



Maryland Department of Agriculture | 2014 Annual Report



Governor Martin O'Malley



Lt. Governor Anthony G. Brown



Secretary Earl F. Hance



Deputy Secretary Mary Ellen Setting

Mission Statement

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

Vision Statement

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



Maryland Department of Agriculture

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Dear Friends,

During my tenure as Governor of this great state, it has been an honor to serve the people who have been providing us with food and fiber since our state was founded – Maryland farmers. Over the past seven years, despite budgetary restraints, we have been able to make great progress for Maryland agriculture. Through the Maryland Agricultural Land Preservation Foundation, we have preserved a total of 58,013 acres of prime agricultural and forest land on 464 farms for \$315.6 million (a 25 percent increase). Together, we have helped improve and protect water quality in the Chesapeake Bay watershed by providing technical and financial assistance to farmers:

- Provided farmers with \$153 million in cost share grants to install more than 4,200 conservation projects, which is more than the previous two decades combined.
- Nearly tripled the State's investment in the Cover Crop Program. Farmers have received \$106.5 million to plant 2.25 million acres of cover crops.
- Added 43 new staff members to local Soil Conservation Districts to provide farmers with technical support.
- Awarded \$2 million in grants to provide incentives to companies that demonstrate innovative manure management technologies.
- Implemented an Agricultural Nutrient Trading Program that is nationally recognized for innovation and certified 200 farms that are available for trades.
- Moved 667,000 tons of manure through MDA's transport program.

Fostering a healthy and prosperous agriculture sector is Maryland's best strategy to sustain the open spaces that are so vital to a healthy environment. Maryland's "Buy Local" efforts have helped farmers find new revenue sources, diversify their operations, and become more profitable while strengthening rural economies. The number of farmers markets increased from 72 to 145 over the past seven years. We created the Buy Local Cookout to support the buy local challenge for Marylanders to eat one local product a day for a week to educate them about the great local products available. Additionally we supported the creation of the Jane Lawton Farm to School Program. Maryland is the first state in the nation to have all of its county public school systems participate in Homegrown School Lunch Week and is recognized as a national leader in the farm-to-school effort. Maryland schools spent \$9.3 million on local food served in schools, according to the USDA Farm to School Census.

The FY 2014 Annual Report from the Maryland Department of Agriculture highlights the many and often difficult tasks necessary to keep our food supply plentiful and safe and our local rural economies thriving. I congratulate everyone at MDA on both a challenging and successful year – from the technicians in the laboratories to the inspectors in the barns, fields and forests, to the many others who work so diligently to serve one of our most important industries: agriculture. My congratulations, too, to the more than 12,000 farmers across the state for their continued dedication and commitment to restoring the Chesapeake Bay.

Together, we will keep Maryland smart, green and growing.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry Hogan".

Governor



Dear Friends,

I am pleased to present the Maryland Department of Agriculture's FY 2014 Annual Report which chronicles the many activities, accomplishments and challenges this agency has faced during the last year. Through these pages you will see the vast depth and breadth of responsibilities we address every day and the many responsibilities we have for protecting our food supply and animal industries, enhancing consumer protections, remaining good stewards of our environmental and natural resources, and empowering our farmers to diversity and remain profitable.

I encourage all Marylanders to read these pages to learn more about the many activities we undertake, from surveying for invasive plants and pests to working with stakeholders across the agricultural and environmental communities to meet our milestones and goals for restoring the Chesapeake Bay.

I extend my deep thanks to all MDA staff members for their dedication and commitment to Maryland agriculture and to Governor Martin O'Malley for his on-going support of Maryland's farm families.

The past seven years have been such a tremendous opportunity. I am honored to have met so many good people and I've learned so much. I believe that Maryland farmers are the strongest, best farmers in the world. We have overcome countless challenges and never given up. Because of that, I know the future for Maryland Agriculture is and will continue to be bright and prosperous.

Sincerely,

Secretary



Maryland Agricultural Commission

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

The commission meets monthly and discusses issues of agricultural consequence. This year the commission had notable speakers and subsequent in-depth discussions on the subjects of: the Maryland Aquaculture Industry, Oyster Recovery Partnership, Mid-Atlantic Nursery Industry, Composting Regulation, the Phosphorus Site Index, Agriculture in Chile and Argentina, updates to the social media outreach efforts, University of Maryland Agricultural Law Initiative,

the Sensitive Crop Locator Program, MDA's Turf and Seed Program, the Animal Disease Traceability Program, Maryland Food Bank, LEAD Maryland Foundation, Maryland Agricultural Education Foundation, Maryland State Bar Association Special Committee on Agriculture Law and legislative issues.

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

Office of the Assistant Attorney General

The Department of Agriculture's statutory mission to protect and to promote agribusiness while protecting the environment, creates challenges for the four attorneys assigned to the agency from the Office of the Attorney General (OAG). In addition to representing the department, the attorneys advise 22 boards and commissions as well as the state's 24 independent soil conservation districts and the Tri-County Council for Southern Maryland (tobacco buyout program). Their goal is to provide prompt, correct legal advice. Highlights from the year are listed below.

The OAG's office supported the Maryland Agricultural Land Preservation's efforts to enforce and defend preservation easements (2,154 easements, covering 29,235 acres).

- Successfully defended at the circuit court level an adverse possession claim on land subject to a Foundation-held easement;
- Successfully argued to the Court of Special Appeals that it should affirm the decision of the Circuit Court for Howard County, finding that a farm under a foundation-held easement may not be subdivided without the foundation's approval.

- Defended on appeal the foundation's action to approve the request of a landowner, whose land is subject to a foundation-held easement, to operate a creamery in conjunction with his dairy farm. The OAG successfully argued to the Court of Appeals of Maryland that the person challenging the creamery operation does not have standing to contest it under the Charitable Trust Doctrine. The matter has been remanded to the circuit court.

The OAG's office supported MDA's enforcement of the State's Nutrient Management Law, and reviewed for legal sufficiency new regulations proposed by MDA governing the application of nutrients in this state. The attorneys also continued to assist MDA in defending competing claims by the Waterkeepers Alliance and the Maryland Farm Bureau over whether certain nutrient management records maintained by MDA are subject to disclosure under the State's Public Information Act.

The OAG's office also assisted the State Board of Veterinary Medical Examiners in its enforcement of Veterinary Practice Act. The OAG assists the SBVME to efficiently process new complaints through informal resolutions.

Maryland Agricultural Land Preservation Foundation

For the third straight cycle, due to limited funding, MALPF combined appropriations from FY 2013 and FY 2014 so that it could conduct one easement acquisition offer cycle and maximize the number of acres purchased. MALPF had nearly \$53.6 million available for this cycle. Of this, about \$12.4 million was county funding used to match state funds at a ratio of 60 percent state to 40 percent county dollars. By the end of the fiscal year, MALPF had secured acceptances on 91 offers, which represent almost 11,199 acres. At the end of FY 2014 MALPF had purchased easements on a cumulative total of 2,154 properties, permanently preserving 292,357 acres.

The General Assembly adopted legislation affecting MALPF during the 2014 legislative session. See Government Relations, page 10.

MALPF and its other state agency and local government partners are working to meet a legislative goal (SJ 10, 2002) of preserving 1,030,000 acres of agricultural land by 2022. As of June 30, 2014, Maryland has preserved 587,757 acres of agricultural land under MALPF, Rural Legacy, GreenPrint, and



through local land preservation and transfer of development rights programs. This represents about 57 percent of the goal.

GOALS AND OBJECTIVES

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

Objective:

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

Performance Measures	2014 Actual
Output: Total number of easements, cumulative	2,154
Outcome: Total acres under easements	292,357

Administrative Services and Information Technology

Office of Administrative Services

The Office of Administrative Services manages all technical and support services for MDA. It is comprised of five sections – Human Resources, Central Services, Fiscal Services, IT Services and Emergency Management. MDA has about 500 permanent and seasonal employees, and the Human Resource Office facilitates the recruitment, training, appropriate compensation, and retention of qualified individuals. Additionally, the office assists with the transition of those employees leaving government service. Programs and services for employees include risk management, employee leave bank, teleworking, wellness, blood drives, and training as well as employee recognition. Central Services manages facilities, records, inventory, telecommunications, warehousing, the agency motor fleet, and the distribution of supplies and mail. The office also oversees departmental procurement and is responsible for the maintenance of facilities. The motor pool provides quality maintenance and repairs of the department's 261 vehicles in addition to semi-annual inspections on all vehicles. The MDA fleet traveled more than 2.4 million miles last year. Fiscal Services handles all centralized accounting transactions for MDA. This encompasses all phases of the budget, grants management, accounts receivable, accounts payable and leave management. Emergency Management for MDA addresses all emergencies within MDA. The department is in the process of completing a new management plan that will be tailored to MDA and in concert with the statewide emergency operations plan. Additionally, MDA continues to provide annual training and drills for first responders.

IT Services

MDA conducted a pilot rollout of tablet-based computers for an automated spraying system with GIS functionality for Mosquito Control. Interactive maps are used in the mobile application and allow users to define new spray areas, no-spray zones, and fog routes, which allows for better reporting. In addition to user-entered information, other stored information includes: equipment, date, time, time in session, total active ingredient (AI), and total distance. Second-by-second points also store time, speed, motor counts, flow rate, GPS position and sprayer switch status (on/off).

MDA created a Cover Crop database with GIS functionality. The system allows field staff to enroll farmers electronically. Fall and spring certification and inspections can be performed using GIS technology. The program was rolled out in June 2014 to Washington, Talbot, and Somerset counties with full implementation expected by June 2015. This system replaces the paper based application, inspection and certification process in place today.

The Maryland's Best website, which connects producers with consumers, was redesigned for greater compatibility with mobile browsers and Smartphone technology.

All PCs were upgraded to Windows 7 due to Microsoft dropping support and security patches for Windows XP. This task was completed without the need to replace existing hardware. IT services also implemented a central support console in an effort to provide greater support for field staff, reducing travel costs and saving staff time.

Other tasks included moving to a new vendor for the lockbox system that was due to a contract change. In FY 2014, IT services handled an average of 311 calls per month.

Communications & Public Information

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

Media Monitoring: 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. During FY 2014, staff distributed 298 news releases to 620 news outlets and interested parties, which generated 492 logged inquiries from the media. Each business day, news stories are identified, linked to the agency's website and distributed to all staff and other interested parties.

News Digest: The Communications Office also distributes a news digest, which is distributed every 4 to 6 weeks, as events warrant. The digest highlights selected news releases, website additions and updates, as well as social media campaigns. It is distributed to more than 2,100 subscribers.

Website: The office continued the agency's presence on the internet, making it the first point of contact for many citizens. There were 294,742 visits to the site during FY 2014, of which 66 percent were new visitors during the year. About

20 percent came to the site through mobile devices. The most popular pages, after the home page, were pages dedicated to lawn fertilizer and licensing information. More than 5,700 website visitors came to the website through social media platforms. Although this is a small percentage of the total, it indicates the growing influence of social media becoming a go-to place in itself and not necessarily a gateway to websites.

Social Media: With that new reality in mind, MDA continued to expand its social media presence during FY 2014 with growing followings on Twitter and Facebook and a less prominent presence on Instagram, Flickr and YouTube, which are largely visual platforms. These social media platforms provide the agency not only with additional communication and information distribution tools but also allow the agency direct access to a new, younger, more tech-savvy audience. MDA staff also attended all of the day-long statewide social media managers conducted by the governor's office.

- MDA's official Facebook page, launched in FY 2013, started the year with 270 followers and ended the year with more than 1,600 followers. MDA Communications and Resource Conservation staff worked together to place "paid boosts" as part of the homeowner education and outreach required under the new Maryland Fertilizer Law. Those paid boosts helped increase followers as well as the reach. One advertisement reached more than 137,000 people. Facebook pages dedicated to Maryland's Best, Farm to School, and the Horse Industry Board also have substantial and growing followings, although there is likely at least some overlap among followers. Most Facebook followers continue to be in the 24-35 year old age group – an important demographic given that those most likely to be newspaper readers are 65 and older, according to the Pew Center's Excellence in Journalism State of the Media Report (2013)
- MDA's Twitter account increased followers from 4,700 to more than 6,500 during FY 2014. In addition, the accounts, taken together, consistently held a Klout score in the mid-50s or higher, while the average among all Twitter accounts is 46. (Klout measures engagement and effectiveness, rather than raw numbers of followers.) Again, Twitter feeds dedicated to Maryland's Best, Farm to School, and the Horse Industry Board also have substantial and growing followings with at least some overlap among followers expected.



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

Some of the biggest news stories handled by the office during FY 2014 were related to the phosphorus management tool and proposed changes to nutrient management regulations, record-breaking participation in the cover crop program, and ongoing environmental regulatory issues related to the U.S. Environmental Protection Agency's Watershed Implementation Plan. Other big topics of interest included: Maryland's Best Ice Cream Trail, the Governor's Buy Local Cookout, mosquito control spraying and open water marsh management, Maryland Homegrown School Lunch Week, discovery of the kudzu pest and the new Spay and Neuter Grant Program.

The Communications Office works closely with MDA marketing staff to promote farmers' markets and other Buy Local initiatives as well as the Farm to School program and Home Grown School Lunch week. The office also assisted with various seasonal promotions and continued its efforts to promote conservation practices that homeowners can use to do their part to help restore the Chesapeake Bay. The office also worked closely with the Maryland Horse Industry Board to promote its monthly Touch of Class Award program, which recognizes excellence in Maryland's equine industry.

This office serves as the department's direct contact with Maryland Public Television (MPT), the Maryland Grain Producers and many other agricultural organizations in the state that support the 13-part television series called "Maryland Farm and Harvest," which debuted in November 2013. The series quickly became MPT's highest rated locally produced show with more than 1.2 million viewers. Season two is set to air in November 2014.

The staff also takes a leadership role in organizing several high profile events, including Governor Martin O'Malley's Buy Local Cookout, which is held at his official residence



and promotes the Buy Local Challenge Week. The office also spearheads the editing and publication of the Buy Local Cookbook and all promotional materials and announcements leading up to and following the event. This Cookout and Challenge was produced for the sixth straight year in FY 2014. The office also represents MDA with exhibits at the Maryland State Fair and conferences sponsored by the Maryland Municipal League, the Maryland Association of Counties, and the Maryland Farm Bureau.

Planning for emergency communications in the event of plant and animal disease outbreaks, as well as natural disasters, is an important component of the program. The office is actively involved in several multi-agency efforts to refine response and communications plans in the event of an animal disease outbreak or natural disaster. Staff is responsible for assisting the Maryland Emergency Management Agency (MEMA) Joint Information Center, handling information requests from traditional and social media and the public during times of emergency.

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

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

Government Relations

The Maryland Department of Agriculture put forward three departmental bills this year that were signed by Governor Martin O'Malley. The three are listed below.

- **Senate Bill 70 – Agriculture – Labeling on Restrictions of Use and Sale** makes technical corrections and clarifications to the Maryland Fertilizer Law in order to be consistent with: (1) the capabilities of modern fertilizer manufacturing technology to produce lawn and turf fertilizers, (2) the Association of American Plant Food Control Officers (AAPFCO) definitions and standards, and (3) the goal of reducing nitrogen levels in the Chesapeake Bay attributable to lawn and turf fertilizers.
- **Senate Bill 71 – Maryland Agricultural Land Preservation Foundation – Value of Easement** sets a floor and a ceiling for the purchase of an agricultural preservation easement of not more than 75 percent of the land's appraised fair market value. Therefore, if the valuation calculated an easement value greater than 75 percent of fair market value, then the offer would be set at 75 percent of fair market value. In addition, if an offer is calculated at less than 25 percent of fair market value, this legislation will set the offer to be either 25 percent of fair market value or the asking price, whichever is less. The easement value is calculated as follows: appraised fair market value minus a calculated agricultural value.



- **Senate Bill 127 – Department of Agriculture – Manure Transport Project** amends the Manure Transportation Project language in the Agricultural Article to provide more statutory flexibility related to how the matching funds required from commercial poultry companies can be used to transport poultry manure.

There were also several other bills introduced that either impacted MDA directly or had an impact on agriculture in general.

- **House Bill 256 and Senate Bill 294 – Maryland Horse Industry Board – Sunset Extension and Program Evaluation** extends the Horse Board to July 1, 2026, in accordance with the provisions of the Maryland Program Evaluation Act (sunset law). Another evaluation is required in 2023.
- **House Bill 451 Neighborhood Business Development Program – Financial Assistance for Food Deserts** allows the Department of Housing and Community Development's (DHCD) Neighborhood Business Development Program to help create specified small businesses and other food-related enterprises in food deserts. The bill specifies the criteria for designating an area as a food desert and requires that applicants include a plan to seek out sources of Maryland-grown produce and Maryland-produced foods. It would also establish the Interagency Food Desert Advisory Committee, which includes MDA.
- **House Bill 575 and Senate Bill 221 Farm Area Motor Vehicles – Registration and Authorized Use** changes the definition of a "farm area motor vehicle" by increasing the distance that a vehicle may travel away from a farm from 10 miles to 25 miles. The bill also requires the owner of the vehicle to submit the most recent federal tax filing that shows active farming status as part of the registration application for a farm area motor vehicle.
- **House Bill 621 and Senate Bill 700 – Registration of Pesticides – Fee Increase – Disposition of Fees** raises the pesticide registration fees at MDA from \$100 to \$110 annually. The additional \$10 per pesticide product registration fee shall be used by MDA to collect, analyze, and report data on pesticide used in the state.

- **House Bill 861 and Senate Bill 259 Agricultural Easements – Renewable Energy Generation Facilities** allows all current and future Maryland Agricultural Land Preservation Foundation (MALPF) easement landowners to request to install commercial renewable energy generation facilities. These facilities will be limited to electricity generated by solar, wind and anaerobic digesters for poultry and livestock. MALPF could only approve a request if the local advisory board gives a favorable recommendation. Equipment on the land would have to be removed by the lease holder if it is no longer used.
- **House Bill 881 and Senate Bill 0923 – Medical Marijuana – Natalie M. LaPrade Medical Marijuana**

Commission allows up to 10 licensed growers in the state to grow medical marijuana. It also adds a horticulture expert and University of Maryland Extension members to the Medical Marijuana Commission.

- **House Bill 1246 and Senate Bill 771 Motor Vehicles – Exceptional Milk Hauler Permit – Establishment** provides an exceptional hauling permit for transporting raw milk by milk haulers. The permit allows a hauler with five axles to carry up to 88,000 pounds for the first two years, transitioning to 95,000 pounds with six axles after that. The bill requires meetings between milk processors and the State Highways Administration, as well as regular reporting. The bill only applies to state roads.

Governor's Intergovernmental Commission for Agriculture



In 2014, GICA focused on issues related to “value-added” agriculture, as well as neighbor issues. In June, the commission reviewed the most recent Maryland ACRES project with the Maryland Association of Realtors. The purpose of the project is to educate Maryland realtors on disclosure forms required when a person purchases a property in an agricultural area. GICA members also reviewed issues pertaining to stormwater management and how an agricultural structure is defined.

Agriculture Secretary Buddy Hance serves as chair of the commission and asked the commission to convene a workgroup to review local regulatory issues pertaining to agri-tourism. GICA's workgroup consists of local planners, agricultural marketing professionals, MDA staff, farm bureau and agri-tourism operators. The workgroup developed recommendations for agri-tourism and is working on a definition of agri-tourism as a model definition for consideration. GICA has voted to support the recommendations and is continuing to discuss the definition.

GICA was established by Executive Order in 2006. It advises the Governor on ways for state agencies to work in a cooperative, coordinated manner with local government and industry groups in planning, implementing, overseeing and evaluating intergovernmental initiatives related to state agricultural issues.

