planting for Germination Test	1.6

## TURF AND SEED ACTIVITIES 2011-2013

	2011	2012	2013
<b>Field Inspections</b>			
Acres of Turf Inspected	4,446	4,811	5,895
Acres of Crop Seed Inspected	10,878	10,951	13,534
<b>Supervised Mixing</b>			
Pounds of Seed Mixed (thousand)	1,913	2,151	2,086
<b>Retail and Wholesale Seed Inspections</b>			
Number of Lots Sampled	1,092	995	1,053
Number of Regulatory Seed Tests Conducted	3,140	2,972	2,941
<b>Seed Testing</b>			
Purity Service Tests Conducted	2,935	3,140	2,902
Germination Service Tests Conducted	4,020	4,439	4,121





## Office of Resource Conservation

MDA's Office of Resource Conservation works closely with Maryland farmers to plan and implement conservation practices and programs that balance crop and livestock production with the need to protect natural resources. The office provides educational and financial assistance, technical assistance, and regulatory programs to improve agricultural management and help Maryland meet its Chesapeake Bay restoration goals. Conservation staffers work with local, state and federal agencies to implement policies and programs established by the State Soil Conservation Committee. The Office of Resource Conservation is comprised of four key areas: Program Planning and Development, Conservation Grants, Resource Conservation Operations, and the Nutrient Management Program.

### State Soil Conservation Committee

Established in 1938, the State Soil Conservation Committee (SSCC) consists of 11 members representing local soil conservation districts (SCDs) and state and federal agricultural and natural resource agencies. The SSCC coordinates the activities of Maryland's 24 soil conservation districts and appoints SCD supervisors. SSCC also develops, reviews and refines policies on soil conservation and water quality issues, while advising the Secretary of Agriculture on these matters. Importantly, the committee serves as a forum for all agencies involved in protecting natural resources.

In FY 2013, the SSCC supported the following initiatives:

- The addition of two new best management practices (BMPs)—pasture establishment for management

intensive grazing and bridges as part of the stream crossing standard—to the Maryland Agricultural Water Quality Cost-Share (MACS) Program.

- Regulations to implement increased cost-share thresholds for MACS practices as follows:
  - \$50,000 per practice and \$200,000 per practice for BMPs that address animal waste management;
  - \$150,000 per farm for farms not including animal waste management BMPs;
  - \$300,000 per farm for animal waste management BMPs and \$450,000 per farm for farms that have animal waste and other BMPs.
- A new nomination form that allows the SSCC to evaluate and compare credentials of candidates for supervisor appointments to local soil conservation districts.
- A training needs assessment plan and calendar of training sessions for technical/field staff.
- Improvements to Maryland's conservation delivery system.

In FY 2013, the SSCC received the following briefings and tracked these initiatives:

- Maryland's Growth Offset Policy to address new nutrient loads based on projected development activities.
- Maryland's Fertilizer Use Act which requires MDA to

regulate fertilizer use on lawns.

- The Phosphorus Management Tool as an improved environmental risk assessment tool for farmers.
- A new program by the USDA's Natural Resources Conservation Service to conduct edge-of-field water quality monitoring on farms.
- Assessments and improvements to the Chesapeake Bay Model regarding agricultural nutrient inputs and BMP nutrient reduction efficiencies.
- Proposed legislation that may impact agricultural soil conservation and water quality programs.

## Program Planning and Development

The Program Planning and Development section is responsible for planning, developing and coordinating policy, programs, and public information about resource conservation issues and nonpoint source pollution. Programs and activities are coordinated among local soil conservation

districts, federal and state agencies, and public and private agricultural and natural resource organizations. The section also provides staffing support to the State Soil Conservation Committee, Governor O'Malley's BayStat Program and the Conservation Reserve Enhancement Program Advisory Committee.

**Geographic Information Systems (GIS):** GIS is a powerful software technology used for resource management and development planning. The technology allows a vast amount of information to be linked to a geographic location. Data from many sources, including digitized and scanned maps, aerial photography, soil surveys, global positioning systems data and others are integrated and analyzed to create "smart maps" of a specific location. In FY 2013, staff continued to provide technical assistance and spatial data to a range of program areas within MDA. Training sessions were conducted on new ArcGIS 10.0 functionalities and ArcGIS Online, a cloud-based platform where anyone can make, share and host maps and applications. Staff participated in the beta testing of Land Image Analyst GIS software being developed for the U.S. Geological Survey, USDA Forest Service and the Chesapeake Bay Program by Geospatial Data Analysis.



