MARYLAND DEPARTMENT OF AGRICULTURE | 2011 ANNUAL REPORT

Governor
Martin O'Malley

Lt. Governor
Anthony G. Brown

Secretary
Earl F. Hance

Deputy Secretary
Mary Ellen Setting

MARYLAND
Smart, Green & Growing

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.

MARYLAND DEPARTMENT OF AGRICULTURE

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Dear Friends,

I'm pleased to present to you the 2011 Maryland Department of Agriculture Annual Report. Over the past year, we've met with farmers from nearly every commodity group and listened to your thoughts and suggestions for the agriculture industry.

Here in Maryland, we believe in the importance of passing on a healthier, greener State to our children. We remain committed to protecting our family farms and businesses, retaining agricultural and resource-based industry jobs, and preserving our open spaces and greenways.

Our farmers long ago proved that they are the most committed and dedicated stewards of the land and water. During FY 2011, a record 1,688 farmers were approved to plant a record 502,300 acres of winter grains in the Cover Crop Program, representing 155 percent of our two-year Chesapeake Bay milestone for cover crops. Through this program, we have the potential to do more for the Bay than ever before, as cover crops are among the most cost efficient and effective tools we have for preventing nutrients from entering its watershed.

Through these and other conservation actions, and by pursing new technologies to move agriculture forward in our innovative economy, Maryland's farmers are leading by example. On behalf of all Marylanders, thank you for your continued commitment to achieving our shared environment goals and providing for all of us, through your harvest.

Sincerely,

Governor Martin O'Malley

Dear Friends,

FY 2011 brought us a drought, significant crop losses, and new environmental objectives for Chesapeake Bay restoration —all while conducting our routine, day-to-day business. At the Maryland Department of Agriculture (MDA), however, "routine" is hard to describe. In part, it means maintaining our efforts in animal health, food quality assurance, plant industries and pest management, resource conservation and nutrient management as well as farmland preservation, agricultural mediation, and other important consumer services.

"Routine" also means facing challenges, many of them unglamorous, but critically important to agriculture. For instance, the emerald ash borer, a beetle which kills ash trees within three years of infestation; the hemlock woolly adelgid, a pest the size of a dot, which threatens our old growth hemlock trees; and the brown marmorated stink bug, which devastates orchard and vegetable crops – these pests are posing a significant economic threat throughout Maryland. MDA is working with the federal government, neighboring states and other agencies to survey these and other pests and to develop ways to combat their damage.

"Routine" also means avoiding challenges that other states faced. During FY 2011, we routinely tested thousands of animals for serious and deadly diseases and had no significant animal disease event. Our food quality assurance program graded 290 million pounds of poultry; 31 million dozens of shell eggs; 20 million pounds of meat; nearly 5 million metric tons of grain; and 6 million pounds of fruits and vegetables - all without significant findings.

Our farmers are routinely leaders in environmental stewardship, which continued with record breaking acres of cover crop planted – almost 400,000 acres – during FY 2011. Cover crops are the most cost-effective and environmentally sustainable ways to control soil erosion and reduce nutrient runoff in the Chesapeake Bay. We estimate that these record acres will prevent 2.4 million pounds of nitrogen and 80,000 pounds of phosphorus from impacting the Bay watershed, which puts us on track to exceed our overall two-year Bay milestone.

And for more than two decades we have routinely helped farmers install best management practices (BMPs) that protect water quality in streams, rivers and the Chesapeake Bay – practices that do not necessarily enhance their revenue stream or make their operations more efficient. Through the Maryland Agricultural Water Quality Cost-Share program, administered by our Office of Resource Conservation, farmers have installed more than 21,000 water quality projects—or about 2.3 BMPs per day, every day, for 25 years, and spent more than $15 million of their own money to match state and federal funds.

Here is a snapshot of some of the "routine" day-to-day work we completed at MDA during FY 2011:

- MDA's Weights and Measures program inspected 37,525 commercial weighing and measuring devices, tested 9,256 individual lots of prepackaged commodities and investigated 562 consumer complaints.

- The Pesticide Regulation program certified 145 private applicators, 586 new commercial pest control applicators and consultants, and 1,102 public agency applicators.
- Marketing Services promoted 130 farmers' markets and involved 365 farmers in the Farmers Market Nutrition Program, which benefited 168,411 Women, Infants and Children (WIC) recipients in Maryland.
- The State Chemist registered 12,476 pesticide products, 3,701 fertilizers, 451 soil conditioners, 724 fertilizer/pesticide combinations, 148 liming materials, and 15,336 commercial feeds; and conducted 961 on-site inspections.
- The Turf and Seed program inspected 4,446 acres of turf and 10,878 acres of crop seed; supervised the mixing of 1.9 million pounds of seed; sampled 1,092 seed lots; and conducted 3,140 regulatory seed tests, 2,935 purity service tests, and 4,020 germination service tests.
- Plant Protection and Weed Management registered 1,425 beekeepers, 10,011 honey bee colonies, and 13 Ginseng dealers; inspected 7,610 honeybee colonies; certified 336 nurseries; and licensed 1,432 plant dealers and brokers.

. . . all in a day's work.

During FY 2011, the poultry industry continued to be Maryland's leading agricultural sector, followed by greenhouse and nursery, dairy and grain—primarily corn and soybeans. We are also seeing great promise in less traditional sectors that are gaining good ground. The 2010 Equine Census found that Maryland has 79,100 equine animals in 16,040 locations with assets valued at $5.6 billion. The 2010 Maryland Vineyard Survey found that Maryland has experienced a 200 percent increase in the number of acres dedicated to planting grapes since 2001. (Both surveys were conducted in FY 2011.) We at MDA are committed to doing all we can during our routine day-to-day operations to support all agriculture sectors in a way that promotes economic development, good environmental stewardship, and sound job growth.

This report provides an overview of the many services that MDA provides during the year. I thank every member of our MDA staff for their professionalism and dedication to this agency and to the agriculture sector. My thanks also to our many partners whose expertise and cooperation strengthens all of our work. And, of course, my thanks to Governor O'Malley and Lt. Governor Brown for their continued support of agriculture during the difficult economic times we have faced as a state and nation. Together, we truly can keep Maryland smart, green and growing.

Sincerely,

Earl F. Hance
Secretary | Maryland Department of Agriculture

THE 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 various 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 State Grange, the impact of the Brown Marmorated Stink Bug, Total Maximum Daily Loads (TMDL), Maryland's Watershed Implementation Plan (WIP), the Governor's Intergovernmental Commission for Agriculture Toolkit, legislative issues, the Maryland Agricultural Education Foundation, and the science of soil phosphorus and its management. In addition, the commission participated in the Governor's forum —"Green Jobs and Industry Task Force."

These topics along with reports from each of the represented commodity and business groups keep the commission proactive with agricultural issues and assure the fulfillment of the commission's statutory mission. In addition, the commission conducted its bi-annual farm tours in Calvert and St. Mary's counties in the fall and Dorchester and Wicomico counties in the spring.

The commission continues to develop priorities and works actively on the implementation of a Statewide Plan for Agriculture, setting priorities and defining the next steps in the long term Strategic Planning Process.

OFFICE OF THE ATTORNEY GENERAL

The Office of the Attorney General (OAG) 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, during FY 2011, the office:

- Worked with the OAG's Civil Division to defend competing claims against MDA filed by the Maryland Farm Bureau and the Waterkeepers, seeking disclosure of nutrient management records under the Public Information Act.
- Supported MDA's enforcement of the State's Nutrient Management Law.
- Supported increased enforcement of MALPF easements. Negotiated one settlement and worked with Foundation staff to resolve several violations informally. To date, the Foundation, which now holds approximately 2,100 easements statewide, has preserved 283,366 acres of farm land.
- Successfully defended an important case under the state's agricultural land preservation program in the Court of Special Appeals where the Court affirmed MALPF's position that a farm under a state-held easement may not be subdivided without MALPF's approval.
- Supported increased enforcement of the Veterinary Practice Act. The SBVME had a backlog of 25 complaint cases and received an additional 87 complaints in FY 2011. The office assisted in significantly decreasing the backlog and in efficiently processing new complaints through informal resolutions. The office also assisted the SBVME in legislative, regulatory, and licensing matters.

THE 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.

Due to limited funding, MALPF combined FY 2011 and FY 2012 appropriations so that it could conduct one easement acquisition offer cycle and maximize the number of acres to be purchased. MALPF has nearly $30.4 million available for this cycle. Of this, almost $8.7 million is county funding that will be used to match state funds at a ratio of 60 percent state to 40 percent county dollars. This level funding is expected to secure about 5,000 acres of farmland. By the end of FY 2011, MALPF had purchased or had pending offers to purchase easements on 2,112 properties, which would permanently preserve 287,807 acres.

The General Assembly adopted legislation affecting MALPF during 2011 that gives final authorization for MALPF to fully implement a statewide Critical Farms Program, as required by Chapter 155, Laws of Maryland 2005, and as recommended by the MALPF Task Force Report, submitted in 2005. The bill – HB 214: Maryland Agricultural Land Preservation Foundation Critical Farms Fund—allows MALPF to fully implement a statewide Critical Farms Program by finalizing the criteria a property must meet to be considered a "critical farm." As of October 1, 2011, MALPF will be authorized to provide interim or emergency financing (if funding is available) for easement acquisitions or fee simple acquisitions of a critical farm. Funding remains discretionary, but the bill also allows MALPF to solicit funds from other sources. For a property to qualify as "critical," it must be at high risk for being converted to non-agricultural uses and meet the state's and county's criteria for importance based on its size, highly productive soils, and strategic location.

MALPF also partners with other state agencies and local governments to meet a legislative goal (SJ 10, 2002) of preserving 1,030,000 acres of agricultural land by 2022. As of January 1, 2011, Maryland has preserved about 560,000 acres of agricultural land under MALPF, Rural Legacy, GreenPrint, and through local land preservation and transfer of development rights programs.

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 (SJ 10, 2002).

Performance Measures	FY 2011
Output: Total number of easements, cumulative	2,112
Outcome: Total acres under easements	287,807

PUBLIC INFORMATION OFFICE

The Public Information Office serves as MDA's liaison to the media, general public, government agencies, elected officials, the agriculture industry, and MDA employees. Its intent is to strengthen the appreciation and understanding of the importance of agriculture and MDA activities to the everyday lives of Marylanders and to support policy initiatives. 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 relations efforts are becoming increasingly successful.

The most high profile events produced by the Public Information Office in FY 2011 were the Buy-Local Cookout at the Governor's official residence in July to kick off the Buy Local Challenge Week; the agency's exhibits at the Maryland State Fair in August; and the statewide launch of the Farm-to-School initiative in September. These events highlight agriculture's impact on the state to thousands of people and require the involvement of dozens of employees. The office also represented MDA at a number of conferences including those sponsored by the Maryland Municipal League, Maryland Association of Counties, and the Maryland Farm Bureau.

During FY 2011, staff distributed 244 news releases to 315 news outlets and interested parties, which generated more than 600 logged calls from the media. MDA uses a media monitoring 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. Each day, news stories are identified, linked to the agency's website and distributed to all staff and other interested parties. The Public Information Office also publishes and distributes a monthly e-newsletter MDA News to more than 1,700 subscribers.

During the year, the Public Information Office increased the agency's presence on the internet, making it the first point of contact for many citizens. There were 463,736 visits to the site, of which 68 percent were new visitors during the year. The visitors viewed nearly 922,085 pages. Activity increased steadily during the year. The leading page views after the home page were farmers' markets, jobs, licenses and permits, agritourism, and the daily news clippings.

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 publicize the department's enforcement actions. The goal 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 information office in FY 2011 were the drought, environmental regulatory issues like the U.S, Environmental Agency's Total Maximum Daily Loads (TMDL) and Watershed Implementation Plan for agriculture, nutrient management, local impact of national food safety issues, and the promotion of and consumer demand for Maryland made, grown, and harvested products.

Other high-profile media inquiries included the strong environmental accomplishments or impacts of agriculture, the state budget affect on MDA, farmers and other users of the agency's programs and services, consumer complaints related to the high price of gas and the amount of fuel dispensed, biological control of exotic pests such as the hemlock woolly adelgid and emerald ash borer, and a new law to manage commercial and residential use of lawn and turf fertilizer.

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 Public Information 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, including the Delmarva Avian Influenza Joint Task Force, Maryland Emergency Management Agency's Joint Information Center, and Maryland Pet Sheltering Network.

Exciting initiatives that the public information staff led in collaboration with other MDA offices, the University of Maryland, state and local agencies and related non-profit organizations, were the Grow it-Eat it Backyard Food Gardening campaign and Take it From Maryland Farmers: Backyard Actions for a Cleaner Chesapeake Bay campaign. The office is also actively involved in the O'Malley-Brown Administration's "Capital for a Day" community relations events.

During the year, staff also represented the agency on the Maryland Heritage Area's Technical Advisory Committee and the Maryland Agricultural Education Council. In addition, staff is actively involved in the Communications Officers of State Departments of Agriculture, the national Emerald Ash Borer public information working group and the state Smart, Green and Growing Communications Committee.

GOVERNMENT RELATIONS

MDA's Government Relations liaison works with elected officials to ensure that agriculture's interests are understood and best represented in laws, regulations and policies. During the 2011 General Assembly session, MDA put forward five departmental bills; the following four were signed into law:

1. HB 214 – Maryland Agricultural Land Preservation Foundation (MALPF) – Critical Farms Fund. In 2006, legislation was passed that, among other things, required MALPF to establish the criteria for a critical farms fund. This 2011 legislation established that criteria but did not provide funding.
2. HB 293 – Weights and Measures Registration Fees. The legislation, as introduced, granted the Secretary of Agriculture the authority to establish registration fees, through a regulatory process, for certain weights and measures functions in order to fund the program. The bill was amended in the Senate to instead provide a small statutory fee increase for the program. MDA and the industry are meeting during the interim to discuss a more long-term solution to financing this important consumer protection program.
3. SB 322 – State Board of Veterinary Medical Examiners—Registered Veterinary Technicians. Senate Bill 322 clarifies the authority of the State Board of Veterinary Medical Examiners to define the duties and responsibilities of registered veterinary technicians.
4. SB146 – State Board of Veterinary Medical Examiners—Licensing. The bill grants the State Board of Veterinary Medical Examiners (SBVME) the authority to direct an individual it licenses to submit to a mental or physical examination when the SBVME has reasonable evidence indicating that the individual lacks the capacity to practice competently.

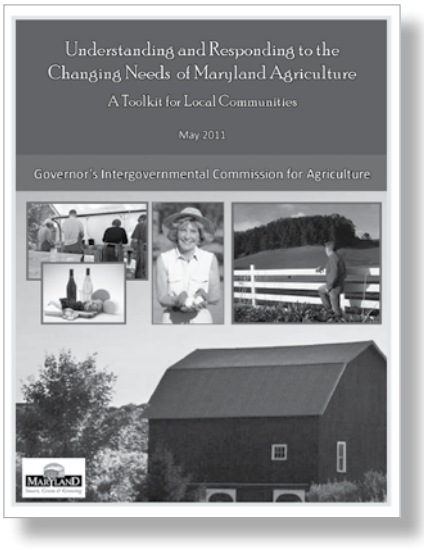
MDA also put forward a bill that would have eliminated family lots in the MALPF program for any future easements in favor of restricted lots. The bill did not pass. MDA also supported the following two bills that passed and were signed by the Governor:

1. HB 751 – Agriculture—Jane Lawton Farm to School Program—Reporting. The bill requires each local educational agency that participates in the Jane Lawton Farm-to-School program to report to MDA by January 1 of each year the types and amounts of farm products they purchased from Maryland farms.
2. HB 831 – Invasive Plants. The bill calls for the Secretary of Agriculture to establish an Invasive Plant Advisory Committee (IPAC). The IPAC will advise the Secretary to adopt regulations that establish a risk assessment protocol for invasive plants within one year, and establish lists of invasive plants using the protocol within two years.

MDA also monitored several other bills that had an impact on agriculture and provided input to the legislature and administration when requested.

GOVERNOR'S INTERGOVERNMENTAL COMMISSION FOR AGRICULTURE (GICA)

GICA is a public-private coordinating body that works to promote the economic profitability of agriculture in the state by ensuring that all appropriate state agencies work in a cooperative, coordinated manner with local government and industry groups in planning, implementing, overseeing and evaluating intergovernmental initiatives related to agricultural affairs of the state. It is chaired by the Secretary of Agriculture and staffed by MDA. Its members are appointed by the Governor on the recommendation of the Secretary.



In May 2011, the GICA published a "toolkit" for local communities entitled "Understanding and Responding to the Changing Needs of Maryland Agriculture." The toolkit suggests tools, methods and resources that may help farmers, their neighbors and local officials to better work together towards creating communities that support both profitable agricultural production and a high quality of life. It also includes a variety of resources and information available to communities. It is also posted on the MDA website.

ADMINISTRATIVE SERVICES

Administrative Services manages all of MDA's technical and support services. It is comprised of five sections – Human Resources, Central Services, Fiscal Services, IT Services and Emergency Management.

MDA has 500 permanent and seasonal employees and the Human Resource Office facilitates the recruitment, training, compensation, and retention of employees. 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 employee recognition.

Central Services manages facilities, records, inventory, telecommunications, warehousing, the agency motor fleet and the distribution of supplies and mail. It also oversees departmental procurement and is responsible for the maintenance and repair of 331,600 square feet of facilities on 40.5 acres of owned and leased facilities throughout the state. The maintenance staff implements energy-saving projects wherever possible. A recycling program uses compost piles to transform organic waste into mulch, which is use in landscaping projects at MDA. The motor pool provides quality maintenance and repairs of the department's 274 vehicles in addition to semi-annual inspections on all vehicles. The MDA fleet traveled more than 2.5 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. The office has continued its fine record of paying over 99 percent of MDA bills on time as defined by state "on-time" guidelines.

Information Technology (IT) Services is responsible for maintaining and upgrading all telecommunications and data processing systems at MDA. The Networking, Application Development and Technical Support sections have been successful in addressing MDA's goals by ensuring that its employees are more productive and better able to serve the public.

Emergency Management addresses any and all emergencies within MDA. The agency 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, the department continues to provide annual training and drills for first responders.

INFORMATION TECHNOLOGY SERVICES

Information Technology Services (IT)—which includes networking, application development, and technical support units—maintains and upgrades all MDA telecommunications and data processing systems.

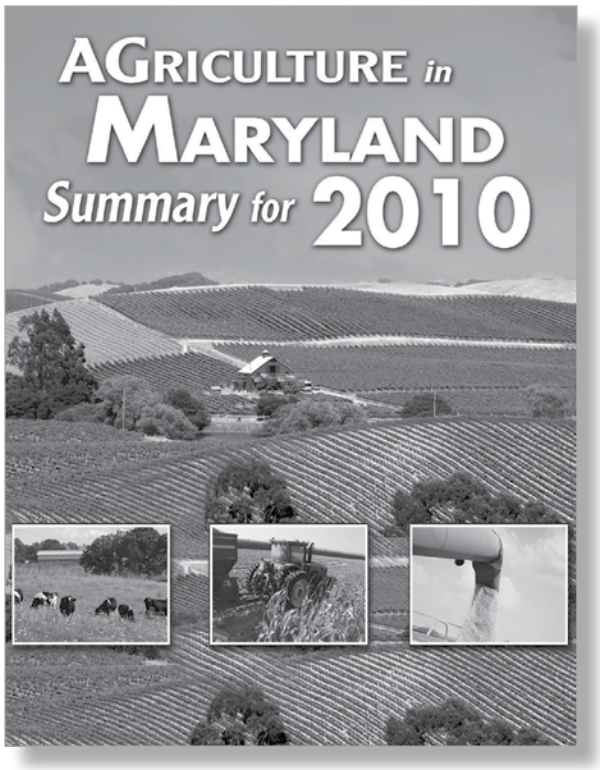
The network staff, working with networkMaryland™, has installed a new fiber optic connection that gives MDA affordable, high-speed connectivity to the state network. The Wide Area Network (WAN) continues to be expanded with the addition of Soil Conservation District Offices. A server virtualization project is underway and will help eliminate the need to purchase physical servers.

The application development staff provides licensing and registration data services to Maryland citizens as one of IT Services' top priorities. Many modifications have been implemented to gather, distribute and use data for licensing and registration systems including data on inspection and regulatory services. MDA is working to obtain a secure web-based licensing and registration system.

The technical support staff hosts, supports and assists in the maintenance of MDA's internet site (www.mda.state.md.us) and Maryland's Best website (www.marylandsbest.net). Maryland's Best website was re-designed with new searchable features and the ability to display YouTube videos on farmers and their produce. Farmers now have the capability to register and add their detailed information to the website. The Maryland Horse Industry Board website was also moved and redesigned in accordance with the state website guidelines.

MDA's employee Intranet website helps employees locate and view information faster in one central location. A calendar feature has been added to track MDA's current events. Other recent additions include training manuals, organizational charts, and software tutorials.

USDA/NATIONAL AGRICULTURAL STATISTICS SERVICE



The Maryland Field Office of the U.S. Department of Agriculture's (USDA) statistical agency, the 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, NASS employees 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 our surveys.

In 2010—the most recent year that annual statistics are available for this report—agriculture generated nearly $1.72 billion in cash receipts for Maryland farmers, not accounting for the additional impact provided by related jobs and services. Maryland's leading cash commodities were broiler chickens, greenhouse/nursery products, milk and dairy products, corn and soybeans. The Maryland Field Office of NASS estimated there were 12,800 farms in 2010 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.

During FY 2011, NASS—in cooperation with MDA and the Maryland Horse Industry Board—released the results of the 2010 Maryland Equine Census. The census provides a comprehensive, detailed picture of how many animals there are, the total amount of land associated with equine operations, and the economic scope and importance of Maryland's equine industry. According to the Equine Census, there were 79,100 horses, ponies, mules, donkeys and burros in Maryland on May 1, 2010 with at an estimated value of $715 million.

Complete results of the 2010 Maryland Equine Census and any other reports are available at www.nass.usda.gov/Statistics_by_State/Maryland. To obtain a copy of the Agriculture in Maryland 2010 Summary, log on to the NASS website or call 410-841-5740.

MARKETING SERVICES

MDA's Marketing Services develops profitable marketing opportunities for Maryland farmers and serves as a conduit for federal resources and policy information specific to the agricultural sector. During FY 2011, Marketing Services focused its efforts on building demand for local farm products through promotions and advertising as well as through 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 between Maryland food companies and farmers, and international buyers from Russia, Cuba, Japan, South Korea, the United Arab Emirates, Canada and the European Union.

Buy Local

Through a combination of press releases, paid advertising through public and commercial radio, online and print, and promotional events, Marketing developed demand for local products throughout FY 2011. 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 agritourism sectors. An estimated 800,000 Marylanders received promotional messages from MDA during the year.

The Maryland's Best web site (www.marylandsbest.net) is the primary source of information for consumers seeking local farm stands, farmers markets and information about Maryland farms. The web site includes contact information for farms, directions and video interviews with farmers about their farming operations. The web site has been visited more than 620,000 times.

Governor Martin O'Malley supported the buy local program and Maryland's Best by kicking off the 2010 Buy Local Challenge Week with the fourth 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 200 cookbooks to promote the Maryland products included in each entry.

Marketing also worked with Whole Foods Market and B.J.'s Wholesale during FY 2011 to create marketing programs featuring produce grown in Maryland. Whole Foods launched "Maryland's Pick" featuring bags of Maryland-grown produce delivered every week to customers of stores in Annapolis, Baltimore, Rockville and Silver Spring. B.J.'s created produce sections featuring Maryland's Best produce. MDA assisted both chains in identifying farmers who could provide produce.

During FY 2011, Marketing also worked with Urbanite magazine in Baltimore to develop a social media online game promoting farmers markets. Other promotions were held with public radio and online publications in Baltimore, Washington, Salisbury and Frostburg. MDA also promoted the demand for locally grown produce in national publications in the grocery store industry.

To draw attention to the connection between healthy food and the local farms that grow it, Governor O'Malley officially designated September 13-17, 2010, as Maryland Homegrown School Lunch Week, which MDA promotes annually.