USDA/National Agricultural Statistics Service

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

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

In 2012 – the most recent year that annual statistics are available for this report – agriculture generated nearly \$2.33 billion in cash receipts for the state's farmers, not accounting for the additional impact provided by related jobs and services. Maryland's leading cash commodities were broiler chickens, greenhouse/nursery products, corn, milk and dairy

products, and soybeans. The Maryland field office of NASS estimated there were 12,400 farms in 2013 with an average size of 165 acres. Total land in farms in Maryland was 2.05 million acres, one-third of the state's entire land area.

In 2013, conventional tillage was used on 7.7 percent of the major crops in Maryland. No-till, a procedure whereby a crop is directly planted into a seedbed not tilled since harvest of a previous crop, was practiced on 71 percent of the major acreage. Soybeans showed the highest percentage of no-tillage, with 81.9 percent planted soybean acres.

In 2013, NASS conducted the 2012 Census of Agriculture, which provides a detailed picture of U.S. farms and ranches every five years. It is the only source of uniform, comprehensive agricultural data for every state and county or county equivalent. Census data are routinely used by farm organizations, businesses, state departments of agriculture, elected representatives and legislative bodies at all levels of government, public and private sector analysts, the news media, and colleges and universities. Census results were published in May 2014 and are available on the MDA website.

Complete results of NASS reports are available at www.nass.usda.gov/Statistics_by_State/Maryland.



Marketing and Agribusiness Development

The goal of MDA Marketing and Agribusiness Development is to develop markets for Maryland agriculture and to connect producers to markets. Through this economic development and promotion activity, MDA helps develop a sustainable future for Maryland agriculture.

Maryland's Best

From in-store promotions of Maryland-grown apples and watermelons, to advertising, media events and press releases, **MDA Marketing continued to build demand for and connect farmers with markets for their products during the last year.** Primarily funded by the U.S. Department of Agriculture, MDA's Maryland's Best program encouraged consumers to buy Maryland-grown fruits, vegetables, flowers, nursery products, wine and Christmas trees. Because of restrictions on federal funds, state funds were used to promote dairy, meat, poultry and the agri-tourism sectors. Advertising and media placements that targeted food buyers promoted Maryland consumers preference for local and the local supply of Maryland produce. More than 3 million consumers received promotional messages from MDA during the year through radio, print and online advertising. Press releases promoting Maryland agriculture products were distributed to more than 400 media outlets.



- For consumers, the **Maryland's Best website** (www.marylandsbest.net) is the primary source of information about local farm stands, farmers markets and Maryland farms. The website includes farm contact information, web sites, directions and video interviews with about 1,000 farmers, wineries and small food processors. The web site was reengineered during FY 2014 to make it easier to use on mobile devices. During FY 2014, there were 45,980 visits to the site by 29,978 users.
- Governor Martin O'Malley supported MDA's Buy Local program and Maryland's Best by kicking off the 2013 **Buy Local Challenge Week** with the fifth annual Buy Local Cookout at Government House in July. The Governor encouraged Marylanders to seek out Maryland-grown food during the event, which

included farmers, food writers, chefs, grocery store representatives and the media.

- Marketing staff met with buyers from many national supermarket chains at the annual **Produce Marketing Association convention** in New Orleans. Staff took buyers from most major grocery store chains on tours of Maryland farms, developing business relationships between farmers and retailers. MDA's **annual Buyer-Grower meeting**, connecting farmers and small food processors directly with buyers, had more than 60 farms and 350 buyers registered in FY 2014.
 - Also in FY 2014, the **Maryland's Best Ice Cream Trail** promoted the dairy sector in the state and encourage buyers to visit eight dairy farms selling ice cream directly to consumers. This project was awarded the 2013 Marketing Award for Best New Product by the Maryland Tourism Council. The Ice Cream Trail was also nominated for a national award for agricultural marketing in the annual North American Association of Ag Marketing Officials at its annual meeting in Denver, Colo.
- MDA Marketing also worked with the State Highway Administration to establish a new **Agricultural Tourism Sign Program** this year. The signs installed on state highways direct motorists to farms which qualify as tourist destinations. Two farms in Charles County received the first ag tourism signs in FY 2014 under this program.

Maryland Farm to School Program

Educators, farmers, and federal, state and local officials gathered with Pangborn Elementary School students in Washington County to kick off the sixth annual Maryland Homegrown School Lunch Week by eating healthy lunches, full of locally grown fruits, vegetables and beef. Students (and officials) also enjoyed special classroom activities and hands-on outdoor educational activities with farmers. Prior to lunch, farmers and government officials spoke with about 375 students about the connection between farms and food to enhance student understanding of where their food comes from, how it is produced, and the benefits of a healthy diet. Following lunch, 150 kindergarten students toured Misty Meadow Farm Creamery in Smithsburg. To draw attention



Agriculture Secretary Buddy Hance encouraged students to consider careers in agriculture during the kick-off of the Farm to School Program's Maryland Homegrown School Lunch Week.

to the connection between healthy food and the local farms that grow it, Governor Martin O'Malley officially designated September 23-27, 2013, as Maryland Homegrown School Lunch Week.

More than 750 students at Pangborn Elementary School in Hagerstown enjoyed lunches that included tacos made with local beef as well as local apples and peaches, bosc pears, zucchini and squash. Throughout the week, Washington County students enjoyed local cheese, chicken, pears, cantaloupe, green beans, peppers, and tomatoes – all purchased from local farms and a local produce supplier.

Washington County Public Schools have observed Maryland Homegrown School Lunch Week since it began in 2008 and have been among the pioneer systems in the state to incorporate fresh, local foods in student lunches.

Other county schools highlighted local products throughout the month of September and went beyond fresh cut fruits and vegetables to create homemade vegetable soup (Kent County Public Schools) or roasted vegetables (Worcester County Public Schools) with local squash. Dorchester County Public School System worked with a local aquaculture business to sample local oysters and demonstrate shucking oysters at Maces Lane Middle School in Cambridge.

The Homegrown School Lunch Week, an element of the Jane Lawton Farm to School Program, was created during the 2008 Session of the Maryland General Assembly. All 24 school

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

Mid-Atlantic Farm-Based Educators Network. In FY 2014, MDA partnered with the Maryland Agricultural Education Foundation (MAEF) to create the Mid-Atlantic Farm-Based Educators Network as part of the Maryland Farm to School Program. MDA and MAEF held seven workshops to provide important information to farms that work with school groups and help them align farm-based education (i.e., field trips to farms) with new science standards. The workshops featured an educational overview of standards-based teaching; information about working with school districts, environmental literacy, and Farm to School initiatives. With about 210 in attendance, two-thirds of attendees worked in the agriculture sector and one-third were from the education sector.

MDA is on the Leadership Team for the Maryland Department of Natural Resources' **Children in Nature Partnership** and contributed to its Health and Food (Agricultural) Connections subcommittee which focused on integrating agriculture education into schools and non-formal education venues as a component of environmental literacy.

Specialty Crop Grants

MDA Marketing administers USDA's Specialty Crop grants. During FY 2014, MDA awarded \$447,289 to nine projects that enhanced the competitiveness of specialty crops in Maryland.

Some projects are designed to:

- Continue to mitigate specialty crop food safety risks by reducing barriers to implementing Good Agricultural Practices (GAP) programs through specialty crop producer technical assistance, training programs, one-on-one assistance on developing GAP programs, and U.S. Department of Agriculture GAP and USDA Harmonized GAP audit certification cost share assistance.
- Assist producers in implementing effective good handling practices (GHP) by conducting training; offering cost share for U.S. Department of Agriculture verification audits; conducting environmental assessments to evaluate the effectiveness of implemented practices; developing improved guidelines for practices based on environmental assessment results; and conducting inspections to verify compliance with Maryland Department of Agriculture GHP for packing sheds.
- Identify plant species likely to become invasive by conducting a Weed Risk Assessment and summarizing information about the species in an easy to interpret, user friendly document format to provide a scientifically determined basis for establishing regulated species lists and disseminating to appropriate specialty crop stakeholders.
- Demonstrate how small urban and rural farms can intensively produce microgreens and shoots year-around for restaurants by developing and documenting a microgreen production system that can be replicated by other farmers.
- Promote local specialty crop farmer sustainability and research and plan a regional food hub, with a focus on specialty crop producers in Southern Maryland.



A delegation from MDA and Maryland's horse industry embarked on a trade mission to Sweden to discuss new business possibilities.

International Marketing

MDA's international marketing component represents Maryland's processed food companies and nurseries in Southern United States Trade Association (SUSTA) activities. MDA is a member of SUSTA through its membership in the Southern Association of State Departments of Agriculture. SUSTA activities for Maryland included food trade shows in the United Arab Emirates, South Korea, Japan and China. Buyers were also hosted in Maryland for one-on-one meetings with buyers from Canada, China and South Korea.

- In a new initiative in FY 2014, MDA brought in nursery plant buyers from Canada and arranged tours and meetings with nursery operations around the state.
- MDA is a member of the United States Livestock and Genetics Export (USLGE) Association. With funding from this organization, MDA promoted Maryland livestock genetics in Russia in 2014.

These activities resulted in an estimated \$2 million in sales, based on surveys of companies making sales.

The Farmers Market Nutrition Program

The Farmers Market Nutrition Program (FMNP) works with farmers and farmers markets in all 23 Maryland counties and Baltimore city. 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. More than 240 Maryland farmers received \$512,840 from the FMNP program in FY 2014. Also, about 150,000 Women, Infants and Children (WIC) and 8,545 seniors benefitted from the program

ACReS and Crop Insurance Promotion

MDA administers two federally funded programs: Crop insurance promotion and the Maryland Agricultural Conflict Resolution Service (ACReS), an agricultural mediation program.

Crop insurance promotion 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 6,796 farmers in FY 2014, up from 5,240 in FY 2007. Farmer investment in crop insurance helps stabilize the Maryland agriculture economy as weather and market volatility make farming a challenging sector. In FY 2014, more than \$432 million of agricultural production is insured on more than 943,000 acres.

The ACReS program, funded by USDA, helps keep farmers out of court by providing voluntary mediation services. As more urbanites move to rural areas, conflicts are expected to grow. The number of requests for mediation grew from eight requests in 2005 to an average of 24 per year. Eighty percent of mediations conducted result in a solution that both parties agree with. Additionally, farmers and others who do not use mediation and have agricultural-related disputes are provided assistance in developing solutions that effectively eliminate or manage conflict.

The **Maryland Right to Farm statutes** provides that farmers have the opportunity to respond to complaints from neighbors and others. Many counties have ordinances that support the Right to Farm statute. These ordinances contain clauses that provide for real estate notices and disclosures to alert people moving next to farms of the potential impacts that the farm may have such as noise, odors and dust, etc. In FY 2012 through FY 2014, MDA partnered with the University of Maryland and others to provide Realtors with comprehensive training on "selling farmland and selling to non-farm neighbors." To date more than 150 Realtors have received training. Additionally, MDA has provided training on mediating agricultural issues to the Agricultural Section of the Maryland State Bar Association.

Spay and Neuter Grants Program

Created by the General Assembly in 2013, the Spay and Neuter Grants Program was established as a program within MDA Marketing this year. The program is designed to reduce the number of cats and dogs euthanized in shelters across the state by providing grants to local governments and animal welfare organizations that promote and provide spay and neuter services and educational outreach. The legislation creating the program directs the program to put an emphasis on efforts that serve low income communities. In this first year of the program, five public meetings were held, regulations published, a staff person hired, web page developed, fees collected and request for proposals published. The first projects will be funded in FY 2015



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	2014 Actual
Output: Number of Producers Participating in FMNP ¹	240*
Amounts of FMNP Checks Redeemed by Producers ²	\$512,840

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

*This program is managed and measured on a calendar year. This is CY 2013.

Objective 1.3

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

Performance Measures	2014 Actual
Input: Number of Producers Participating in MDA Activities	380
Outcome: Number of Reported Sales	45
Dollar Amount of Sales	\$2,000,000

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

Objective 2.1

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

Performance Measures	2014 Actual
Input: Insurable Acres on Maryland farms	1,395,672
Outcome: Percentage of Insurable Acres with Buy-Up Coverage	60.9%
Total Crop Protection in Force	\$433,000,000
Number of Crop Insurance Policies Sold	6,796



Animal Health Program

The MDA Animal Health Program prevents and controls infectious and contagious diseases in Maryland livestock and poultry with particular emphasis on those diseases that threaten the public health, endanger food supplies or threaten the economic security of the animal industries. Staff members work closely with federal counterparts and those from other states as well as partners in the animal industries, local, state and federal governments and the public to ensure an efficient team effort for disease prevention, detection and control. Key components of the MDA effort include Animal Health Headquarters and Administration with seven full time staff, the Field Operations with eight full or part time staff, and the Diagnostic Laboratory System with 14 full- or part-time staff. The Animal Health Program also responds to all animal emergencies under the State Emergency Operations Plan, Emergency Support Functions 6 and 16. Animal emergencies are categorized as 1) animal health emergencies, such as a disease outbreak in livestock or poultry; and 2) animals in emergencies, such as assisting with feed provisions or managing pet sheltering operations in a natural disaster. The Animal Health Program provides secondary support to other state agencies managing emergency support functions. MDA has a small but important regulatory role in protecting

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

Program Operations

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

Interstate Movement: All animals moving into or out of Maryland, or being imported or exported into or from Maryland, must be examined for signs of contagious or infectious disease, have required vaccines and disease testing, and be accompanied by a Certificate of Veterinary Inspection. Animal Health staff processed certificates of movement for 44,742 animals in FY 2013, a significant increase of 17 percent from movement in FY 2012 (38,214), presumably due to improvement in the local and national economy.

Animal Exhibitions and Non-commercial Herds and Flocks:

Animal Health staff performed 41 inspections of exhibitions (fairs and shows) and processed 9,476 exhibition health certificates in FY 2014, a 19.4 percent increase in exhibitor entries from FY 2013 (7,937). The field inspection staff, augmented by other MDA program staff, federal partners, exhibition officials and trained volunteers, inspected and tested livestock and poultry upon entry to events and during the course of the exhibition. Animals with signs of infectious or contagious disease were isolated and excluded from the exhibition. Due to the emergence of a new disease, Swine Enteric Corona Disease virus (SECDv) in the United States and circulating in commercial swine, two cases of SECDv were detected in Maryland on small commercial farms in November 2013. As a result, MDA issued outreach and education regarding SECDv prior to USDA designation of SECDv as a nationally reportable disease in June 2014, requiring a standard federal program disease response. As a precaution, enhanced surveillance and outreach for swine exhibitions was continued: MDA inspected swine at entry and reissued outreach and education materials to swine owners, exhibitors and the general public working in concert with exhibition sponsors, Maryland Extension, and the Maryland Department of Health and Mental Hygiene. No SECDv cases were detected in exhibitions or on any other farms after November 2013. No cases of swine influenza, previously found at Maryland exhibitions, were detected in Maryland either. Outreach and education efforts, particularly for zoonotic diseases affecting humans and animals, continued throughout the year.

During FY 2014, Animal Health staff continued outreach, inspection and training in the noncommercial poultry sector, as this sector continues to increase in size and disease risk due to the popularity of “backyard” chicken flocks. Animal Health provides consultation to the many municipalities contemplating zoning changes to allow urban poultry flocks. In FY2014, Animal Health again collaborated with the University of Maryland Extension in presenting non-commercial poultry education, including information regarding the Maryland Poultry Testing Agent Program, as part of the 2014 Maryland Poultry Expo. MDA Animal Health certifies individuals in poultry sampling techniques for *Salmonella pullorum* and avian influenza as part of the Poultry Testing Agent program, allowing them to provide low-cost services to owners and producers who wish to exhibit or sell birds in Maryland or other states. Animal Health held two trainings in FY2014, training 16 new testers, for a total of 70 certified Poultry Testers.

Livestock and Poultry Auctions and Dealers: During FY 2014, Animal Health staff inspected 184 commercial livestock auctions conducted in Maryland. Auction inspections decreased this year due to a fire at Westminster Auction in January 2014, causing a partial shutdown of that facility thru the end of FY 2014. During the inspections, animals are observed for signs of infectious or contagious disease, including foreign animal diseases, and for compliance with welfare, identification and other market regulations. Disease surveillance is conducted for diseases of concern such as avian or swine influenza. Live Bird Market System type operations in Southern Maryland farms initiated in FY 2013 did not continue into FY 2014. No major violations of market regulations and no avian or swine influenza or other diseases of significance were detected in livestock or poultry at auction markets in FY 2013. All 36 licensed livestock dealers were inspected with an emphasis on record-keeping compliance checks and education regarding new Animal Disease Traceability regulations.

Biologics: The Animal Health Program evaluated 43 commercial animal biological products, mostly vaccines, and issued authorization letters to pharmaceutical companies, distributors, veterinarians or researchers allowing them to import, manufacture, market, distribute or use the biologic agent in Maryland.

Tissue Residue Inspections: In FY 2014, Animal Health staff performed five Violative Tissue Residue Investigations for the U.S. Food and Drug Administration (FDA). The FDA contracts with the Animal Health Program to conduct follow-up investigations of violations of antibiotic or other drug residues in food animals. This service is one of the tools used to address this high priority public health matter.

Contagious Equine Metritis (CEM) Import Quarantine Station: MDA operates two CEM quarantine stations in partnership with private businesses; one of these stations, opened in August 2009, remains in provisional approval status. At the quarantine station, imported horses receive extensive testing to ensure they are free of CEM prior to being released for breeding activity in the United States. CEM is a disease that is common around the world but has been eradicated in the United States. MDA issued 143 import permits through the CEM program in FY 2014, a slight increase (0.7%) from FY 2013 activity (133).

Animal Disease Traceability (ADT) Program: Outreach to producers, markets, veterinarians and Extension continued thru FY 2014 to increase compliance with ADT requirements for animals moving interstate to have “official identification.”



Official identification is usually an eartag, and tag distributors are required to maintain records of tag issuance. The eventual 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. Traceback tests for cattle, swine and poultry in FY 2014 indicated that Maryland can meet the 24-48 hour proposed federal standard for tracing individual animals. MDA uses the federal Surveillance Collaboration Services (SCS) CORE ONE database, begun in 2013, to maintain identification data. This enables tracing of many animals rapidly when necessary in a disease outbreak investigation. The Core One system, installed at MDA headquarters in FY 2012 and replacing an antiquated USDA system, is compatible with systems in use by other states and will better enable rapid sharing of data between states during a disease event. While identifying animals of concern is a priority, an equally important priority is identifying those animals, farms and facilities which are not involved in a disease investigation so they can maintain normal commerce with little or no delay, minimizing economic losses and business disruptions.

Premise registration is one means to improve the ability to trace animals. To date, property owners and operators with

livestock have registered 1,696 premises in Maryland, an increase of 5 percent from FY 2012 (1,606). This represents about 20 percent of Maryland livestock producers. Livestock premise registration is expected to continue to increase with the implementation of the new federal law. Under Maryland law, most poultry premises must be registered with MDA. In the event of disease outbreaks, the database allows staff to quickly identify nearby premises, test birds and provide appropriate information to producers. MDA staff aggressively registers poultry premises as they are encountered. Local jurisdictions are beginning to require MDA registration as part of the local approval process for backyard flocks. To date, 4,115 poultry premises are registered under the state program, with 349 new premises registered in FY 2013, a 9 percent increase from FY 2012 (3766), largely resulting from local requirements for new urban flocks to comply with state premise registration requirements before being permitted to have poultry.

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

education to producers, market operators and veterinarians throughout the state. Animal Health distributed 24,700 tags in FY 2014, for a total of 30,400 official identification tags to producers and veterinarians free of charge, funded by the federal ADT Cooperative Agreement.