A new priority watershed web map, based on the Chesapeake Bay model, was developed and embedded in MDA's website to help soil conservation districts determine whether farms are eligible for cover crop bonus payments. Staff also assisted with an online mapping application to help pesticide applicators identify the location of sensitive crops in order to prevent exposure to spray drift from neighboring fields. Finally, GIS staff continued to work with an interagency committee to revise and update the Maryland Integrated Map (MDiMap), a statewide data viewer that allows government agencies and the public to access state, local and municipal government spatial data sets and GIS applications.

**Information and Education:** The Information and Education Program provides creative, editorial, graphics and production services to program areas within the Office of Resource Conservation. Displays, brochures, fact sheets, and conservation education materials are provided to soil conservation districts statewide to assist with their educational outreach efforts. During FY 2013, the program worked closely with the University of Maryland Extension (UME) to develop educational materials for homeowners and lawn care professionals about Maryland's new lawn fertilizer law. An 84-page training manual was produced in partnership with UME for lawn care professionals, and a comprehensive fact sheet on lawn care basics/fertilizer guidelines was developed and distributed statewide through the Master Gardeners and soil conservation districts. A dedicated web page on the MDA website about the new law was developed and is updated regularly. On the agricultural front, the program helped educate farmers on MDA's newly revised agricultural nutrient management regulations and corresponding incentive programs to help farmers comply with new water quality protection requirements. Annual reports for the Maryland Agricultural Water Quality Cost-Share Program and the Nutrient Management Program were produced along with the spring and winter editions of the *Maryland Nutrient Management Newsletter*. In other areas, the program developed a comprehensive communications campaign to promote farmer participation in Maryland's 2013-2014 Cover Crop Program and a new cost-share program offering grants for manure injection and incorporation. During the fiscal year, the Information and Education Program provided educational exhibits for 30 events including the 11-day Maryland State Fair, Maryland Home and Garden Show, Towson Gardens Day, and Master Gardeners' Workshop while providing educational materials to homeowner associations, teachers and soil conservation districts statewide.

## Conservation Grants

The Maryland Agricultural Water Quality Cost-Share (MACS) Program provides conservation grants to help farmers install water quality improvement projects on their farms, adopt sustainable agricultural practices and comply with a growing list of federal, state and local environmental requirements. In 2013, MACS raised its funding caps for conservation grants in order to help farmers comply with Maryland's newly revised nutrient management regulations. Additionally, Governor Martin O'Malley earmarked \$2 million in cost-share funds to help farmers cover the cost of injecting or incorporating manure and other organic products into cropland and installing additional BMPs needed to comply with the revised regulations. Overall, in FY 2013, MACS provided Maryland farmers with \$26.7 million in grants to install 2,546 conservation projects that control soil erosion, reduce nutrient runoff and protect water quality in streams, rivers and the Chesapeake Bay. This figure represents the largest annual funding allocation in the program's 29-year history and helped Maryland farmers meet or exceed most of the second set of two-year Bay restoration milestones.

Farmers who received cost-share grants from MACS in 2013 invested about \$1 million of their own money into projects that will prevent an estimated 2.6 million pounds of nitrogen and 109,500 pounds of phosphorus from entering Maryland waterways. Cover crops were responsible for the bulk of the nitrogen and phosphorus savings. In addition, the projects will prevent an estimated 16,703 tons of soil from impacting local streams. Measures to protect streams from livestock traffic were installed through the Conservation Reserve Enhancement Program.

Although MACS helps farmers install conservation practices that they otherwise could not afford, grants do not cover equipment purchases or start up costs for major projects. Low Interest Loans for Agricultural Conservation (LILAC) provide farmers with upfront funds needed to get a project in the ground. Guaranteed by the Maryland Water Quality Revolving Loan Fund, LILAC loans are typically offered at 3 to 4 percent below market rates at lending institutions statewide.

Although interest rates for commercially available loans have been very low, MACS provided farmers with \$104,334 in LILAC loans to help pay for manure handling and conservation equipment during FY 2013.



**MACS Projects Financed with Special Funds:** The majority of MACS projects are funded through the capital program, which includes the sale of general obligation bonds; however, the following practices are financed using special funds from the Chesapeake Bay Restoration Fund, Chesapeake Bay 2010 Trust Fund and a combination of general and private funds.