During FY 2011, educators, farmers, and U.S. Department of Agriculture representative Dr. Janey Thornton, state and local officials gathered with hundreds of students at Edgewood Elementary School in Harford County to kick off the 3rd annual Maryland Homegrown School Lunch Week by eating healthy lunches, full of locally grown fruits and vegetables. Students (and officials) also enjoyed special classroom activities and hands-on outdoor educational activities with farmers.

The Homegrown School Lunch Week is an element of the Jane Lawton Farm to School Program, which continues to drive increased consumption of locally grown produce in Maryland public schools. The goal of the program is to educate students about where their food comes from, how it is produced, and the benefits of a healthy diet. Marketing works closely with the Maryland State Department of Education's School and Community Nutrition Program on the Farm to School program. All 24 school systems have participated in buying local products for school lunches.

Marketing Services conducts an annual buyer-grower event which introduces farmers to buyers from grocery store chains, restaurants and food service companies. The event has grown from about 20 participants in FY 2004 to about 400 in FY 2011. Companies represented in FY 2011 included Wegmans, Whole Foods, Safeway, Giant and Fresh Market. Chefs attending the Annapolis meeting included

John Shields of Gertrude's restaurant in Baltimore and Spike Gjerde of the Woodberry Kitchen in Baltimore, which was selected one of the nation's top restaurants by Bon Appétit magazine.

Marketing also administers USDA's Specialty Crop grants. During FY 2011, MDA awarded $387,455 to eight projects that will enhance the competitiveness of specialty crops in Maryland. Some projects include: developing biodegradable sod production netting and roll wrap from keratin for Maryland's sod production industry; increasing specialty crop sales of fruits and vegetables to low-income populations in eight Maryland communities; creating four new public events in 2011 featuring Maryland wine and specialty crops; and creating a food safety program.

Farmers' Markets

The Farmers' Market Nutrition Program (FMNP) works with farmers markets in all 23 Maryland counties and Baltimore City. More than 300 Maryland farmers received $663,000 from the FMNP program in FY 2011. 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 168,411 Women, Infants and Children (WIC) recipients in Maryland. Also in FY 2011, Marketing Services and partners at the Maryland Department of Health and Mental Hygiene successfully rolled out a new program allowing WIC recipients to purchase fresh fruits and vegetables with WIC cash value vouchers, in addition to FMNP checks.

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, with member states stretching from Texas in the west, Florida in the South and Maryland in the North. SUSTA activities for Maryland have included food trade shows in the European Union, South Korea, Japan, Russia and inbound buyers from the United Arab Emirates and Korea.

MDA Marketing is also a member of the United States Livestock and Genetics Export Association. Through membership in this organization, MDA worked with the Maryland Guernsey Breeders Association to host buyers from New Zealand, Australia and South Africa in 2011.

In FY 2011, the state's $12,500 investment in SUSTA and USLGE activities resulted in estimated sales of $2.5 million. MDA Marketing also supported Maryland agribusinesses at the annual Cuban agricultural trade show, which resulted in the sale of about $11 million in soybeans.

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 6,463 farmers in FY 2011 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 2010, Maryland farmers received $27.5 million in indemnities from federal crop insurance following a significant drought in portions of the state. In FY 2011, more than $396 million of agricultural production is insured on more than 900,000 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 the last five years, the number of request for mediation grew from eight in FY 2005 to 31 in FY 2010. Of the 31 requests, 22 mediations resulted in a written settlement. Farmers going through mediation have a projected average savings of $6,500 in the cost associated with federal appeals.

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	FY 2011
Output: Number of producers participating in FMNP[1]	365
Amounts of FMNP checks redeemed by producers[2]	$510,000

OBJECTIVE 1.2: Increase the international sales by Maryland agribusinesses and the export of Maryland agricultural products to international markets.

Performance Measures	FY 2011
Input: Number producers participating in MDA Activities	400
Outcome: Number of reported sales	15
Dollar amount of sales (millions of dollars)	$13.5

[1] *Bank list of farmers authorized to accept FMNP checks.*
[2] *Bank reports of checks paid.*

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	FY 2011
Input: Insurable acres on Maryland farms.	1,269,450
Outcome: Percentage of insurable acres with buy-up coverage	59.1%
Total crop protection in force (millions)	$396
Number of crop insurance policies sold	6,463

MDA's Animal Health Program prevents and controls infectious and contagious diseases in Maryland livestock and poultry. Staff members work closely with their counterparts in local, state and federal governments, neighboring states and related animal industries to ensure an efficient team effort for disease prevention, detection and control. A key component of the program is the Animal Health Diagnostic Laboratory System.

The Animal Health Program also responds to all animal emergencies under the State Emergency Operations Plan, Emergency Support Function 16. Emergencies are categorized as 1) animal health emergencies, such as a disease outbreak in livestock or poultry; and 2) animals in emergencies, such as a natural disaster. The Animal Health Program provides secondary support to other state agencies managing emergency support functions.

MDA's regulatory role in protecting and promoting animal welfare is limited to livestock in auction markets, and certain aspects of animal transport and exhibition. MDA frequently assists local animal control and other agencies with welfare issues through field consultation, training and 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 inspections.

Interstate Movement: All animals moving into or out of Maryland, being imported or exported into or from Maryland must be examined for signs of contagious or infectious disease, have required vaccines, and be accompanied by a Certificate of Veterinary Inspection. Animal Health staff processed certificates of movement for 39,416 animals in FY 2011, down 20 percent from FY 2010 (49,316).

Animal Exhibitions: Animal Health staff inspected 54 exhibitions and processed 9,962 show permits in FY 2011, a 60 percent increase from FY 2010 (6,223). No significant disease events occurred in FY 2011 exhibitions. The field inspection staff, augmented by other program staff, 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. Outreach to 4-H and other fair and show exhibitors and sponsors continued throughout the year. Fair sponsors took more responsibility for gate inspections and overall animal health control activities through the increased use of private veterinarians and/or animal health committees.

Livestock and Poultry Auctions: During FY 2011, Animal Health staff inspected all 221 commercial livestock auctions 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. No violations of market regulations and no contagious or infectious diseases of significance were detected.

Biologics: The Animal Health Program issued 47 authorization letters to pharmaceutical companies or veterinarians allowing them to use a biologic agent in Maryland, usually vaccines. No new significant restrictions or authorizations were made in FY 2011.

Tissue Residue Inspections: The U.S. Food and Drug Administration contracts with the Animal Health Program to conduct follow-up investigations of violations of antibiotic residues in food animals. This service is one of the tools used to address this high priority public health issue. In FY 2011, staff performed six "Violative Tissue Residue Inspections" for FDA.

Contagious Equine Metritus (CEM) Import Quarantine Station: MDA operates two CEM quarantine stations in partnership with private facilities; 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. MDA issued 120 import permits through the CEM program in FY 2011, an unremarkable increase from FY 2010 activity (115).

Animal Disease Traceability (ADT) Program: The goal of ADT is to use automated recordkeeping, similar to that used for tracking packages, to trace the movements of animals implicated in a disease outbreak within 24-48 hours. 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 resume normal commerce with little or no delay, minimizing economic losses and business disruptions. To date, property owners and operators with livestock have registered 1,567 premises in Maryland. This represents about 20 percent of Maryland producers. Participation is expected to increase after federal requirements for identifying animals moving interstate are implemented.

Poultry Premises Registration

All poultry premises must be registered in Maryland under state law. 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. To "capture" the growing backyard flock population, MDA developed a press package linking flock owners to new, sophisticated online websites produced by USDA, the Center for Disease Control and the University of Maryland Extension to educate owners and producers of biosecurity recommendations, testing availability, and the requirement to register their flock. Local cities and counties are beginning to require MDA registration as a means to permit backyard flocks. To date, 3,417 poultry premises are registered under the state program, with 451 new premises registered in FY 2011.

Emergency Response Readiness

The Animal Health program maintains a high 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 2011, Animal Health staff participated in state or regional emergency exercises for avian influenza, foot and mouth disease and emergency pet sheltering. Animal Health staff participated in one actual state-wide emergency response and MEMA activation for the September 2010 (FY 2011) Hurricane Earl emergency and animal sheltering event.

Staff developed and participated in a state-wide avian influenza emergency response tabletop exercise with representatives of the broiler and layer poultry industry, government agencies and other stakeholder groups. The 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.

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 nine federal-state Cooperative Agreements for disease control programs, 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 2011, 17 quarantines ("hold orders") were placed and 17 quarantines were released on farms for: suspect tuberculosis in cattle and goats; suspect brucellosis in bison; piroplasmosis, equine herpes virus and neurologic syndrome in horses; rabies or rabies suspect in cattle, goat, sheep and horses; infectious Laryngotracheitis in poultry; vesicular stomatitis in horses and sheep; and routine 30-day quarantines for swine entering the state.

Foreign Animal Disease: Four foreign animal disease investigations were conducted in FY 2011. No disease was detected.

Pseudorabies in swine: An investigation of swine in western Maryland was conducted in response to the detection of Pseudorabies positive feral swine in nearby Pennsylvania. No feral or infected swine were detected in Maryland, which remains a Pseudorabies-free state.

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. MDA performed 12,178 tests in FY 2011. No avian influenza was detected.

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. The Animal Health program is heavily involved in national efforts to develop programmatic changes needed to re-establish 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: 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.

Other Animal Health Program Activities

Other MDA Animal Health program activities include: the licensing of livestock markets and dealers, accreditation of new veterinarians, and an active participant in the National Poultry Improvement Plan which provides standard monitoring and certification programs for commercial poultry for significant diseases including avian influenza and salmonella.

A summary of selected Animal Health activities is provided below:

MDA ANIMAL HEALTH PROGRAM FY 2011 – SELECTED PARAMETERS

Parameter	Total Number
Animal welfare investigations	7
Biologic authorizations	47
CEM permits	120
Dealer inspections	19
Disease investigations - domestic (including rabies)	18
Drug residue inspections	6
Equine health certificate - export	3,322
Equine health certificate - import	4,758
Exhibition inspections	54
Export certificates (non equine)	7,410
Foreign animal disease investigations	4
Import certificates (non equine)	23,926
Inspections - total combined	306
Intrastate certificates total (show)	9,962
Livestock dealer permits	58
Market inspections	221

ANIMAL HEALTH DIAGNOSTIC LABORATORY SYSTEM

MDA operates animal diagnostic laboratories in Frederick and Salisbury. Both laboratories have earned recognized status from the National Veterinary Services Laboratory of the U.S. Department of Agriculture. This membership in the National Animal Health Laboratory Network allows the system to perform certain diagnostic activities important to Maryland livestock and poultry producers that are restricted to approved, member laboratories. Both Maryland Animal Health Laboratories serve as Basic Sentinel Clinical Laboratories for the Maryland Department of Health and Mental Hygiene.

Each laboratory has both specific geographic and technical missions. The 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. To accomplish this mission, 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.

Laboratory System Missions and Staff

The Frederick Laboratory focuses on food animal livestock and horses. The director is a veterinary pathologic diagnostician. Five 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. To maintain surge capacity in the event of a disease outbreak, the five laboratory scientists are cross trained so that a minimum of three are able to perform each diagnostic test.

The laboratory director is responsible for all activities of the laboratory and uses post mortem examination of animals to determine the nature, causes and effects of livestock, equine, and poultry diseases. Emphasis is placed on changes in organs, tissues and cells caused by reportable diseases affecting food animal production and public health. Additionally, the veterinary pathologist mentors senior students from the Virginia-Maryland Regional College of Veterinary Medicine, veterinary pathology graduate students from Johns Hopkins University and the Armed Forces Institute of Pathology.

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.

The Salisbury Laboratory focuses primarily on infectious diseases of poultry. 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 has diagnostic capabilities in serology, bacteriology, and parasitology. The laboratory primarily serves the commercial poultry industry. The director is a veterinary poultry pathologic diagnostician and is responsible for all aspects of the laboratory operation. The director is supported by three laboratory scientists, and a laboratory technician.

The laboratory also performs equine infectious anemia, rabies and salmonella diagnostic activities. 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 shares a laboratory information management system with the University of Delaware. Together they operate a poultry health diagnostic network that seamlessly serves poultry producers of the Delmarva. The Salisbury staff trains and mentors poultry diagnosticians, students from veterinary schools, as well as students from Salisbury University and the University of Maryland Eastern Shore.

A summary of testing done in FY 2011 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	165	n/a
Poultry Necropsies	4,426	n/a
Avian Influenza	11,579	All negative
Rabies	83	6 positive
Equine Infectious Anemia	15,225*	All negative
Contagious Equine Metritis	1,104	All negative
Equine Herpesvirus (EHV-1)	32	2 positive
Johne's Disease in Cattle	Blood 1,765	158 positive
	Fecal 361	110 positive

**corrected total; incorrectly reported in MFR FY2011 as 13,510*

THE MARYLAND STATE BOARD OF VETERINARY MEDICAL EXAMINERS

The State Board of Veterinary Medical Examiners (SBVME) sets the standards that veterinarians, registered veterinary technicians, 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.

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 consumers.

The 2011 session of the Maryland General Assembly included two bills that were proposed at the request of the SBVME.

The first bill, SB 322, State Board of Veterinary Medical Examiners - Registered Veterinary Technician, repeals a narrowly defined list of five procedures that registered veterinary technicians (RVTs) can legally perform, and grants the SBVME broad authority to adopt regulations that will allow RVTs to perform a wider array of procedures, consistent with their training. The SBVME is seeking to establish a role for RVTs which is analogous to that of a nurse to a physician. The bill still requires veterinarians to provide direct supervision of RVTs. The law becomes effective October 1, 2011.

SB 146 -- State Board of Veterinary Medical Examiners - Licensing, which also becomes effective October 1, 2011, enables the SBVME to define the word "convicted." In the Veterinary Practice Act, this term will include: a finding of guilt by a court or a jury, and the acceptance by a court of a defendant's plea of guilty, nolo contendere (no contest), or an Alford plea. This bill will also permit the SBVME to obtain supplemental information during an investigation of an applicant for licensure or a veterinarian if the SBVME has reason to suspect that the individual is mentally or physically incompetent to practice veterinary medicine. Supplemental information may take the form of a report or testimony from an examining physician or other person designated by the SBVME. The findings of the examining individual will be confidential unless case proceedings are contested, as delineated under the State's Administrative Procedure Act. The SBVME will bear reasonable costs associated with an examination performed upon its direction.

During FY 2011, the SBVME also decided to consider for licensure veterinarians who have graduated from unaccredited veterinary schools, but have received a certificate from the Program for the Assessment of Veterinary Education Equivalence (PAVE). The Board

voted to accept PAVE certification following a thorough analysis, which included: meeting with representatives of both PAVE and the AVMA's Educational Commission for Foreign Veterinary Graduates, attending meetings of the American Association of Veterinary State Boards wherein PAVE was discussed, corresponding with numerous Maryland-born veterinarians possessing PAVE certificates, and contacting other states' veterinary boards that accept PAVE certification. Amended regulations accepting PAVE were published during FY 2011 and become effective in FY 2012.

Also during FY 2011, the SBVME:

- Amended its regulations to require each licensed veterinary hospital to have a positive pressure oxygen delivery system for small animal patients where medically indicated;
- Updated its application eligibility requirements for individuals seeking to become RVTs in Maryland, and more clearly defined the expanded role of the American Association of Veterinary State Boards as it relates to the administration of the Veterinary Technician National Examination and subsequent score reporting; conducted a mandated review of all SBVME regulations and identified several that it will seek to amend during FY 2012.

The SBVME is completely funded by its licensees and registrants and has not increased its fees since July 1, 2004.

Listed in the table are key statistics from the past three fiscal years:

SBVME - SELECTED STATISTICS

Category	FY 2009	FY 2010	FY 2011
Licenses issued to new veterinarians	138	157	169
Registrations issued to veterinarians	2,416	2,305	2,164
Registrations issued to registered veterinary technicians*	117	130	123
Licenses issued to veterinary hospitals	526	493	528
Percentage of veterinary hospitals inspected and in compliance	99	99	99
Number of new complaints received**	84	86	87
Number of complaints pending from previous year	75	—	—
Number of complaints closed	114	96	82

**Veterinary technicians are required to re-register every 3 years. This number reflects a combination of initial, first-time registrants, and individuals registered in prior years who re-registered.*

***For 2010, this number includes 6 complaints filed against non-veterinarians. For 2011, this number includes 2 complaints filed against non-veterinarians and 2 complaints filed against veterinarians not licensed in Maryland.*

GOALS AND OBJECTIVES:

Performance Measures	FY 2011
Registrations issued for veterinarians	2,164
Licenses issued for veterinary hospitals	528
Number of hospitals inspected	352
Number of initial inspections (new hospitals/owners)	16
Total number of inspections conducted	372
Number of hospitals receiving follow-up inspections	7
Quality: Percent of hospitals passing inspection	99

WEIGHTS AND MEASURES PROGRAM

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 is comprised of state and federal government officials, and private industry representatives. The NCWM provides a forum for the discussion and development of uniform policies and protocols that guide the regulation of weights and measures.

In Maryland, there are 60,759 weighing and measuring devices in commercial use at 9,217 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.

During FY 2011, MDA field staff inspected 37,525 devices and tested 9,256 individual lots of prepackaged commodities. Price verification inspections were conducted at 138 non-food stores. Thirty seven firms received civil penalties for misrepresenting unit price violations. In FY 2011, Weights and Measures imposed $83,500 in civil penalties for all violations.

During FY 2011, MDA also investigated 562 consumer complaints. Most 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 7,000 businesses has created a database that has become an effective management tool. The staff can now target the most critical areas and provide 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 the Weights and Measures Program prioritize the use of limited resources to better protect Maryland consumers and maintain a level playing field for businesses and industries.

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 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 the National Institute of Standards and Technology 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 for by the manufacturers requesting NTEP services.

WEIGHTS AND MEASURES ACTIVITIES TABLES
FIELD INSPECTION AND TEST EFFORT

	FY 2009		FY 2010		FY 2011	
	Percent Violations	Total Tests	Percent Violations	Total Tests	Percent Violations	Total Tests
A. WEIGHING SYSTEMS						
Large Scales	20.8	914	22.9	829	23.6	881
Medium Scales	17.3	553	17.0	925	17.6	574
Small Scales	17.7	12,122	16.4	8,530	13.7	8,291
B. LIQUID MEASURING SYSTEMS						
Retail Gasoline Meters	21.7	28,808	18.9	30,018	18.2	25,837
L P Gas Meters	19.9	456	14.8	284	33.9	527
Vehicle Tank Meters and Other Large Meters	17.0	1,648	16.2	1,169	13.0	1,278
C. GRAIN MOISTURE METERS	7.6	131	19.1	131	13.3	120
D. PROGRAMMED TARE INSPECTIONS	7.8	3,152	9.9	1,852	8.1	2,282
E. PRICE SCANNING AND METHOD OF SALE	4.2	18,513	3.7	10,645	5.0	19,942
F. DELIVERY TICKET INSPECTIONS	2.2	3,052	0.8	2,658	1.9	1,326
G. PACKAGE LOTS	16.2	12,356	20.4	11,716	20.9	9,256

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

	FY 2009		FY 2010		FY 2011	
Inspection and Test	Tested	Percent Rejected	Tested	Percent Rejected	Tested	Percent Rejected
Weights	2,511	12.2	4,362	13.1	2,828	10.2
Volumetric Measures (Non-Glass)	60	43.3	120	77.5	81	75.3
Length Devices	0	0.0	0	0.0	0	0.0
Temperature Devices	20	0.0	92	0.0	117	0.0
Timing Devices	3	0.0	5	0.5	7	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	700	N/A	289	N/A	372	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

	FY 2009 Number	FY 2010 Number	FY 2011 Number
Weighing and Measuring Devices Registration Certificates, Issued	7,079	7,091	7,128
Type Evaluation of Devices Conducted (NTEP)	16	36	29
Citizen Complaints Received and Investigated	681	472	562
Disciplinary Hearings, Criminal Arrests, Summonses Obtained and/or Civil Penalties	42	80	64

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 PROGRAM

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:

- 290.6 million pounds of poultry,
- 31.3 million dozens of shell eggs,
- 20.9 million pounds of meat,
- 4.7 million metric tons of grain, and
- 5.9 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 has announced it will implement regulations for the safe production of fruits and vegetables. MDA has received $350,000 in grants from USDA during the past five years to develop and implement a GAP program geared toward smaller producers selling fruits and vegetables directly to school systems and consumers. The GAP program helps producers who sell wholesale to implement a food safety program. During FY 2011, training sessions were held for producers and a state program was developed. 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 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 83.95 percent this year from 88.65 percent last year. The number of

lots being inspected increased because all MDA inspection vacancies were filled during the year and part of an extra position is conducting egg inspections. 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 for FY 2011 were reduced as a result of federal budget issues.

Organic Certification

The USDA-accredited Maryland Organic Certification Program certified 76 farms and 20 handlers of organic

products during FY 2011. The program also registered an additional 17 farms as organic that are exempt from the inspection requirements.

Maryland organic producers and handlers 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 2012.

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 48 businesses with 74 locations in FY 2011.

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 200 producers have been trained, and 35 producers have been certified.

MARYLAND AGRICULTURAL FAIR BOARD

The Maryland General Assembly established the Maryland Agricultural Fair Board in 1937. It is comprised of nine members appointed by the Governor for a five-year term. A member may serve a maximum of two terms and may come back on the board after a break in service. The current board divided the state into regions with each board member managing one region. When a board vacancy occurs, all organizations funded within that region may nominate a replacement. Seven new board members will join the board in the FY 2012. The board meets three times a year and communicates throughout the year by phone and e-mail.

The board is managed by an executive secretary employed part-time by MDA. Funding comes from the Racing Commission through a special grant that is funded by unclaimed pari-mutuel tickets and various fees. The approved annual budget is $1.6 million when the revenue is realized. 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 150 events. These range from the Maryland State Fair, to county fairs, local community shows, livestock shows, dairy field days, and youth activities in 4-H and Future Farmers of America (FFA).

The board also publishes an annual guide to fairs and shows in Maryland. These brochures are placed in all welcome centers along state highways, all University of Maryland Extension offices, all fairs and shows, all Chambers of Commerce and all Maryland libraries.

Racing revenue continues to decline and the board's FY 2011 grants were reduced again this year. The board holds regional budget meetings throughout the state with each group to review their requests, financial reports, and fair activities.

GOALS AND OBJECTIVES:

GOAL: To provide opportunities for Maryland citizens to learn about Maryland's agriculture industry through fairs, shows, and youth events.

OBJECTIVE: To maintain attendance, exhibits and exhibitors at Maryland fairs and shows.

Performance Measures	FY 2011
Input: Funds for events	$537,703
Output: Number of events funded through the Fair Board	166

MARYLAND HORSE INDUSTRY BOARD

The Maryland Horse Industry Board (MHIB) consists of the Secretary of Agriculture and 11 members appointed by the Governor to four-year terms. Maryland law defines six statutory duties of the MHIB. These duties are to: create public awareness of the value of equine activities as they relate to the preservation of green space and agricultural land; promote the development and use of horses in Maryland; support research related to equine health and related issues; advise MDA on matters affecting the horse industry; carry out the licensing, inspection, and enforcement of stables in Maryland; and develop and disseminate information concerning the equine industry, including the history and tradition of breeding and the role of horses in recreational activities.

As the commodity board for the Maryland horse industry, the MHIB intends to continue to develop and grow the success of the recreational horse industry and to help re-establish the prominence of the Maryland horse racing and breeding industries. To that end, the board endeavors to strengthen existing and build new relationships with its industry partners and stakeholders and to engage them in support of its activities.

Key accomplishments of the MHIB in FY 2011

- MHIB hired a new executive director and searched for a new stable inspector. FY 2011 was a year of transition for the MHIB. Rob Burk, the board's first executive director who implemented many of the board's programs and policies, left mid-year to join the staff at USDA. At the end of the calendar year, longtime stable inspector Bev Raymond, who had served in that position for 30 years, retired. In January 2011, the board hired longtime Maryland horseman and public relations and marketing executive Ross Peddicord as its second executive director. The search also began for another stable inspector.
- Licensed the second highest number of horse stables in MHIB history. Despite uncertain economic conditions, the board licensed 601 stables, the second highest total in its 13-year history. There was a decrease in stable licenses from the previous year, partly a reflection in the overall drop of the Maryland horse population by about 9 percent in the last eight years as highlighted in the 2010 Maryland Equine Census. For a complete listing of licensed Maryland stables visit www.mda.state.md.us/horseboard.
- The MHIB commissioned and began to disseminate information from the 2010 Maryland Equine Census. The census was conducted by the USDA's National Agricultural Statistic Service over 18 months and released during FY 2011. The census showed that there were 79,100 horses, ponies, mules, donkeys and burros in Maryland on May 1, 2010, down 9 percent from the 87,100 on hand in 2002. Light horse breeds accounted for 50 percent of the total followed by race horse breeds with 37 percent. Ponies accounted

for 7 percent of the total and draft horse, breeds and donkeys, mules and burros each accounted for 3 percent of the total. The two largest equine counties in terms of inventory were Baltimore and Montgomery at 8,950 and 7,900 head respectively.