Emergency Response Readiness

The Animal Health program maintains a robust capacity for emergency response. Through continued training and a department-wide Agriculture Responders unit, MDA personnel are assigned and trained to respond to all agricultural emergencies, including animal emergencies. Staff is trained in and routinely uses the Incident Command System and the Web EOC system in emergency events under the departmental Emergency Operations and Incident Command System/ Unified Command Plan. In addition, Animal Health personnel continue to collaborate with the Maryland Department of Health and Mental Hygiene, the Maryland Emergency Management Agency (MEMA), the State Board of Veterinary Medical Examiners and the Maryland veterinary community to recruit, train and organize the State Voluntary Veterinary Corps, a group of about 230 veterinarians and technicians willing to support emergency operations when activated. In 2014, efforts began to incorporate this Voluntary Veterinary Corps into the new "Maryland Responds" automated database to more efficiently process, train and call up volunteers before and during an emergency event. Activities for emergency disease response readiness included a joint Maryland-Delaware and industry field training in emergency poultry depopulation and additional training and practice held in-house to hone skills with this specialized technology and equipment. The Animal Health Program is a national leader with other Delmarva partners in developing improved technologies and tactics for detecting and responding to emergency poultry diseases and protecting worker health during outbreak response, and is a member of the Delmarva Emergency Poultry Disease Task Force.

In FY 2014, Animal Health staff participated in one actual state-wide emergency response and MEMA activation -- the Snowstorm Pax shelter operation in February 2014 for emergency and animal sheltering events. MDA set up and staffed the Ritchie Coliseum shelter for 48 hours during the Snowstorm Pax response.

FY 2014 was the second year of MDA participation in the Mid Atlantic Secure Milk Supply (SMS) initiative, a multistate continuity of business planning effort for the dairy industry in the event of a foot and mouth disease (FMD) outbreak. The

voluntary initiative is partially funded by USDA with significant contributions by the industry and participating states. During FY 2014, two additional states (WV and DE) joined the original five states (VA, SC, NC, TN, MD) as full members. Recruitment of other state members is ongoing. The greater the participation among states, the greater the ability of the dairy industry to ship milk across state borders with minimal delay or disruption during an FMD outbreak which results in less market disruptions and less financial hardship to producers, processors and haulers.

The primary focus of FY 2014 activities was as follows:

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

Disease Surveillance and Response

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

An isolated but major emergency Avian influenza disease event in commercial turkeys occurred in April 2014, on the heels of another avian influenza disease event in Delaware that involved Maryland poultry producers and MDA Animal Health. Both of these events required ongoing emergency activity including control zone quarantines and avian influenza surveillance, and cleaning and disinfection of the poultry facilities and service trucks. It was determined that the turkey house had been infected with a low pathogenic strain of avian influenza, but the disease did not spread beyond the one turkey farm, and the virus caused little increased sickness or death in the flock. Fortunately, through the cooperative efforts of the producers, industry, and state and federal agencies, the areas of concern were cleared rapidly and the affected turkeys were allowed to go to market under relatively recent controlled marketing regulations. Losses were incurred by Maryland industry due to export restrictions, but the turkey producer was compensated for response and control costs thru federal indemnity agreements.

A new disease in swine in the United States, Swine Enteric Corona Virus (SECDv), was detected in two Maryland herds in October 2013. Previous to the detection, Animal Health staff issued outreach and education to producers for both this disease and added Standard Operating Procedures and testing guidelines for swine producers and veterinarians to prevent and control spread of this disease. In June 2014, the USDA opted to require reporting of SECDv due to the uncontrolled spread of the disease throughout U.S. swine herds.

Quarantines: As a result of disease surveillance and response efforts, 55 quarantines (“hold orders”) were placed and 50 quarantines were released on farms for: suspect tuberculosis in cattle and goats; suspect equine herpes virus and neurologic syndrome in horses; rabies or rabies suspect in goats and horses; infectious laryngotracheitis, infectious bronchitis virus, *Mycoplasma gallisepticum* and *Mycoplasma synoviae* in poultry; suspect *Salmonella pullorum* and suspect avian influenza in poultry (negative in both cases); trichinella in swine; *vesicular stomatitis* in horses; scrapie in sheep and goats; trichinella and swine garbage feeding; and suspect avian influenza in chickens and turkeys. There were 354 routine 30-day quarantines for swine entering the state placed through the swine permit process. In addition, there were 143 quarantine actions associated with horses moving through the CEM Quarantine Import Stations in Maryland.

Foreign Animal Disease: No foreign animal disease (FAD) was detected in Maryland during FY 2014, and no foreign animal disease investigations were conducted. Four FAD trainings for 54 Maryland accredited private practice veterinarians were conducted as part of the CORE training for new Maryland accredited veterinarians. MDA has three qualified Foreign Animal Disease Diagnosticians or Practitioners on staff.

Avian Influenza: The program continues enhanced surveillance for avian influenza and other high consequence diseases of poultry in commercial and non-commercial flocks with federal funding, and maintains readiness to respond to avian influenza outbreaks in the state or Delmarva region. MDA performed 4,986 tests in FY 2014; no live virus was detected in this testing. Avian influenza antibodies were detected in pre-slaughter samples sent to Pennsylvania for testing, and these tests initiated the avian influenza response in commercial turkeys discussed above.

Tuberculosis: Maryland remains free of bovine tuberculosis (BTB); nevertheless, the ongoing reemergence of BTB in cattle and white tailed deer elsewhere in the United States during the past several years is of concern. Animal Health staff continued refresher training for BTB testing for accredited veterinarians in response to an identified testing concern. Twenty (20) BTB responders were identified and retested in 2014 with all four being determined healthy.

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

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

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

MDA ANIMAL HEALTH PROGRAM FY 2014 – SELECTED PARAMETERS: 2014

Parameter	Total Number
Animals Certified to Move In, Out or Within Maryland	64,995
Biological Authorizations	43
CEM Permits (Quarantines)	143
Dealer Inspections	36
Drug Residue Inspections	5
Equine Health Certificate – Export	6,313
Equine Health Certificate – Import	4,646
Exhibition Inspections	41
Export Certificates (Non Equine)	15,454
Foreign Animal Disease Investigations	0
Import Certificates (Non Equine)	29,288
Inspections and Investigations – Total Combined	392
Intrastate Certificates Total (Show)	9,476
Livestock Dealer Licenses	36
Market Inspections	184
Quarantines Issued for Disease Investigations	47
Swine Permits Issued (Quarantines)	354

Veterinary Diagnostic Laboratory System

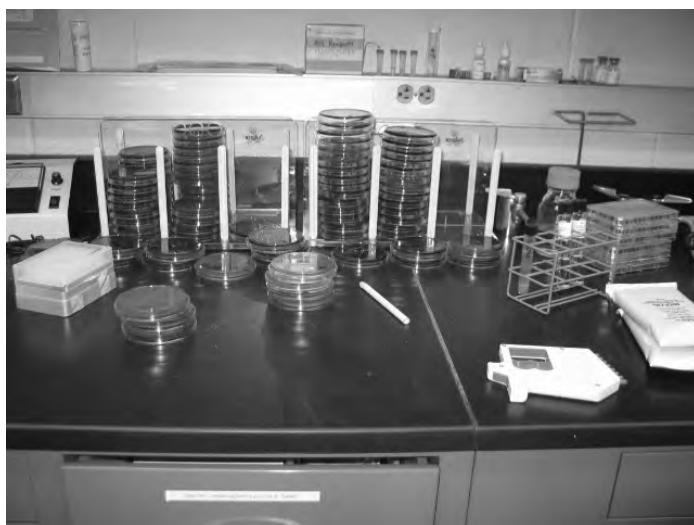
Highlights

MDA operates a veterinary diagnostic laboratory system consisting of a livestock health laboratory in Frederick and a poultry health laboratory in Salisbury. The system provides regulatory diagnostic support to the Animal Health Program, the USDA and other state agencies. Additionally, the laboratories provide diagnostic services in support of Maryland producers and farm animal veterinarians. Both laboratories are long-standing members of the National Animal Health Laboratory Network (NAHLN), a USDA program. Both laboratories serve as Basic Sentinel Clinical Laboratories for the Maryland Department of Health and Mental Hygiene. Membership in NAHLN and A2LA allows the laboratories to perform certain diagnostic activities important to Maryland livestock and poultry producers. Laboratory accreditation demonstrates competence, impartiality, performance capability, and data traceability that meets or exceeds national and international standards.

In FY 2014, both facilities successfully completed their second annual on-site accreditation audit visit by A2LA, allowing them to maintain full accreditation for their selected scopes of work. During FY 2014, the Salisbury lab expanded its accredited scope of work to include Equine Infectious Anemia and Infectious Bronchitis in addition to Avian Influenza, Salmonella, Newcastle Disease, Velogenic Newcastle Disease and Swine Influenza. The Frederick Laboratory expanded its scope of work to include Equine Infectious Anemia along with Avian Influenza, Newcastle Disease and Contagious Equine Metritis.

Laboratory System Missions and Staff

The Animal Health Laboratory System supports the animal and public health regulatory and emergency response missions of MDA, other state agencies, and local and federal governments. It assists veterinarians, livestock and poultry producers, and the equine industry in maintaining healthy herds and flocks. The regulatory activities of other state, federal and local governmental entities involved in animal health depend on the surveillance and compliance testing carried out in these laboratories. Examples include the diagnosis of certain high consequence pathogens of poultry such as avian influenza in support of national disease control programs of the USDA, in support of the FDA Center for



Veterinary Medicine initiative to promote animal and human health by investigating potential problems with animal feeds and animal drugs, support to the Department of Health and Mental Hygiene in diagnosing animal rabies and other animal diseases of public health significance, and support to the Department of Natural Resources for diseases of wildlife consequence such as chronic wasting disease in deer. Additionally, the system provides post mortem and related diagnostic support to animal control agencies for certain matters involving cruelty and neglect.

To accomplish these missions, the system performs a wide array of diagnostic procedures on a variety of specimens and

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

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

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

The director is a veterinary pathologic diagnostician with responsibility for all activities of the laboratory. The director also serves as the lead diagnostician, conducting post mortem examination of animals and interpreting results generated by the science staff. The laboratory capability includes rabies, contagious equine metritis, equine herpes virus, equine infectious anemia, Lyme disease, Johne's disease, and most recently, avian influenza. Avian influenza testing of poultry was added to the Frederick mission in FY 2011 to provide the agency with additional equipment and trained staff to support that activity in the event of a poultry health emergency requiring a substantial surge in testing capability at the Salisbury Laboratory.

The primary mission of the **Salisbury laboratory** focuses on infectious diseases of poultry. Secondary missions include full service post mortem diagnostic support for certain diseases of public health significance such as Salmonellosis, support

to disease and welfare investigations involving mammals, equine infectious anemia testing for horses and swine influenza testing. The Salisbury laboratory primarily serves the commercial poultry industry of Delmarva and the Eastern Shore region of Maryland. The laboratory is served by five scientists performing diagnostic activities in bacteriology, serology, parasitological, virology and mycology as well as important duties of supervision, quality assurance, safety assurance and operational support.



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

Laboratory personnel participate in disease outbreak surge capacity programs with cross training in house and cross

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

A summary of testing carried out in FY 2014 at MDA Animal Health diagnostic laboratories for regulatory or otherwise select significant diseases is provided below:

ANIMAL HEALTH PROGRAM LABORATORY STATISTICS: 2014

Diagnostic Activity	Number	Test Results
Mammalian Necropsy	164	n/a
Poultry Necropsies	5,856	n/a
Avian Influenza	4,986	All negative
Rabies	90	7 positive
Equine Infectious Anemia	12,075	All negative
Contagious Equine Metritis	1,220	All negative
Equine Herpesvirus (EHV-1)	33	0 positive
Johne's Disease in Cattle	2,703	144 positive

Maryland State Board of Veterinary Medical Examiners

The State Board of Veterinary Medical Examiners (SBVME) is charged with establishing and enforcing the standards of practice for veterinarians, registered veterinary technicians (RVTs), and veterinary hospital owners. It is responsible for licensing and/or registering veterinarians, veterinary hospitals, animal control facilities, and veterinary technicians. Investigations of the regulated professions are conducted in response to consumer complaints or suspected violations, and disciplinary actions are taken when appropriate. Records of disciplinary actions and licensure verification are shared with other state veterinary boards and the public upon request. The SBVME reviews requests for the approval of continuing education credits. A Veterinary Technician Committee makes recommendations to the SBVME for changes to the laws and regulations governing registered veterinary technicians in the state.

The SBVME is comprised of seven members appointed by the governor to serve five-year terms. Five members are veterinarians, at least two of whom must be primarily large animal practitioners. The remaining two members are consumer advocates. In 2014, both the SBVME's president and a small animal practitioner stepped down after serving 10 years each on the board. Two current members of the SBVME, both small animal practitioners, were voted by the SBVME to serve as the new president and vice president, and began serving in these capacities in June 2014.

SBVME staff consists of an executive director, administrative specialist, office secretary, investigator, and two inspectors. The inspectors divide their time between the SBVME and the Maryland Horse Industry Board. Both boards welcomed a new inspector at the end of the year, who filled a year-long vacancy. The SBVME also funds the work of a part-time assistant attorney general who works exclusively for the SBVME and serves as its prosecutor.

The SBVME is an active, voting member of the American Association of Veterinary State Boards (AAVSB), a non-profit organization that provides programs and services to veterinary boards to assist them in carrying out their statutory responsibilities for the public's protection. In addition to sending a delegate annually to represent Maryland, this year, a SBVME member and the executive director participated on the AAVSB's bylaws and resolutions committee and on the finance committee, respectively.

Regulations

This year, the SBVME sought to strengthen recordkeeping regulations by requiring veterinarians to provide written consents and written estimates for treatment plans requiring surgery or hospitalization of companion animals. Further, veterinarians are now expected to not only maintain copies of written consents and estimates in their patients' medical records, but they are also required to provide copies of these documents to their clients.

For veterinary hospital owners and staff responsible for the care of animals treated in hospitals, the SBVME defined the term "responsible veterinarian." The SBVME now mandates that the hospital-designated responsible veterinarian be present at the hospital more than 50% of the time it is open for business. This requirement is anticipated to aid in accountability of hospital staff for patient care, and will help maintain continuity in patient care, particularly in those hospitals with multiple veterinarians and limited operating hours.

SBVME members and staff met with a veterinary representative of the Spay and Neuter Advisory Board, a group that was created through legislation passed in 2013, and which provides grants to facilities and organizations that primarily provide dog and cat sterilization. The meeting between the SBVME and advisory board representative culminated in the drafting of regulatory language that defines "high-volume, low-cost spay/neuter facility," and advertising requirements for these types of facilities.

Legislation

During the 2014 legislative session, the SBVME and executive director evaluated 11 proposed bills that, if passed, were deemed to affect either licensees of the SBVME or consumers of veterinary services. SBVME members and staff provided written comments on several of these bills, and presented oral testimony on two bills before Senate and House Committees.

Unlicensed Activity

This year saw an increase in the number of reports of unlicensed activity in the state. This activity was reported as occurring at dog shows and horse shows and sales.

SBVME SELECTED STATISTICS: 2012 - 2014

Category	2012	2013	2014
Licenses Issued to New Veterinarians	161	150	163
Registrations Issued to Veterinarians	3,652	2,679	2,789
Registrations Issued to Registered Veterinary Technicians*	193	142	172
Licenses Issued to Veterinary Hospitals	651	582	540
Percentage of Veterinary Hospitals Inspected and in Compliance	97	99	98
Number of New Complaints Received**	70	89	72
Number of Complaints Closed	104	92	120

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

***For 2013, this number does not include five complaints that were separated into different docket numbers because multiple veterinarians were involved. For 2014, 63 initial docket numbers were assigned. During case reviews, additional docket numbers were created because of action taken against licensees not originally named in consumer complaints.*

Investigation into the reported activity revealed that several unlicensed and unregistered veterinarians were found to be practicing. Individuals illegally practicing in Maryland were issued warning letters and notified of the SBVME's requirements. Veterinarians practicing veterinary medicine and who are licensed in Maryland, but not currently registered, are subject to disciplinary action by the SBVME.

The SBVME intends to monitor and investigate reports of unlicensed activity, and encourages licensees to report illegal activities. Because the vast majority of individuals reportedly practicing veterinary medicine illegally in Maryland are licensed veterinarians in other states, the SBVME also plans to work with veterinary boards in other states to curb these practices.

Civil Penalties

Due to vigorous investigation and prosecution by SBVME staff and legal counsel, the SBVME collected nearly \$56,000, a record amount in fines, for violations of the Veterinary Practice Act. The monies received by the SBVME through payment of civil penalties are directed to the Comptroller, not the SBVME.

Continuing Education

To help educate its licensees and reduce the possibility of disciplinary action being taken against licensees, the SBVME is collaborating with the Maryland Veterinary Medical Association to offer continuing education (CE). Topics for CE offerings may include best practice ideals, improving communication skills with clients, veterinary law and ethics, recordkeeping, and maintenance of certain drugs used in veterinary hospitals. Problems arising from a lack of knowledge in one or more of these areas are frequently the basis for disciplinary action taken by the SBVME.

Licensure Renewal System

The SBVME and its staff continue to review and modify the online licensure renewal system to determine where improvements can be made. Revisions to the system were made in the spring of 2014, and an increase in use since inception of the system has been seen, as demonstrated in the table below.

USE OF ONLINE REGISTRATION SYSTEM BY PERCENTAGE OF APPLICATIONS RECEIVED

Type of Registration*	FY 2013	FY 2014	FY 2015
Veterinarian	51	53	61
Registered Veterinary Technician	53	63	73
Hospital Owner	32	39	50

**Percentages are based on fiscal year, with applications received from April 15 to August 25.*

Weights and Measures

The regulation of weights and measures is one of the oldest continual functions of government. MDA's Weights and Measures Program ensures that consumers get what they pay for whether it's 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). The NCWM is comprised of state and federal government officials, as well as private industry representatives throughout the United States. The NCWM provides a professional forum for the discussion and development of uniform policy and protocols that guide the regulation of weights and measures.

There are a total of 60,618 weighing and measuring devices in commercial use in Maryland at 9,099 separate businesses locations. MDA has 18 inspectors who are specially trained and certified to test and inspect these devices according to established protocols to make sure they are within the required tolerances. Devices failing inspection may be taken out of service until corrected by the owner. Inspectors also visit stores to verify that packaged products contain the quantities specified and that consumers are being charged the correct prices at checkout.



In FY2014, the field staff conducted 32,150 device inspections. Inspectors also tested 6,633 individual lots of prepackaged commodities. Price verification inspections were conducted at 310 stores. Inspectors found significant deviations from the advertised prices in a number of these stores. Twenty three firms received civil penalties for misrepresenting unit price and for short weight violations. In FY2014, Weights and Measures imposed \$13,250 in civil penalties for violations.

In FY2014, the field staff investigated 641 consumer complaints. The majority of the complaints were related to gasoline sales. Consumer complaints are given priority over routine inspections and require a significant amount of staff hours to investigate.

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

Maryland's Metrology Laboratory maintains primary standards of mass, length, volume and temperature that are legally traceable to the National Institute of Standards and Technology (NIST) and provides a measurement capability at the state level that is consistent with national measurement goals. The laboratory is recognized by the National Voluntary Laboratory Accreditation Program (NVLAP) for compliance with criteria set forth in the International Standard ISO/IEC 17025:1999 and relevant requirements of ISO 9002:1994. The NVLAP is an independent agency under NIST which accredits testing and calibration laboratories that are found competent to perform specific tests or calibrations, or types of tests or calibrations.

The Weights and Measures Program also participates in the **National Type Evaluation Program (NTEP)** which tests and inspects the accuracy of new measuring devices and measuring systems before they are approved for use in commerce. NTEP laboratories are authorized by the National Conference on Weights and Measures. Meeting the required

NTEP performance standards and procedures denotes a high degree of technical and professional competence. Authorization is specific to a type of weighing or measuring device. The Maryland NTEP laboratory is authorized in 14 areas of evaluation. All related costs are paid by the participating manufacturers requesting NTEP services.