- **Cover Crop Program:** Cover crops are one of the most cost-effective and environmentally promising ways to control soil erosion, reduce nutrient runoff and protect water quality in the Chesapeake Bay and its tributaries over the winter. MDA provides grants to help farmers offset seed, labor and equipment costs associated with planting cover crops on their fields following the fall harvest. During the 2012-2013 planting season, MACS provided farmers with \$20.8 million in grants to plant 415,000 acres of cover crops statewide. Collectively, the 2012-2013 cover crop planting helped prevent an estimated 2.5 million pounds of nitrogen and 83,000 pounds of phosphorus from reaching the Bay and its tributaries.
- **Manure Transport Program:** During the year, MACS received \$500,000 in additional funding from the

Chesapeake Bay 2010 Trust Fund to restore eligibility in the Manure Transport Program for all types of livestock operations seeking financial assistance to transport excess manure off their farms. In recent years, due to budget reductions, Transport Program grants have been awarded almost exclusively to poultry producers shipping poultry litter out of the Chesapeake Bay Watershed. The additional funding allowed dairy, beef, swine and other livestock producers to transport manure away from areas with high soil phosphorus levels. In FY 2013, Maryland farmers transported 52,481 tons of manure to approved farms and businesses using \$377,007 in state grants. More than 90 percent of this tonnage was shipped to alternative use facilities and not land applied in the watershed. Delmarva poultry companies provided matching funds to transport poultry litter, bringing the total amount of financial support provided to farmers through the Manure Transport Program to \$716,260.

- **The Maryland Conservation Reserve Enhancement Program (CREP)** is a federal-state partnership program that pays landowners to take environmentally sensitive cropland out of production for 10 to 15 years and install conservation practices that protect water quality and provide wildlife habitat. Through its water quality bonds, MACS provides CREP landowners with cost-share grants to establish conservation practices on environmentally sensitive land that they have agreed to no longer till or graze. Special funds are used to award a signing bonus of \$100/acre for program enrollment or re-enrollment. In FY 2013, MACS provided 113 landowners with \$421,079 in cost-share funds to install stream protection measures and \$436,138 in signing bonuses.
- **The Manure Injection and Incorporation Program** was initiated in FY 2013 to help farmers comply with Maryland's new nutrient management regulations. Funded by the Chesapeake Bay 2010 Trust Fund, farmers used the funds to inject or incorporate manure, sludge, food waste and other organic products into the soil within 48 hours of application.

**Chesapeake Bay Milestones:** MACS plays a key role in helping farmers meet short-term Bay restoration goals called milestones as well as long term restoration actions outlined in Maryland's Watershed Implementation Plan (WIP), the federally mandated document that serves as a road map for restoring a healthy Chesapeake Bay.

# CHESAPEAKE BAY MILESTONES

*2-Year Milestone Progress—July 2011 through June 2013\**

Milestone	Goal	Status as of June 30, 2013	% of Milestone Achieved
Barnyard Runoff Control Systems	Construct 153 barnyard runoff control systems by 2013	211 systems installed	138%
Cover Crops	Plant 355,000 acres annually	415,437 acres planted during 2012-2013 planting season	117%
Manure Transport	Annually transport 37,000 tons of excess poultry litter or livestock manure to farms or alternative use facilities that can use the product safely and in accordance with nutrient management plans.	52,481 tons of manure transported in 2013	142%
Retirement of Highly Erodible Land	Retire 608 acres of highly erodible land by 2013.	2,445 acres retired and planted with protective vegetation	402%
Streamside Forest Buffers	Plant 221 acres of forest buffers next to streams by 2013.	578 acres planted	260%
Streamside Grass Buffers	Plant 538 acres of grassed buffers next to streams by 2013.	2,165 acres planted	400%
Waste Storage Structures/Livestock	Construct 34 livestock waste storage structures by 2013.	127 structures installed	373%
Waste Storage Structures/Poultry	Construct 7 poultry waste storage structures by 2013.	25 structures installed	357%

\*In some instances progress includes practices installed with funds from both MACS and USDA's Natural Resources Conservation Service.