The value of the equine inventory on May 1, 2010 was $714 million, up 5 percent from 2002. There were a total of 16,040 equine places throughout Maryland, down 21 percent from 2002. This includes boarding facilities, commercial and private breeding places, farms, commercial race-related places as well as private residences where equine are kept for recreational purposes. These equine operations accounted for a total of 587,000 acres of which 188,000 acres were devoted to equine.

The value of all equine-related assets totaled $5.6 billion including the value of the inventory, up 8 percent from 2002. The value of land, fencing and buildings made up 74 percent of the total assets and the value of the inventory accounted for 13 percent. Total equine related expenses in Maryland in calendar year 2009 amounted to just under $513 million of which 71 percent were operating expenditures and 29 percent were capital expenditures. Total equine expenditures were down 33 percent from 2002.

- Re-started the process to explore building a Maryland Horse Park and obtained a Servicemark to brand the name "Maryland Horse Park." The 300-plus attendees at the 2009 Maryland Horse Summit expressed a strong desire to continue the quest to build a Maryland Horse Park after an initial effort stalled in 2006. MHIB voted unanimously to re-open the process and continue to explore the possibility of developing a Maryland Horse Park. In cooperation with the Maryland Department of Business and Economic Development, the MHIB met with the Maryland Stadium Authority to consider conducting a viability study which would update numbers and trends since the 2006 effort. The board also wrote and adopted a "Request For Interest" that would be released to potential applicants if the viability studies indicate that economic and other conditions would make a Maryland Horse Park viable and successful. MHIB also obtained a 10-year Servicemark from the Maryland Secretary of State which protects the name "Maryland Horse Park".

- Formed a new MHIB Marketing Committee and Prepared a Five-Year Strategic Marketing Plan

  After conducting three marketing focus groups in the spring in conjunction with the Maryland Horse Council, MHIB formed a new Marketing Committee composed of four MHIB members plus members of an ad hoc committee of horse industry marketing professionals. The committee developed a Five-Year

Strategic Marketing Plan for use by the Maryland horse industry. MHIB will consider adopting and implementing many of these initiatives as well as studying new projects and initiatives that could help build awareness and grow the industry.

Among successful initiatives started in 2011 was an effort by MHIB and the Maryland Horse Council to participate in an April wine festival called "Decanter" held in the Pimlico infield which was sponsored by the Maryland Association of Wineries and the Maryland Jockey Club. Although plagued by poor weather, the event was a success and is expected to be expanded to two days in 2012.

Governor O'Malley visited Fair Hill Training Center in Cecil County on Preakness Eve at the invitation of the MHIB. The Governor promoted the industry, toured the world class facility and wished Maryland trainer Graham Motion good luck in the 136th running of the Preakness with his Kentucky Derby-winning horse, Animal Kingdom.

- Continued meetings of the MHIB—Health Advisory Committee. This committee was established to advise the MHIB on matters of equine health and disease in the state; ensure the establishment and implementation of effective industry and community communication vehicles; and review and advise on a number of projects. The issues on which the committee advises include: Maryland policies and protocols regarding reportable diseases; Maryland statutes and regulations relating to equine health; interstate health certificates; capabilities of the Maryland State Animal Health Diagnostic Laboratories; and emergency preparedness protocols. Many of the committee's efforts have yielded positive results including the establishment of PCR analysis of equine samples in Maryland. This capability enables the MDA Animal Health Section to resolve a potential disease outbreak in a matter of days rather than weeks and to better protect the horses and the industry.
- Began Developing Super Website with industry partners. In cooperation with various industry stakeholders, began development of a "super website" that will be the major "go-to" site and resource guide for anyone who wants to know "all there is know" about Maryland horses. The site will include links to all participating Maryland horse farms, facilities, businesses, events and activities, as well as the history of the horse and its various uses in our state.

Listed below are program statistics from the past three fiscal years:

MHIB: SELECTED STATISTICS

Category	FY 2009	FY 2010	FY 2011
Number of stable licenses issued	583	620	601
Number of inspections performed annually	481	445	481
Percentage of facilities inspected and in compliance	100%	100%	100%
Revenue collected from licensing and inspecting horse stables in Maryland	$43,725	$77,500	$74,375
Revenue collected from assessment based on tons of horse feed sold in Maryland	$73,535	$129,671	$205,807
Outcomes			
Total amount of money distributed as grants for promotional, educational, or research projects for the Maryland horse industry	$0	$13,948	$17,693
Percentage of total revenue distributed as grants for Maryland horse industry	0	10.8	8.6
Staffed booths or presented talks at trade shows, conferences, fairs and exhibitions promoting Maryland equine	6	NA	10

SEAFOOD MARKETING AND AQUACULTURE DEVELOPMENT PROGRAM

Aquaculture Development Program

The Aquaculture Development Program supports the Maryland aquaculture industry through promotional, educational, and technical assistance programs. The program also coordinates the statewide aquaculture permit review process. In FY 2011, there were 81 commercial aquafarms permitted in Maryland. Maryland has seven licensed fee-fishing operations and more than 50 schools, nature centers, government agencies, and private organizations producing fish, shellfish, and aquatic plants for educational and restoration projects. In FY 2011, responding to expanded leasing opportunities and the incentives provided by the state in streamlining permitting, education and training and financial assistance, shellfish aquaculture production is increasing as more oyster farms are being proposed and established in the Chesapeake and Atlantic Coastal Bays.

The Maryland Aquaculture Review Board, which is chaired by the MDA aquaculture coordinator, provides monthly interagency review of permits and issues across departmental lines. The aquaculture coordinator works directly with those interested starting aquaculture businesses in evaluating business feasibility, locating project sites, determining culture methods and completing and filing application packages. In FY 2011, the board received more than 150 requests for information on aquafarming and reviewed 25 applications for shellfish aquaculture projects in Maryland. These included projects proposing to raise shellfish seed, oysters, and clams on shellfish leases.

The Maryland Aquaculture Coordinating Council is made up of 11 designated representatives from academic, regulatory, and political organizations as well as six members from industry appointed by the Governor. The aquaculture coordinator serves as a member of the coordinating council and provides administrative support. In FY 2011, the council provided recommendations used to strengthen the state's efforts in support of expanding this industry by streamlining aquaculture permitting and consolidating agency oversight. The council worked in conjunction with the Maryland Department of Natural Resources, University of Maryland Extension and the Oyster Recovery Partnership to establish a shellfish aquaculture education and training program that provided growers with the opportunity to operate remote setting systems to produce spat-on-shell oysters that were planted on their leases. The Council also worked with the Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO) to provide financial assistance to shellfish farmers through the Maryland Shellfish Aquaculture Loan Fund. In FY 2011, loans were approved for 26 projects in 10 counties. The council also organized the second annual Maryland Aquaculture Conference to provide information to those seeking to enter the industry.

The Aquaculture Development Program continues to provide the industry with the opportunity to participate in regional, national, and international trade shows, conferences, fairs, and tours in order to promote and market Maryland farm-raised products. Cooperative programs and collaboration with the Maryland Watermen's Association, Maryland Sea Grant, Maryland Seafood Marketing Advisory Commission, the National Aquaculture Association, and many other organizations are essential to providing aquafarmers with these opportunities.

GOALS AND OBJECTIVES:

GOAL 1: To enhance or maintain the economic viability of the Maryland aquaculture industry.

OBJECTIVE 1.1: To increase the opportunity for new aquaculture business ventures.

Performance Measures	FY 2011
Output: Number of applications reviewed by the Review Board	25
Outcome: Number of new or expanded aquaculture ventures	10

Seafood Marketing Program

The Seafood Marketing Program promotes increased sales and consumption of Maryland seafood and aquaculture products through consumer education, promotion, public relations, and advertising. The total estimated value of the Maryland seafood industry is more than $700 million. There are 67 processing plants employing 1,036 people and more than 5,000 watermen who work the Chesapeake Bay. In 2010, watermen landed 96.6 million pounds of seafood at a dockside value of more than $95.9 million. This is an increase in value of 73 percent over 2009.

Advertising funds are generated from a $10 surcharge fee collected from commercial fishing and seafood processing licenses. In FY 2011, the fee garnered $50,000. Funds were used to place advertisements in newspapers and trade journals and for special promotions. The use of the $10 surcharge is overseen by the Seafood Marketing Advisory Commission, which is comprised of 11 industry members who recommend marketing activities.

The program's website, www.marylandseafood.org, features information for consumers as well as wholesale and retail dealers of seafood. It includes a searchable database, seafood handling and nutrition information, recipes, cookbook order forms, an annual seafood festival list and information on starting aquaculture ventures. In FY 2011, the site had more than 74,236 hits. This is an increase from 59,761 hits in FY 2010. In addition, the public received more than 241,000 pieces of information through the internet and mailings.

The "Buy Local Maryland Seafood" campaign was held in July. The promotion included advertising in newspapers and on radio. In addition, point of sale materials were distributed to retailers and a news release issued.

In order to promote the sales of Maryland seafood in the fall, the Seafood Marketing Program developed an October promotional campaign, entitled Make a Splash with Maryland Seafood. Newspaper ads were placed throughout the state and radio ads were aired in Baltimore. The program provided retail markets with point of sale materials. News releases were distributed to the press with Governor O'Malley's proclamation of October is Maryland Seafood Month. Consumer recipe brochures were distributed and information was placed on the web site.

Seafood promotions, including newspaper, radio, and internet advertising and recipe distribution, revolved around seasonal availability and holidays. Advertising campaigns included: Celebrate the Holidays with Maryland Seafood, Maryland Rockfish Celebration and crab and oyster seasons. The program placed ads on the Baltimore Orioles radio station during baseball games.

The program is receiving a portion of the Federal Blue Crab Fishery Disaster Funding from the National Marine Fisheries Service through the Department of Natural Resources. The funding for seafood marketing efforts to alleviate potential blue crab fishery disaster by creating economic opportunities for commercial crabbers and the processing industry. The marketing funding is earmarked to conduct a public relations and advertising program

designed to increase positive awareness of the Maryland crab industry. In FY 2011, the funding paid for spring and fall seasonal billboard advertisements, advertisements on radio, television, in newspapers and magazines. The three year funding continues through 2012.

The program distributed 11 news releases to editors in the mid-Atlantic region. The topics covered seasonal species, special events and promotions. Consumer education included in these news releases discussed safety, handling, and nutrition information. The releases included photos and recipes with an opportunity for consumers to request more information or recipe brochures by mail, phone or website. These releases are posted on the Maryland seafood website as well as MDA's main website.

Program staff participated in trade shows, conferences, exhibits and special seasonal events including: International Boston Seafood Show, East Coast Commercial Fishermen's and Aquaculture Trade Expo, Harbor Day at the Docks in Ocean City, and the Maryland State Fair. At the events, informational literature, point of sale information and Maryland seafood samples were offered. At the International Boston Seafood Show, space is shared with industry members, assisting them in marketing their products. In FY 2011, eight companies participated in the state booth and another eight companies were represented in the largest seafood show in the United States. In a survey of the companies exhibiting in the state of Maryland booth, an estimated increase in sales of more than $500,000 and 41 new customers were realized.

The program sponsored and administered several seafood cooking contests including: National Oyster Cook-off, Jr. Rockfish Cooking Contest, and National Hard Crab Derby & Fair Cooking Contest.

The Seafood Marketing Program administers the Maryland Crab Meat Quality Assurance Program. This voluntary program, which the industry helps fund, provides an extra level of sanitary inspection and education through the Maryland Sea Grant Program. Product and environmental surfaces are microbiologically tested and evaluated for Listeria, E. coli and bacteria plate counts. More than two-thirds of Maryland crabmeat processors belong to the quality assurance program. Staff promotes the participating quality assurance program companies through the website, literature and advertising. Maryland is the only state where such a program exists.

The program continues to distribute Maryland seafood information on safety, handling, nutrition and recipes. These are distributed through travel centers, seafood markets, grocery stores, direct consumer requests, trade shows and the website. The program also produces and distributes a variety of point of sale materials including: decorations, pins, table tents, menu inserts, and posters. The program sells the famous Maryland Seafood Cookbooks and uses the funds to offset the cost of printed materials.

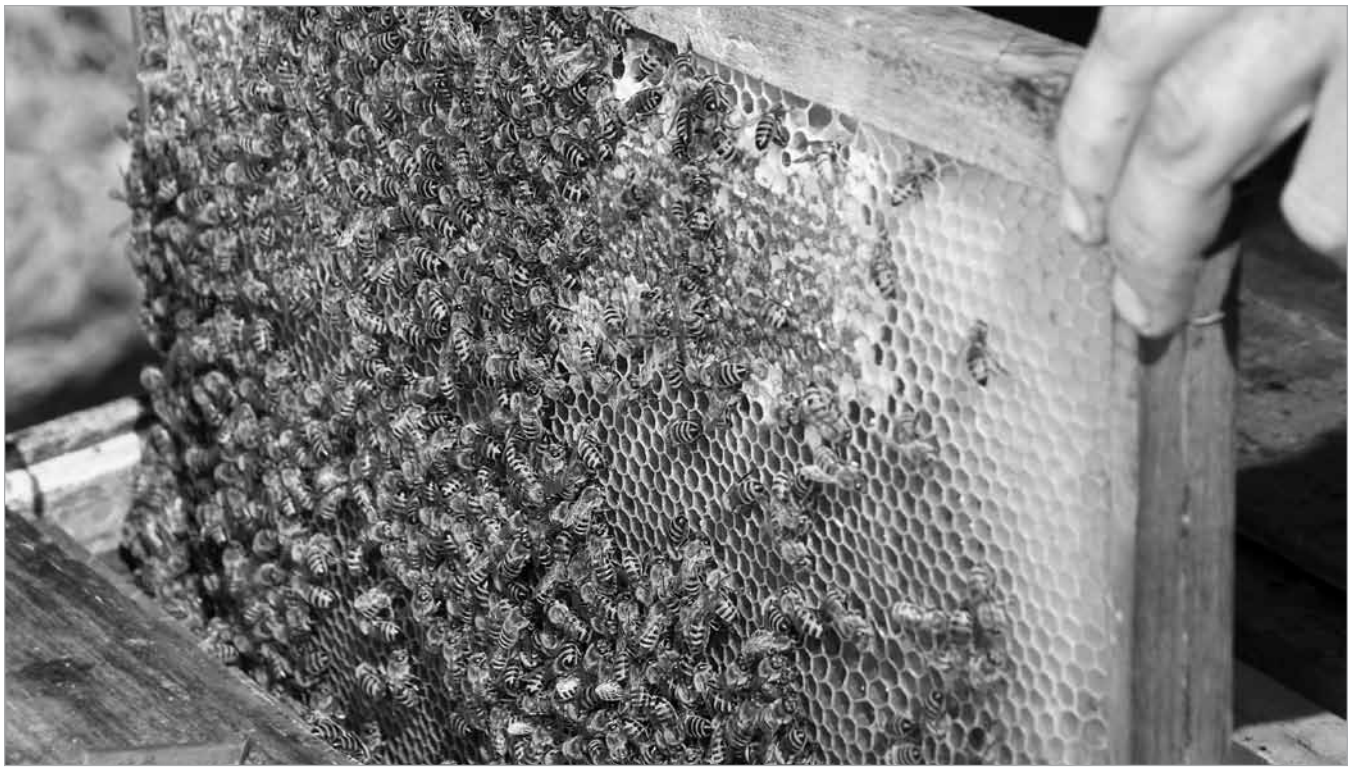
The program is responsible for the marketing of Maryland seafood internationally. While there is no funding for such activities, the staff was able to work on several projects through SUSTA (Southern United States Trade Association) activities such as: distributing invitations for Maryland seafood companies that export to participate in various trade shows in Korea, Canada, China, Japan, and Brussels. Through a SUSTA grant, funding was provided that enabled Maryland participation at the European Seafood Show in Brussels. The six participating companies reported direct sales of more than $1.6 million plus expected additional sales of approximately $26.1 million in the next 12 months.

GOALS AND OBJECTIVES:

GOAL 2: To enhance or maintain consumer confidence of the safety and quality of Maryland seafood and to maintain product visibility in the competitive marketplace.

OBJECTIVE 2.1: To increase the number of responses consumers generated through marketing campaigns designed to increase visibility and consumer confidence.

Performance Measures	FY 2011
Outcome: Number of consumer responses to campaigns	244,143
Number of hits on website	74,236



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 2010, which includes the first half of FY 2011.*

Apiary Inspection

MDA's Apiary Inspection Program controls honey bee diseases, parasitic mites, and other pests to maintain healthy colonies for the essential 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. MDA inspectors found 22 colonies infected with American foulbrood. Those colonies were destroyed to control the spread of this bacterial disease to healthy colonies. The incidence of disease remains relatively low -- less than 1 percent of colonies inspected.

Varroa and tracheal mite populations were very low in Maryland in 2011, but brood problems were attributed to varroa mite in the season. The varroa mite often has been found to be resistant to Apistan®, the primary product used to control this parasite. Four additional products are now available to control varroa.

Africanized honey bees arrive occasionally on cargo ships coming from infested locations throughout the world. Swarm traps for collecting and monitoring bees were placed at 35 sites at marine terminals and other shipping locations. No swarms were collected in 2011. MDA is working with the Mid-Atlantic Apiculture Research and Extension Consortium to provide information to the general public about emergency incidents; and the Apiary Inspectors of America for information on the control of movement of Africanized honey bees, other than through natural spread.

The small hive beetle was detected in packaged bees and reported or detected in 21 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 stored in equipment and in honey houses, although it can render stored honey in the hive unmarketable.

Permits were issued for 3,315 honey bee colonies to move out of Maryland and 897 colonies to move into Maryland for pollination services. For the 50th year, Maryland beekeepers will send colonies to California for almond pollination. In December 2010, 2,000 colonies were transported to California for this purpose.

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 a total of $960 million in farm income. Other horticultural products and services boosted total gross receipts of 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 MDA 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. State phytosanitary certificates that assure specific compliance with established domestic quarantines were issued to 10 states. In 2011, federal phytosanitary certificates required to export Maryland nursery stock were issued to 10 foreign countries including Argentina, Spain, and Vietnam. MDA 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 and distribution to both foreign and domestic markets.

MDA inspected plant material at 367 Maryland 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 between the MDA and USDA's Animal and Plant Health Inspection Service (APHIS), and USDA 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.

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, pine shoot beetle, emerald ash borer, and Sirex noctilio. Outreach and education is an important component of MDA activities.

MDA deployed and monitored 5,859 insect traps in 2010-11. Through various types of surveys, MDA collected 20,537 samples. Trapping techniques involved a wide range of devices, including purple prism 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. Nine extensive surveys targeting 25 exotic pests that impact trees, stored products, field, fruit and vegetable crops, nursery stock, and natural areas were conducted. MDA conducted exotic wood borer surveys in six counties and 15 sites; and for exotic field and vegetable pests at 25 vineyards in 11 counties. No target pests were detected.

A few pests, such as the emerald ash borer and imported fire ant, required responses. With the loss of the pheromone and blacklight trap program for monitoring endemic agronomic pests, Maryland growers were unaware of unusually high corn earworm and fall armyworm activity, resulting in costly losses on vegetable crops such as sweet corn.

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 quickly colonize 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. Thirty-three isolated infestations have been eradicated in Maryland since 1989. Ninety-four surveys in seven counties and Baltimore City at 84 sites in 2011 yielded seven positive sites. Not unexpected were six detections in Ocean City and one in Baltimore associated with tropical plants. Eradication treatments under an MDA Treatment Order and with departmental oversight are completed or ongoing at all positive sites.

Eradication efforts undertaken since the 2006 rediscovery of the **emerald ash borer** *(Agrilus planipennis)* (EAB) in Prince George's and Charles counties have been redirected since 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 33,881 parasitoids at seven sites with known infestations in 2010. Larvae and adult EAB were collected and provided for propagation of additional parasitoids. In 2010, urban and forest trees were selectively treated around known infestations, and several heavily infested trees were removed. Surveillance efforts increased with 2,601 purple prism traps monitored in 21 counties and Baltimore City. Other detection methods included girdled trap trees, destructive sampling (where entire trees were debarked), biosurveillance (using a native solitary ground wasp) and visual surveys. Detections were only made from the area surrounding the known infested zone in Prince George's and Charles counties but show the population is increasing and slowly expanding its range.

Sirex woodwasp survey - The Sirex woodwasp *(Sirex noctilio)* is an exotic pest of pine trees that was first detected in New York in 2004 and is currently known to occur in limited areas of Michigan, Pennsylvania and Vermont. This native of Europe, Asia and northern Africa has the potential to kill pines, including loblolly. This insect has a novel life cycle that includes inserting a fungus, along with its egg, into a healthy tree so that the young can feed on wood fiber digested by the fungus. This fungus quickly kills the tree. MDA staff surveyed Maryland's eight counties that border Pennsylvania and 14 other high risk locations. Each county had 10 traps which were serviced from June through October. No target specimens were collected.

Giant hogweed – ***see Noxious Weed***

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. During 2010, samples submitted to

the laboratory were received from within MDA, University of Maryland Extension, nursery and landscape businesses, and the general public.

Entomology Laboratory

There were some interesting specimens submitted to the lab in 2010-11, including two separately caught *Megarhyssa macrurus lunator*, a giant wasp that parasitizes woodboring horntails. This insect has a two-inch wing span and a three-inch long ovipositor which is slowly drilled into a tree trunk to deposit an egg in its host larva. Purseweb spiders, *Sphodros rufipes*, were seen and photographed by four people in different areas of the state; stinkhorn fungi (several species) were also widely noted this year. Paralleling increasing media reports, samples of bed bugs *(Cimex lectularius)* and brown marmorated stink bugs *(Halyomorpha halys)* greatly increased again this year. Florida wax scale *(Ceroplastes floridensis)* was found twice in southern nursery stock, and several land planarians *(Dolichoplana striata)*—the "long wandering flatworm"—were found in containers, also shipped from the South. Neither species is thought to survive Maryland winters. In mid-March, moderate rabbit damage was noted 36" above ground level on apple branches and young hollies, following February's record snowfall.

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.

Between March and November, the lab processed 143 diseased samples submitted from six different sources: plant inspectors (33%), home growers (31%), commercial landscapers (12%), Plant Protection section (11%), Pesticide Regulation section (9%), and Forest Pest Management (4%). The samples comprised fungal (92%), bacterial (3%), nematodes (1%), viruses (1%), and abiotic disorders (4%).

The Plant Pathology Laboratory conducted disease surveys for plum pox virus (PPV), grape Phytoplasma yellows, brown rot fungus *(Phellinus noxius)*, and Phytophthora ramorum.

(a) Plum pox virus surveys targeted *Prunus* spp in 10 commercial orchards in seven Maryland counties bordering Pennsylvania. Of the 2,939 samples processed and tested for PPV using the enzyme-linked immunosorbent assay (ELISA), none were positive to the virus.

(b) Eleven vineyards in Cecil, Calvert, Dorchester, Queen Anne's, Talbot, and Wicomico counties were surveyed for the grape Phytoplasma yellows, and brown rot diseases. No plants were found to be infected with the two diseases.

(c) Seventeen nurseries and plant distribution centers in eight Maryland counties were surveyed for *Phytophthora ramorum*. The surveys targeted all known host and associated P. ramorum host plants. A total of 427 plant, 39 water, and 18 soil samples were collected, processed, and tested for *P. ramorum* initially in ELISA. All ELISA-positive samples were sent to a USDA-appointed lab for confirmation by the more sensitive polymerase chain reaction (PCR) test. All samples tested negative for *P. ramorum* in PCR test.