Future program goals are to replace aging lab and field equipment necessary to carry out the program’s responsibilities and improve the efficiency of the program. The field program and partial laboratory support are special funded. Last legislative session, with the support of industry, adequate funds were approved to accomplish these goals. Moving forward, the future replacement of trailer mounted

volumetric testing vessels and cargo vans to carry and tow testing equipment are scheduled for replacement. The program is also in the process of replacing the HVAC system in the metrology laboratories, which require very specific performance specifications as not to affect the operation of highly specialized laboratory balances and equipment. The metrology program plans to review and upgrade current laboratory software with the goal of electronic data recording and analysis of precision balance readings in an effort to reduce paper reports and manual data entry. To maximize efficiency, government transparency and cost reduction, the program is currently in the process of purchasing electronic inspection software for field inspections which will replace paper reports.

WEIGHTS AND MEASURES ACTIVITIES TABLES: FIELD INSPECTION AND TEST EFFORT

	2012		2013		2014	
	% Violations	Total Tests	% Violations	Total Tests	% Violations	Total Tests
A. Weighing Systems						
Large Scales	21.5	1,067	25.9	850	21.9	831
Medium Scales	16.0	743	16.5	557	13.2	433
Small Scales	16.1	8,385	16.1	6,900	17.7	5,260
B. Liquid Measuring Systems						
Retail Gasoline Meters	19.6	28,970	24.1	28,894	21.2	23,576
L P Gas Meters	27.8	481	16.0	400	19.5	513
Vehicle Tank Meters and Other Large Meters	12.0	1,104	15.4	1,120	12.8	1,464
C. Grain Moisture Meters						
	24.6	134	13.4	112	12.3	106
D. Programmed Tare Inspections						
	11.9	2,072	12.3	1,686	13.3	1,406
E. Price Scanning and Method of Sale						
	3.4	16,002	3.1	9,977	2.2	30,277
F. Delivery Ticket Inspections						
	0.7	1,294	1.2	1,849	1.1	2,644
G. Package Lots						
	19.4	8,261	16.4	8,733	17.3	6,633

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

WEIGHTS AND MEASURES ACTIVITIES TABLES: LABORATORY EFFORT

Inspection and Test	2012 Tested	% Rejected	2013 Tested	% Rejected	2014 Tested	% Rejected
Weights	1,726	13.3	1,006	9.1	813	10.1
Volumetric Measures, (Non-Glass)	34	41.2	30	66.7	59	54.2
Length Devices	0	0.0	0	0.0	0	0.0
Temperature Devices	31	0.0	104	0.0	20	0.0
Timing Devices	2	0.0	6	0.0	6	0.0
Volumetric (Glass)	0	0.0	0	0.0	0	0.0
Scales/Meters	0	0.0	0	0.0	0	0.0
Standard Grain Samples	405	N/A	451	N/A	378	N/A

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

WEIGHTS AND MEASURES ACTIVITIES TABLES: ADMINISTRATIVE CONTROLS AND MISCELLANEOUS

	2012 Number	2013 Number	2013 Number
Weighing and Measuring Devices Registration Certificates, Issued	7,091	7,026	7,000
Type Evaluation of Devices Conducted (NTEP)	58	48	44
Citizen Complaints Received and Investigated	584	553	641
Disciplinary Hearings, Criminal Arrests, Summonses Obtained and/or Civil Penalties	93	56	23

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

Food Quality Assurance

Grading Services

MDA's Grading Services 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.

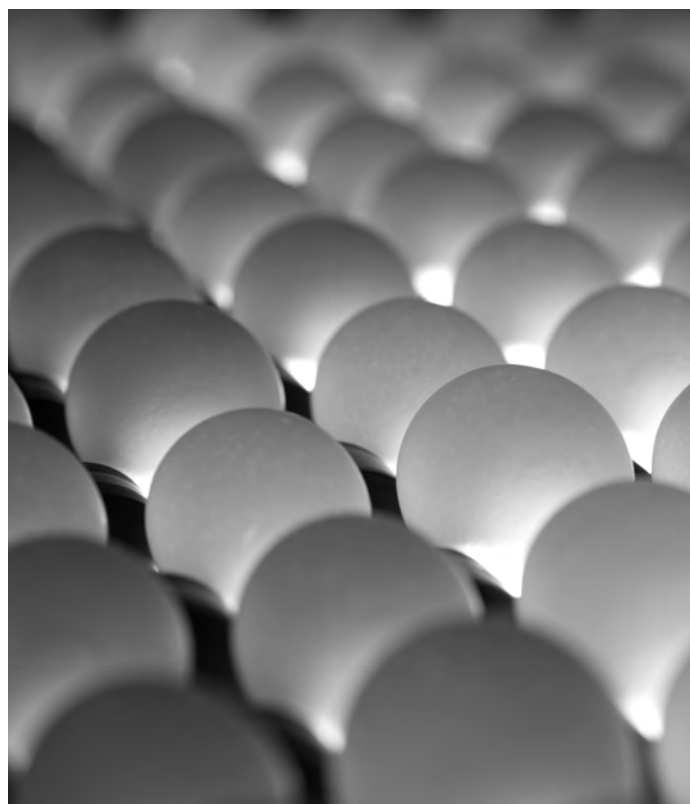
The primary commodities graded by the section this year were:

- 269 million pounds of poultry;
- 30.7 million dozens of shell eggs;
- 14.2 million pounds of meat;
- 35.5 million metric tons of grain; and
- 3 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 newly developed MDA Good Agricultural Practices (GAP) food safety program for fruit and vegetable producers



has experienced a significant increase in participation. The number of producers MDA GAP certified has increased from 7 in FY 2013 to 30 in FY 2014. The MDA program has been funded to date through USDA Specialty Crop grants and has also provided food safety training to more than 500 fruit and vegetable producers. An additional 15 fruit and vegetable producers were audited by FQAP compliance auditors and received USDA GAP certification. These programs will help producers meet increasingly stringent buyer and federal food safety requirements for producing fresh fruits and vegetables.

Egg Inspection Program

The Egg Inspection Program enforces the Maryland Egg Law. Inspections are performed at the producer, wholesale, food service and retail levels to ensure eggs sold in Maryland meet the standards for quality, size, refrigeration, microbial and physical contamination, labeling and record keeping. The section also registers egg wholesalers and packers. Portions of the labeling, record keeping and registration requirements provide traceability in case of a *Salmonella enteritidis* outbreak. Other sections of the law were established to reduce the risk

to consumers of food-borne illness. Eggs found to be out of compliance with the established standards are removed from sale, and violation notices are issued to the responsible parties. Inspection activities are funded through the collection of \$.0026 per dozen of eggs sold in Maryland.

The percentage of sampled eggs found to be in compliance with the Maryland Egg Law decreased to 80.59 percent this year from 85.42 percent last year. The number of lots being inspected continued to decrease because of vacancies in the program and other activities conducted by program employees. The egg inspection chart shows comparison data for the eggs inspected and violations.

MDA continues to conduct Country of Origin labeling reviews for USDA in conjunction with egg inspections. Federal reimbursement for these reviews has helped reduce the costs of conducting egg inspections.

Organic Certification

The USDA-accredited Maryland Organic Certification Program certified 110 farms and handlers of organic products during FY 2014. 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.

Grain Laws

All persons in the business of buying, receiving, exchanging or storing grain from a grain producer are regulated by MDA. Licenses are issued to businesses that meet requirements set by law for insurance and financial status. There are four categories of licenses issued based on the number of bushels purchased in a calendar year. Fees range from \$50 to \$300. A Directory of Licensed Grain Dealers is published and distributed annually. MDA licensed 35 businesses with 67 locations in FY 2014.

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 400 producers have been trained, and 42 producers have been certified.





Maryland Agricultural Fair Board

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

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

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

State Fair, to county fairs, to local community shows, to youth activities in 4-H and FFA.

The board publishes an annual guide to fairs and shows that it funds. These brochures are placed in all welcome centers on state highways, all Extension offices, all fairs and shows, all chambers of commerce, all libraries, and at the Maryland Farm Bureau. It is also posted on the MDA website.

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



Maryland Horse Industry Board

The Maryland Horse Industry Board (MHIB) consists of the Secretary of Agriculture or his designee and 11 members from a cross-section of the horse industry appointed by the governor to four-year terms. New appointees during FY 2014 include Beverly Raymond, representing humane societies, and Dr. Michael Odian, representing licensed veterinarians. MHIB is now in its 16th year of operation.

Maryland law defines six statutory duties of MHIB. These duties are to:

- (1) Promote the use and development of horses in Maryland;
- (2) Support research related to equine health and related issues;
- (3) Create public awareness of the value of equine activities as they relate to green space preservation;
- (4) Develop and disseminate information concerning the equine industry;
- (5) Advise MDA regarding matters affecting the state's horse industry; and
- (6) License and inspect commercial stables that solicit business from the public, either by giving lessons, boarding horses, renting them for activities such as trail rides, or offering them a rescue or sanctuary.

As the commodity board for the state's horse industry, MHIB develops projects to help grow the recreational horse industry and to do what it can to help re-establish the prominence

of the Maryland horse racing and breeding industries. Key accomplishments of MHIB in FY 2014 are listed below.

- MHIB successfully completed a sunset extension and program evaluation by the Maryland Department of Legislative Services (DLS). During 2014, MHIB participated in a program evaluation by DLS. The last full evaluation was done in 2004. DLS recommended that:

- (1) MHIB be waived from a full evaluation;
- (2) The termination date be extended 10 years to July 1, 2026; and
- (3) Require a follow-up report by December 1, 2015.

DLS also offered an amendment that the General Assembly should remove the statutory restriction on the commercial equine feed assessment to allow the board more flexibility in covering its operating expenditures. In reviewing this recommendation and acknowledging the original intent of the establishment of the feed check off program, the Board asked that the amendment be removed from the bill. It was and the bill successfully passed the Senate and House.

- **MHIB licensed 658 stables in FY 2014.** This number -- an increase of 39 stables from the previous year -- represents the largest number of licensed stables in MHIB history. The increase was due, in part, to an aggressive effort to contact



stables in non-compliance and increased marketing efforts. Also, legislation passed two years ago that required stables with “one or more horses” rather than “five or more horses” to be licensed, increasing the number of stables required to become licensed.

- **MHIB began the second phase of the Maryland Horse Park System Feasibility Study**, receiving six responses to a Request For Interest (RFI) and conducting three site visits. A new approach to developing a horse park system, rather than one central horse park, picked up steam in 2014 when MHIB and MDA, through their consultants at the Maryland Stadium Authority, issued an RFI to publicly owned Maryland properties with existing equine facilities to gauge their interest in developing a network of high level horse parks. The system is divided into three parts: field event venues, equestrian show/expo venues, and education and cultural venues. RFIs were received from Fair Hill Natural Resources Management Area (field event venue); Prince George’s Equestrian Center/Show Place Arena (equestrian show/expo venue); and Tuckahoe Equestrian Center at Tuckahoe State Park; Washington County Agricultural Center; Greenwell Foundation at Greenwell State Park; and Graham Equestrian Center at Gunpowder Falls State Park (Education and Cultural Center). Site visits were conducted at Fair Hill, Prince George’s Equestrian Center and Graham Equestrian Center in June. A full report on the findings is due in fall 2014.

In April, to show the variety of major horse breeds in the state, MHIB hosted a tour of horse breeding farms for State Treasurer Nancy Kopp, members of her staff and Maryland Stadium Authority officials. They visited Country Life Farm (Thoroughbreds), Rigbie Farm (Arabians), Hilltop Farm (European Warmbloods) and Winbak Farm (Standardbreds and Miniature Horses).

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

- a. First full year of Horse Pals and social media programs. By the end of FY 2014, the Horse Pals affinity club, an online community of mostly new equine enthusiasts, grew to more than 1,000 registrants. Nearly 800 Horse Pals attended 10 events throughout the year, from jousting, rodeo, steeplechasing and horse racing to farm tours and equine festivals. The most popular event was an Open House with the Budweiser Clydesdales on Dec. 26, 2013 when the famous Anheuser-Busch team

was stabled at the Prince George’s Equestrian Center and participated the next day in the Military Bowl Parade in Annapolis. More than 250 Horse Pals turned out for an “Up Close and Personal” visit with the Clydesdales. In addition to Horse Pals, MHIB now has more than 1,000 Facebook friends and nearly as many Twitter followers.

- b. MHIB continued the Touch of Class Awards Program, Speaker Series and Horse Forum event. By the end of the year, the Touch of Class program, MHIB and MDA had honored 50 people and 29 equines representing 25 different disciplines from 13 different counties who are all national or international champions. Two events were held in the Speaker Series. More than 100 people attended a lecture and book signing in November by noted author Dorothy Ours who wrote “Battleship—A Daring Heiress, A Teenage Jockey and America’s Horse” held in conjunction with a showing of the 1940 feature film “Maryland.” In February, nearly 100 people turned out to hear Patti Colbert, head of the American Horse Council Marketing Alliance, talk about trends in marketing the horse industry. A planning committee was formed to hold the third Maryland Horse Forum on August 7, 2014.

- c. MHIB certified the Equine Experience Center Program and Horse History Projects. The Equine Experience Center initiative moved forward with a series of five information sessions held across the state to establish a network of equine education centers at existing stables. Experience Centers are equine establishments where the general public can learn about horses in a friendly and knowledgeable environment. A total of 68 stables from 18 counties attended the information session, and 42 stables from 16 counties applied to enter this voluntary, pilot marketing program. At the conclusion of the process, 35 stables were certified as Equine Experience Centers. A soft launch of the program started immediately with a full blown launch of the program planned for spring 2015.

The Horse History Committee made plans to launch its first historic horse trail, “Horses At The Beach,” which incorporates 11 sites including the Assateague Ponies, Oceans Downs Race Track and the old Glen Riddle Farm, in Worcester County. MHIB also gave startup funding for the production of a new documentary film “Racing The Times,” which is a history of Maryland horse racing since colonial times. MHIB board member and Co-Chair of the MHIB Horse History committee Jay Griswold is the executive producer of the film, which is scheduled to premiere during 2015 Preakness Week.

d. MHIRB conducted national and international outreach. The MHIRB Equine Experience Center initiative was awarded a \$5,000 grant from the American Horse Council (AHC) national marketing alliance to help launch its pilot program and was a presenter at the AHC annual meeting in June. MHIRB hosted equine visitors and horse buyers from South Korea and China, started an advertising program in the international horse racing magazine "Gallop," showcasing Maryland as an excellent venue to breed and raise top class equine athletes; and helped the Maryland Jockey Club host Gallop publishers, Mats and Caterina Genberg, from Sweden at the 2014 Preakness Stakes.

e. Promotions and participation at 61 Maryland horse events. During the year MHIRB provided a \$10,000 sponsorship for the Maryland Million horse race; \$10,000 for sponsorship of the MPT documentary "Maryland Farm and Harvest;" \$6,500 for the inaugural Standardbred "Racing Under Saddle" event at Ocean Downs; and \$2,000 to help launch the Maryland High School Rodeo Association. In addition, MHIRB had booths at 16 venues: Petersville Jousting Tournament, the Maryland State Fair, Howard County Grand Prix, Baltimore County Ag Center Farm Day, Regional Manufacturing Institute annual

meeting (showcasing the state's equine manufacturers), Day of The Horse at Graham Equestrian Center, Retired Racehorse Training National Makeover, Maryland Million, Timonium Elementary School Health Fair, Maryland Travel & Tourism Summit, Horse World Expo, Maryland Tourism Day, Pennsylvania Horse Expo, Maryland Junior Hunt Cup, Pasadena Horse Appreciation Day and the Preakness. MHIRB also attended and participated in another 46 equine industry meetings and events.

- **MHIRB established by-laws and operating procedures.** For the first time in its 16-year history, MHIRB established a set of by-laws and operating procedures governing such items as governance at meetings, election of officers and meeting protocol. Board member Kathleen Tabor authored the by-laws in conjunction with the MDA assistant attorneys general and MDA officials. The by-laws were discussed for over 18 months and adopted with unanimous support by the board in FY 2014.
- **MHIRB awarded \$30,000 in grants to 28 Maryland horse organizations and individuals.** MHIRB raised the amount that it awards recipients in its grants program by nearly \$5,000 from the previous year, distributing the second highest amount of grant money in MHIRB's 16-year history.

MHIRB SELECTED STATISTICS: 2012 - 2014

	2012	2013	2014
Category			
Number of Stable Licenses Issued	578	619	658
Number of Inspections Performed Annually	468	367	253
Percentage of Facilities Inspected and in Compliance	100%	100%	100%
Revenue Collected from Licensing Horse Stables in Maryland	\$72,250	\$76,750	\$82,250
Revenue Collected from Assessment Based on Tons of Horse Feed Sold in Maryland	\$194,462	\$200,315	\$193,198
Outcomes			
Total Amount of Money Distributed as Grants for Promotional, Educational or Research Projects for Maryland Horse Industry	\$21,444	\$25,350	\$30,000
Percentage of Total Revenue Distributed as Grants for Maryland Horse Industry	11.0%	8.3%	15.5%
Staffed Booths or Presented Talks at Trade Shows, Conferences, Fairs and Exhibitions Promoting Maryland Equine	33	35	38

Plant Protection and Weed Management

Note: Because of the seasonal nature of this program and its federal reporting requirements, data are reported on a calendar year basis. The information below pertains primarily to CY 2013, which includes the last half of FY 2014.

Apiary Inspection

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

- **American foulbrood** is the most serious brood disease of honey bees and can destroy a colony in one year. The 18 colonies that inspectors found to have American foulbrood, as diagnosed by the USDA Bee Laboratory in Beltsville, were destroyed to control the spread of this bacterial disease to healthy colonies. The incidence of disease remains relatively low – .6% of the colonies inspected.
- **Varroa** populations were very high in Maryland in 2013, and brood problems were attributed to varroa mite in the season. The varroa mite has been found to be resistant to Apistan®, the primary product used to control this parasite. There are six products available to control varroa mite.
- **Tracheal mite populations**, as documented by the USDA honeybee laboratory, continue to be so low that tracheal mite is no longer considered a threat to honeybees if colonies are monitored on a regular basis.
- **Africanized honey bees** arrive occasionally on cargo ships coming from South or Central America. Swarm traps for collecting and monitoring bees were placed at 35 sites at marine terminals and other shipping locations. No swarms were collected in 2013. MDA is working with two groups – the Mid-Atlantic Apiculture Research and Extension Consortium (MAAREC) to provide information to the general public about emergency incidents, and the Apiary Inspectors of America (AIA) for information on the control of movement, other than through natural spread.

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

Permits were issued for 3,868 honey bee colonies to move into Maryland, primarily for overwintering and 2,211 colonies to move out of Maryland for pollination services. For the seventh year, Maryland beekeepers sent colonies to California for almond pollination. In the winter of 2013, 2,500 colonies were again transported to California for this purpose.

Maryland participated in a **National Honey Bee Survey** funded through the Farm Bill in 2011 and continued through 2013. Eighteen apiaries in eight counties were surveyed to document which bee diseases/parasites/pests of honey bees are and are not present in the United States. This survey is in collaboration with USDA ARS, and designed to determine the presence/absence of exotic pests such as the Asian honey bee (*Apis cerana*) and parasitic mites in the genus *Tropilaelaps*, in the United States. The samples collected by MDA apiary inspectors were sent to ARS for virus analysis and to Pennsylvania State University for analysis of nosema, tracheal mites, small hive beetle, *Tropilaelaps*, and other pests. Sample results are sent to the cooperating apiarist. To complete the survey, an additional 18 apiaries will be surveyed by the end of July 2014.



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 sold boosted total gross receipts to more than \$1.96 billion. A primary goal of state plant protection and quarantine efforts is to facilitate the production, sale, and distribution of Maryland nursery stock. This is accomplished in large part by inspection and certification activities conducted on-site by staff of the Plant Protection and Weed Management section.