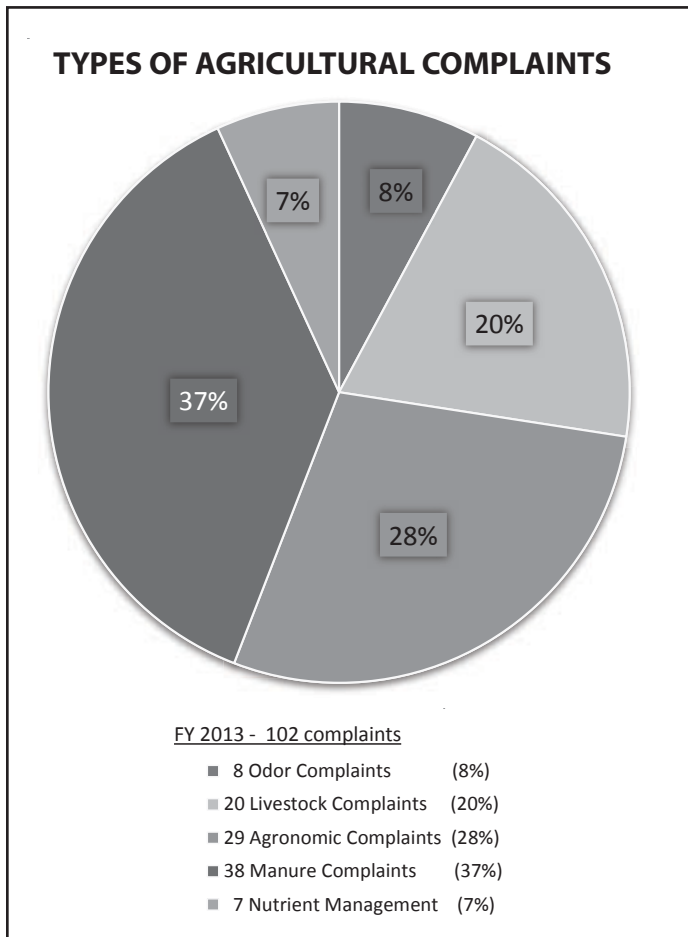
## Resource Conservation Operations

This program provides operating funds and staffing support to the state's 24 soil conservation districts to promote and deliver local soil conservation and water quality programs.

**Technical Assistance:** In FY 2013, MDA funded 78 field office positions statewide in local soil conservation district (SCD) offices. Thanks to grant support from the 2010 Chesapeake Bay Trust Fund, an additional 39 field technicians and planners were hired to work with farmers to install best management practices (BMPs) that protect local streams and other natural resources and meet the Chesapeake Bay's Total Maximum Daily Load (TMDL) reduction goals for nitrogen, phosphorus, and sediment. During the year, MDA field staff worked with farmers to develop soil conservation and water quality plans (SCWQPs) to protect natural resources on farms. During FY 2013, technical staff working in SCD offices statewide developed or updated SCWQPs to protect 29,785 acres of Maryland farmland. Overall, about 911,237 acres of agricultural land in Maryland were managed under a current SCWQP in 2013, a figure that exceeds Maryland's two-year

milestone commitment of 826,000 acres. SCWQPs often call for a menu of best management practices (BMPs) to be installed on a farm to control soil erosion, manage nutrients, and protect water quality. Field staff work with farmers to design, install, and maintain BMPs such as livestock stream crossings and animal waste storage structures. Field technicians also help farmers calculate costs to install BMPs and apply for state and federal cost-share and low interest loans. During FY 2013, MDA field staff helped Maryland farmers install 1,438 highly valued BMPs on their farms that were supported by both state and federal financial assistance programs.

**Enforcement:** Cases of water pollution caused by agriculture are handled using a progressive approach that is based on the severity of the situation. Conditions likely to cause pollution or that result in inadvertent farm pollution require timely corrective action, whereas chronic or willful mismanagement of farm resources is handled through a formal enforcement action. During the year, MDA and the Maryland Department of the Environment (MDE) worked jointly with soil conservation districts to assess farm management complaints and take action against polluters when necessary. In FY 2013, MDA received 102 complaints concerning agronomic issues, odors, manure, nutrient management, and livestock concerns; 95 of these complaints were corrected or closed and seven complaints are pending. Six enforcement actions were initiated during the year.