The lab also received seven *P. ramorum* trace forward samples from Maryland-based nurseries that bought the samples from suspect Oregon nurseries. All seven trace forwards tested negative for P. ramorum.

Four contractual workers hired for the plant pathology lab in 2010-11 were trained in disease surveys, sample collection, processing, running ELISA, and interpretation of results.

Greenhouse Laboratory

Plants were produced for integrated pest management and biological control programs that require food for insect colonies and plant material for research. These included purple loosestrife *(Lythrum salicaria)* to produce colonies of the beetle *Galerucella pusilla* and mile-a-minute weed *(Persicaria perfoliata)*, used to raise colonies of the stem boring weevil, *Rhinoncomimus latipes*.

A variety of native grasses were seeded and grown as part of our continuing effort to establish a new native grass nursery and germplasm repository at the University of Maryland Western Maryland Research and Education Center in Keedysville. 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, was maintained.

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 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. In 2010-2011, the program licensed 13 ginseng dealers and 298 ginseng collectors in the state.

During the 2010-2011 harvest and sales season, the certification program inspected, collected size and age data from, weighed, and certified 143 pounds of dry wild and wild-simulated ginseng root; 149 pounds of artificially propagated dry ginseng root; and 25 pounds of wild-simulated stratified ginseng seed. The harvest and certification numbers were a little higher than 2009-2010. As is generally the case, the increase in Maryland ginseng certified and sold likely reflects an increase in the price of ginseng on the international market, not necessarily an increase in the abundance or active harvest of ginseng. 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 MDA, 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.

Responses to the annual questionnaires mailed to ginseng collectors and dealers at the time of licensing continued to express concern that the incidence of out-of-season poaching of wild ginseng in Maryland remains high. To address this problem, MDA continued its cooperation with the Maryland Department of Natural Resources, providing 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 helped provide a half day training session for Natural Resources Police on ginseng life history, the ginseng management program and the parameters of the regulation's penalties and fines, and the respective roles of MDA and DNR regarding regulatory enforcement.

After years of deliberation and study, certain regulations were altered in 2010 to change the harvest season for wild American ginseng from September 1 to December 15. (It previously began on August 20.) This change effectively gives the ginseng fruit longer to ripen, on average, and ensures a higher percentage of seed viability. This will allow wild ginseng populations a better chance to recover from harvest pressures. It also complies with changes highly recommended by the FWS not only to bring all states with wild American ginseng populations into harmony in terms of parallel harvest season dates, but it is also based on long-term research that indicates the change as necessary to ensure the long-term survival of wild American ginseng in its native range.

Weed Integrated Pest Management (IPM)

Plant Protection and Weed Management entomologists and staff continued to work with the Maryland Department of Transportation, State Highway Administration (SHA) to conduct an IPM program to provide biological control of certain thistle species. The program has helped to control musk thistle along highway areas that are inaccessible to mowing and/or spraying equipment. MDA provided technical assistance with noxious weed problems on public land to various federal, county and state agencies, including the University of Maryland, the Department of Natural Resources, correctional institutions, county road departments, SHA and the U.S. Department of the Interior.

Weed IPM research activities were conducted at field plots at the MDA facility in Cheltenham, at the Western Maryland Research and Education Center in Keedysville, and along SHA rights of ways. These cooperative research projects have been conducted over each of the past 11 years. IPM investigations continued to target the suppression of *Cirsium* and *Carduus* thistles. Over the past 11 years, research has focused on the evaluation of organisms

for potential biocontrol, testing herbicide formulation efficacy, and evaluating the use of competitive vegetation (including native grasses and forbs), to provide environmentally sound and cost-effective methods for suppression of noxious thistle species in Maryland.

In April 2010, MDA entered into a two-year agreement with the Research Division of the SHA to continue to monitor the impact on Canada thistle of the Canada thistle bud weevil, *Larinus planus* and the Canada thistle leaf beetle *Cassida rubiginosa*; to track the incidence and spread of the disease causing apical chlorosis of Canada thistle; to develop a rearing protocol for the *Galerucella spp.* leaf beetle, an herbivore of purple loosestrife, *Lythrum salicaria*; to implement a release program for use of this biocontrol agent on populations of purple loosestrife on state highway rights of way; and to develop a strategy for biocontrol of mile-a-minute weed, *Persicaria perfoliata* on state highway rights of way that would include lab and greenhouse rearing and field release and monitoring of the weevil, Rhinoncomimus latipes.

In 2010-11, MDA staff reared 17,000 adult *Galerucella spp.* leaf beetles—10,000 of which were field released. These figures represent the largest numbers ever reared in Maryland, and indicate the growing success of MDA's rearing program. Releases were made along the Anacostia and Patuxent river watersheds and at new sites in Prince George's County. Additional releases were made in Howard County, and additional releases are planned for Anne Arundel, Talbot and Caroline counties.

MDA also continued to develop and refine a rearing protocol for the mile-a-minute weevil, *Rhinoncomimus latipes*. MDA staff successfully reared 3,900 adult weevils. Of those, 800+ were field released at sites in six counties. The releases in three of those counties—Frederick, Washington and Montgomery—were the first releases ever recorded for those counties. These 800 weevils were the first "Maryland reared" weevils released in the state. To date, releases of the mile-a-minute weevil have been made in Howard, Prince George's, Montgomery, Frederick, Washington and Harford counties.

MDA entomologists also 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 chooses and coordinates sites for release, makes the field releases, coordinates 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. Since 2007, more than 12,000 adult *R. latipes* weevils have been released in Maryland through this cooperative project. Six thousand weevils were released in 2010 alone.

Also partnering with MDA in specific aspects of these biological control projects are: the Maryland Department of Natural Resources, the Maryland-National Capital Park and Planning Commission, and the Howard County Department of Recreation and Parks. Funding for the projects was, in part, derived from the Maryland Department of Transportation, SHA Research Division. Additional funding for complimentary and parallel components of these projects was derived from grants with the U.S. Forest Service and from USDA APHIS. MDA was the primary coordinating and reporting agency and conducted the majority of the "on the ground" work.

A survey for the presence and effects of **rose rosette disease** continued in 2011. Rose rosette disease is a disease of the multiflora rose, *Rosa multiflora*, a problem weed in pastures, woodlands, and rights of ways in Maryland and many other states. The disease, which has become established in North America and is spread by natural means, reduces populations of this invasive rose species.

Since the disease was first detected in Maryland in the 1990s, results of surveys conducted by MDA indicate that the disease is continuing to spread over a wide portion of central and northern Maryland, and has become locally established in southern Maryland and the Eastern Shore. In 2011, a field experiment to test the relative susceptibility of various rose cultivars and native rose species to rose rosette disease was continued at the MDA facility in Cheltenham. This experiment, begun in 2002, is intended to provide valuable information needed to assess the effects of the disease on rose species other than *R. multiflora*, including native species and cultivars important to

the landscape and nursery trade in Maryland. In 2010-11, after many attempts at inoculating healthy plants with the disease, the first incidence of rose rosette disease in this field experiment was noted on a landscape cultivar of rose.

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. A weed control advisory committee has been established in each of 19 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 SHA, 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 handles these duties.

The weed control program provided no grant assistance to the 19 participating counties in 2011. County programs relied on increased spray revenues or fee for services to offset the loss of the financial component. Spray revenues for all the county programs was in excess of 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 properties 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 also 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, knotweed, as well as invasive bamboo.

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 have been found to date. 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 11th year in providing a phragmites management program. Upon request from landowners or managers, MDA supplied technical and spraying assistance for control. DNR provided 100 percent of the cost of the herbicide (Aquaneet®) applied in the nine Eastern Shore counties for spraying phragmites. Spray revenue for phragmites control was more than $75,000 for treating 320 acres in 291 locations in 16 counties.

In all counties, the Noxious Weed Control Program's spraying service was offered to landowners participating in the Conservation Reserve Program or Conservation Reserve Enhancement Program. 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.

Other Activities

During 2011, 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. A MISC committee crafted language for an invasive plant bill that was passed during the 2011 legislative session. 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 principals 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.

PLANT PROTECTION AND WEED MANAGEMENT SUMMARY OF ACTIVITIES

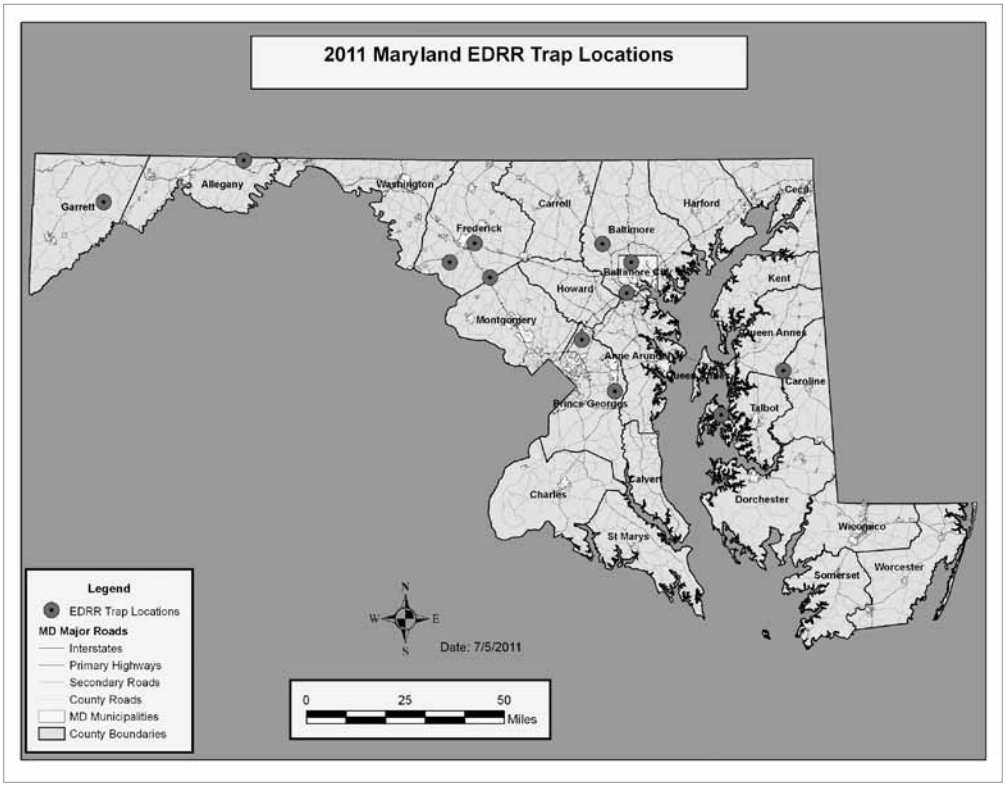
	CY 2008	CY 2009	CY 2010
Beekeepers Registered	1,233	1,362	1,425
Honeybee Colonies Registered	9,872	11,626	10,011
Honeybee Colonies Inspected	3,572	4,955	7,610
Ginseng Dealers Registered	9	11	13
Ginseng Collectors Licensed	230	303	298
Nurseries Certified	369	355	336
Plant Dealers and Brokers Licensed	1,498	1,477	1,432
Phytosanitary Certificates Issued	305	196	277
Plant Pest Surveys # target pests	55	49	33
Plant Pest Surveys # samples processed	11,099	16,872	20,537
Target Pests Detected	32	27	10
Management decisions based on target pest detected	121	101	64
Black light Samples Processed / #traps	2,077/29	Program discontinued due to budget reduction	Program discontinued due to budget reduction
Number of noxious weed advisory notices issued	250	283	405

**Because of the seasonal nature of this program and calendar year federal reporting requirements, data are reported on a calendar year basis. CY 2010 includes the first half of FY 2011.*

MDA Entomologist Biff Thompson (L) examines sample from hemlock trees in Swallow Falls State Park (Garrett County) for signs of Hemlock Woolly Adegid infestation.

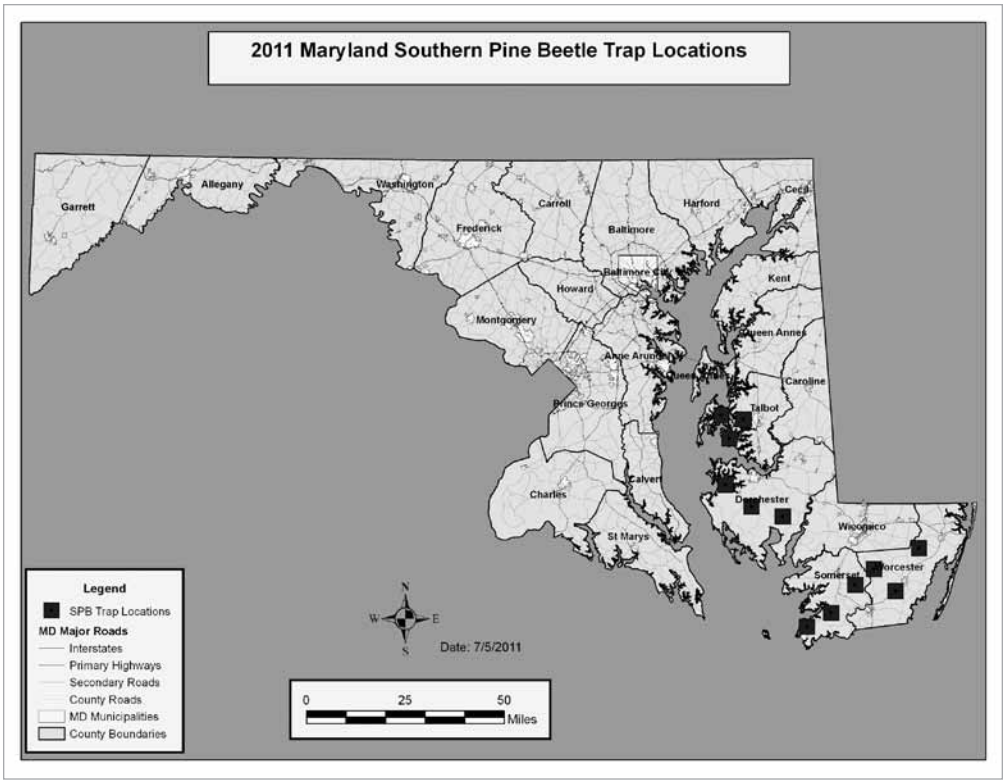
Detection and Evaluation Surveys

Early Detection Rapid Response (EDRR)—Every four years, the U.S. Forest Service (USFS) asks MDA to place traps for bark beetles in forested areas for the Early Detection Rapid Response program. This survey detects bark beetle species not previously known to exist in the United States. Twelve trap sites were distributed among Allegany, Frederick, Baltimore, Talbot, Caroline, Prince Georges and Garrett counties as well as Baltimore City. Each site had three Lundgren funnel traps, each baited with a different lure. The traps were checked every two weeks for 12 weeks from April to June. MDA collected 7,942 bark beetles (of which 16 were exotic, with one new state record) and identified 120 species.

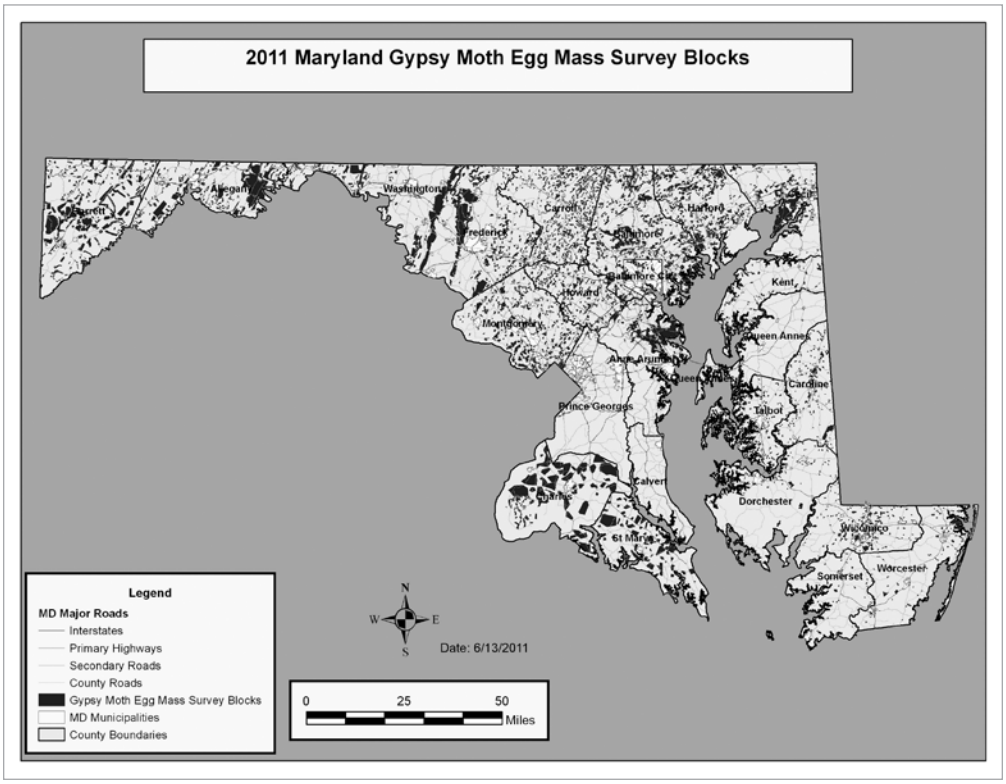


Forest Pest Damage

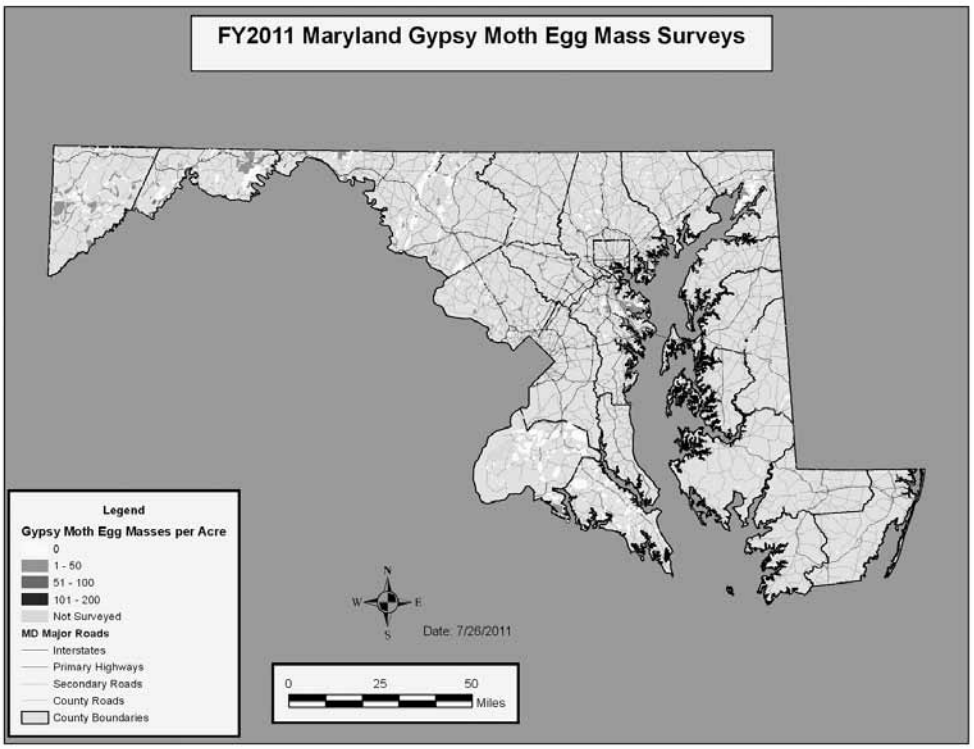
Southern Pine Beetle (SPB)—The SPB is one of the most destructive insect pests of pines. Maryland is at the northern edge of its range and is commonly found on the lower Eastern Shore and Southern Maryland. Since 1989, Maryland has participated in a multi-state SPB survey throughout the southern United States using pheromone-baited traps. Trap data indicated that SPB numbers would continue to remain low in 2011. Populations have been below outbreak level since 1994. The three sites that were detected in 2010—two sites in Kent County and one in Talbot County—have collapsed.



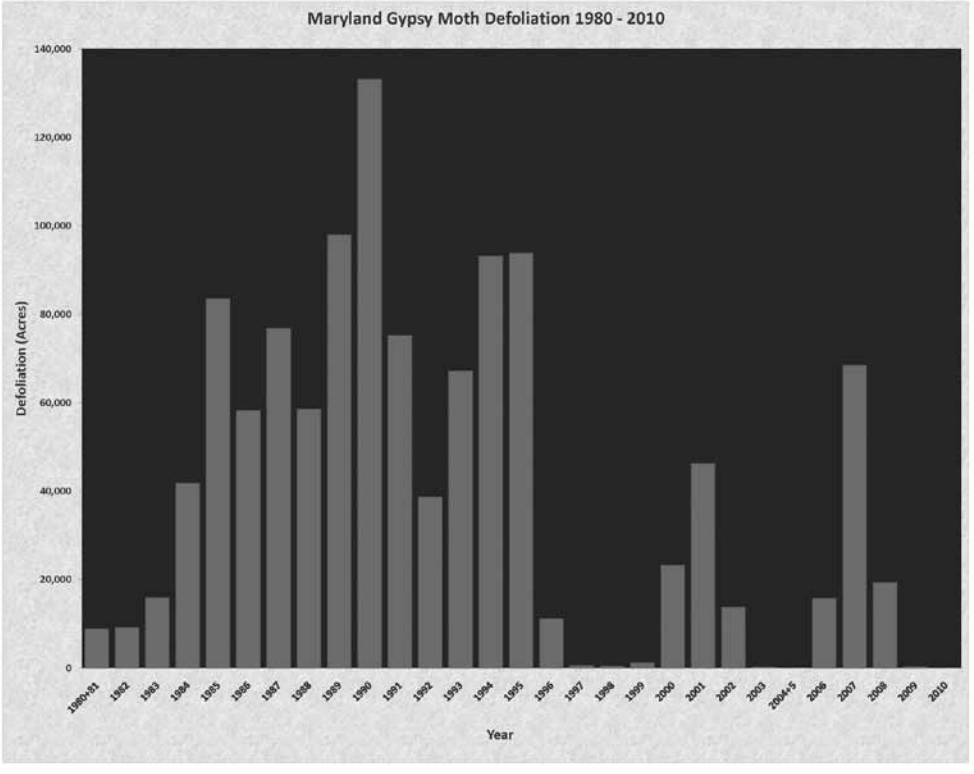
Gypsy Moth—The gypsy moth is the most serious threat to oak forests in the United States. The first eggs were detected in Maryland in 1971 and the first extensive defoliation occurred in 1981. Each fall and winter, MDA conducts an extensive survey for gypsy moth egg masses to determine potential areas of defoliation. MDA surveyed 426,679 acres in fall/winter 2010/2011. This survey indicated that gypsy moth populations were low and there was no need for a state gypsy moth spray program in spring 2011.



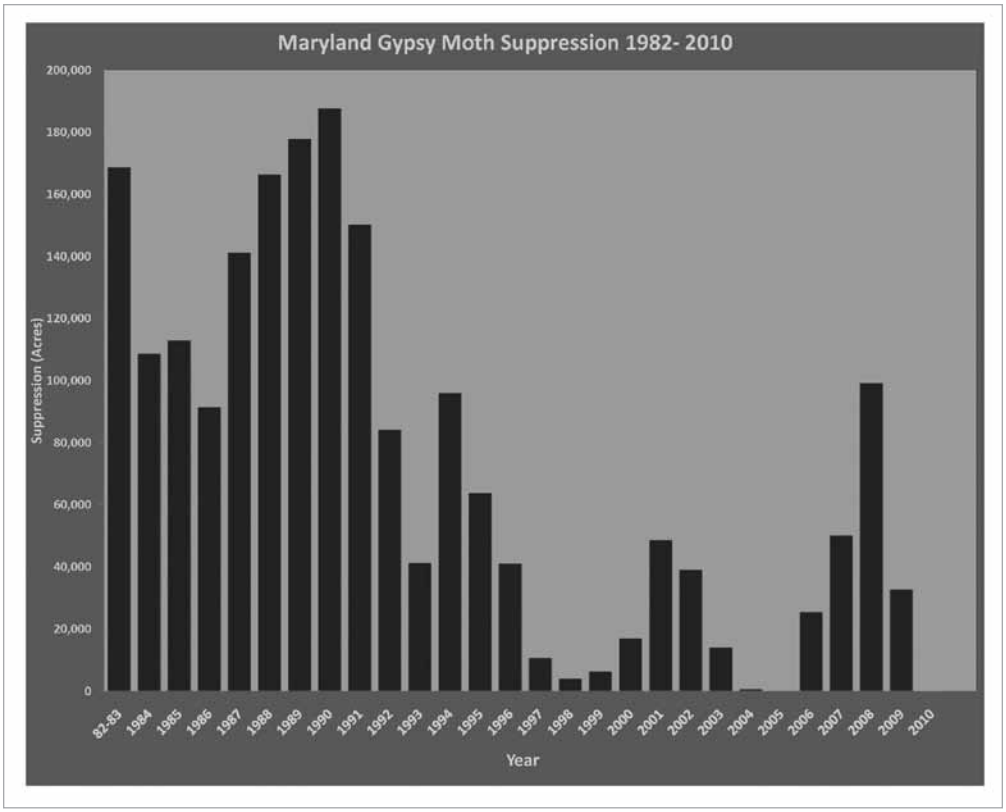
The map on the right depicts the results of the gypsy moth egg mass surveys.