Maryland law and reciprocal agreements with other states require annual production facility and sales location licensing for all producers and suppliers of nursery stock in the state. Production nurseries are inspected annually to ensure that plant material is free of dangerously injurious plant pests. Additionally, plant dealers are inspected regularly to insure plant materials are received and maintained in a healthy and pest free condition for wholesale and retail sale.

- In 2013 the Maryland Nursery Inspection Program licensed 326 nurseries, 1,334 plant dealers and 10 plant brokers. In 2013, 10,332 acres of nursery stock and 9,965,321 square feet of greenhouse production were certified.
- In 2013, Plant Protection and Weed Management staff performed routine inspections at 421 Maryland locations. The general health of Maryland-produced nursery stock was found to be excellent.
- In additional certification activities for 2013, 169 state phytosanitary certificates that assure compliance with established domestic quarantines were issued to 12 states and U.S. territories. In 2013, 531 federal phytosanitary certificates, required to export Maryland nursery stock from the United States, were issued to 61 foreign countries.
- In specific events of note: Nursery Inspection Program staff performed 46 follow-up inspections on trace-forward mail-order plant material for possible *Phytophthora ramorum* contamination. No infected plants were detected. Two Maryland Eastern Shore nurseries were issued stop sale orders for plant material infected with Boxwood Blight, *Calonectria pseudonaviculata*, and Nursery Inspection Program staff worked with the nurseries performing pathogen

eradication protocols. Stop sale orders remain in place for at least the first part of 2014 and follow-up inspections and evaluation are ongoing.

MDA continues to monitor the slow spread of **Japanese Cedar Longhorned Beetle** in the state. This relatively new pest in Maryland has mainly been found infesting apparently stressed landscape plantings of *Thuja* and *Chamaecyparis* in the north-central region of the state. Nursery Inspection Program staff participated in multiple training programs including exercises relative to field inspection techniques and systems approach to nursery certification (SANC) models hosted by the New Jersey Department of Agriculture. Plant Protection and Weed Management staff continued to pursue further cooperative and compliance agreement opportunities and followed revised protocols that have streamlined and improved the preparation of Maryland nursery stock for sale that was distribution to both foreign and domestic markets.

Pest Survey

The Cooperative Agricultural Pest Survey (CAPS) and Farm Bill surveys are joint projects between the MDA and USDA's Animal and Plant Health Inspection Service (APHIS) and USDA Plant Protection and Quarantine (PPQ). The USDA recommends specific pests of quarantine export significance as survey priorities and provides funding for these surveys. These cooperative survey programs provide necessary data used to certify Maryland products for export to many countries. The surveys also allow for continued outreach and education.

CAPS and Farm Bill 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. Early detection of exotic pests before they become established aids in eradication or control efforts, and protects Maryland agriculture, nursery stock and the environment from potential devastating losses. Federally funded CAPS surveys include: exotic wood borers, cyst nematode, Khapra Beetle/noxious weeds, imported fire ant and emerald ash borer; the farm bill surveys include: tomato and stone fruit.

In 2013 MDA deployed and monitored 2,302 insect traps and from these various traps collected 4,712 samples. Survey and trapping techniques vary depending on the pest being surveyed for. Some trapping devices include purple prism traps, bucket traps, delta traps and Lindgren funnel traps. All

traps include an attractant; lure, food bait and host volatiles are some examples. There were seven extensive surveys targeting 38 exotic pests that impact trees, store products, field, orchard and nursery stock.

CAPS Surveys

- **Red Imported Fire Ant** - The red imported fire ant (IFA), *Solenopsis invicta*, a stinging insect native to South America, is occasionally shipped out of its regulated area in the southern United States. Despite its quarantine, which requires a wide variety of commodities to be treated or certified free of fire ants before being transported, some nursery stock infested with fire ants has made its way to Maryland. The yearly fire ant survey focuses on tropical plants arriving from the southern part of the country. Ninety-four sites were surveyed in 2013, and two were confirmed positive for IFA. Both of these sites were issued eradication treatment orders under an MDA Treatment Order and both sites have completed the treatments.
- **Emerald Ash Borer** - The emerald ash borer (EAB), *Agrilus planipennis*, has been in Maryland since 2003. An initial eradication of this pest was unsuccessful, and a large survey program began to track its movement. Presently EAB is located in 11 counties on Maryland's western shore. In 2013, Frederick and Calvert counties were added to that list. The 2013 survey consisted of 347 purple prism trap sites and 32 USDA trap trial sites. A total of 379 sites were surveyed for EAB, and 34 of these sites were found positive. In 2014, EAB was detected in Carroll County and Baltimore City for the first time. Presently, Maryland's Eastern Shore is still negative and not under a state or federal quarantine. All counties west of the Chesapeake Bay and the Susquehanna River are under both state and federal quarantines. MDA along with USDA APHIS PPQ, participates in parasitoid releases. Presently there are three parasitoids approved for release, and MDA has released all three since 2009. From 2009 to 2013, a total of 212,373 parasitoids have been released at 34 locations across the state. All three introduced parasitoids have been recovered in Maryland, from 17 locations. MDA also raises tropical ash (*Fraxinus uhdei*) to assist in the parasitoid production.
- **Cyst Nematodes** - The cyst nematodes can be found throughout the world, including the United States. These nematodes have been found to cause severe agricultural damage to many of the crops grown in Maryland. Three



Emerald Ash Borer

counties (Baltimore, Carroll and Frederick) were surveyed for 10 exotic cyst nematodes. There were nine sites surveyed per county. All sites were crop fields recently planted in corn or soybeans. All samples were negative.

- **Exotic Wood Boring Beetles** - USDA regulations require all wood packing material to be treated so that any insect living in the wood would be killed, however some packing material is not properly treated causing possible exotic wood borers to be shipped to the United State. Bark beetles can be extremely destructive and in parts of the world have been known to destroy large acreages of forest. In 2013, there were 16 sites surveyed for exotic wood boring bark beetles and all of the sites receive goods that are packed with wood dunnage. This survey ran from mid-March to October. Each site had three Lindgren funnel traps; each trap has a specific lure which is used as an attractant to one or more of the exotic beetles being surveyed for. All samples were negative.
- **Khapra Beetle / Noxious Weeds** - The Khapra beetle, *Trogoderma granarium*, is an exotic insect pest that feeds on seeds and stored grain products. It is known as one of the world's most destructive insect pests. MDA surveys a large warehouse that receives seed from countries known to have established populations of the Khapra Beetle. There are ten traps throughout the warehouse facility from early spring into late fall. There have been no detections of the Khapra beetle at this facility.

Farm Bill

- **Tomato Survey** - In 2013, MDA surveyed for six exotic pests in tomato fields. All of these pests have been known to cause extreme destruction in tomatoes in other parts of the world. One of the pests, *Tuta absoluta*, is known to be in the Caribbean and due to its close proximity it is of high priority for survey. Ten sites on Maryland's Eastern Shore were surveyed from June through September. Three hundred samples were collected and all samples were negative.
- **Stone Fruit** – MDA chose 12 sites randomly for the stone fruit survey. Most of the sites were located along the northern border with Pennsylvania, where most of the stone fruit is located. There were seven target pests surveyed for at each site. Traps were hung in stone fruit trees, 585 samples were collected and all samples were negative for the seven pests. If any of these targets were to become established in the United States, there would be large losses to the stone fruit industry.

Diagnostic Laboratories

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

Entomology Laboratory: In 2013, there were a number of interesting samples submitted by the public, as well as a notable natural phenomenon.

- Rhodesgrass mealybug, *Antonina graminis*, from Florida plants turned up in a research greenhouse, and the European pepper moth, *Duponcheila fovealis* was detected at an annuals production greenhouse, both inside and out. This pest is new to Maryland.
- Among citizen submittals were images of the panda carpet beetle, *Anthrenus pimpinellae*, a very colorful small beetle which was photographed on a daisy flower, and spider beetles, *Gibbium aequinoctiale*, peculiar little creatures that are sometimes found in stored products.
- Both real and imagined bed bugs, *Cimex lectularius*, were sent in by worried persons. The positives were advised to seek professional assistance for eradication. Olfactory house ant, *Tapiroma sessile*, was the most 'popular' house- and workplace-invading ant this year.

- In a first for this lab, a local medical pathology lab submitted a human botfly, *Dermatobia hominis*, larva, with little information/data. Investigation revealed that the human host had recently returned from Belize, where this tropical parasite occurs.
- Kudzu bug, *Megacopta cribraria*, was detected in Maryland this year by University of Maryland researchers and collected by MDA staff from kudzu vines in Anne Arundel County. This Asian insect, although it attacks kudzu (good), also has been moving into soybean and other legumes in the South (bad). Like the brown marmorated stink bug, it also invades homes, seeking overwintering sites. Its odor (and blood) are irritating.
- The big news, although not the Big Brood, was the much-hyped and incorrectly predicted emergence of Brood II periodical cicadas, *Magicicada spp.* which occurs in Southern Maryland and south. This emergence occurred exactly where it had been previously documented. Unfortunately, uninformed speculation led many in our area to expect an invasion. Errors travel fast, corrections crawl.

Plant Pathology Laboratory: One of the first undertakings of MDA's new plant disease specialist was the relocation, refitting, and updating of equipment in the Plant Protection Laboratories. Collection, maintenance, and calibration of laboratory equipment took several months, and updating and improving the molecular capabilities is still underway.

Almost 100 samples were obtained for diagnosis, most of which came from nursery inspectors. One-eighth of the samples received were abiotic related, such as watering issues, soil management, cold damage, etc., while the rest were caused by biotic pathogens, such as fungi, bacteria, viruses and nematodes. The majority of the pathogens found were fungal.

- Boxwood blight, *Cylindrocladium buxicola* (*syn. C. pseudonaviculatum*), was reported in plants shipped to another state from Maryland. Samples from the nursery where these plants originated were submitted to the MDA laboratory for diagnosis. Among them, boxwood *cv. Suffruticosa* in this nursery was found positive to Boxwood blight. All the susceptible *cv. Suffruticosa* plants were destroyed by burying in pits on site. The rest of the boxwood plants have been kept for observation. Visits to grower's fields and nurseries have taken place to assess the incidence of this disease. Samples from symptomatic

plants found during these inspections were collected and examined in the laboratory. A protocol for boxwood blight management practices has been developed and made available to the nursery industry. This protocol is being further revised.

- Chrysanthemum plants suspected to be infected by Chrysanthemum white rust caused by *Puccinia horiana* were submitted and examined. The sample was found negative for the rust fungus. Similarly, black walnut samples infested with walnut twig beetle, which can carry thousand cankers disease, were examined and were found negative. Additional samples are being examined for this disease.
- A nursery collected cherry sample which showed virus-like symptoms. It was tested and the virus infection confirmed by RT-PCR to have four different viruses -- American plum line pattern virus, cherry virus A, prune dwarf virus and peach latent mosaic viroid. The latter two can cause economic damage to crop plants. One apple sample suspected to have the virus and/or apple proliferation Phytoplasma was confirmed to have two different viruses (i.e., apple stem grooving virus, an important virus, and Apple stem pitting virus) but study on the association of Phytoplasma is underway. Out of several Hosta samples submitted, one was found positive to Hosta virus X.
- Twenty-seven soil samples were analyzed for nematodes, especially Cyst nematodes. All the samples were negative to Cyst nematodes but were found to have several other nematodes.

The Plant Disease Specialist attended the American Phytopathological Society meeting and updated information on diagnosis and boxwood blight, and he attended Mid-Atlantic Nursery Trade Show and provided information on boxwood blight in Maryland.

Greenhouse Laboratory: Mile-a-minute weed plants (*Persicaria perfoliata*) were produced for the integrated pest management and biological control program that require food for insect colonies and plant material for research. These were used to raise colonies of the stem boring beetle, *Rhioncomimus latipes*. Four hundred twenty five tropical ash, *Fraxinus uhdei*, were maintained in the greenhouse in support of the EAB biological control program.

Virus testing on nine varieties of strawberry (*Fragaria*) and two varieties of brambles (*Rubus*) was conducted, and plants to

support the testing were maintained throughout the year.

A variety of support programs takes place at the greenhouse on a yearly basis. These include: plants produced to support the MDA displays at the Timonium Flower and Garden Show as well as the Maryland State Fair; maintenance of a collection of herbaceous perennials used for teaching and testing purposes by the Certified Professional Horticulturist Program, in conjunction with the Maryland Nursery and Landscape Association.

Plant Certification

The Maryland Ginseng Management Program protects American ginseng, *Panax quinquefolius*, by monitoring the harvest and by licensing diggers and dealers of wild, wild-simulated, woods-grown and cultivated ginseng. MDA conducts a management program in cooperation with the U.S. Fish and Wildlife Service (FWS) that follows established protocols and 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. High quality native ginseng root continues to be in great demand on the international market, and prices for wild American ginseng continue to increase. In 2013, at times, prices surpassed the \$1,000 per pound mark. During the 2013-2014 season, the program licensed 19 ginseng dealers and 186 ginseng collectors in the state.

Over the 2013-2014 harvest and sales season, the certification program inspected, collected size and age data from, weighed, and certified 124.06 pounds of dry wild ginseng root, 6.0 pounds of green wild ginseng root, 125.25 pounds of artificially propagated dry ginseng root, 112.25 pounds of artificially propagated green ginseng root. (For the purposes of this report, wild simulated ginseng has been classified as artificially propagated.) The wild harvest and certification numbers are about 20 percent less than the numbers for dry wild ginseng and 46 percent less than those for artificially propagated dry ginseng, as compared to 2012-2013. However, the amount of green ginseng root certified in the 2013-2014 season represents a greater than four-fold



increase over that recorded for 2012-2013. This may represent an increasing demand for the domestic use of fresh ginseng in the U.S. market, and a new type of ginseng buyer licensing with a state ginseng dealer's license. When root is sold in a green (fresh) condition, it generally weighs about 3 times the weight of the same root when dried. If this is taken into consideration, the overall harvest of ginseng in Maryland in 2013-2014 was about 23 percent higher than in 2012-2013. As is generally the case, fluctuations in the amount of Maryland ginseng certified and sold likely reflects the demand and pricing on the international market, and does not necessarily reflect the status or abundance of wild American ginseng in Maryland. Harvest and sales data were gathered and reports were submitted in accordance with U.S. Fish and Wildlife Service and CITES requirements.

The amount of ginseng cultivated, including woods-grown and wild-simulated designations in Maryland, and certified by MDA continues to keep 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. There were many calls to the Ginseng Management Program coordinator this year inquiring not only about the new ginseng regulations, but also how to grow ginseng on one's own property. With an increased interest in and production of American ginseng in Maryland as an alternative agricultural

crop, harvest pressure on wild ginseng may be reduced, in turn allowing wild ginseng populations in Maryland to rebound.

Annual questionnaires mailed to ginseng collectors and dealers at time of licensing were modified in 2013 to gather information on program participant's concerns relative to the new moratorium placed by the Maryland Department of Natural Resources on ginseng harvest on all state managed property, including state forests and wildlife management areas. Many of the respondents continue to express concern that the incidence of out-of-season poaching of wild ginseng in Maryland remains high. There was also concern expressed about the lack of regulatory enforcement relative to ginseng harvest in general, and an overall sentiment that prevention of legally licensed collectors from harvesting on state managed land would actually promote poaching as there will be fewer legal harvesters active to report illegal activity. Most participants in the Maryland Ginseng Management Program view themselves as stewards and protectors of a natural heritage.

In 2013, MDA continued to evaluate harvest trends and watch for positive developments resulting from a regulation change made July 1, 2010. As of that date, the harvest season for wild American ginseng in Maryland was changed from August 20 through December 15 to September 1 through December 15.

This change effectively gives the ginseng fruit longer to ripen, on average, and ensures a higher percentage viability of seed. This will allow wild ginseng populations a better opportunity for recovery from harvest pressures. It remains to be seen if these changes have affected any population increase in the field. It is expected that any change will be gradual, and that detection of positive trends may not happen for several years. The change also complies with harvest season modifications highly recommended by the U.S. Fish and Wildlife Service to not only bring all states with wild American ginseng populations into harmony in terms of parallel harvest season dates, but is also based on long term research that indicates the change as necessary to ensure long-term survival of wild American ginseng in its native range. To date, neighboring states of West Virginia, Virginia and Pennsylvania have made the recommended changes to their harvest season.

Weed Integrated Pest Management (IPM)

Plant Protection and Weed Management Section entomologist and staff continued to work with the Maryland Department of Transportation, State Highway Administration (SHA) to conduct an Integrated Pest Management (IPM) program to provide biological control to certain targeted weed species on SHA right of ways.

Weed IPM research activities were continued on SHA rights of ways, using funding from SHA, but were suspended at field plots at the Western Maryland Research and Education Center in Keedysville and for the most part curtailed at the MDA facility at Cheltenham due to lack of funding and staff. MDA weed management and biological control research projects have been conducted over each of the past 16 years, and have involved cooperation with the SHA, the Howard County Department of Recreation and Parks, the Maryland National Capitol Park and Planning Commission, the Maryland Department of Natural Resources, the U.S. Department of Agriculture (Both ARS and APHIS), the U.S. Forest Service, and private citizens. IPM investigations now target the suppression of mile-a-minute weed *Persicaria perfoliata* through use of biological control. MDA personnel rear, release and monitor biological control agents for this problematic weed species.

Purple Loosestrife, *Lythrum salicaria*, a target of earlier biological control work by MDA, continues to be monitored by MDA Plant Protection and Weed Management program staff.

During the past 16 years, research has focused on one or more of the following: the evaluation of organisms for potential biocontrol of thistles, purple loosestrife, and mile-a-minute

weed, testing herbicide formulation efficacy for thistle and Japanese stiltgrass management, testing the effects of the rose rosette disease on multiflora rose and other rose species and cultivars, and evaluating the use of competitive vegetation (including native grasses and forbs), in an effort to provide environmentally sound and cost-effective methods for suppression of noxious thistle species in Maryland. MDA is now focused strictly on biological control of mile-a-minute weed using very specific insect biological control agents.

Currently, MDA is in the second year of a two year agreement with the Landscape Operations Division of the SHA to administer a program to continue efforts at biological control driven suppression of mile-a-minute weed on state highway right of ways. This program includes lab and greenhouse rearing and field release and monitoring of the weevil, *Rhinoncomimus latipes*. Funding for rearing and release of the weevil is provided in part by SHA and in part by USDA APHIS.

In 2013, MDA staff continued a rearing program for the mile-a-minute weevil. The program involves both rearing of the host plant as well as the weevil. The host plants are grown in the MDA greenhouse in Annapolis. In 2013, more than 2,000 *P.perfoliata* plants were grown. At the MDA Plant Protection and Weed Management Section Insect Rearing Lab, MDA staff reared more than 3,400 weevils in 2013. Of those reared more than 2,000 were released at 10 sites. Release numbers were supplemented by 2,000 additional weevils acquired from the New Jersey Department of Agriculture, Phillip Alampi Beneficial Insects Laboratory. Weevils were released in two counties where no prior releases had been made: Garrett and Somerset. *R. latipes* has now been released by MDA staff in those counties as well as in Allegany, Washington, Frederick, Carroll, Baltimore, Cecil, Anne Arundel, Howard, Prince George's, Montgomery, Charles, Queen Anne's and Wicomico counties.

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

Noxious Weed Management

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

A weed control advisory committee has been established in each of 16 participating counties, with representatives from farming organizations, governmental agencies, local farmers and other property owners. Each committee provides advice 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 herbicide treatments on roadsides, in cooperation with 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 Weed Control Program employees handle complaints.

The weed control program provides no grant assistance to the 16 participating counties. The county grant agreements have subsequently been rewritten as cooperative agreements. The county programs have had to rely on increased spray revenues or fee for services to offset the loss of the financial

component. Spray revenues for all the county programs was 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 222 managers of property infested with a noxious weed. Generally these notices were effective in obtaining compliance. When necessary, MDA sent follow-up correspondence, resulting in compliance.