**Agricultural Water Management:** Drainage ditches are commonplace on the Eastern Shore. A network of about 820 miles of ditches is maintained by 101 public drainage associations (PDAs) and four public watershed associations in Caroline, Queen Anne's, Somerset, Wicomico, and Worcester counties. The network drains about 183,000 acres of agricultural and developed land. MDA regulates local PDAs to ensure that operation and maintenance plans are in good working order and that best management practices are installed to protect water quality. In FY 2013, MDA received a \$265,000 Conservation Innovation Grant that allows innovative drainage management practices to be utilized by PDAs. MDA and the University of Maryland (UMD), in cooperation with local soil conservation districts, have begun installing ditch filters in Caroline and Worcester counties. The filters are made using phosphorus-sorbing materials and fitted onto a water control structure. University of Maryland Extension (UME) will perform water quality monitoring on these structures to determine the effectiveness of the filtering system. Another milestone reached this year was the completion of the Texas Road Public Watershed Association (PWA) in western Wicomico County. This new PWA has been in



the planning and development stages for a number of years. With financial assistance provided by the American Recovery Act through a grant from the USDA, much needed drainage improvements were made for this minority neighborhood. Staff from MDA and the local soil conservation district helped get the project up and running.

**CAFO Permitting and Compliance Assistance:** Since 2011, MDA has worked closely with the Maryland Department of the Environment (MDE) to help Concentrated Animal Feeding Operations (CAFOs) comply with new permit requirements. Funded by an Environmental Protection Agency (EPA) grant, MDA staff conducts assessments of poultry operations on the Eastern Shore to help farmers determine if they are subject to permit requirements and to assist with permit compliance. MDA works closely MDE staff to resolve issues arising from the permit process or the annual inspections that are part of the CAFO permit. In FY 2013, MDA helped 43 CAFOs obtain Comprehensive Nutrient Management Plans (CNMPs) required by their permits. In addition, staff provided assistance with required paperwork including the Notice of Intent, compliance schedule, supplementary information form and CNMP Status Form. A major accomplishment was the completion of the *Poultry Operation Record Keeping Guide & Quick Reference Booklet*. This guide assists all types of poultry operations in complying with record keeping requirements specified by both MDE and MDA.

**The Maryland Nutrient Trading Program**, launched in 2010, provides a voluntary option for improving water quality in the Chesapeake Bay and its tributaries. By creating incentives for private sector financing of agricultural practices to reduce nutrient runoff and emissions, farmers and landowners can generate tradable nitrogen and phosphorus credits to sell to help offset management of existing loading caps and accommodate new economic and population growth. The trading of sediment credits was authorized by the Maryland General Assembly in FY 2012. The Maryland trading platform is based on the World Resources Institute's NutrientNet suite of tools and incorporates both Chesapeake Bay Watershed Model information and county-specific data drawn from the national Nutrient Tracking Tool (or NTT) developed by USDA's Natural Resource Conservation Service. The program's website, [www.mdnutrienttrading.com](http://www.mdnutrienttrading.com), contains a credit calculator, a central registry, and a marketplace to help potential participants determine baseline compliance, assess credit generation capacity, manage accounts, and locate trading partners. To date, more than 200 farms—representing about 2 percent of Maryland's total agricultural acreage—have been evaluated using the online calculation tool.

About 60 percent of these farms have the capability to meet program requirements and could be eligible to trade. Under the program's free-market format, credits can be sold directly to a buyer, a third-party broker, or an aggregator.

**Chesapeake Bay Restoration Partner:** The office coordinates agriculture's role in the Chesapeake Bay restoration effort. As part of the Clean Water Act, the U.S. Environmental Protection Agency (EPA) has set limits on the amount of nutrients and sediments that can enter the Chesapeake Bay. The Bay states were directed to develop statewide Watershed Implementation Plans (WIPs) that outline strategies to achieve these pollution limits, known as the Bay's Total Maximum Daily Load or TMDL. Maryland submitted its Phase II WIP to EPA in October 2012 and launched an interactive website which provides real-time data on agricultural progress in meeting the Bay's TMDL. To promote continual progress, EPA's accountability framework for restoring the Bay calls on states to identify milestones to be reached in two-year increments. The two-year milestones also are tracked at the county level for all agricultural BMPs. Maryland exceeded its goals for the first and second set of two year milestones.

**Special Projects and Grants:** The Office of Resource Conservation manages 36 ongoing research and technical assistance grants totaling \$7 million for special programs and demonstration projects designed to help small-sized equine operations, poultry producers and other agricultural landowners improve pasture and manure management, control soil erosion, manage nutrients, reduce runoff and safeguard water quality in streams, rivers and the Chesapeake Bay. During FY 2013, a grant to create an Agricultural Certainty Program was awarded. In 2013, the Maryland legislature authorized MDA to develop regulations governing the Certainty Program which will offer qualifying Maryland farmers a 10-year exemption from new Chesapeake Bay restoration requirements if they meet both local and federally mandated nitrogen, phosphorus and sediment reduction goals. The program will use the National Nutrient Trading Tool to assure compliance with the Bay's TMDL requirements.