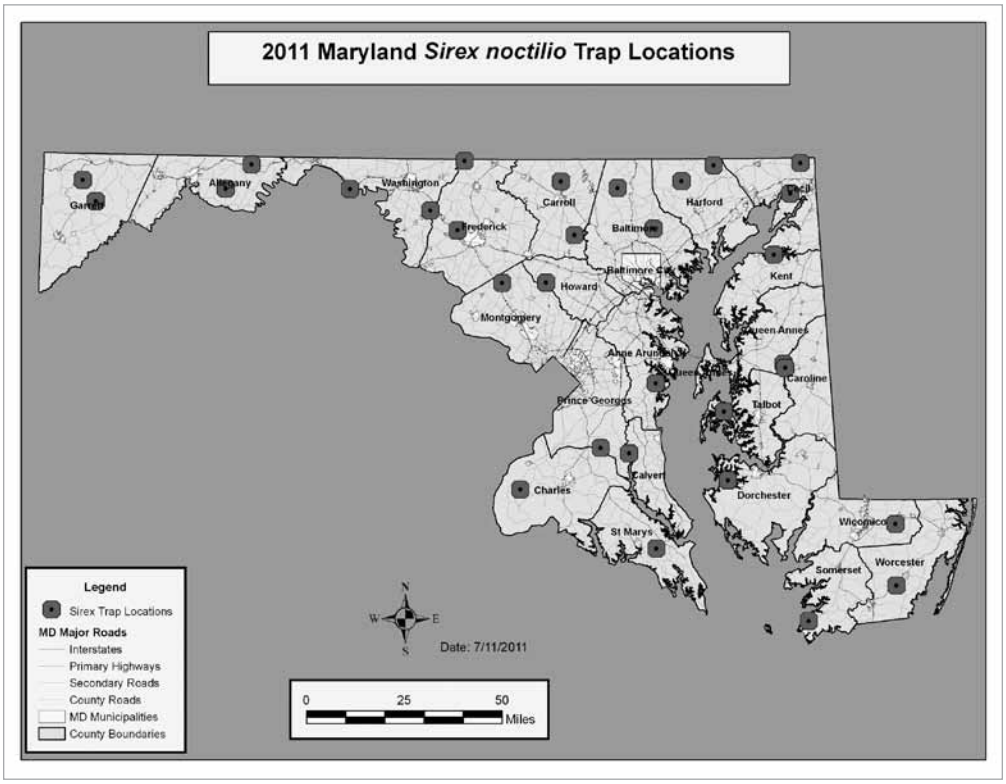
Historical Gypsy Moth Defoliation—The chart on the right depicts the results of the gypsy moth defoliation from 1980 through 2010.



Historical Gypsy Moth Suppression—The chart on the right depicts the results of the gypsy moth suppression from 1982 through 2010.

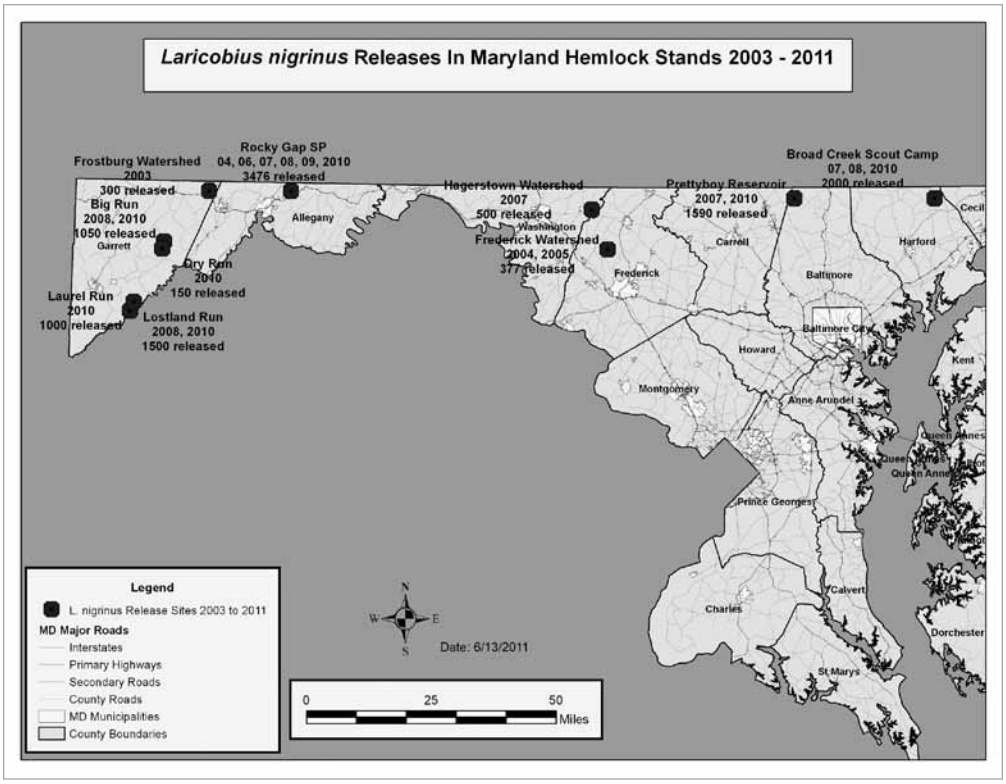


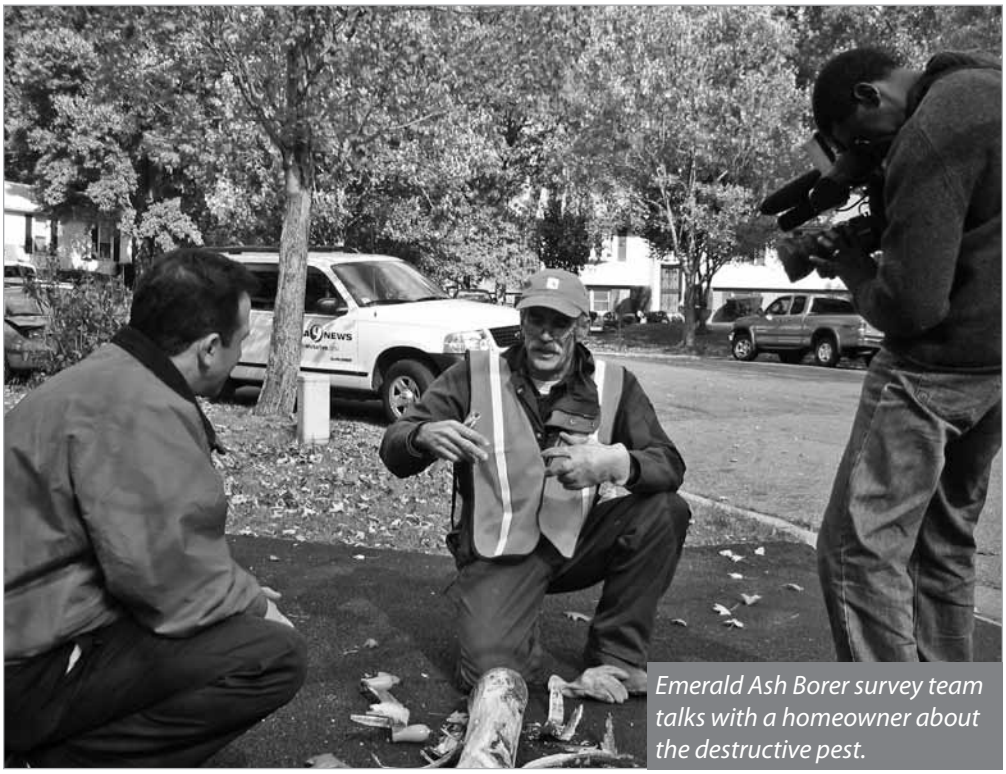
***Sirex noctillio* (Wood Wasp)**—Sirex wood wasp has been the most common species of exotic wood wasp detected at United States ports-of-entry associated with solid wood packing materials. Recent detections of this wood wasp outside of port areas in the United States have raised concerns because this 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 placed 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 2011.



Hemlock Woolly Adelgid Surveys and Monitoring

Hemlock Woolly Adelgid (HWA)—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. As part of a mid-Atlantic multi-state survey, MDA has set up 13 plots in six counties to assess the HWA impact on hemlock stands. Comparing 1998 plot data and 2009-2010 plot data, the number of hemlocks with a vigor rating of "healthy" decreased 96 percent; the number of hemlocks still alive decreased by 24 percent. Laricobius nigrinis, a predatory beetle of the hemlock woolly Adelgid, was released in several areas since 2004. In FY 2011, MDA released 2,200 beetles in four areas of Garrett County, 1,000 in Harford County and 1,090 in Baltimore County, for a total of 4,290 beetles. Two hundred of these beetles were collected from our "nursery" in Rocky Gap State Park. It is hoped MDA will be able to collect 1,000 beetles this fall (2011) for release in other areas of Maryland.

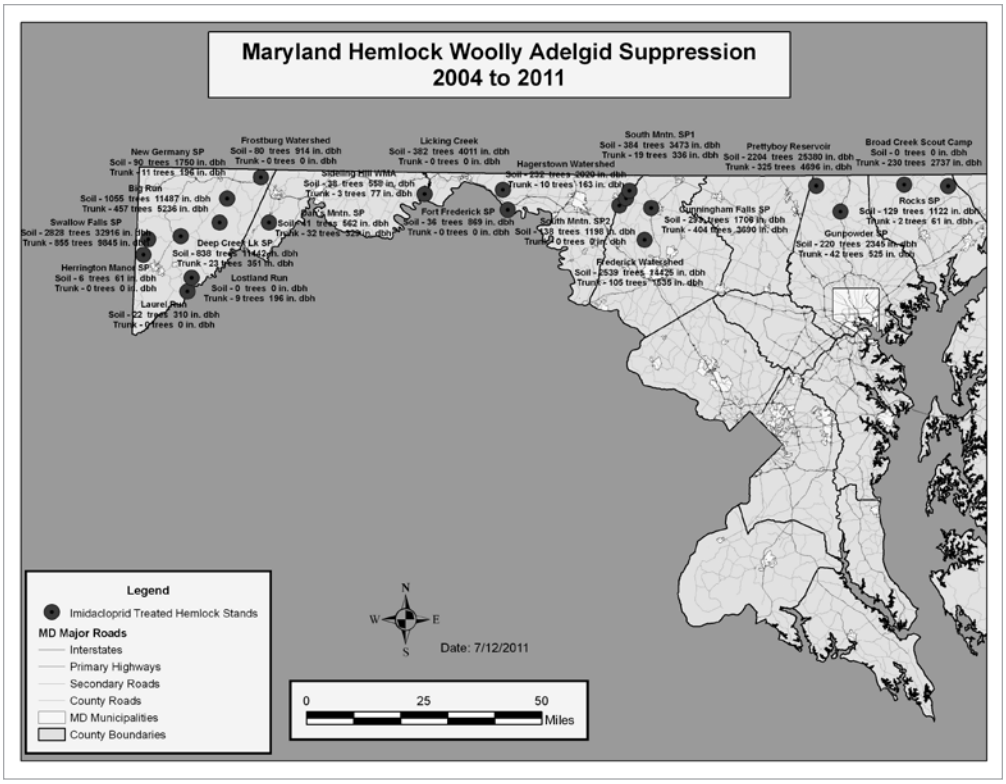


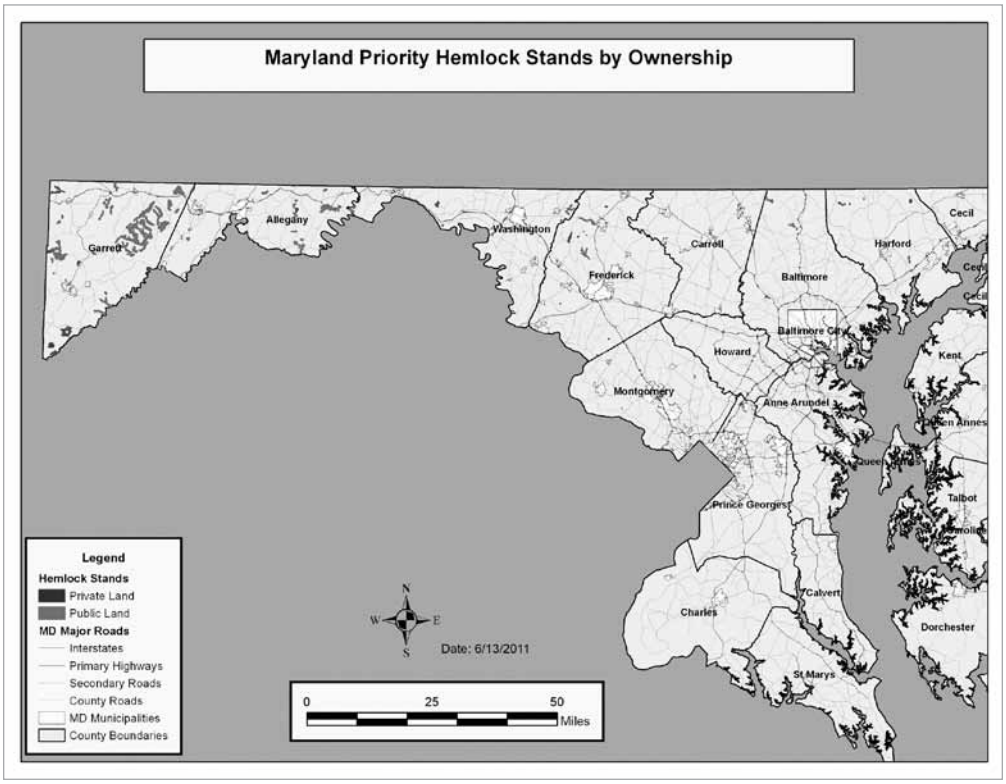


Emerald Ash Borer survey team talks with a homeowner about the destructive pest.

Hemlock Woolly Adelgid Suppression

A joint task force of MDA and the Maryland Department of Natural Resources (DNR) addressed the multidisciplinary 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. For the first time, HWA was detected in Swallow Falls State Park which has the preeminent old growth hemlock stand in Maryland. As a result of this detection, MDA-Forest Pest Management (FPM) and DNR—Park Service undertook a suppression exercise to treat 3,680 hemlocks in the spring 2011. For the rest of the state, MDA-FPM treated 5,402 hemlocks.





FY 2011 IMIDACLOPRID TREATMENTS FOR HEMLOCK WOOLLY ADELGID (HWA) IN MARYLAND

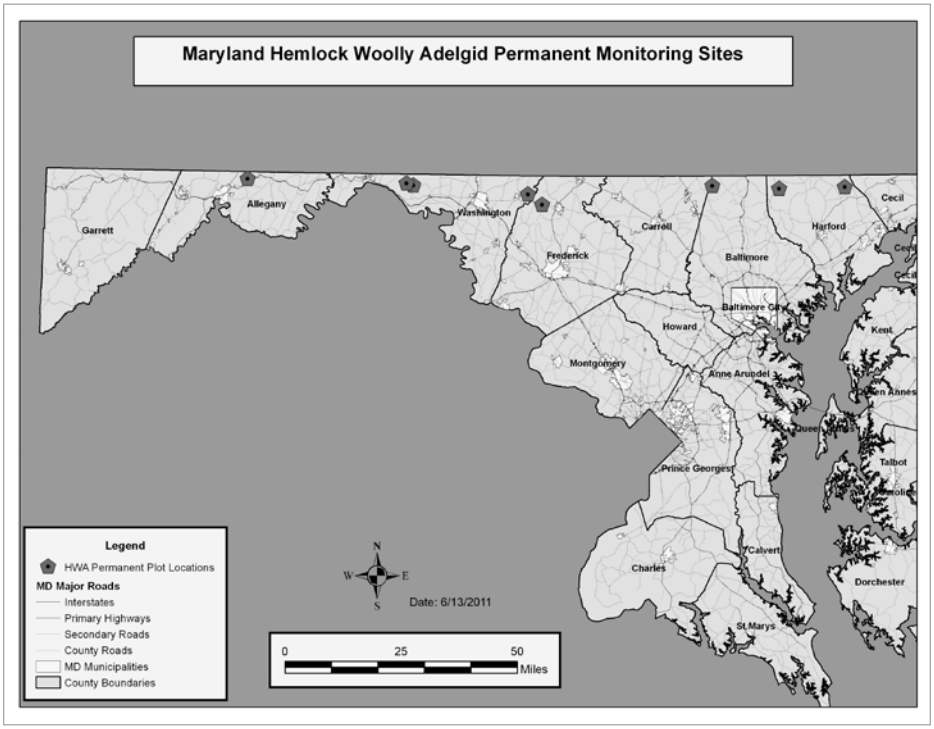
Hemlock Stand	County	Trunk Injection #Trees	Trunk Injection Inches DBH*	Soil Injection # Trees	Soil Injection Inches DBH	Total #Trees	Total Inches DBH*
Savage River SF (Big Run)	Garrett	115	1,197	548	5,176	663	6,373
Big Run SP	Garrett	329	3,785	507	6,312	836	10,097
Cunningham Falls SP	Frederick	361	3,181	39	269	400	3,450
Frederick Watershed	Frederick	—	—	1,725	9,833	1,725	9,833
Broad Creek	Harford	94	996	—	—	94	996
Rocks SP (Kilgore Falls)	Harford	2	61	129	1,122	131	1,183
Frostburg Watershed	Garrett	—	—	80	914	80	914
Prettyboy Reservoir	Baltimore	—	—	910	12,158	910	12,158
Dan's Mountain SP	Allegany	32	328	41	562	73	890
Deep Creek Lake SP	Garrett	20	293	470	6,571	490	6,864
Swallow Falls SP	Garrett	855	9,845	2,825	32,881	3,680	42,726
Total		**1,808**	**19,686**	**7,274**	**75,798**	**9,082**	**95,484**

**DBH = the diameter of the tree trunk at 4.5 feet above the ground*

HWA Permanent Plot Monitoring

Five to eight hemlock sites with HWA were evaluated for change in tree health from data collected since 1998. The data indicated a decline of these trees.

- Live Crown Ratio* decreased 57% from 73% to 31%. (Data from 5 sites.)
- Crown Density* decreased 28% from 48% to 35%. (Data from 5 sites.)
- Dieback increased from 3% to 33%. (data from 5 sites)
- Transparency stayed nearly constant at 39% and 42%. (Data from 5 sites.)
- % of trees with a vigor rating of healthy decreased from 89% to 4%. (Data from 5 sites.)
- % dead trees increased from 1% to 32%. (Data from 5 sites.)



* Includes trees that have died. (Value = 0)

Hemlock Woolly Adelgid Suppression (HWAS) Efficacy

Eleven hemlock stands have been evaluated for efficacy of HWAS soil treatments with imidacloprid insecticide. These include seven stands in 2006; 2 stands in 2010; and 2 stands in 2011. Treated trees averaged a 57 percent reduction in HWA populations when measured one year post treatment, and non-treated trees averaged a 47 percent increase in HWA populations when measured over the same time period. Measurements were based on five treated hemlock trees and five untreated hemlock trees per site with HWA counted on two to four 30cm branch tips per tree.

Additionally, measurements of the health of treated and untreated trees were followed over a six-year period (2005-2011). A small sample of previously infested hemlocks (ten trees) was treated with imidacloprid in the spring of 2005 at Broad Creek Scout Camp in Harford County and data recorded on the health of the trees. Twenty untreated trees also had data recorded at the same camp. Comparing the treated and untreated trees after six years, the live crown ratio decreased by 20-21 percent in both. Crown density increased by 10 percent in the treated trees and decreased by 15 percent in the untreated trees. Treated trees had a 25 percent decrease in dieback while the untreated trees had a 52 percent increase. Treated trees had a 15 percent reduction in transparency while the untreated trees had a 66 percent increase. Additionally, the number of treated trees with a vigor rating of "healthy" or only "light decline" increased by 29 percent while decreasing by 64 percent in the untreated trees.

The EAB Survey Team hangs traps to track the movement of this damaging pest.

Casual Pest Surveys

A number of informal surveys for forest pests were conducted. See below are the results.

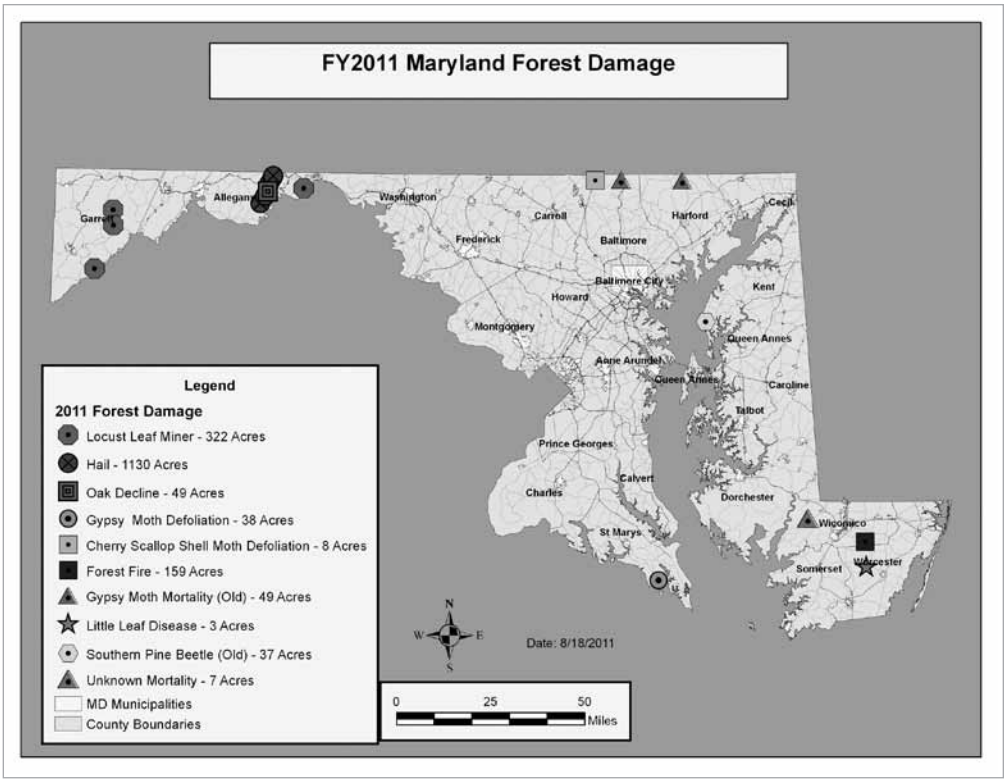
Emerald Ash Borer (EAB)—A visual survey at 72 places of ash trees in ten counties were all negative for the emerald ash borer.

Southern Pine Beetle (SPB)—Visual surveys of three places in Kent and Talbot counties were positive for two of the sites and negative for the third.

Little Leaf Disease—Little leaf disease is a disease of short leaf pine. A check of short leaf pine at Pocomoke River SF (Worcester) was positive. This site had been positive in the past.