The Weed Control Program responds to citizens' requests for technical assistance in controlling invasive, difficult to control, persistent weeds, such as phragmites, kudzu, mile-a-minute, tree of heaven, Japanese stilt grass, purple loosestrife, and knotweed.

- **Giant hogweed** (*Heracleum mantegazzianum*) is a federal noxious weed that was first detected in Maryland in 2003 at 29 sites in Baltimore and Harford counties. In 2005, eight additional sites in Garrett County were added to this list, as was one additional site in 2007. There are currently 10 sites in Garrett County that have undergone several years of treatments. Only six sites needed treatment in Maryland this year. Two new sites in Baltimore County, two sites in Garrett County, and two in Harford County were treated. Frederick County Weed Control Program treated the hogweed plants in Baltimore County and the Montgomery County Weed Control Program provided the spray crew and materials to treat the hogweed in Garrett County. Harford County Weed Control Program accomplished the Harford County applications. An eradication effort is a multi-year effort.
- The Weed Control staff partnered with the Maryland Department of Natural Resources (DNR) for the 14th year in providing a phragmites management program. Upon request from landowners or managers, the Weed Control Program staff supplied technical and spraying assistance for control. DNR provided 100 percent of the herbicide (Rodeo®) applied in the nine Eastern Shore counties for spraying phragmites. Total spray revenue for phragmites control was more than \$85,000 for treating about 143 acres in 260 locations in 14 counties.

In all counties, the Noxious Weed Control Program's spraying service was offered to landowners participating in the Conservation Reserve Program (CRP) or Conservation Reserve Enhancement Program (CREP). It is thought that seed contamination at planting is responsible for the occurrence and spread of noxious weeds in these plantings. Due to the likelihood of weed problems occurring on land in these

PLANT PROTECTION AND WEED MANAGEMENT SUMMARY OF ACTIVITIES: CY 2011 - 2013

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

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

programs, spraying services were offered for noxious weed control.

Other Activities

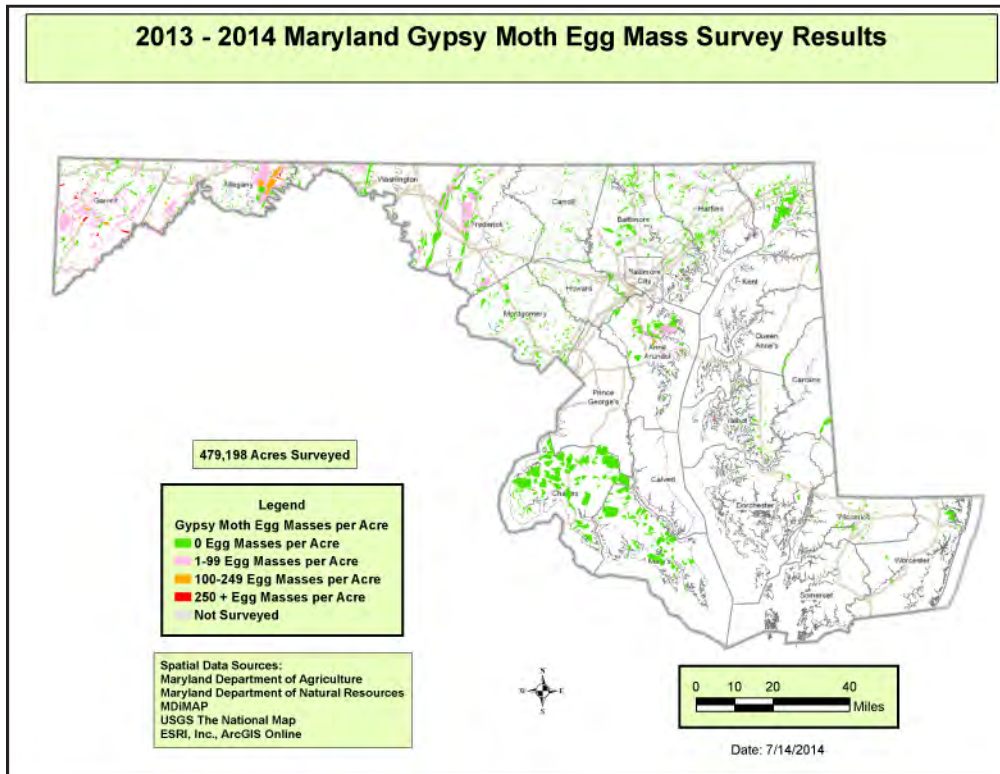
During 2013, MDA continued to take a leadership role in the Maryland Invasive Species Council (MISC), a forum for information exchange and consensus building among diverse interests in public and private agencies or organizations concerned with invasive species. Several MDA staff members were directly involved with MISC and were able to assist other members or individuals with technical expertise, as well as partner with other agencies on grants to control invasive species. Through MISC, the MDA has been able to disseminate information on many of the serious pests cited in this report.

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

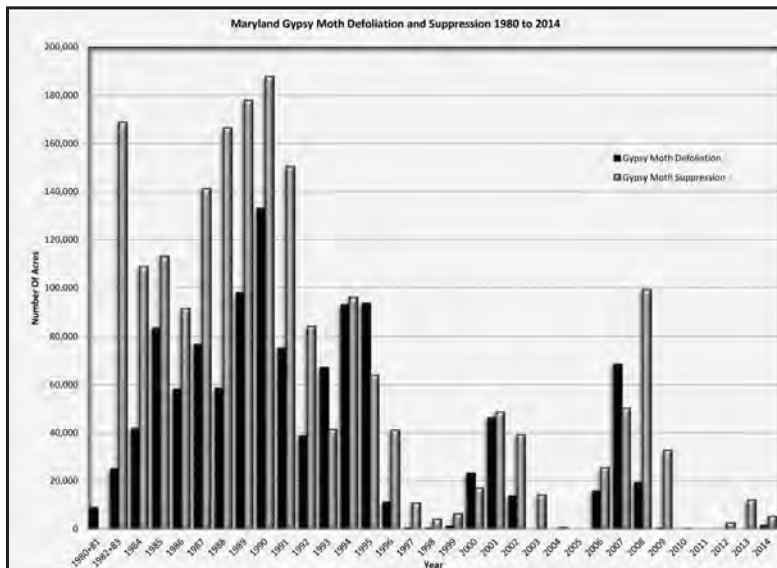
Maryland Nursery and Landscape Associations (MNLA) to raise and improve the professional standards of Maryland's nursery, landscape, and garden center industries by giving special recognition to individuals who have shown a high level of competence in the principals and practices of these industries. 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. The Maryland Certified Professional Horticulturist program study guide is in the process of its first major revision.

Forest Pest Management



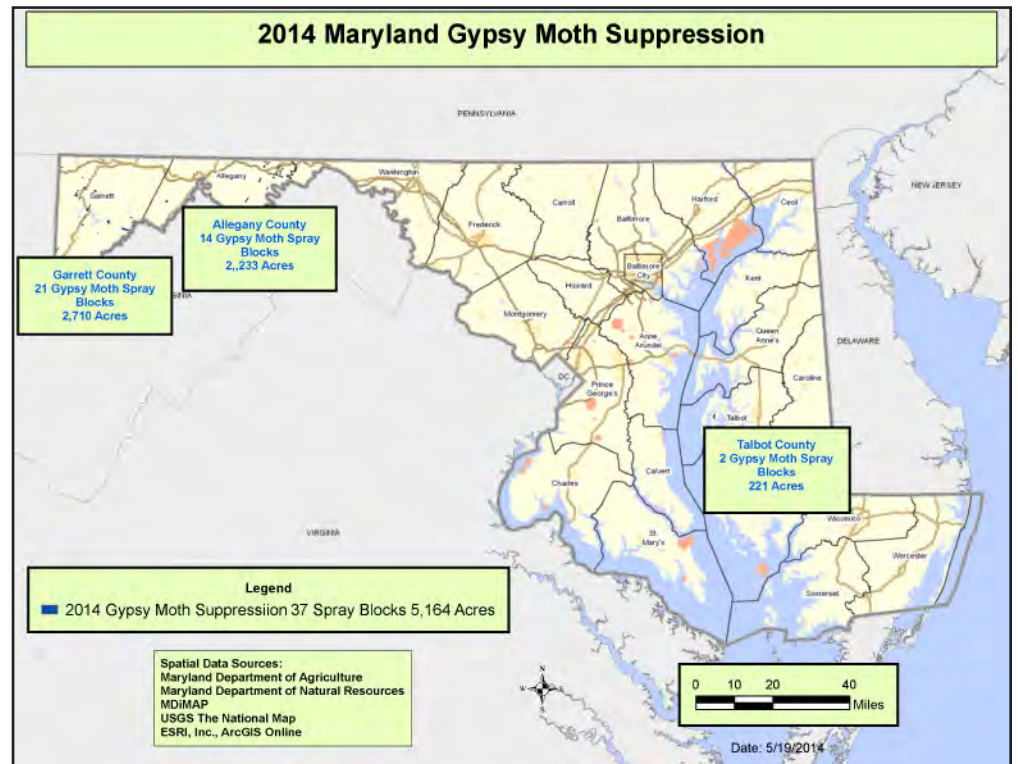
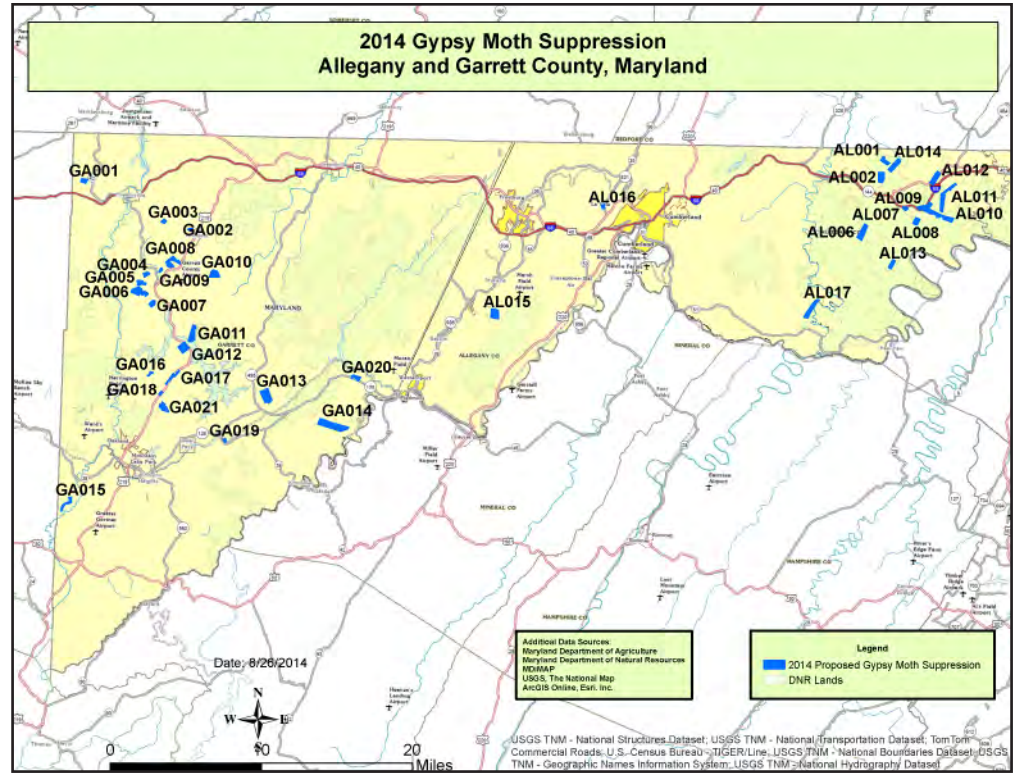
Gypsy Moth is the most serious threat to oak forests in the United States. The first eggs were detected in Maryland in 1971, and the first extensive defoliation occurred in 1981. Each fall and winter, MDA conducts an extensive survey for gypsy moth egg masses to determine potential areas of defoliation. From August 2013 to March 2014, MDA conducted gypsy moth egg mass surveys on 479,198 acres of “high value” forested lands. “High value” forested sites include areas with development, recreational use, managed forest and wildlife resources and other site conditions that render dieback and mortality to be economically and socially important. The

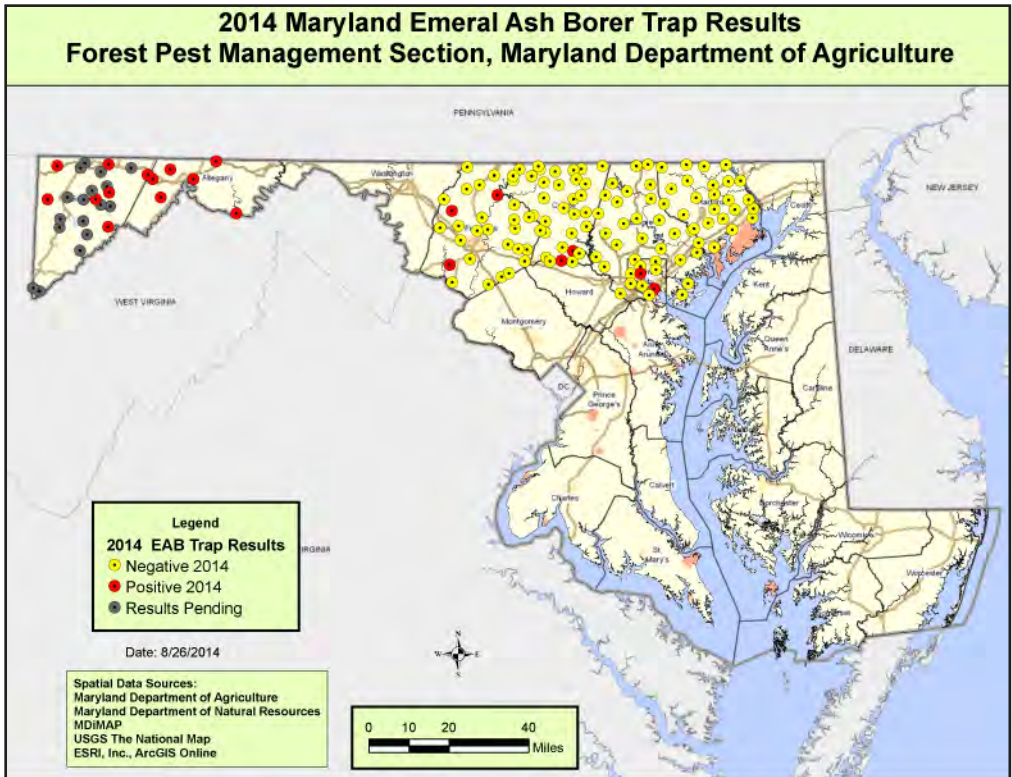


MARYLAND 2014 GYPSY MOTH DEFOLIATION

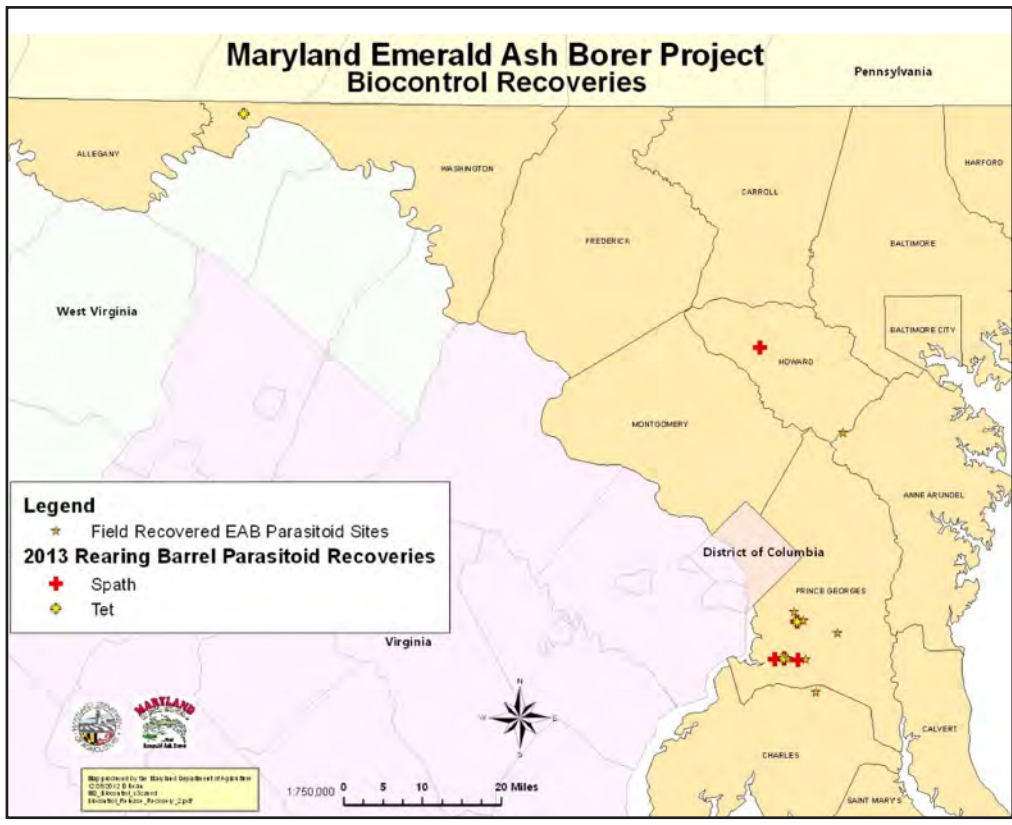
County	Number of Acres
Calvert	137
Dorchester	1,096
Prince George's	142
Queen Anne	43
Total	1,418

survey results indicated that the current populations were sufficient to cause moderate to heavy defoliation on 5,699 acres of high value rural and urban forest in 2014. During 2014, MDA sprayed 5,164 acres in 37 spray blocks. The insecticide was Foray 48B. All spray areas were in Garrett, Allegany and Talbot counties.

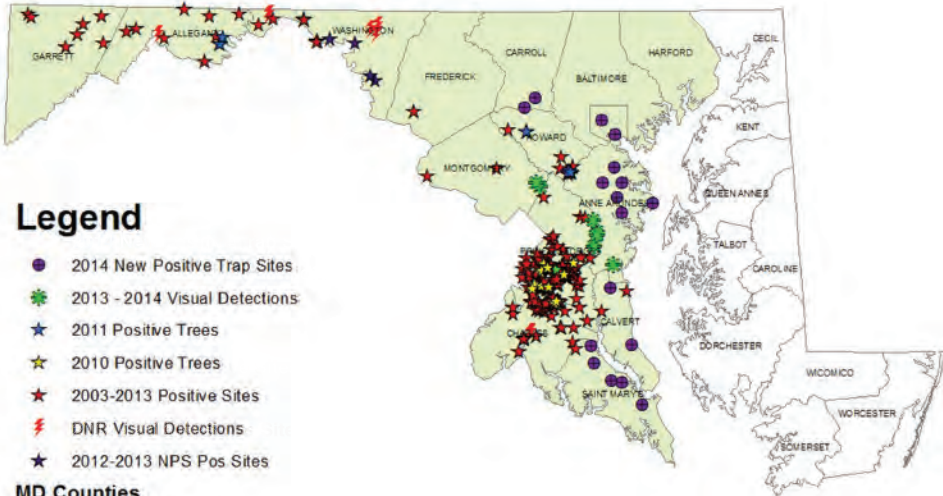




Emerald Ash Borer (EAB):
MDA put up 150 EAB purple traps in the quarantined counties of Maryland. MDA traps picked up a new EAB find in Carroll County and Baltimore City.