**The Conservation Tracker** is an integrated database management system that monitors agricultural conservation practices implemented in Maryland. The system tracks both publicly and privately funded BMPs outlined in Maryland's Watershed Implementation Plan. In FY 2013, BMP information obtained through Conservation Tracker was provided to Maryland's BayStat Program and the Environmental Protection Agency's Chesapeake Bay Program for use in gauging progress.

**Maryland Envirothon:** MDA and soil conservation districts are primary sponsors of the Maryland Envirothon, an outdoor natural resources competition for high school students interested in learning about natural resources and gaining a better understanding of today's complex environmental issues. Designed by soil conservationists, foresters, wildlife experts and other natural resource professionals, the Envirothon moves students beyond the classroom to solve real life environmental problems in a natural setting. Students compete at the local, state, and national levels. A five-member team of students from Harford County won this year's state competition and went on to place 17<sup>th</sup> among top-ranking teams from 47 states, nine Canadian provinces, and one Canadian territory at the 2013 North American Envirothon. The Maryland Envirothon is sponsored by the State Soil Conservation Committee, the Maryland Association of Soil Conservation Districts, and other natural resource agencies.

## Maryland Nutrient Management Program

The Nutrient Management Program includes regulatory and enforcement activities, a certification and licensing program for consultants and farmers, training and education programs and an urban nutrient management program. The program protects water quality in the Chesapeake Bay and its tributaries by ensuring that farmers and urban land managers apply fertilizers, animal waste and other nutrient sources in an effective and environmentally sound manner.

All farmers grossing \$2,500 a year or more or livestock producers with 8,000 pounds or more of live animal weight are required to follow nutrient management plans when fertilizing crops and managing animal waste. These science-based plans specify how much fertilizer, manure or other nutrient sources may be safely applied to individual crop fields to support crop growth while preventing excess nutrients from contaminating waterways. Nutrient management plans are required for all agricultural land used to produce plants, food, feed, fiber, animals or other agricultural products.

On October 15, 2012, MDA's revised nutrient management regulations became effective. The revised regulations modify how a farm's nutrient management plan is developed and implemented, change the way organic nutrient sources are managed, and require farmers to install stream protection practices. The requirements are being phased in over the next several years. Additional regulatory changes concerning updates to the Phosphorus Management Tool were proposed in FY 2013, but not finalized.

On the urban front, about 700 non-agricultural nutrient applicators, including lawn care companies, commercial landscapers, golf course managers and public groundskeepers are required to take soil tests, keep fertilizer records and follow University of Maryland guidelines when applying nutrients to lawns, athletic fields or other urban landscapes. MDA reviews the records of these organizations to verify program compliance. Much of the year was spent gearing up for Maryland's new lawn fertilizer law which takes effect October 1, 2013. MDA's regulatory authority will be expanded under the new law to include more than 1,500 lawn care professionals who will need to be certified to apply lawn fertilizer.

## Agricultural Enforcement

- **Nutrient Management Plan Submissions.** Maryland farmers are required to submit their initial nutrient management plans to MDA. By the end of the fiscal year, 99.5 percent of the state's 5,382 regulated farm operators had met the requirement. During FY 2013, MDA initiated progressive enforcement actions against 27 operators.
- **Annual Implementation Reports.** Farmers are required to update their nutrient management plans and submit Annual Implementation Reports (AIRs) to MDA by March 1 summarizing their nutrient applications for the previous growing season. In April 2013, MDA issued warning notices to 1,417 farmers who failed to file their AIRs on time, followed by 376 notices of pending fines and 153 default notices. By the end of the fiscal year, 98 percent of regulated farmers managing about 1.3 million acres of land had submitted their AIRs. In FY 2013, MDA collected \$6,750 in fines for late or missing AIRs.
- **On-Farm Audits and Inspections.** MDA's seven nutrient management specialists conducted 738 on-farm audits in FY 2013, representing about 14 percent of regulated farms. During these visits, specialists educated farmers on technical and regulatory aspects of nutrient management and helped set up record keeping systems. Specialists issued 189 warnings to correct major violations and documented minor violations to be corrected. Follow-up visits determined that 37 percent of the operators had come in the compliance with the remaining operators progressing through the enforcement process. In FY 2013, MDA collected \$1,700 in fines from farmers who failed to take corrective actions in a timely manner.