Cerceris—Cerceris is a predatory wasp of borers which includes emerald ash borer. It can be used as a survey tool for the emerald ash borer. Thirty two inspections in Frederick, Washington, Montgomery and Prince George's counties resulted in one positive site in Prince Georges County. All others were negative

Other—A small amounts of damage by walnut caterpillar on pecan, catalpa sphinx on catalpa, and orange striped oakworm on red oak were observed. Four instances of oak decline, two cedar apple rust on apples, three hemlock wooly adelgid infestations, one eastern tent caterpillar infestation, one fall webworm infestation, one problem with bagworms, one instance of maple with anthracnose, possible oak wilt or bacterial leaf scorch on red oak, two cases of abiotic damage to pine and oaks, six cases of damage to oak and two cases of damage to pine with unknown causes and one instance of gypsy moth on blue spruce were observed this year.

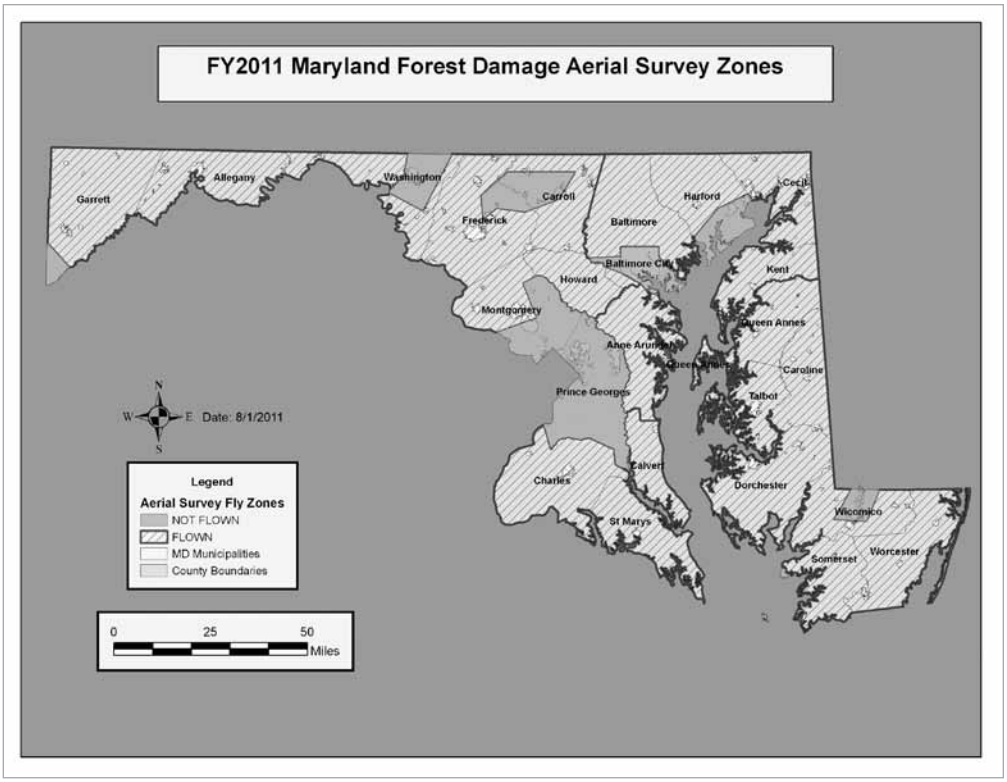


Forest Pest Damage

CY 2011 MARYLAND FOREST DAMAGE (AS OF AUGUST 2011)

Damage Causal Agent	Host	Number of Acres
Locust Leaf Miner Damage	Black Locust	322
Forest Wild Fire Damage	Mixed Species	159
Gypsy Moth Mortality (Previously Unreported)	Oak	49
Gypsy Moth Defoliation	Oak	38
Southern Pine Beetle Mortality (Previously Unreported)	Loblolly Pine	37
Little Leaf Disease	Short Leaf Pine	3
Cherry Scallop Shell Moth Defoliation	Cherry	8
Hail Damage	Central Hardwoods	1130
Oak Decline	Oak	49
Unknown Mortality	Loblolly Pine	7
Total		1802

2011 Aerial Survey Damage Assessment— Almost the entire state is flown to map any damage done to the forest of Maryland. It took 11 flight days between June 15, 2011 and August 11, 2011 covering 5,538,718 acres with 26.3 hours of flight time to complete this task.



KEY GOALS, OBJECTIVES AND PERFORMANCE MEASURES

GOAL 1: To prevent economic losses to forest and landscape trees due to insect pests and diseases.

OBJECTIVE 1.1: During FY 2011 successfully completed gypsy moth and hemlock wooly adelgid pest management activities where economically and environmentally feasible.

Performance Measures	CY 2009	CY 2010	CY 2011 Estimated
Input: staff hours made available for gypsy moth suppression	$993	900	5,000
Staff hours made available for hemlock wooly adelgid suppression	539	1,539	2,400
Output: Total number of acres assessed (gypsy moth)	737,944	595,033	500,000
Number of acres where protective treatment is environmentally and economically feasible (gypsy moth)	38,454	244	5,000
Number of acres of treatment completed (gypsy moth)	32,712	244	5,000
Number of hemlock trees treated in riparian habitat (trunk injections)	139	248	400
Number of hemlock trees treated upland habitats (soil treatment)	191	1,150	1,000
Outcome: Losses prevented in treated areas (millions)	$19.1	$0	$3.9
Percent reduction of hemlock wooly adelgid	$0	95	$0
Quality: Percent of acres protected within treated areas	100	100	98
Efficiency: Cost per forested acre assessed for gypsy moth	$0.35	$0.46	$0.50
Number staff hours 1,000 acres assessed (gypsy moth)	9.5	13.76	15.00
Cost per acre treated (gypsy moth), including staff cost	$41.36	$182.33	$42.00
Cost per injected tree	$85.5	$134.93	$125
Cost per soil treated tree	$21.4	$26.59	$17

MOSQUITO CONTROL

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 2010.*

The 2010 mosquito population in Maryland was well below the long-term normal level by all measures. This was the only year in the memory of mosquito control personnel (dating back to 1957) when counts of mosquito activity taken at more than 30 surveillance sites in Dorchester County—where mosquitoes reached their greatest numbers—were all negative for *Ochlerotatus sollicitans*, the salt marsh mosquito.

An abundance of groundwater recharged with melt from the record breaking snow falls combined with early warm spring temperatures and pushed an early foliation of trees in the spring. The resulting thick canopy precluded effective control of mosquito larvae in sylvan wetlands with aerial application of liquid Bti. During May and June, no spraying for adult or larval mosquitoes was conducted by aircraft. June and July also broke records for high temperatures and rainfall was low. Low rainfall and average tidal exchange on the salt marshes resulted in fewer salt marsh mosquitoes through most of the season. Tides and precipitation returned to typical seasonal levels during late August-October with a corresponding bounce in the salt marsh mosquito population. In 2010, 105,653 acres were sprayed by aircraft—well below the 34 year average of 159,284.

Culex salinarius and other associated species that breed in marshes and non-tidal wetlands were present in noticeably low numbers in 2010. Their numbers dropped significantly in areas where they typically comprise more than half of the total of mosquito collections, particularly west of the Chesapeake Bay. *Aedes albopictus*, the Asian tiger mosquito, increased as percentage of the total of mosquitoes collected in the central region of the state. This species, exclusively a container breeder, is primarily found in the urban and suburban environment where it lives in close association with people. Containers of all types, from flower pots to tire casings, discarded cans and bottles, plastic tarps, boat bilges and tree holes serve as breeding habitat. A very small amount of rain or irrigation provides sufficient water for this species to prosper. There is evidence that drier than normal conditions are beneficial to tiger mosquito breeding success because abundant rainfall fills breeding containers causing them to overflow, which flushes tiger mosquito larvae to the ground where they quickly die. Tiger mosquito infestations continue to drive the demands for services, particularly in urban and suburban areas of central Maryland. This is most evident in Anne Arundel County where the level of community participation has increased to 254 in 2010 from 156 in 2004. As an indication of public interest in mosquito control service, there are more than 100 communities waiting to enter the program in the central region. The role of the tiger mosquito in disease cycles remains unclear. However, laboratory studies show the tiger to be a competent disease vector, and viruses have been isolated from collections of tigers in Maryland and from other states. The tiger mosquito is the predominant pest and vector mosquito in all major metropolitan centers where a significant increase in cases of West Nile virus occurred.

Biological Control and Permanent Work

Biological mosquito control continued with the stocking of fish in ponds and open marsh water management (OMWM). OMWM is a mosquito control method of applied ecology, which seeks to regulate mosquito populations by enhancing the access of predatory fish to populations of developing mosquito larvae. Properly designed and implemented, OMWM projects can eliminate or greatly reduce the need for follow up applications of insecticides to control larval mosquitoes. Numerous studies have indentified the benefits of OMWM in improving overall marsh productivity, promoting biodiversity and increasing use by waterfowl. However, OMWM projects may cause changes to the marsh and great care must be employed to minimize unwanted changes to marsh flora and fauna. The number of acres that can be put in OMWM has been reduced greatly by DNR restrictions.

Mosquito Control Source Reduction Projects 2009-2010

Mosquito control source reduction projects completed during the 2009-2010 season were conducted on both tidal and non-tidal wetlands throughout Somerset County and on Bishop's Head in Dorchester County (sites are listed below). These projects have resulted in effective, long-term mosquito control and a reduction of insecticide use on a benefited area of 744.5 acres. In addition to accomplishing MDA's Integrated Pest Management (IPM) goals, the Long Point Road project in Dames Quarter included the re-establishment of a natural pond that through erosion had become a tidal mud flat. This reclamation project has shown an increased benefit to wildlife and will reduce nutrient flow into Tangier Sound.

Previous inspection of the Crisfield dike system also revealed an area requiring extensive repair to prevent further erosion. This maintenance project took place in the Johnson Creek vicinity at a problematic section that has required constant repair. MDA, with support from the Somerset County Department of Solid Waste and Drainage,

constructed an extensive wooden weir and tide gate structure to strengthen the dike system and prevent further erosion of the salt marsh and sedimentation into Johnson Creek. Future maintenance and structural enhancement projects are planned in this area to improve the integrity of the dike system and further reduce sedimentation onto this wetland.

Permits have been obtained to continue source reduction projects in the 2010-2011 permanent work season. Future source reduction projects will depend on MDA's ability to obtain permits and the operating condition of the amphibious excavators which require extensive maintenance due to more than 20 years of service on the salt marsh.

Bishop's Head	20 acres
Tylerton, Smith Island Phase I	3.25 acres
Crisfield Dike System	189.3 acres
Deal Island Road Phase III	304.4 acres
Long Point Road, Dames Quarter	83.9 acres
Tylerton, Smith Island Phase II	3.25 acres
Handy Church, Marion Station	1.0 acre
Janes Island State Park	139.4 acres
Total Benefited Acres	**744.50 acres**

Long-term biological control of mosquito larvae can be accomplished through the release of Gambusia holbrooki minnows (mosquitofish) into permanent bodies of water. The use of this native species of fish is a cost-effective natural method of control since these minnows are highly adaptive and, once established, will produce a self-sustaining population. They are predaceous on many species of mosquito larvae and are considered an essential component of a strong IPM program.

During the 2010 mosquito season, 6,939 *Gambusia* were released at 37 sites in six counties. The habitat type consisted of ornamental ponds and stormwater retention ponds. These artificial wetlands are ideal sites to release mosquitofish since they tend to lack piscivores, which allows the mosquitofish population to become established. These wetland types are also very capable of producing large broods of mosquitoes due to their design and, coupled with their close proximity to residences and businesses, long-term mosquito control is necessary to minimize nuisance and arboviral disease exposure.

Mosquito-borne Disease Surveillance

MDA, working with the Maryland Department of Health and Mental Hygiene (DHMH), completed a 10th year of a cooperative effort to monitor the occurrence and distribution of mosquito-borne pathogenic virus in Maryland. Some 23,043 mosquitoes were collected, separated into 2,219 pools and analyzed for virus at the DHMH laboratory in Baltimore. MDA technicians collected five samples from two jurisdictions (Anne Arundel – 4, Baltimore – 1) that tested positive for West Nile virus. An additional three samples testing positive for West Nile virus were collected in Montgomery County by Department of Defense personnel. Maryland reported 23 human cases of West Nile virus including two fatal cases (Baltimore – 1, Montgomery – 1). Human cases were distributed as follows: Anne Arundel – 3, Baltimore City – 3, Baltimore County – 12, Howard – 1, Montgomery – 4. The majority of cases (21) occurred in communities that do not participate in adult mosquito control service. The number of cases nationwide in 2010 was 1,021. A sharp increase in the number of cases reported from the Northeast region of the United States, east of the Mississippi, occurred in 2010. The regional number of cases increased from 19 in 2009 to 266 in 2010. Estimates of the costs of illness are difficult to determine, however, scholars have placed the cost for an uncomplicated case with full recovery at $1,000 per case and the cost of neuroinvasive illness at $27,000 per case. In addition to the above reported cases, two human cases of LaCrosse encephalitis (Harford – 1, Garrett – 1) and one case of dengue fever (Calvert) were reported in 2010. A single equine West Nile virus cased was reported in Frederick County.

Public Education

Public education continues to be an important part of MDA's mosquito control program, particularly with the continuing problems created by the introduction and spread of the Asian tiger mosquito.

The predominant types of public education this season were media interviews and school functions. There were nine interviews done this season by mosquito control or public information office employees, with both print and TV media outlets through the state.

Outreach was done at 12 different school functions in 2010, in Prince George's, Calvert and Wicomico counties. These included a science fair, a general insect and mosquito presentation, a career day and Prince George's County's science quiz show, and The Science Bowl. In addition, Calvert County sent out over 14,000 brochures to all school children in its schools.

Mosquito control employees spoke at five community meetings in Prince George's, Calvert and Anne Arundel counties, and did three mass-yard inspections for Asian tiger mosquito breeding sites in Prince George's and Howard counties.

Six training sessions were offered in 2010 for groups such as Master Gardeners, University of Maryland Extension, departments of health and city groups. Employees spoke at two professional meetings (Southern Maryland Urban Pest Management Conference and Annual Meeting of the Mid-Atlantic Mosquito Control Association). Asian tiger mosquito displays were set for a month in each of in three county libraries this season: two in Prince George's and one in Anne Arundel.

The effects of public education efforts are difficult to quantify, particularly with media interviews and library displays. However, over 600 people were in attendance at the events with known participant levels.

Interactions with Other Agencies

The cooperative effort between MDA and DHMH for mosquito-borne surveillance of pathogenic virus is of great benefit to the citizens of Maryland. Live mosquitoes are collected, identified and processed by MDA staff and sent to the DHMH Laboratories in Baltimore for virus isolation. Findings of virus in mosquito populations usually precede human cases and allow for responses from MDA and local health authorities and the public to take personal precautions to avoid or reduce risk factors.

DHMH administers a federal grant for supporting vector-borne disease surveillance and provides funding to MDA to support field activities. Unfortunately, the level of federal funding has been sharply cut over the past six years and currently pays about 10 percent of the actual cost incurred by MDA.

MDA anticipates continued cooperation with DNR, MDE, The U.S. Fish and Wildlife Service and the Army Corps of Engineers in the application and review processes for Toxic Materials Permits and National Pesticide Discharge Elimination System and for future OMWM and marsh restoration projects. Cooperation between these agencies is essential to providing mosquito control on Maryland's lower Eastern Shore, where the most severe mosquito problems occur.

GOALS AND OBJECTIVES:

GOAL 1: Maintain the adult mosquito population below the level that causes unacceptable annoyance to humans.

OBJECTIVE: adult mosquito population in communities participating in the MDA mosquito control program will be below the annoyance action threshold 70 percent of the days between May 1 and October 31 and customer satisfaction will be 80 percent or greater.

Performance Measures	2010 Actual
Output: Number of acres treated with insecticide	2,038,029
Efficiency: Cost per acre treated with insecticide for mosquito control	$1.42

GOAL 2. To reduce the exposure of the public to insecticides applied for adult mosquito control as a consequence of greater use of biological mosquito larvicides.

OBJECTIVE: Increase the use of biological larvicides to a level 100 percent above the 2000 base (58,183 acres).

Performance Measures	2010 Actual
Output: Number of acres treated with biological insecticides to control mosquito larvae	5,276

MOSQUITO CONTROL ACTIVITY SUMMARY

	CY 2008	CY 2009	CY 2010
Communities participating in mosquito control program	2,006	2,132	2,165
Number of light trap nights	2,711	2,767	2,676
Percent of light trap nights below threshold	68	55	68%
Number of landing rate counts performed	22,672	22,487	26,189
Percent of landing rate counts below action threshold	49	37	33.6%
Number of public service requests	2,743	4,008	3,414
Number of mosquitofish stocked	19,756	13,527	6,939
Acres managed by open marsh water management	876	1,085	824.5
Acres treated with insecticide	1,650,163	2,038,534	1,492,387.5
Acres treated for mosquito larvae	14,800	10,505	5,276.58
Acres treated for adult mosquitoes	1,635,363	2,028,029	1,487,110.9
Acres treated by aircraft	204,159	308,599	105,653
Acres treated by ground equipment	1,446,004	1,729,935	1,386,734.5
Number of mosquitoes tested for arboviruses	30,952	40,680	23,043
Number of human cases of arbovirus statewide	14	2	23
Number of human cases of arbovirus in areas with mosquito control	1	1	2
Number of cases of arbovirus in domestic animals	2	2	1
Number of mosquito pools positive for arbovirus	16[1]	8[2]	8[3]

[1]Department of Defense collected an additional 11 positive pools at military reservations in Montgomery County.

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

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

NUMBER OF COMMUNITIES PARTICIPATING IN MOSQUITO CONTROL DURING CY 2008 - CY 2010

County	# of Communities			Percent Change from Previous Year
	2008	2009	2010	
Allegany	2	3	3	0
Anne Arundel	242	252	254	+.8
Baltimore City	1	1	0	0
Baltimore County	329	359	359	0
Calvert	67	76	76	0
Caroline	8	65	65	0
Carroll	3	3	3	0
Cecil	42	40	42	+5
Charles	97	101	93	-7.9
Dorchester	127	129	117	-9.3
Frederick	19	10	9	-10
Garrett	0	0	0	0
Harford	46	52	57	+9.6
Howard	9	11	11	0
Kent	38	35	35	0
Montgomery	22	20	20	0
Prince George's	302	302	334	+6.6
Queen Anne's	20	20	24	+20
St. Mary's	111	109	104	-4.6
Somerset	125	126	127	+.8
Talbot	110	117	117	0
Washington	4	4	5	+25
Wicomico	152	169	173	+2.4
Worcester	130	128	137	+7
Total	**2,006**	**2,132**	**2,165**	**+1.5%**

CUMULATIVE ACRES TREATED WITH INSECTICIDES FOR MOSQUITO CONTROL BY COUNTY DURING CY 2008 - CY 2010

County	Acres Sprayed			Percent Change
	2008	2009	2010	
Allegany	3.44	1.2	2	+66.6
Anne Arundel	98,936.56	100,272	78,052.14	-22.2
Baltimore City	0	0	0	0
Baltimore County	87,619.5	51,092.8	33,688.13	-34.1
Calvert	103,634	142,150.2	104,177	-26.7
Caroline	45,119.1	39,175	52,814	+34.8
Carroll	263.24	452.1	121.7	-73.1
Cecil	56,011.5	52,746.67	38,460.12	-27.1
Charles	68,628.19	78,362.29	53,437.3	-31.8
Dorchester	283,717.43	372,526.79	176,817.73	-52.5
Frederick	1,202.74	889.93	1,395	+56.7
Garrett	0	0	0	0
Harford	12,348.9	11,598	10,156.39	-12.4
Howard	2.94	.71	.1	-86
Kent	36,412.13	42,481.74	28,277.32	-33.44
Montgomery	7.66	2.51	2.93	+16
Prince George's	8,187.4	16,075.31	17,576.85	+9.3
Queen Anne's	100,018.8	110,788.8	101,822.7	-8.1
St. Mary's	102,591.49	96,009.12	69,422.3	-27.7
Somerset	143,676	187,599.42	128,820.9	-31.3
Talbot	209,543	271,168.9	160,174	-40.7
Washington	268.72	226.7	14.85	-93.4
Wicomico	202,425	284,576.5	208,340	-26.8
Worcester	89,545.13	180,336.9	228,814.1	+26.9
Total	**1,650,163**	**2,038,533.6**	**1,492,387.5**	**-27**

NUMBER OF HUMAN CASES OF WEST NILE VIRUS ILLNESS IN MARYLAND, CY 2001 – CY 2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Allegany											0
Anne Arundel		8	7	2			2			3	22
Baltimore City	3	5	14	4	2	6		3		3	40
Baltimore Co.	3	1	17	3	1	3	2	2	1	12(1)*	32
Calvert							1				1
Caroline			1	1							2
Carroll			2								2
Cecil											0
Charles		1	1								2
Dorchester				2							2
Frederick		5	3					1			9
Garrett											0
Harford			2				2	3			7
Howard			3			1	1			1	6
Kent											0
Montgomery		7	10	1				4		4(1)*	27
Prince George's		7	4	3	1	1	1				17
Queen Anne's			5					1			6
St. Mary's		1									1
Somerset											0
Talbot											0
Washington Co.		1	4		1						6
Wicomico											0
Worcester							1				1
Statewide	6(3)	36(7)	73(9)	16	5	11	10	14	1	23(2)	195 (21)*

**Number of fatalities in parentheses.*

PESTICIDE REGULATION

The Pesticide Regulation Section (PRS) regulates the use, sale, storage and disposal of pesticides. Its primary functions 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 PRS includes 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

The PRS certifies both private and commercial pesticide applicators. 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.

In 2011, PRS certified 145 private applicators for a three-year period after each had passed a closed book examination administered by section personnel. Another 1,762 private applicators renewed their certificates by attending recertification training. Currently, there are 3,354 certified private applicators in Maryland. Section staff approved and monitored 99 private applicator recertification training sessions that the University of Maryland Extension, MDA, or the pesticide industry conducted.

PRS certified 586 new commercial pest control applicators and consultants in one or more of the 13 categories of pest control. Each satisfied minimum experience or education requirements and passed written certification exams. PRS certified 1,102 public agency applicators in 2011, bringing the total number of certified commercial, public agency applicators and consultants to 4,583. In 2011, 18 exam sessions were held during which 2,158 exams were administered to 824 applicants.

Once certified, commercial applicators must participate in at least one update training session approved by MDA each year. Four hundred fifty-six (456) recertification training sessions for commercial pesticide applicators were approved and monitored by PRS and were conducted by the pesticide industry, the University of Maryland Extension, or agency. By attending recertification training, 3,991 applicators were recertified in 2011.

Supervising Inspectors Ellis Tinsley and Petey Councell conduct an inspection at a bulk pesticide storage facility to assure that pesticide storage, repackaging, mixing and loading operations are meeting state and federal regulations to protect the environment.

During 2011, PRS licensed 1,522 commercial businesses and 171 not-for-hire businesses to apply pesticides and to perform pest control services. During 2011: 325 public agency permits were issued to governmental agencies that apply pesticides; 39 pest control consultant licenses were issued; 2,945 registered employee identification cards were issued; 10,266 employees of pesticide businesses and public agencies were registered with MDA to apply pesticides under the supervision of certified applicators; and 141 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 2011, PRS conducted 1,010 routine business inspections during which 324 businesses were cited for violations of the Pesticide Applicators Law and Regulations. Eighty-nine

(89) pesticide dealer inspections were conducted to ensure that restricted use pesticides were sold only to certified applicators. Seventy-five (75) use observations were conducted, during which pest inspections and pesticide applications performed by commercial and private applicators were observed by section personnel. PRS investigated 53 consumer complaints. Under the federal cooperative agreement, 30 pesticide producer establishment and 61 market place inspections were conducted. Other enforcement actions taken during 2011 included the assessment of 18 civil penalties totaling $12,960.

In the last quarter of FY 2011, the PRS conducted compliance assistance inspections at commercial agricultural pesticide application firms, custom blending operations and agricultural pesticide refilling establishments. PRS inspected 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 2011, this section registered 164 individuals who receive advance notification of pesticide applications made to adjacent properties by commercial ornamental plant and turf pest control businesses and public agencies.