Maryland Emerald Ash Borer Project 2003 to 2014 Positive Sites



Legend

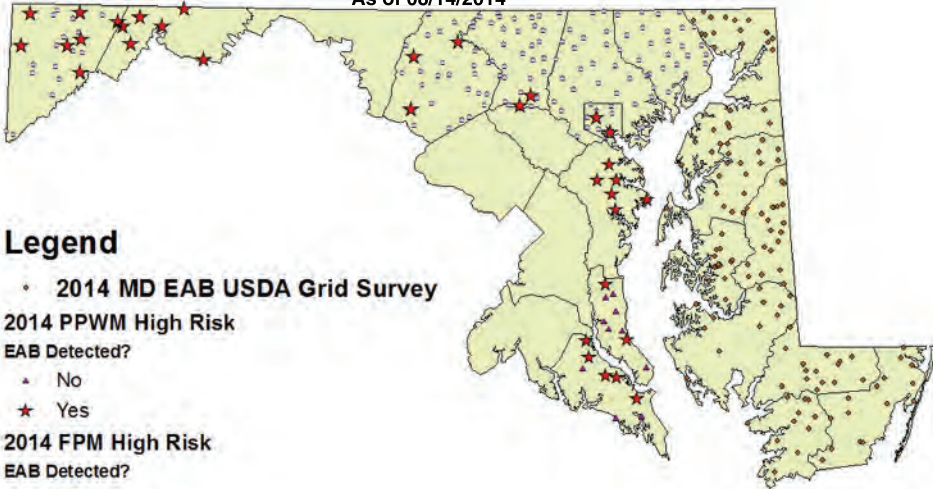
- 2014 New Positive Trap Sites
- ★ 2013 - 2014 Visual Detections
- ★ 2011 Positive Trees
- ★ 2010 Positive Trees
- ★ 2003-2013 Positive Sites
- ⚡ DNR Visual Detections
- ★ 2012-2013 NPS Pos Sites

MD Counties

- Federal & State Quarantine**
- EAB Quarantined County
 - Not Quarantined

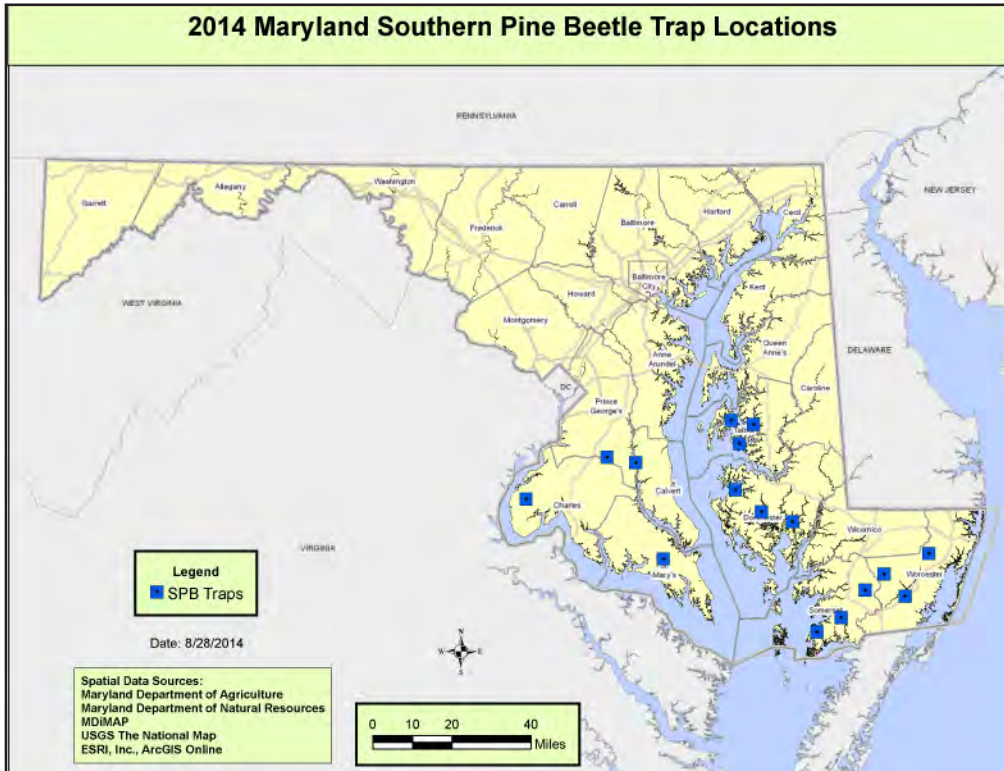
Maryland Emerald Ash Borer Project 2014 Trap Survey

As of 08/14/2014

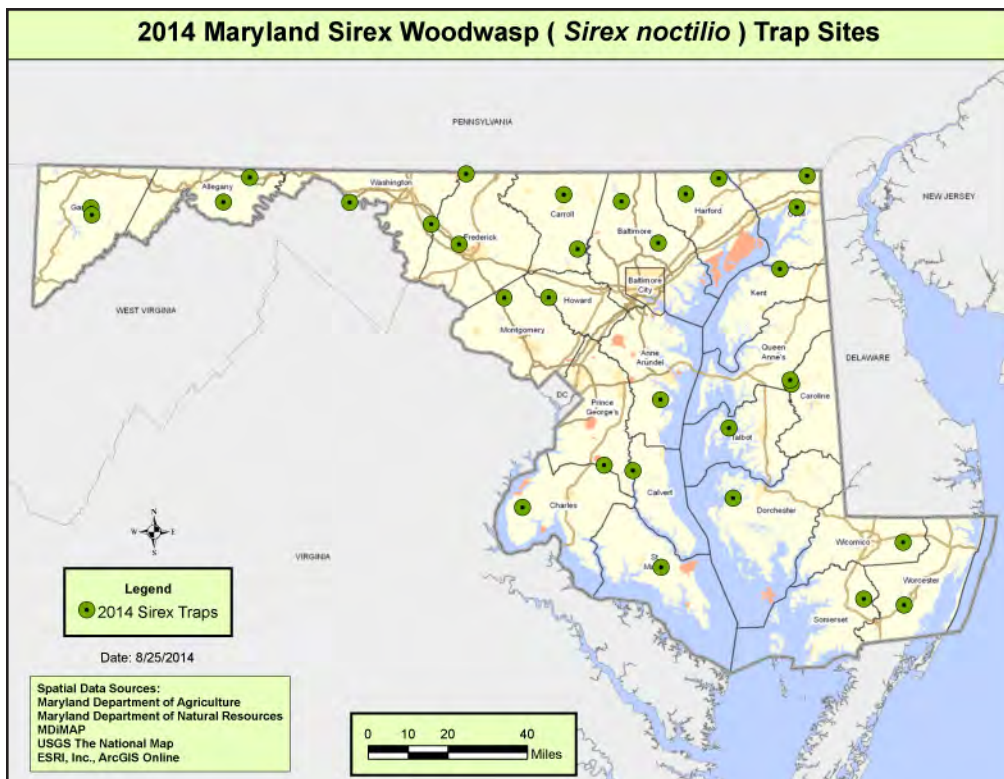


Legend

- 2014 MD EAB USDA Grid Survey
- 2014 PPWM High Risk
- EAB Detected?
- ▲ No
- ★ Yes
- 2014 FPM High Risk
- EAB Detected?
- No
- ★ Yes



Southern Pine Beetle (SPB) is one of the most destructive insect pests of pines. Maryland is at the northern edge of its range, and the SPB is commonly found on the lower Eastern Shore and Southern Maryland. Since 1989, Maryland has participated in a SPB survey throughout the southern United States using pheromone-baited traps. Trap data indicated that SPB numbers would continue to remain low in 2014. Populations have been below outbreak level since 1994.

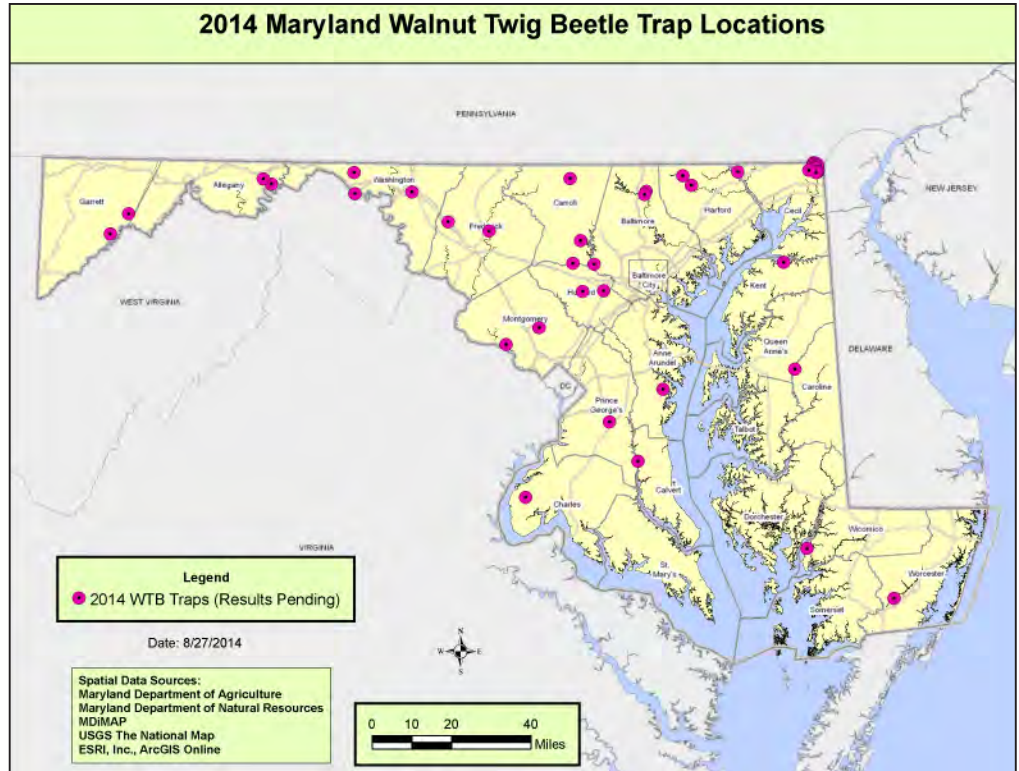


Sirex noctilio (Wood Wasp) has been the most common species of exotic wood wasp detected at United States ports-of-entry associated with solid wood packing materials. Recent detections of the wood wasp outside of port areas in the United States have raised concerns because this insect has the potential to cause significant mortality of pines, especially southern pines such as loblolly pine. The sirex wood wasp has not been detected in Maryland but is known to be in Pennsylvania. To detect this insect, MDA places two traps per county on the northern tier counties and one trap for all other counties, for a total of 30 traps in pine woods. All traps were negative during FY 2014.

Thousand Cankers Disease of Black Walnut (TCD) and Walnut Twig Beetle (WTB):

Eastern black walnut planted in the western United States have experienced dieback and mortality. The WTB spreads the TCD. An infested tree usually dies within three years of visible symptoms. This beetle and disease had not been reported in the natural range of the eastern black walnut until it was discovered in Tennessee in 2010. Since then, it has been found in several states. Maryland, with other mid-Atlantic states, started surveying for this disease in 2011. In 2013 WTB was detected in Maryland. So far, TCD has not been detected.

Thirty traps baited with a pheromone for the WTB were set statewide to detect new infestations. None of these traps have been positive; 13 traps have been set at the positive detection area in an attempt to delineate the population.



Hemlock Woolly Adelgid Suppression: Hemlock Woolly Adelgid (HWA) remains the major threat to the health of eastern hemlock. Infested hemlocks occur in the metropolitan area between Baltimore and Washington and in natural stands from Harford to Garrett counties. A joint task force of MDA and Maryland Department of Natural Resources (DNR) addressed the multi-disciplinary needs of the HWA infestation. The task force prioritized more than 50 hemlock stands and selected them as the sites where suppression might be attempted. Only publicly owned sites would be part of this suppression project. Hemlocks were treated with the insecticide imidocloprid. Two methods are used, trunk injection and soil injection. Doing trunk injection: 2,284 hemlocks were treated. All of these hemlocks were within 50 feet on water. Doing soil injections: 11,731 hemlocks were treated. A total of 14,015 hemlocks were treated. *Laricobius nigrinus*, a predatory beetle of the HWA has been released in several areas since 2004. In fall 2013, MDA staff went to North Carolina to collect *Laricobius nigrinus* to supplement the releases. Also, many of the beetles were collected at the MDA “nursery” at Rocky Gap State Park and released in other hemlock stands in Maryland.

FALL 2013 PREDATOR RELEASES IN MARYLAND FOR HEMLOCK WOOLLY ADELGID CONTROL

County	Hemlock Stand	Number Released	Species Released
Harford	Rocks State Park	1115	<i>Laricobius nigrinus</i>
Garrett	Poplar Lick	1048	<i>Laricobius nigrinus</i>
Frederick	Frederick City Watershed	1343	<i>Laricobius nigrinus</i>
Garrett	Poplar Lick	1000	<i>Laricobius osakensis</i>
Total		4506	

Since 2003 there have been 20,551 HWA predator releases in Maryland Hemlock Stands.

FALL 2013 - SPRING 2014 IMIDACLOPRID TREATMENTS FOR HEMLOCK WOOLLY ADELGID IN MARYLAND

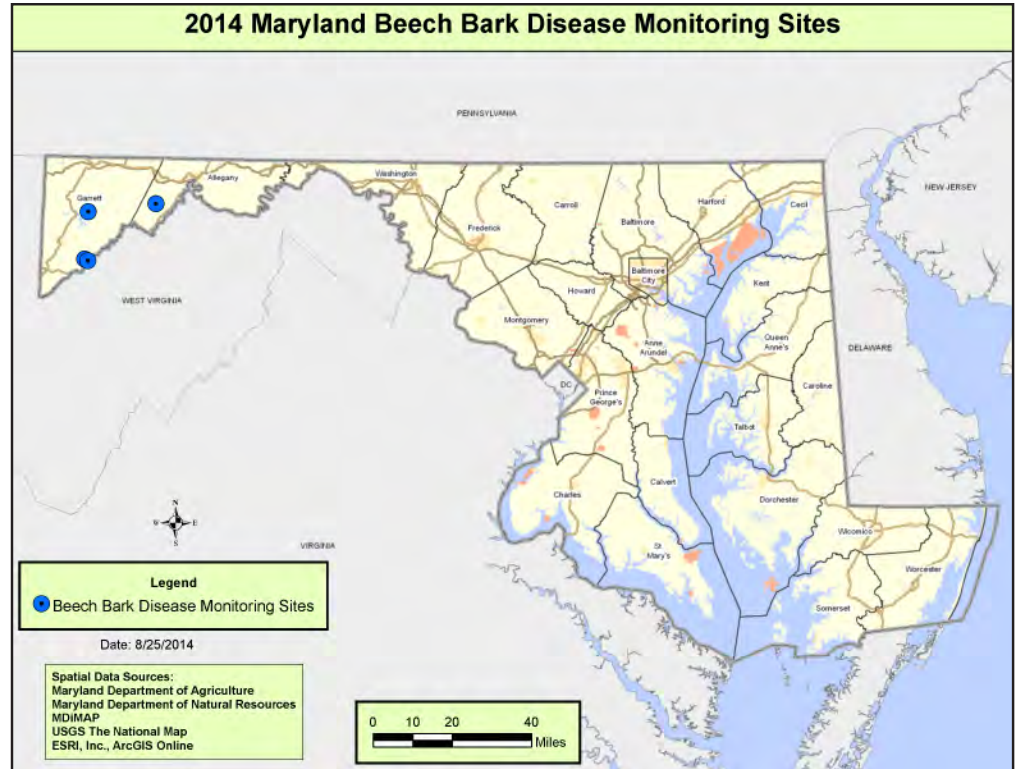
Hemlock Stand	County	Trunk Injection		Soil Injection		Total	
		#Trees	Inches DBH*	# Trees	Inches DBH*	#Trees	Inches DBH*
Green Ridge State Forest	Allegany	95	1339	674	6924	769	8,263
Prettyboy Reservoir	Baltimore	155	1275	840	7439	995	8,713
Frederick Watershed	Frederick	378	2488	779	4614	1,157	7,102
Cranesville Swamp**	Garrett	281	3523	381	6338	662	9,861
New Germany State Park***	Garrett	484	5503	7859	86977	8,343	92,479
Potomac State Forest	Garrett	280	2275	94	624	374	2,898
Savage River State Forest	Garrett	454	4445	257	2305	711	6,750
Swallow Falls State Park	Garrett	0	0	436	4677	436	4,677
Broad Creek Boy Scout Camp	Harford	0	0	99	1732	99	1,732
Seneca Creek State Park	Montgomery	157	1342	167	1132	324	2,474
South Mountain State Park	Washington	0	0	145	1057	145	1,057
Total		2,284	22,190	11,731	123,818	14,015	146,008

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

** Owned By The Nature Conservancy

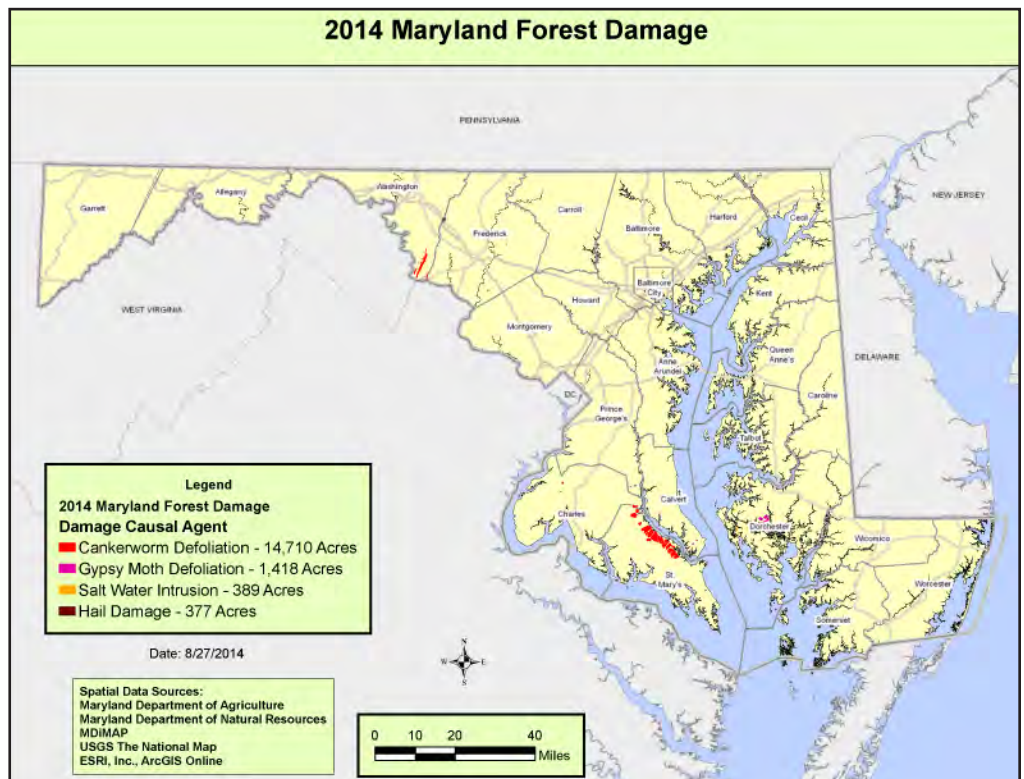
*** Treatments done by Forest Pest Mangement and Maryland Conservation Corps (Department of Natural Resources)

Beech Bark Disease: There are three permanent beech bark disease monitoring sites so far in Maryland: two in Garrett County where the insect and disease exist, and one in Allegany County. These sites are for monitoring the damage and expansion of this insect/disease complex.



Forest Pest Monitoring/ Surveying: 371 traps for various forest pests have been deployed in 2014.

Forested Pest Damage:
 Gypsy Moth: 1,418 acres defoliated.
 Cankerworm: A native species incurred 14,710 acres of defoliation in Prince George's, Charles, St. Mary's and Calvert counties.
 Hail Damage: 377 acres of damage.
 Salt Water Intrusion: Killed 389 acres of trees.
 See forest damage map.