## Certification and Licensing Programs

- **Consultant Certification.** The Office certified 18 new consultants who passed the Nutrient Management Certification Exam, bringing the number of individuals who have successfully completed the program to 1,187.
- **University of Maryland Consultant Program.** The Office funded 21 University of Maryland consultants during FY 2013.
- **Farmer Training and Certification.** MDA trained and certified 32 farmers to write their own nutrient management plans. To date, 488 farmers have been certified to develop nutrient management plans for properties that they own or manage.

## Farmer and Consultant Education Programs

- **Nutrient Applicator Voucher Training.** In FY 2013, MDA and University of Maryland Extension (UME) conducted 27 voucher training sessions attended by 528 individuals seeking to obtain or renew their vouchers. Farmers who apply nutrients to 10 or more acres are required to attend training to obtain these vouchers.
- **Continuing Education.** Individuals certified to prepare nutrient management plan are required to take 12 hours of continuing education credits every three years. In FY 2013, MDA and UME sponsored 38 education classes on nutrient management topics and approved an additional 53 courses and field events sponsored by other recognized organizations. The sessions were attended by 1,241 individuals.
- **Nutrient Management Exam Training.** MDA provided a two-day training course for individuals planning to take the certification exam. Eighteen new consultants were certified following the exam.

## Urban Nutrient Management Program

**Maryland's New Lawn Fertilizer Law:** In FY 2013, MDA's urban nutrient management program spent a considerable amount of time and resources gearing up to implement the phased in requirements of Maryland's new lawn fertilizer law, the Fertilizer Use Act of 2011. The new law requires MDA, with technical guidance from the University of Maryland (UM), to establish a training, certification and licensing program for lawn care professionals and to conduct a homeowner education program on Bay-friendly fertilizer practices. MDA

worked with the UM to develop an 84-page training manual for lawn care professionals who will need to become certified by MDA to apply fertilizer by October 1, 2013. The manual was posted on the MDA website in June and by the end of the fiscal year, a training, testing and certification and licensing program for lawn care professionals was ready to roll out. To help educate the public on responsible fertilizer use, a four-week radio advertising campaign ran in April 2013 in three major urban markets: Baltimore, Annapolis and Washington, D.C. News releases, fact sheets and posters on how to fertilize lawns responsibly were developed and distributed statewide.

**Enforcement:** MDA's Urban Nutrient Management Program currently regulates about 700 individuals and companies that apply fertilizer to ten or more acres a year, a figure that will more than double when Maryland's new lawn fertilizer law takes effect. In FY 2013, the records of 11 golf courses, 10 lawn and landscape companies, and one public lands maintenance office were reviewed. The reviews resulted in two warnings for non-compliance. Both companies cited lacked required soil tests. Operations that failed their inspections were ordered to obtain soil tests or adjust fertilization rates for subsequent applications. By the end of the fiscal year, eight follow up visits showed that all operations had come into compliance. MDA collected \$750 in fines in FY 2013.



## Maryland Department of Agriculture Budget Allocation for FY 2013

### State of Maryland Budget Allocation for FY 2013

Operating	\$31,547,254,828
Capital	\$1,624,783,068
<b>Total State Budget</b>	<b>\$33,172,037,896</b>

### Maryland Department of Agriculture Budget Allocation for FY 2013

	General	Special	Federal	Bonds	Total
Operating	\$27,313,003	\$23,753,363	\$4,679,644	—	\$55,746,010
Capital	—	\$9,592,000	—	\$10,600,000	\$20,192,000
<b>Total</b>	<b>\$27,313,003</b>	<b>\$33,345,363</b>	<b>\$4,679,644</b>	<b>\$10,600,000</b>	<b>\$75,938,010</b>

### Bonds

AgLand	\$8,706,000
MACS	—
Tobacco	\$1,894,000
<b>Total</b>	<b>\$10,600,000</b>

## Long Service Awards

### MDA Honors Employees with Long Service Awards

MDA honored 40 employees in October 2012 for their years of dedicated service to the department. Hurlock resident Paul Newcomb, Jr., who works with the MDA Mosquito Control Unit, received special recognition for 40 outstanding years of public service. Eight MDA employees were recognized for 35 years of service; eight employees for 30 years of service; 11 employees for serving 25 years; two for serving 20 years; five employees for serving 15 years and five for serving 10 years. **The following is a listing of the MDA employees who were recognized, by county of residence.**