MDA's website includes searchable databases of registered pesticide products, licensed pesticide businesses, commercial and private applicators and pesticide dealers. 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 information on each pesticide product queried, such as the EPA registration number, pest controlled, site of application, formulation active ingredient and the brand name can be obtained.

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 about 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.

Training Events

During 2011, the PRS inspectors and enforcement program coordinator attended the annual EPA Region III State Pesticide Inspector's Workshop hosted by the West Virginia Department of Agriculture. Sixty-two inspectors from Maryland, Delaware, Pennsylvania, Washington D.C., Virginia and West Virginia attended. The agenda for the workshop included health and safety training for inspectors as well as presentations on the importance of personal protective equipment 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, investigating fish kills along with respirator fit testing.

Special Programs

During 2011, the section offered its recycling program for empty plastic pesticide containers to growers and commercial pesticide applicators at 20 locations. Collection centers were maintained in seven counties (i.e,, Frederick, Harford, Kent, Prince George's, Talbot, Washington and Wicomico) with the assistance of county governments. Between June and September, 128 collection days were held. In addition, 13 pesticide dealer/custom applicators participated in inspection and collection of containers at their own facilities. A total of 43,000 containers weighing 21 tons were collected from 130 participants. The containers were processed for transporting to a plastic recycling facility.

MDA'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 received 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. The section also contracted with Telamon Corporation to provide pesticide safety training to farm workers. In 2011, Telamon members provided training in Spanish to 419 farm workers and 13 non-farm workers (health care providers). Telamon also provided pesticide safety and awareness training to 120 children of farm workers, from pre-K through eighth grade.

GOALS AND OBJECTIVES

GOAL 1: To utilize proper pesticide management in order to reduce the potential adverse impacts of pesticides on human health, environmental resources and agricultural commodities.

OBJECTIVE: 75 percent of inspected licensees, permittees and certified applicators will be in compliance with pesticide laws and regulations.

Performance Measures	FY 2011
Outcome: Percent of licensees and permittees in compliance with laws and regulations.	70
Efficiency: Percent of licensees and permittees inspected.	50

OBJECTIVE: 80 percent of private and commercial applicator recertification training sessions will address targeted pesticide issues and high volume violations.

Performance Measures	FY 2011
Input: Number of certified private and commercial applicators.	8,207
Output: Number of re-certification training sessions conducted.	555
Quality: Percent of training sessions addressing targeted pesticide issues.	70

PESTICIDE REGULATION SECTION ACTIVITIES, FY 2009 – FY 2011

	FY 2009	FY 2010	FY 2011
Commercial pesticide businesses licensed	1,371	1,458	1,522
Not-for-hire businesses licensed	160	173	171
Commercial pest control applicators certified in one or more category	3,134	3,280	3,481
Registered personnel employed by licensed businesses and public agencies	15,060	11,372	10,266
Public agency permits issued	310	319	325
Public agency applicators certified in one or more category	1,069	1,051	1,102
Private applicators certified to date	3,284	3,328	3,354
Dealer permits issued	146	120	141
Applicator certification examination sessions held	18	18	18
Individuals taking certification examinations	888	825	824
Certification examinations administered in all categories	2,677	2,130	2,158
Number of businesses inspected	809	807	1099
Number of businesses with violations	423	276	324
Unregistered employee violations	26	16	24
Records incomplete or inaccurate violations	143	184	110
Vehicles not properly indentified violations	43	32	14
No anti-siphon device violations	25	18	14
No first aid/safety equipment violations	13	8	14
Incomplete or no customer information violations	14	24	49
Pesticide dealer inspections	77	78	89
Application records reviewed	975	809	990
Hearing and investigational conferences	1	0	6
Consumer complaint investigations	54	31	53
Pesticide use observations	86	79	75
Pesticide samples collected for analysis	48	51	81
Market place inspections	42	30	61
Pesticide producer establishment inspections	28	28	30
Container/containment inspections	N/A	N/A	8

STATE CHEMIST

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/pesticides, 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 2011 the section registered 12,476 pesticide products; 3,701 fertilizers; 451 soil conditioners; 724 fertilizer/pesticide combinations; 148 liming materials; and 15,336 commercial feeds. MDA inspectors also brought 506 previously unregistered products into compliance. See Table 1 on page 66 for details.

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. In FY 2011, the State Chemist Section inspectors performed 961 on-site inspections. See Table 2, Inspection Program, on page 66.

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.

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 14 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 manmade 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 fluroacetate, and pesticides.

Ammonium Nitrate (Potential Explosive for Terrorist Activities)

MDA inspects fertilizer manufacturers and warehouses twice a year to determine how much ammonium nitrate is being stored and to monitor sales and distribution records to ensure they are maintained in accordance with federal/state law.

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 on page 67 for details relating to stop sale orders.

Human and Animal Health Activities

Aflatoxin and Vomitoxin Contamination
MDA routinely monitors Maryland and imported grain products (livestock feed) for the mold by-products known as Aflatoxin and Vomitoxin. The inspection staff and laboratory continue to assist the farm community in ascertaining the levels of Aflatoxin, nitrates and prussic acid in silage and feed resulting from drought 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 25 samples in FY 2011 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 2011, the section completed 50 BSE inspections and collected 150 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.

Antiterrorism and Homeland Security Issues
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.

USDA—Pesticide Data Program (PDP)
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 on page 66.

Food Safety Survey of Maryland 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.

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, overformulation 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 2011, the section analyzed 39 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.

Environment

Commercial Fertilizer Regulation
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 products that are over formulated with either nitrogen and/or phosphorus compounds. Maryland was the first to implement this regulatory policy.

Commercial Fertilizer Distribution State/County
MDA's State Chemist Section continues to monitor (tabulate) the amount of commercial fertilizer distributed and sold in the state. Table 6 lists the individual amounts of farm and non-farm fertilizer by tonnage. The section also monitors the amount of commercial fertilizer distributed and sold in each county.

Compost Facility Operator Certification
The Maryland Commercial Compost Law requires an MDA certified facility operator to be onsite to oversee the manufacturing process from beginning to end. Before becoming a certified compost facility operator, an individual must pass an examination on the manufacturing of commercial compost. Sixteen people took the exam during FY 2011. Additionally, individuals passing the exam must fulfill specific continuing education requirements to maintain their certification. This involves attending training courses approved by the Maryland State Chemist as well as participating in facility inspections conducted by State Chemist inspectors.

GOALS AND OBJECTIVES

OBJECTIVE 1.1: Continue to ensure that 99 percent of randomly sampled pesticide products, including disinfectants, are in conformance with Maryland law relating to quality and safety with respect to active ingredient content and toxic material.

Performance Measures	FY 2011
Input: Products registered	13,097
Samples collected for analysis	236
Output: Laboratory analyses performed	592
Outcome: Percent of collected samples in conformance	99

OBJECTIVE 1.2: Ensure that 95 percent of disinfectant products are in conformance with Maryland law relative to effectiveness.

Performance Measures	FY 2011
Input: Samples collected for analysis	87
Output: Laboratory analyses performed	113
Outcome: Percent of collected samples in conformance	99

OBJECTIVE 1.3: Continue to ensure that 90 percent of randomly sampled fertilizers, soil amendments and liming materials are in conformance with Maryland laws relating to quality and safety with respect to the active ingredient content and toxic materials.

Performance Measures	FY 2011
Input: Products registered	5,024
Samples collected for analysis	257
Output: Laboratory analyses performed	2,044
Outcome: Percent of collected samples in conformance	56

GOALS AND OBJECTIVES (continued)

OBJECTIVE 1.4: Continue to ensure that at least 95 percent of livestock feed and pet food sampled are in conformance with Maryland law relative to nutrition (as per standards established by Association of American Feed Control Officials).

Performance Measures	FY 2011
Input: Products registered	15,336
Samples collected for analysis	1,072
Output: Laboratory analyses performed	6,025
Outcome: Percent of collected samples in conformance	93%

TABLE 1: PRODUCT REGISTRATION AND ENFORCEMENT ACTIONS

Product Registration	FY 2010	FY 2011
Pesticides	12,013	12,476
Fertilizers	3,615	3,701
Soil Conditioners	422	451
Fertilizer/Pesticide combinations	759	724
Liming products	137	148
Feeds	15,653	15,336
Total	**32,599**	**32,430**
Number of companies with registered products	2,748	2,839
Registrants	2,293	2,330
Enforcement		
Non-Registered Notices	510	506
Stop Sale Orders	192	157

TABLE 2: INSPECTION PROGRAM

Inspections (Feed, Fertilizer, Pesticides, Compost, etc.)	FY 2010	FY 2011
Plants, warehouses, retailers, etc.	1,234	961
Inspections for BSE (Mad Cow) for FDA	54	48
Pesticide data sites visited (USDA/MDA)	384	283
Pesticide samples collected (USDA/MDA)	712	766
Microbiological data sites visited (USDA/MDA)*	189	44
Microbiological samples collected (USDA/MDA)*	421	95
Maryland Grown Produce Food Safety Program samples collected (farmer's markets, roadside stands, etc.)	66	64

**The USDA Microbiological Data Program was discontinued in early FY 2011.*

TABLE 3: REGULATORY ACTIONS

Stop Sales	FY 2010	FY 2011
Deficiencies		
Pesticides	1	0
Fertilizers	90	47
Feeds	59	36
Over-Formulations		
Pesticides	0	0
Fertilizers	33	27
Feeds		
Mycotoxins (Feed)	65	17
Label Violations	7	7
Warnings		
Deficiencies		
Pesticides	0	0
Fertilizers	61	24
Feeds	40	26
Over Formulations		
Pesticides	25	0
Fertilizers	49	10
Feeds	0	28
Mycotoxins (Feed)	14	2
Products Not Registered Brought into Compliance		
Pesticides	11	4
Fertilizers	15	41
Soil Conditioners	2	1
Fertilizer/Pesticide combinations	4	3
Liming materials	5	2
Feeds	473	455

TABLE 4. SAMPLES COLLECTED AND ANALYZED

	Samples Collected FY 2010	Chemical Analyses FY 2010	Samples Collected FY 2011	Chemical Analyses FY 2011
Pesticide Formulation Analysis	268	672	236	592
Fertilizers (nitrogen, phosphorus, potassium, micro nutrients)	423	3,364	257	2,044
Agricultural Liming Materials	38	143	33	124
Feeds and Pet Foods (protein, drugs, phytase, etc.)	1,189	14,804	1,072	6,025
Broiler Feed for Phytase	35	70	22	44
Livestock Feed for Drugs, Additives, Mineral Supplements, and Ingredients	172	2,141	39	485
Ruminant Tissue Analysis of Feed for FDA	150	150	150	150
Toxic Metal Analysis of Feeds, Fertilizers and Liming Material	89	1,092	62	763
Melamine in Animal/Human Food	9	9	25	25
Vomitoxin (DON) in Feed	478	574	233	280
Aflatoxin in State Chemist Inspection Samples	63	75	151	1
BSE (Mad Cow) Routine State Samples	57	57	93	93
Food Safety of Maryland Produce & Fruit	80	29,200	64	16,640
Service Samples for Farmers, Veterinarians, etc.	31	380	38	467
National & International Quality Assurance Samples	116	4,764	101	415
EPA Samples (pesticide misuse investigations, market place monitoring)	54	452	78	655
Food Emergency Response Network—FERN (joint laboratory network between federal & state agencies)	10	36	12	43

TABLE 5. MFR OUTPUTS

	FY 2010	FY 2011
Pesticide Formulation		
Products registered	12,772	13,097
Samples collected	268	236
Laboratory analyses performed	855	592
Fertilizers, Soil Amendments, Liming Material, Compost		
Products registered	3,615	5,024
Samples collected	423	257
Laboratory analyses performed	33,641	2,044
Livestock Feed and Pet Food		
Products registered	15,633	15,336
Samples collected	1,098	1,072
Laboratory analyses performed	7,234	6,025

TURF AND SEED

Seed is the single most important input to any agricultural system. To be successful, the grower whether a farmer tilling hundreds of acres or a homeowner with a garden 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, six MDA staff members are certified by AOSA in both purity and germination testing, and two analysts are certified in 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

The Maryland Seed Law requires all seed offered for sale in the state to be accurately labeled. 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. This seed is sold in quantities ranging 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 more 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.

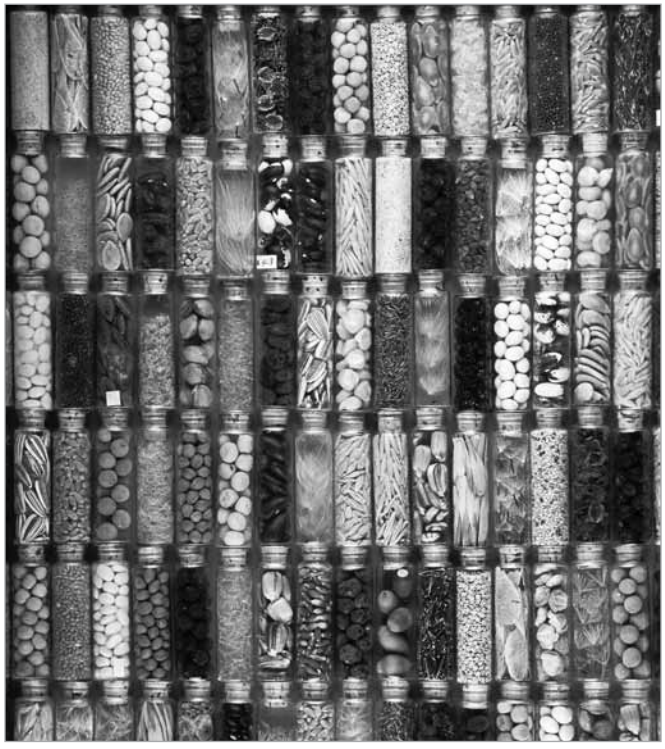
With the increased number of crop varieties being released by private companies, the demand for quality assurance inspections by third parties is strong, particularly from small to medium-sized seed companies that cannot afford their own quality control programs. Companies growing seed in Maryland look 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 the Maryland agriculture economy.

Staff members 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 the consumer receives 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 also 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 Regulatory

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, and 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 impacted by weather conditions, 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.

Factors Affecting Turf and Seed Activities

The numbers of acres of turf and crop seed inspected, as well as the number of pounds of seed mixed, have all been impacted by economic conditions. The downturn in the building and construction industries has affected the Turf and Seed section's revenue due to a decrease in demand for seed mixes used on highway and building projects, and for the seeding of turfgrass sod used on construction sites.

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	FY 2011
Outcome: Percent of seed lots found to be correctly labeled	84.9

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	FY 2011
Quality: Average number of days between receipt of service sample and completion of purity analysis	6.6
Average number of days between receipt of service sample and planting for germination test	3.3

TURF AND SEED ACTIVIES FY 2009-FY 2011

	FY 2009	FY 2010	FY 2011
Field Inspections			
Acres of Turf Inspected	9,272	5,895	4,446
Acres of Crop Seed Inspected	11,447	9,904	10,878
Supervised Mixing			
Pounds of Seed Mixed (thousand)	979	1,337	1,913
Retail and Wholesale Seed Inspections			
Number of Lots Sampled	890	1,014	1,092
Number of Regulatory Seed Tests Conducted	2,965	3,145	3,140
Seed Testing			
Purity Service Tests Conducted	3,289	3,031	2,935
Germination Service Tests Conducted	5,352	4,535	4,020

OFFICE OF RESOURCE CONSERVATION

98 percent of Maryland farmers are in compliance with nutrient management reporting requirements.

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 natural resource protection. The office provides a range of educational and financial assistance, technical assistance, and regulatory programs to improve agricultural management and help Maryland meet its Chesapeake Bay restoration goals. Staff also works with local, state and federal agencies to implement policies established by the State Soil Conservation Committee. The Office of Resource Conservation is comprised of four key areas: Program Planning and Development, Conservation Grants, 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 2011, the SSCC approved or recommended the following policy initiatives:

- Procedures to address agricultural water quality complaints and enforcement of regulated programs;
- General permit guidelines for stormwater management at poultry operations;
- Guidelines and eligibility standards for the 2011-2012 Maryland Agricultural Water Quality Cost-Share (MACS) Cover Crop Program; and
- Reducing the threshold from $10,000 to $5,000 for recording MACS-funded best management practices (BMPs) on deeds.

In FY 2011, the SSCC received the following briefings and tracked these initiatives:

- A report by the USDA's Conservation Effects and Assessment Program on the impact of agricultural conservation practices on the Chesapeake Bay;
- Methodologies to track BMPs installed by farmers without public cost-share assistance;
- Outcomes of the Fifth Circuit Court's 2011 decision regarding challenges to EPA's 2008 regulatory revisions to National Pollutant Discharge Elimination System permits for Confined Animal Feeding Operations;

- A presentation contrasting Total Maximum Daily Loads, Watershed Implementation Plan loading rates, sector goals, and proposed adjustments to address impacts from growth;
- Legislation designed to reduce the amount of nutrients washing into the Chesapeake Bay from non-agricultural sources; and
- Regulatory changes to the Nutrient Management Program, including timing of fertilizer applications, soil amendment requirements, use of organic nutrient sources on soybeans, fall nitrogen restrictions on small grains, and setback requirements for fertilizer applications.

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 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)—In FY 2011, staff continued to provide technical assistance and spatial data to a range of program areas within MDA. 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.

During the year, staff developed a statewide GIS tool to identify areas that could be targeted by the riparian buffer outreach program. The tool identifies agricultural parcels/properties within 35 feet of a stream or ditch. Priority watershed maps were also developed and provided to soil conservation districts statewide to help calculate eligibility for cover crop bonus payments. In addition, GIS staff continued to work on 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. One application contained in MDiMap is AgPrint, which targets areas for preservation and establishes conservation priorities. MDA staff worked with the Maryland Department of Planning to develop an application which will display progress in achieving implementation goals outlined in Maryland's Watershed Implementation Plan to restore the Bay.

Information and Education—The Information and Education Program provides creative, editorial, design, and production services to program areas within the Office of Resource Conservation. The program also provides educational displays, brochures and other materials to soil conservation districts statewide to assist with their outreach efforts.

In FY 2011, the program produced annual reports for the Maryland Agricultural Water Quality Cost-Share Program and the Nutrient Management Program. The spring and winter editions of the Maryland Nutrient Management Newsletter were produced and mailed to 6,500 farmers and certified nutrient management consultants. In addition, the program developed a comprehensive communications campaign to promote participation in Maryland's 2011-2012 Cover Crop Program, which included news releases, direct mail, print and outdoor advertising, and publicity placement in agricultural newsletters and publications.

In other areas, program staff worked with members of the Conservation Reserve Enhancement Program partnership to update materials promoting the benefits of reenrollment. For homeowners, a fact sheet was developed about new application and labeling requirements for lawn fertilizer products sold in Maryland. The fact sheets along with newly updated soil sample bags were distributed at public events. Brochures were updated and reprinted for the popular Backyard Actions for a Cleaner Chesapeake Bay outreach program and distributed to the Master Gardeners and soil conservation districts statewide. Staff also developed an interactive web game about conservation practices for MDA's web site. During the fiscal year, the program provided major interactive educational exhibits for about 50 events including the 11-day Maryland State Fair, Maryland Home and Garden Show and the Master Gardeners' Workshop.

Conservation Grants

In FY 2011, the Maryland Agricultural Water Quality Cost-Share Program (MACS) provided Maryland farmers with a record $23.2 million in grants to install 2,200 conservation projects aimed at controlling soil erosion, reducing nutrient runoff and protecting water quality in streams, rivers and the Chesapeake Bay. These projects will prevent an estimated 2.5 million pounds of nitrogen and 105,200 pounds of phosphorus from entering Maryland waterways each year. With a record-setting 400,000 acres planted,

cover crops were responsible for the majority of the projects (1,567), the bulk of the nitrogen savings (2.4 million pounds) and roughly 75 percent of the phosphorus savings (80,000 pounds). Farmers who received cost-share grants from MACS in 2011 invested about $1 million of their own money into conservation projects.

Protecting waterways from sediment pollution is another important MACS goal. In FY 2011, MACS helped farmers prevent an estimated 10,400 tons of soil from impacting waterways by cost-sharing a range of erosion control practices including 103 grassed waterways, 28 grade stabilization structures, and 12 sediment control ponds. Additional measures aimed at protecting streams from livestock traffic were installed through the Conservation Reserve Enhancement Program and included 48 livestock fencing projects, 15 spring developments, and 11 stream crossings.

Managing animal waste to protect local waterways is a major Bay restoration goal. In FY 2011, MACS helped farmers construct 38 animal waste storage structures that will help manage 744 tons of manure daily.

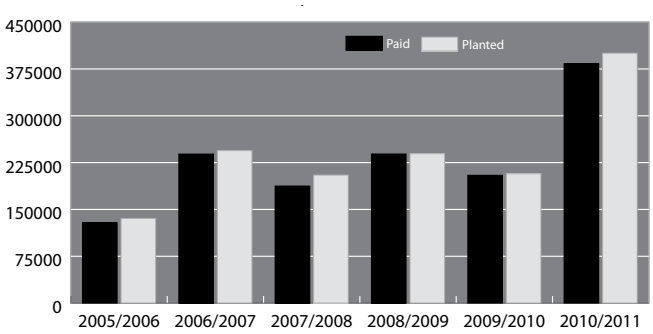
Although MACS helps farmers install conservation practices that they otherwise could not afford, grants do not cover equipment purchases or start up costs for major projects. Low Interest Loans for Agricultural Conservation (LILAC) provide farmers with the cash they need to get a project running. Guaranteed by the Maryland Water Quality Revolving Loan Fund, LILAC loans are typically offered at 3 percent to 4 percent below market rates. They are available at lending institutions statewide. In FY 2011, MACS provided farmers with $643,000 in LILAC loans to help pay for conservation tillage and manure handling equipment – a three-fold increase over last year.

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 2010 Trust Fund, the Chesapeake Bay Restoration Fund and general fund appropriations.

Cover Crops—During the 2010-2011 planting season, MACS provided Maryland farmers with $18.3 million to plant a record 400,000 acres of cover crops. It was by far the largest cover crop planting in the program's history and will go a long way toward helping Maryland meet tough new pollution caps for the Bay.

MACS grants help farmers offset seed, labor and equipment costs associated with planting cover crops in the fall to control soil erosion and absorb unused nutrients remaining in the soil after the harvest.

Winter Cover Crops—Acres Planted and Paid



Manure Transport Program—Maryland's Manure Transport Program provides grants to help poultry, dairy, beef and other animal producers transport excess manure off their farms. Animal producers with high soil phosphorus levels or more manure than they can use receive up to $20 per ton to transport excess manure to alternative use facilities or other operations that can use the manure safely. Cost-share rates are 25 percent higher for farms in Dorchester, Somerset, Wicomico and Worcester counties on the Eastern Shore.

In FY 2011, Maryland farmers transported 61,150 tons of manure to approved farms and businesses using $354,012 in state grants. Nearly half of the manure was shipped out of the Chesapeake Bay 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 $648,296.

Conservation Reserve Enhancement Program—Maryland's Conservation Reserve Enhancement Program (CREP) is a federal-state conservation partnership 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. The program is in its 16th year.

In 2011, the CREP partnership worked with landowners to enroll 2,513 acres of environmentally sensitive land. As of June 30, 2011, CREP participation stood at 71 percent of its enrollment cap of 100,000 acres. Enrollment figures continue to fluctuate from year to year as some contracts expire while others are renewed or added.

MACS provides CREP participants with cost-share grants to establish conservation practices on environmentally sensitive land that they have agreed to no longer till or graze and a $100/acre signing bonus for program enrollment. In FY 2011, MACS provided 157 landowners statewide with $276,353 in cost-share funds to install streamside buffers, conservation cover, wetlands, livestock crossings and animal fencing on land enrolled in CREP. About $250,000 was provided in signing bonuses.

KEY GOALS, OBJECTIVES, AND PERFORMANCE MEASURES: CONSERVATION GRANTS

GOAL 1: Control and reduce agriculturally related water pollution through the implementation of Best Management Practices (BMPs).

OBJECTIVE 1.1: Each year reduce nutrient loads caused by agricultural sources in the following amounts:
a) reduce soil erosion by 15,000 tons per year, and
b) increase the amount of animal waste managed by 2,500 tons per day/per year.

Performance Measures	FY 2010	FY 2011
Output: Number of cost-share agreements approved by the Board of Public Works	623	704
Number of BMPs installed controlling erosion and improving water quality	589	539
Outcome: Acres of land treated	1,218	2,476
Animal units served	65,297	28,899
Additional tons of soil saved per year	17,009	10,404
Pounds of nitrogen load reduction	119,541	117,154

OBJECTIVE 1.2: To focus dollars on acres which provide the most efficient measures.

OBJECTIVE 1.3: To manage cost-share incentives toward meeting Maryland's Chesapeake Bay goal for nutrient reductions by planting cover crops on cropland.

Performance Measures	FY 2010	FY 2011
Output: Acres of cover crops planted	206,810	400,331
Outcome: Pounds of nitrogen load reduction	1,240,860	2,401,983
Pounds of phosphorus load reduction	41,362	80,066

GOAL 2: To help farmers address potential nutrient problems on farms where animal production results in the production of excess manure or manure cannot be fully utilized because land is over-enriched with phosphorus.

OBJECTIVE 2.1: In 2011, have 20 percent of the poultry producers with excess manure participate in the program.

Performance Measures	FY 2010	FY 2011
Input: Financial assistance paid to transport manure		
State funds	$469,398	$354,012
Poultry companies	$402,846	$294,284
Outcome: Tons of manure transported	80,899	61,150
Efficiency: Cost per ton manure transported (state funds)	$ 5.80	$ 5.79
Efficiency: Cost per acre	$ 2.94	—

MDA field technicians work directly with farmers to develop Soil Conservation and Water Quality Plans to protect natural resources.

Resource Conservation Operations

This program provides operating funds and staffing support to the state's 24 soil conservation districts for promotion and delivery of local soil conservation and water quality programs.

Technical Assistance—In FY 2011, MDA funded 78 technical assistance positions in soil conservation districts statewide. MDA field technicians help farmers protect natural resources and meet the Chesapeake Bay's Total Maximum Daily Load (TMDL) reduction goals. In FY 2011, technical staff worked with local jurisdictions to identify agricultural reduction targets to be included in their Watershed Implementation Plans (WIPs). Staff is instrumental in providing outreach and education to the agricultural community on TMDL requirements, while helping farmers manage and maintain compliance with nitrogen, phosphorus and sediment goals.

On the farm, MDA field technicians work directly with farmers to develop Soil Conservation and Water Quality Plans (SCWQPs). Unlike nutrient management plans, which deal specifically with fertilizer and manure applications, SCWQPs address a range of natural resource concerns for the entire farming operation. Due to their importance in identifying opportunities to install best management practices to protect natural resources, SCWQPs are a key feature of Maryland's WIP. SCWQPs are also required by numerous federal and state programs including the Federal Food Security Act, the Chesapeake and Atlantic Coastal Bays Critical Area Law, Maryland Agricultural Land Preservation Foundation and the Maryland Department of the Environment's Animal Feeding Operation Permit. In FY 2011, technical staff working in soil conservation district offices statewide developed new SCWQPs to protect 61,596 acres of Maryland farmland. Additionally, SCWQPs protecting 74,000 acres were updated to ensure their continued effectiveness in protecting natural resources. Overall, 845,000 acres of agricultural land in Maryland are being managed under a current SCWQP.

Best management practices (BMPs) are conservation measures designed to control soil erosion, manage nutrients and protect water quality. They are featured in all SCWQPs. MDA field technicians work closely with famers to design BMPs and supervise their installation or construction. They also develop maintenance plans to keep them in good working order while helping farmers calculate costs to install BMPs and apply for state and federal cost-share and low interest loans. In FY 2011, MDA field technicians helped Maryland farmers install 2,178 highly valued BMPs. These mostly structural BMPs were supported by both state and federal financial assistance programs.

Nutrient Trading—The Maryland Nutrient Trading Program, officially launched in 2010, provides a voluntary marketplace for the buying and selling of nutrient credits. A key component of Maryland's Watershed Implementation Plan, the program strives to improve water quality in the Chesapeake Bay Watershed by creating incentives for private sector financing of agricultural practices to further reduce nutrient runoff and emissions.

Maryland's trading program currently offers nitrogen and phosphorus credits, and intends to include sediment and carbon credits in the future. The Maryland trading platform is based on the World Resources Institute's NutrientNet suite of tools and incorporates both Chesapeake Bay Program models and the national Nutrient Tracking Tool developed by USDA's Natural Resources Conservation Service. To assist potential traders, MDA has established a website that contains a credit calculator, a marketplace, and a central registry. Whether credits are sold directly to a buyer or through a third-party broker or aggregator, the online marketplace is a convenient and constantly updated location to assess trading activity and find potential trading partners. In FY 2011:

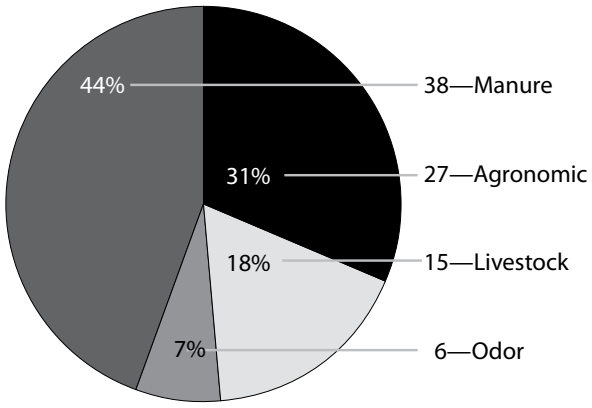
- Major enhancements and revisions were made to the trading program's calculation tool to address recommendations by the Maryland Nutrient Trading Advisory Committee and user feedback;
- Trading eligibility was revised to include the whole farm rather than individual fields, and farms may now generate nitrogen or phosphorus credits if a baseline nutrient requirement is met;
- A video was produced in partnership with the American Farmland Trust to educate farmers, landowners, and other interested parties about the Nutrient Trading Program;
- More than 100 accounts were opened on the trading website;
- 130 farm properties were assessed during the year; 53 of them met baseline requirements for one or both nutrients; and
- Two submissions for nitrogen and phosphorus credits were verified and certified, pending implementation, and have been posted on the website registry.

Enforcement—Maryland uses a progressive approach to handling cases of water pollution caused by agriculture 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 2011, MDA hired a coordinator to help farmers comply with MDE permit requirements for Confined Animal Feeding Operations and Maryland Animal Feeding Operations. The coordinator addresses agricultural pollution and compliance issues while providing outreach and education to poultry farmers on the Eastern Shore.

During the year, 86 agricultural complaints were received concerning agronomic issues, odors, manure and livestock concerns. Of these, 80 complaints were corrected or closed, four complaints are pending and two enforcement actions have been initiated.

Types of Agricultural Complaints: FY 2010



Chesapeake Bay Restoration Partner—MDA staff coordinates agriculture's role in the Chesapeake Bay restoration effort. In 2010, the U.S. Environmental Protection Agency (EPA) set limits on the amount of nutrients and sediments that can enter the Chesapeake Bay and required the Bay states to develop statewide Phase I Watershed Implementation Plans (WIPs) that outline strategies to achieve these pollution limits known

as Total Maximum Daily Loads or TMDLs. During the year, MDA staff worked to complete the agricultural component of Maryland's WIP, while participating in numerous public meetings, workgroups and information sessions throughout the state. In December 2010, following a public comment period, EPA accepted Maryland's Phase I WIP, which outlines broad nutrient and sediment reduction goals for the Maryland portion of the Bay Watershed.

The second stage of the plan will allocate specific reduction goals geographically and includes greater detail about pollution controls to be implemented. During the year, MDA staff members began working with soil conservation districts, agricultural organizations and others to develop these specialized Phase II WIPs, which are due to EPA by December 2011.

Agricultural Water Management—Drainage ditches are commonplace on the Eastern Shore. Public watershed associations in Caroline, Queen Anne's, Somerset, Wicomico and Worcester counties and 101 public drainage associations (PDAs) maintain a network of about 820 miles of ditches. Together, these ditches drain 183,000 acres of agricultural and developed land.

MDA works with local PDAs to ensure that operation and maintenance plans for public drainage systems are in good working order and that best management practices are installed to protect water quality. In 2011, three phases of wetland restoration projects were completed on the Kitts Branch PDA, which outlets into the Atlantic Coastal Bays. The restored wetlands helped filter stormwater from 3,229 acres. Each phase was successful and helped with erosion and water velocities during storm events.

Special Projects and Grants—The Office of Resource Conservation actively manages 27 ongoing research and technical assistance grants totaling $6.7 million. These special programs and demonstration projects are designed to help dairy farmers, small-sized equine operations, poultry producers and other landowners improve pasture and manure management, control soil erosion, manage nutrients, reduce runoff and safeguard water quality in streams, rivers and the Chesapeake Bay.

The office was awarded five new grants in FY 2011 totaling $640,000. The grants will allow MDA to help farmers install best management practices, respond quickly to compliance issues or complaints involving poultry operations, and conduct an inventory of conservation practices installed without public funding for the Nutrient Trading Program.

KEY PERFORMANCE MEASURES: CONSERVATION OPERATIONS

Performance Measures	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Resource Conservation Operations					
Number of new acres under conservation plan	63,500	75,000	72,300	43,323	61,596
New BMPs installed	647	616	660	863	2,178*
Number of Farm Assessments	—	—	—	—	130
Nutrient Trading Program Participation	—	—	—	—	116
Number of Credits Generated (# Nutrients)					11,200 N 830 P
Number of Farmers Meeting Baseline					53
Technical Field Staff	69	79	75	74	78
Number of Ag Complaints	76	96	76	72	86
Number of Complaints Requiring Formal Action	2	4	4	6	1
Number of PDA MILES	821	821	821	821	821
Number of Miles under Approved Plans	821	821	821	800	792
Number of Miles under Enhanced Management	—	23	20	12	64

**Starting in 2011, results were generated by a comprehensive new tracking system.*

Maryland Envirothon—MDA, the State Soil Conservation Committee and Maryland Association of Soil Conservation Districts sponsor 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 challenges students to move 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 St. Mary's County won this year's state competition and went on to represent the state at the 2011 Canon Envirothon held at Mount Allison University in Sackville, New Brunswick, Canada.

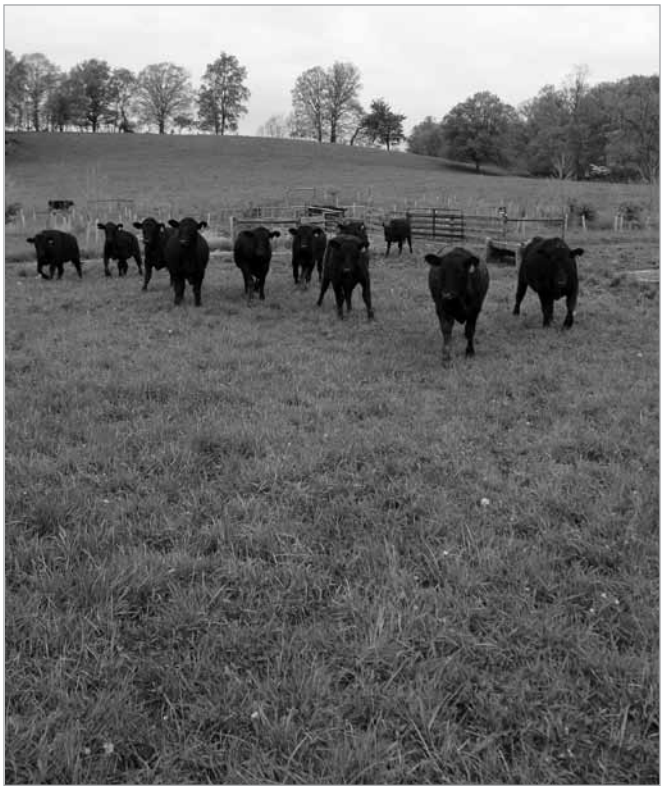
Maryland Nutrient Management Program

Maryland law requires all farmers grossing $2,500 a year or more or livestock producers with 8,000 pounds or more of live animal weight 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.

Non-agricultural nutrient applicators, including commercial lawn care companies, landscapers, golf course managers and public groundskeepers, are required by law to follow University of Maryland guidelines when applying nutrients to lawns, athletic fields or other landscapes. Both agricultural and non-agricultural nutrient applicators are required to maintain accurate records of soil test results and nutrient applications and make these records available to MDA if they are selected for audit.

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.

Nutrient Management Plan Submissions—Maryland farmers are required to submit their initial nutrient management plans to MDA. By the end of the fiscal year, 5,514 farmers had filed their initial nutrient management plans with MDA. The figure represents 99.9 percent of regulated farm operators and 99.9 percent of regulated acreage



(1,291,780 acres). MDA is currently pursuing enforcement actions against two farmers who failed to submit initial nutrient management plans impacting 132 acres.

Annual Implementation Reports—Farmers are required to update their nutrient management plans every three years and to submit Annual Implementation Reports to MDA describing their nutrient use during the previous calendar year by March 1. In April 2011, MDA issued 1,276 warning notices to farmers who failed to file their AIRs on time, followed by 439 notices of pending fines. By the end of the fiscal year, 98 percent of regulated farmers had submitted their AIRs. In FY 2011, MDA collected $13,250 in fines against 53 farmers who failed to submit their AIRs.

On-Farm Audits and Inspections—MDA's six nutrient management specialists conducted 450 on-farm audits and inspections in FY 2011 to verify that nutrient management plans are current, records are in line with plans, and that farmers are using plans to manage nutrients in a manner that is consistent with state regulations. These audits covered 97,533 acres. Specialists issued 132 warnings to correct major violations, documented conditions and issued timelines for minor violations to be corrected. In FY 2011, MDA collected $1,400 in fines against four farmers who failed to take corrective actions in a timely manner.

Nutrient Management Plan Reviews—MDA nutrient management specialists review nutrient management plans prepared by certified consultants and farmers to ensure that they meet regulatory standards and are effective in protecting water quality. A site visit is conducted as part of this review process. In FY 2011, MDA specialists:

- Reviewed 203 nutrient management plans developed by certified consultants and farmers. All plans reviewed complied with regulatory requirements;
- 69 commercial nutrient applicators were inspected and found to be in compliance;
- Reviewed 24 nutrient management plans for farmers seeking reimbursement through the Maryland Agricultural Water Quality Cost-Share Program. All met regulatory requirements; and
- 52 nutrient management plans were reviewed as part of the Maryland Department of the Environment's cross compliance for issuing sewage sludge utilization permits.

Urban Enforcement— Some 700 businesses are regulated by MDA's Urban Nutrient Management Program. Each year, about 10 percent of them are selected randomly for inspection. In FY 2011, MDA reviewed the maintenance records of 27 golf courses, 30 lawn and landscape companies, and three public lands maintenance facilities. The reviews resulted in 13 warnings against three golf courses and 10 lawn and landscape companies. The most common compliance issues were lack of soil tests and over application of nutrients. Operations that failed their first inspection were given a deadline to make corrections and received a follow up inspection. By the end of the fiscal year, 18 follow-up inspections were conducted resulting in 17 satisfactory ratings and one $250 fine for noncompliance.

Fertilizer Use Act of 2011

On May 19, 2011, Governor Martin O'Malley signed the Fertilizer Use Act of 2011, which has broad implications for urban nutrient applicators and homeowners who apply their own fertilizers. The new law requires MDA to establish a training, certification and licensing program for professional fertilizer applicators. It also limits the amount of nutrients in fertilizer products used by homeowners and lawn care professionals, imposes new labeling requirements and directs MDA to conduct a homeowner education program on proper fertilizer use. In 2011, the Nutrient Management Program began work on the certification and homeowner aspects of the law, which will be phased in over the next two years.

Consultant Certification—Certified 20 new consultants who passed the Nutrient Management Certification Exam, bringing to 1,169 the number of individuals who have successfully completed the program.

University of Maryland Consultant Program—Funded 21 University of Maryland consultants in FY 2011, down from 24 positions funded in FY 2010 due to state budget reductions.

Farmer Training and Certification—Certified 86 farmers to write their own nutrient management plans. To date, 414 farmer/operators have been certified to develop nutrient management plans for properties that they own or manage.

Nutrient Applicator Voucher Training—MDA and University of Maryland Extension (UME) conducted 39 voucher training sessions attended by 751 individuals seeking to obtain or renew their vouchers.

Nutrient Applicator Training for Non-Agricultural Applicators—MDA provides training to lawn care workers who apply nutrients to private lawns, golf courses, recreation fields and other public lands. During the year, 121 participants attended three training sessions offered in English and Spanish.

Continuing Education—With UME, MDA sponsored 36 education classes on nutrient management topics and approved an additional 46 courses and field events sponsored by other recognized organizations. About 700 individuals attended training classes.

Nutrient Management Exam Training—MDA provided a two day training course for 31 individuals planning to take the certification exam.

Nutrient Management Training for Soil Conservation District Personnel—MDA offered a one-day training course to help prepare 30 soil conservation district technicians to assist animal operations with management plans required by MDE's Confined Animal Feeding Operation permit.

KEY GOALS, OBJECTIVES, AND PERFORMANCE MEASURES: NUTRIENT MANAGEMENT PROGRAM

GOAL 1: To minimize nutrient losses from agricultural operations and non-agricultural nutrient users to the Chesapeake Bay and waters of the state.

OBJECTIVE 1.1: Nutrient Management Plans. To ensure all applicable Maryland farmers have and implement their nutrient management plan developed by certified consultants, keep records pertaining to their plan, and file a copy of their plan with the Maryland Department of Agriculture (MDA). To have all operators update their plan as needed based on the time frame(s) set by the plan.

Performance Measures	FY 2010	FY 2011
Input: Number of site inspections and plan reviews	391	605
Total number of certified consultants and certified operators	1,170	1,606
Output: Cumulative acreage of plan summaries filed with MDA as of June 30 each year	1,231,874	1,291,780
Compliance as percent of total eligible acreage	96	99
Quality: Technical adequacy of plans based on plan review and inspection of consultant's work	92	95

OBJECTIVE 1.2: Annual Implementation Reports (AIRs). How farmers implement their nutrient management plans may change from year to year. Once an initial plan has been filed with MDA, farmers are then required to submit an AIR to show fertilizer, bio-solid and manure management for the growing year.

Performance Measures	FY 2010	FY 2011
Input: Initial number of farmers required to submit an AIR.	5717	5624
Output*: Total number of AIRs received.	5657	5522
Percentage of AIRs received.	98	98

** This is a changing number as the submissions and enforcement process continue beyond one year. Numbers reflect what MDA collected in Calendar Year (2009 AIRs collected in 2010)*

MARYLAND DEPARTMENT OF AGRICULTURE BUDGET ALLOCATIONS FOR FISCAL YEAR 2011

FISCAL YEAR 2011 BUDGET

Total State Budget (Operating and Capital)	**29,564,359,400**
MDA Budget	**107,577,375**
State General Fund	29,960,289
Special and Reimbursable Funds (Fees, Registration, Testing & MALPF)	41,089,793
Federal Funds (Grants & Cooperative Agreements)	6,713,293
General Obligation Bonds (Maryland Agricultural Water Quality Cost Share, MALPF and Tobacco Conversion)	29,814,000

Source: Fiscal Digest of the State of Maryland, 2011 Session

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Secretary of Agriculture	Earl F. Hance	410-841-5880
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Assistant State Veterinarian	Dr. Thomas Jacobs	410-841-5787
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Pesticide Regulation		
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Certification/Training	Edward Crow	410-841-2767
Enforcement and Special Programs	Rob Hofstetter	410-841-2768
Plant Protection and Weed Management		
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Apiary Inspection	Jerry Fischer	410-841-5929
Lab Services, IPM and Biocontrol	Shelley Hicks	410-841-5920
Entomology	Gaye Williams	410-841-5920
Plant Pathology	Weston Msikita	410-841-5920
Nursery Inspection		
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Southern Maryland	vacant	410-841-5920
Central and Western Maryland	Robert Trumbule	301-982-3224
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Turfgrass Activities	Dale Morris	410-841-5960
Inspection and Regulation	James Drews	410-841-5960
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Laboratory Manager	Ken McManus	410-841-2721
Registration Manager	Phil Davidson	410-841-2721
Inspection Supervisor	Harwood Owings III	410-841-2721
Compost Coordinator	Phil Davidson	410-841-2721

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Plan Implementation Coordinator	vacant	410-841-5959
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Nutrient Management Chief	Jo Mercer	410-841-5953
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Anne Arundel, Calvert, Charles, Prince George's, St. Mary's	Mohamed Alharazim and Weylin Anderson	410-841-5949 410-841-5934
Harford, Baltimore, Cecil, Kent	Darren Alles	410-838-6181 x118
Caroline, Dorchester, Talbot, Queen Anne's	Daniel Schwaninger and Howard Callahan	410-479-4905 410-479-4929
Wicomico, Somerset, Worcester	Steven Dorsey	410-677-0802

MARYLAND AGRICULTURAL BOARDS AND COMMISSIONS	
Board of Review	410-841-5880
Maryland Agricultural Commission	410-841-5882
Governor's Advisory Board for Maryland Wine and Grape Growing	410-841-5773
Governor's Intergovernmental Commission for Agriculture	410-841-5880
Maryland Agricultural Fair Board	410-841-5770
Maryland Agricultural Land Preservation Foundation	410-841-5860
Maryland Horse Industry Board	410-841-5861
Maryland Organic Certification Advisory Committee	410-841-5773
State Board of Veterinary Medical Examiners	410-841-5862
State Soil Conservation Committee	410-841-5863
Pesticide Advisory Committee	410-841-5710
Rural Maryland Council	410-841-5772
Young Farmers Advisory Board	410-841-5882
Maryland Agricultural and Resource-Based Industry Development Corporation	410-267-8607

OUT AND ABOUT MARYLAND

(L-R) Mary Ellen Setting, MDA Deputy Secretary; Buddy Hance, MDA Secretary; Dr. Kathleen Merrigan, USDA Deputy Secretary; Suzanne Palmieri, USDA Deputy Chief of Staff, attended Governor Martin O'Malley's third annual "Buy Local" cookout. The signature event, held at Government House in Annapolis, officially kicked-off Maryland's "Buy Local Challenge" week, which encourages Marylanders to incorporate at least one locally grown, produced or harvested product into their meals each day.

The Winner's Circle presentation recognizes the winning owner, trainer and jockey at the Jim McKay Maryland Million Day at Laurel Park. 2010 marked the 25th running of the event, which has become one of the nation's best known single days of horse racing excitement.

USDA Food, Nutrition, and Consumer Service's Under Secretary Kevin Concannon and MDA Assistant Secretary Patrick McMillan celebrated National Farmers' Market week with a visit to the Park Heights Farmers' Market, one of three markets in Baltimore City piloting the Supplemental Nutrition Assistance Program (SNAP), formerly known as the Food Stamps program.

The producer/chef team from Washington County presented its main dish "Washington County Head Buttin' Goat Chili, featuring Eye of Goat Beans" at Governor O'Malley's third annual "Buy Local" cookout in Annapolis. The winning team included chef Natoma "Cookie" Vargason (Cookie's Cooking Company) and producers Jeanne Dietz-Band (Many Rocks Farm) Alice Orzechowski (Caprikorn Farms) and Danny Rohrer (DaKaRoh Farm).

The Kohl Family of Angelica Nurseries, Inc., a 2,200 acre wholesale nursery in Kent County, became the 40th family to be inducted into the Governor's Agricultural Hall of Fame. Three generations of nurserymen—Mr. Kohl and his sons Verne, Tim and Bernard, Sr., and grandsons Jim and Bernard, Jr.—are all part of the family operation, which strives to produce heavy, landscape grade plants grown to the highest standards.

The Joseph Layton, Jr., Family of Lazy Day Farms/Layton's Chance Vineyard & Winery (Dorchester County) became the 41st family to be inducted into the Governor's Agricultural Hall of Fame. Since the 1920s, the family has primarily produced grain crops, and now manages 1,820 acres. They diversified the operation to include a vineyard and a winery, and have sold over 4,500 bottles since opening in May 2010.

MARYLAND
Smart, Green & Growing

Governor Martin O'Malley
Lt. Governor Anthony G. Brown
Secretary Earl F. Hance
Deputy Secretary Mary Ellen Setting

Maryland
Department of Agriculture

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