#### Anne Arundel County

- Elvira Aisquith (Fiscal Services) – 15 years
- Luzviminda Ramallosa (State Chemist) – 15 years
- Susanne Wagner (Turf & Seed) – 15 years
- Dianne Dorsey (Animal Health) – 20 years
- Bonita Sims (Resource Conservation) – 30 years
- Keith Hendricks (Animal Health) – 35 years
- Craig Nielsen (Attorney General) – 35 years
- Carol Reynolds (State Board of Veterinary Medical Examiners) – 35 years
- Mary Ellen Setting (Executive Direction) – 35 years

#### Calvert County

- Judy McGowan (Nutrient Management) – 10 years
- Barbara Miller (Weights & Measures) – 30 years

#### Caroline County

- James Townsend (Food Quality Assurance) – 15 years
- John Schultz (Food Quality Assurance) – 30 years

#### Cecil County

- Robert Tatman (Forest Pest Management) – 35 years

#### Dorchester County

- Paul Newcomb, Jr. (Mosquito Control) – 40 years

#### Frederick County

- Virginia Pierce (Animal Health) – 10 years
- Terry Coblentz (Resource Conservation) – 25 years

#### Howard County

- Tom Phillips (State Chemist) – 10 years
- Stanley Daniello (State Chemist) – 25 years
- Ravendra Gahlot (Resource Conservation) – 25 years
- Donald Mason (Weights and Measures) – 30 years
- Dennis Howard (Pesticide Regulation) – 35 years

#### Montgomery County

- Paul Meyer (Resource Conservation) – 25 years
- John Rhoderick (Resource Conservation) – 30 years

#### Prince George's

- Robert Trumbule (Plant Protection) – 25 years
- Michael Cantwell (Mosquito Control) – 30 years
- Carol Holko (Plant Industries) – 30 years

#### Queen Anne's County

- Susan Shepard (Animal Health) – 30 years
- William Hall, III (Weights and Measures) – 35 years

### Somerset County

- Kevin Keenan (Resource Conservation) – 25 years
- William Dryden (Resource Conservation) – 25 years

### Talbot County

- Howard Callahan, Sr. (Nutrient Management) – 20 years
- Stephen Spielman (Resource Conservation) – 25 years

### Wicomico County

- Brenda Baumann (Food Quality Assurance) – 25 years
- Clifford Jones (Resource Conservation) – 35 years

### Worcester County

- Milton Savage, Jr. (Food Quality Assurance) – 15 years

### Other

- Cheryl Cook (Food Quality Assurance)  
Smyrna, Delaware – 10 years
- Bryan Harris (Nutrient Management)  
Glennville, Pennsylvania – 10 years
- Lynn Alexander-Kuhn (Forest Pest Management)  
Airville, Pennsylvania – 25 years
- Ben Cooper (Resource Conservation)  
Hyndman, Pennsylvania – 25 years

## EMPLOYEES OF THE YEAR



### Employees of the Year

Deputy Secretary Mary Ellen Setting stands with Dickie Insley, Arthur Meilhammer Jr. and Paul Newcomb Jr. from MDA's Salisbury Mosquito Control facility were honored as MDA's Employees of the Year for taking it upon themselves to volunteer their time and efforts to re-grade and re-landscape the areas around the Salisbury facility, at significant cost savings to MDA. Thank you, Gentlemen!

### Thirty-five Years of Service



(Left to right):  
Mary Ellen Setting (Deputy Secretary)  
Robert Tatman  
Dennis Howard  
William Hall  
Keith Hendricks  
Craig Nielsen

### Thirty Years of Service



(Left to right):  
Mary Ellen Setting (Deputy Secretary)  
John Rhoderick  
Bonita Sims  
Michael Cantwell  
Susan Shepard  
Carol Holko  
Barbara Miller  
Donald Mason

## Twenty-five Years of Service



(Left to right):  
Mary Ellen Setting (Deputy Secretary)  
Robert Trumbule  
Terry Coblentz  
Lynn Alexander-Kuhn  
Stanley Daniello  
Stephen Spielman

## Twenty Years of Service



(Left to right):  
Mary Ellen Setting (Deputy Secretary)  
Dianne Dorsey  
Howard Callahan



## Fifteen Years of Service

(Left to right):  
Mary Ellen Setting (Deputy  
Secretary)  
Elvira Aisquith  
Luzviminda Ramallosa  
Susanne Wagner





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Maryland  
Department of Agriculture