Mosquito Control Section

The Mosquito Control Section provides an important public health and quality of life service to Maryland residents in 2,568 communities in 16 counties through mosquito abatement work, arbovirus surveillance, public education and enforcement.

The program is staffed by 15 classified employees, three long-term contractual employees, and 60 seasonal contractual employees in offices in College Park, Hollywood and Salisbury. Program administration, laboratory and the Anne Arundel County program are in Annapolis.

Mosquito Control work is conducted under the authority of the Maryland Mosquito Control Law, Agricultural Article, Title 5, Subtitle 4. Participation in the mosquito control program is voluntary and requires cooperative agreements with local governments and local commitments to pay for services.

Mosquito-Borne Disease Surveillance

West Nile virus (WNV) continues to be the mosquito-borne disease of greatest public health importance in Maryland. In 2013, 16 human cases, including one fatal case, were reported by the Maryland Department of Health and Mental Hygiene (DHMH).

Eastern Equine Encephalitis (EEE), one of the most severe mosquito-borne diseases in the United States, was isolated from mosquitoes collected by MDA personnel in Wicomico and Worcester counties. EEE has an average mortality rate of 33 percent, and most survivors experience significant brain damage. On August 13, DHMH reported four mosquito pools positive for EEE -- three from Wicomico County, one from Worcester County. DHMH reported four more mosquito pools positive for EEE on August 20. MDA responded with aerial spraying of 6,400 acres on August 16 and 10,617 acres on August 27. Following a management plan for prevention and control of arboviruses, MDA carried out aggressive and timely responses to reduce the number of infected adult mosquitoes thereby reducing the risk of transmission to humans and animals.

In addition to these findings, the Entomological Sciences Branch, U.S. Army Public Health Command detected WNV in six pools collected at military properties in Montgomery County.



Damage to the Chrisfield tidal dike system by the tidal surge from Hurricane Sandy was assessed and repaired by MDA.

Permanent Work Projects

After 27 years of service, the Linkbelt excavator was finally taken out of service. The pontoons which provide buoyancy were corroded with rust. The cost to construct new pontoons would be at least \$20,000. Considering age, repair costs and difficulty in obtaining replacement parts, the decision was made pull the Linkbelt from service. The Kubota Excavator, which went into service in 2012, is now the primary unit used for ditching and water management projects.

In December of 2012, the Mosquito Control staff, in cooperation with the Commissioners of Somerset County, began an assessment of the entire Crisfield tidal dike system. The purpose of the assessment was to determine the extent of damage resulting from the tidal surge from Hurricane

Sandy. The inspection verified that this earthen dike had experienced extensive inundation and subsequent damage from the storm system. The inspection showed 20 breaches. Four were large “blowouts” of the entire dike. In addition to this damage, eight tide gate culverts had to be completely replaced.

Reconstruction operations began in late December and were completed by the first week in April 2013. MDA used the newly purchased Kubota amphibious excavator which was essential to remove debris and fallen trees, to access remote areas of the dike, and to set in place the tide gate culverts. In addition to the excavator, MDA also used an all-terrain Argo ATV for personnel and equipment transport.

Follow up inspections indicate that the repairs are successful and the tide gates are operating effectively. MDA will continue to monitor this tidal dike system to ensure the repairs are still functional in reducing residential flooding as well as reducing mosquito breeding habitat in the Crisfield community.

**There were a total of 424 acres managed in 2013*

**MDA completed three general ditch maintenance projects in the Crisfield area to improve drainage off of county roads and aid in reducing mosquito breeding habitat.*

Biological Control

In the effort to control mosquitoes, MDA uses several approaches as part of its integrated pest management (IPM) program. One component of this program is the use of the native mosquitofish, *Gambusia affinis holbrooki*, to control mosquito larvae. Incorporating this biological control agent reduces the use of aquatic insecticides and provides control of mosquito populations in an efficient, cost-effective and environmentally responsible manner.

The mosquitofish used in the mosquito control program are reared in a facility at the Salisbury Regional Office. From there, they are transported and stocked into suitable habitats such as stormwater management facilities, closed ditches and artificial containment sites. These areas are inspected by MDA personnel to determine if the introduction of *Gambusia* would be the preferred control option based on habitat type/site design, water quality factors, the presence of threatened or endangered species, and the relative abundance of mosquito larvae.

During the 2013 mosquito season, 5,200 fish were stocked in closed pond and woodland habitats. MDA will continue to

monitor and inspect suitable sites to determine where future mosquitofish stocking is necessary.



Public Education

Public education efforts were evenly split between media, school and general presentations. There were 15 interviews done this season by mosquito control or public information office employees, with both print and TV media outlets throughout the state.

Public education continues to be an important part of the mosquito control program, particularly with the continuing problems created by the introduction and spread of the Asian tiger mosquito. During 2013, outreach was done at 17 different school functions -- 12 in Prince George's County. Mosquito control employees judged science fairs and the Prince George's Schools science quiz show and science bowl, and presented half-day workshops for insect camps with Maryland National Capital Park and Planning Commission nature centers. Staff also made presentations to three university classes: Salisbury University, Frostburg University and the University of Maryland.

Many of these public education efforts are impossible to quantify, particularly the media interviews. However, more than 400 people attended events with known participant levels. Some of the public education and outreach activities are summarized below.

- Mosquito control employees spoke at six community meetings: two in Prince George's County, two in Anne Arundel County, one in Calvert County, and one in Queen Anne's County.

- Employees spoke at five professional meetings – a regional mosquito association meeting, a state-wide meeting of county code enforcement professionals, two meetings with Prince George’s County Police and staff, and a Rotary Club presentation.
- MDA hosted a month-long exhibit in three different Prince George’s County libraries (Greenbelt, Surratts/Clinton, and New Carrollton) in 2013; one in May, one in June, and one in July.
- Baltimore County public schools continue to use their second grade unit called Skeeters. This unit is based on the teacher workshops MDA developed for them several years ago.

Air Spray

The air spray program continues to provide a high level of service to the state. MDA owns and operates a Beechcraft King Air which has been modified specifically to be operated in a modern mosquito control program. The pilot is also the administrator for the air spray program.

The airspray season began in April with applications of biorational larvicide to 5,772 acres of seasonally flooded woodlands. This work is done near population centers to reduce the number of mosquitoes that fly into these areas. The early woodland mosquito species are also involved in the amplification of arboviruses in bird populations. Controlling them helps to reduce the risk of transmission of arboviruses to horses and humans late in the season.

In 2013, 134,026 acres were treated by aircraft, the majority for control of adult mosquitoes.

Precision navigation and flow control equipment are critical to the safe and efficient aerial applications of insecticides. A computer-based navigation system purchased in the early 2000s failed and was replaced in 2013 with Ag-Nav Guia, a state of the art GPS based system.

This system, functioning with insecticide metering equipment, assures target accuracy and disperses insecticides accurately within a tenth of an ounce per acre. With spatial and temporal parameters and calibrated application rates, mosquito mortality rates of 90 percent or more are achieved within a defined target area at a cost that is lower than spraying with truck-mounted spray equipment.



MOSQUITO CONTROL ACTIVITY SUMMARY: CY 2011 - 2013

	CY 2011	CY 2012	CY 2013
Communities Participating in Mosquito Control Program	2,030	2,614	2,568
Number of Light Trap Nights	2,909	2,682	3,758
Percent of Light Trap Nights Below Threshold	66%	71%	69%
Number of Landing Rate Counts Performed	25,140	20,789	35,461
Percent of Landing Rate Counts Below Action Threshold	34%	48%	28.6%
Number of Public Service Requests	3,597	3,641	4,449
Number of Inspections by Request	n/a	n/a	3,578
Number of Adverse Effects Inspections	n/a	n/a	770
Number of Mosquitofish Stocked	2,306	5,425	6,282
Acres Managed by Open Marsh Water Management	640	283	455.5
Acres Treated with Insecticide	1,817,514.2	1,359,100	1,551,128.5
Acres Treated for Mosquito Larvae	7,432.9	6,234	6,447.45
Acres Treated for Adult Mosquitoes	1,810,087.3	1,352,866	1,544,681.1
Acres Treated by Aircraft	309,469	151,066	134,026
Acres Treated by Ground Equipment	1,508,045.17	1,208,034	1,417,102.5
Number of Mosquitoes Tested for Arboviruses	24,474	15,522	21,960
Number of Human Cases of West Nile Virus Statewide	19	47	16
Number of Human Cases of West Nile Virus in Areas with Mosquito Control	2	8	1
Number of Cases of Arbovirus in Domestic Animals	2	3	3
Number of Mosquito Pools Positive for Arbovirus	15	11	*12

**Of the 12 mosquito pools that tested positive for Arbovirus, two were in Prince George's County, five were in Wicomico County and five were in Worcester County. The breakdown of virus types is as follows: Eastern Equine Encephalitis, eight cases; West Nile Virus, three cases; EEE and WNV, one case.*

Pesticide Regulation Section

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

Pesticide Applicator Certification and Training

Two types of pesticide applicators are certified by MDA: private and commercial. Private applicators are farmers and other individuals applying restricted-use pesticides to their own land or rented land for the purpose of producing agricultural commodities. Commercial applicators apply general use and restricted use pesticides as employees of licensed pest control businesses, not-for-hire businesses or public agencies.

- 130 new private applicators were certified in 2014 for a three-year period after passing a closed book examination administered by section personnel; and 1,666 private applicators renewed their certificates by attending recertification training. Currently, there are 3,246 certified private applicators. Section staff approved and monitored 131 private applicator recertification training sessions that the University of Maryland Extension, MDA, or the pesticide industry conducted.
- 583 new commercial pest control applicators and consultants were certified in 2014 in one or more of the 13 categories of pest control by satisfying minimum experience or education requirements and by passing written certification exams. The section certified 1,066 public agency applicators in 2014, bringing the total number of certified commercial, public agency applicators and consultants to 4,639.
- 18 exam sessions were held in 2014 during which 1,998 exams were administered to 840 applicants. Certified commercial applicators are required to participate in at least one update training session approved by MDA

each year to renew their certificates. Four hundred and ninety-three (493) recertification training sessions for commercial pesticide applicators were approved and monitored by MDA and were conducted by the pesticide industry, the University of Maryland Extension, or the department. By attending recertification training, 3,761 applicators were recertified in 2014.

- 1,605 commercial businesses and 157 not-for-hire businesses were licensed to apply pesticides and to perform pest control services while 328 public agency permits were issued to governmental agencies that apply pesticides. 36 pest control consultant licenses were issued.
- 7,930 registered employee identification cards were issued during 2014. These employees of pesticide businesses and public agencies are registered to apply pesticides under the supervision of certified applicators. A total of 157 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 pest control



businesses, public agencies, pesticide dealers, market places and producer establishments. Consumer complaint and pesticide misuse investigations are also conducted by the staff.

- 908 routine business inspections were performed during which 495 businesses were cited for violations of the Pesticide Applicators Law and Regulations.
- 77 pesticide dealer inspections were conducted to ensure that restricted use pesticides were sold only to certified applicators.
- 143 use observations were conducted during which pest inspection and pesticide applications performed by commercial, public agency and private applicators, were observed by section personnel.
- 40 consumer complaints were investigated.
- 31 pesticide producer establishments and 32 market place inspection were conducted under the federal cooperative agreement.
- 11 civil penalties totaling \$11,660 were assessed.

In FY 2014, MDA continued conducting compliance assistance inspections at commercial agricultural pesticide application firms, custom blending operations and agricultural pesticide refilling establishments. Inspectors conduct inspections of bulk pesticide storage containers and mixing and loading pads at these facilities to ensure they are in compliance with state and federal regulations. These regulations were developed to protect the environment from agricultural pesticide releases at bulk storage sites and from agricultural spills and leaks resulting from pesticide refilling and dispensing (repackaging, mixing and loading) operations.

Pesticide Technical Information Collection and Dissemination

A list of pesticide sensitive individuals was first compiled in 1989. During 2014, MDA registered 197 individuals. These individuals received advance notification of pesticide applications made to adjacent properties by commercial ornamental plant and turf pest control businesses and public agencies.

Searchable databases of registered pesticide products, licensed pesticide businesses, commercial and private

applicators and restricted use pesticide dealers continue to be posted on MDA's web site. These databases provide information to applicators and the public about pesticides that may be legally sold, distributed and used in Maryland and the names and address 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 applicators and consumers can obtain information on each pesticide product queried, such as the EPA registration number, pests controlled, sites of application, formulation, active ingredient and the brand name.

Integrated Pest Management in Schools

MDA continues to promote and support implementation of the Integrated Pest Management (IPM) Program in Public Schools. Regulations that require schools to develop and implement notification and IPM plans for indoor pest control became effective in 1999, and regulations for notification and IPM plans for school grounds became effective in 2002. Staff provided technical assistance in the development of the plans and distribution of information on potential adverse effects of pesticides applied. MDA continues to work with Maryland Public School districts on implementation of IPM on school property. In addition, MDA staff serves 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 2014, the Pesticide Regulation Program Manager, Enforcement Program Coordinator and Inspectors attended the annual EPA Region III State Pesticide Inspector's Workshop hosted by the Delaware Department of the Environment. Seventy-five inspectors from Maryland, Delaware, Pennsylvania, Washington D.C., Virginia and West Virginia attended. The agenda for the workshop included health and safety training for the inspectors as well as presentations on the importance of personal protective equipment 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 2014, the section offered its recycling program for empty plastic pesticide containers to growers and commercial pesticide applicators. Collection centers were maintained in seven locations with the assistance of county government agencies. A total of 24 collection days were held from June through September. In addition, 13 pesticide dealer/custom applicators participated in inspection and collection of containers at their own facilities. A total of 56,013 containers weighing 64,050 pounds were collected. The containers were processed for transporting to a plastic recycling facility.

MDA began conducting a pesticide disposal program in 1995 but due to budget constraints has not been able to conduct the program since 2007. However, MDA was able to conduct a pesticide disposal program during 2014. The section collected unwanted or unusable pesticides from 54 participants (farmers and growers) in 16 counties throughout the state. This program collected 17,866 pounds of pesticides. The program has collected and properly disposed of more than 185,000 pounds of unusable or unwanted pesticides.

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 receive training on pesticide safety. Brochures on the WPS have been produced and widely distributed to the regulated community. To aid with on-farm compliance, the section has developed a pocket-sized WPS Compliance

Evaluation Checklist which is available to all of the WPS regulated community. The section also contracted with Telamon Corporation to provide pesticide safety training to farm workers. In 2014, Telamon members provided training in Spanish to 278 farm workers. In addition, Telamon continues to teach pesticide safety awareness to children of farm workers.

In 2013, the section launched an online mapping application, call a "Sensitive Crop Locator." This application shows the locations of crops sensitive to pesticide damage so pesticide applicators can take extra precautions to prevent pesticide drift, especially from herbicides, when spraying on nearby properties. Crops sensitive to pesticide damage include grapes, tomatoes, organic farms, tobacco, livestock, nurseries, and vegetables among others. Information in the statewide map is voluntarily provided by the grower of the sensitive crop(s). The map includes the name and address of the grower; the type of crop/commodity produced; contact information; and the specific location where each crop is grown. The website gives applicators the ability to pull up maps and satellite images to search for, locate and identify any sensitive/specialty crops in areas where they will be making pesticide applications. The mapping system also has the capability to measure distances and areas. The database is designed for individuals involved in commercial production. It does not include homeowners who may be growing a sensitive/specialty crop on their own property for their own use. Although designed for applicators, it is available to anyone online. Commercial growers who want their crop and/or commodity listed can submit an application to MDA for each field to be listed on the website.



PESTICIDE REGULATION SECTION ACTIVITIES: 2012 - 2014

	2012	2013	2014
Commercial Pesticide Businesses Licensed	1,755	1,553	1,809
Not-For-Hire Businesses Licensed	1,155	154	1155
Commercial Pest Control Applicators Certified In One or More Category	3,300	3,410	3,300
Registered Personnel Employed by Licensed Businesses and Public Agencies	7,971	7,942	7,971
Public Agency Permits Issued	325	325	325
Public Agency Applicators Certified In One or More Category	1,077	1,072	1,077
Private Applicators Certified to Date	3,256	3,256	3,246
Dealer Permits Issued	148	148	162
Applicator Certification Examination Sessions Held	18	18	18
Individuals Taking Certification Examinations	931	850	840
Certification Examinations Administered in All Categories	1,978	1,922	1,998
Number of Businesses Inspected	750	601	750
Number of Businesses with Violations	222	142	222
Unregistered Employee Violations	19	13	19
Records Incomplete or Inaccurate Violations	143	97	143
Vehicles Not Properly Identified Violations	51	30	51
No Anti-siphon Device Violations	11	13	11
No First Aid/Safety Equipment Violations	5	10	5
Incomplete or No Customer Information Violations	18	11	18
Pesticide Dealer Inspections	89	78	89
Application Records Reviewed	978	709	978
Hearing and Investigational Conferences	1	2	1
Consumer Complaint Investigations	108	26	40
Pesticide Use Observations	186	82	156
Pesticide Samples Collected for Analysis	63	50	70
Market Place Inspections	33	31	32
Pesticide Producer Establishment Inspections	28	30	31
Container/Containment Inspections	8	9	9

State Chemist Section

The State Chemist section protects consumers and the environment from unsafe and ineffective products by conducting laboratory analyses on pesticides, feeds, pet foods, fertilizers, compost, soil conditioners and agricultural liming materials.

During FY 2014, MDA State Chemist registered:

- 12,782 pesticide products;
- 4,076 fertilizers;
- 551 soil conditioners;
- 739 fertilizer/pesticide mixtures;
- 171 liming materials; and
- 17,628 commercial feeds.

MDA inspectors also brought 478 previously unregistered products into compliance and performed 1,050 on-site inspections.

Human and Animal Health Protections

- The State Chemist Section protects the public, Maryland farm ruminant livestock, as well as related industries such as restaurants, fast food establishments, supermarkets, cattle industry, etc. from the fatal disease BSE (bovine spongiform encephalopathy, also known as Mad Cow Disease). MDA inspectors and chemists annually inspect and analyze cattle feed made by Maryland's 34 feed plants to ensure the animal feed is free from potential disease bearing proteins (prions) that transmit Mad Cow disease to humans via consumption of beef or other ruminant meat intended for human consumption.
- State Chemist inspectors removed hundreds of dog food products that potentially contained the organism *Listeria monocytogenes*. Such products had the potential to transmit the disease to humans via use in the homes. *Listeria monocytogenes* can cause serious illness to people and death to infants, the elderly and individuals with auto-immune illnesses.
- The State Chemist Section continues to monitor Maryland grown produce for the presence of pesticides. Inspectors took eight samples of each of seven to 12 different agricultural commodities from every county (average 75 to 100 sites for the entire state) from 2007

to 2014. The total number of samples taken during this period of eight years is 616 samples. Each sample was analyzed by chemists for about 300 different pesticides, an average of 22,800 analyses per year. More than 99.9 percent of Maryland grown produce was free of pesticides, comparable to organic grown produce.

- The State Chemist continues to monitor for harmful mycotoxins in livestock feed. These toxins may cause illness and death to horses, poultry, cattle, etc.

Protection of the Chesapeake Bay

The State Chemist's registration staff carefully reviews the labels of all fertilizers intended for use on lawns, turf, golf courses, nurseries, etc. The purpose is to ensure that the directions for use comply with the 2011 Lawn Fertilizer Use Act.

The staff performs calculations relative to label use directions and the amount of nitrogen declared to be in the product to determine that the amount of nutrient is equal to or less than permitted to be applied. The inspectors perform surveillance of retail outlets to ensure that lawn, turf, nursery products not in compliance with the law are not available to the public, primarily the home owner. Non-compliant products enable nutrients harmful to the Chesapeake Bay to migrate via erosion or other types of run-off into the Bay watershed.

Additionally, the law requires the registrants and manufacturers of the products to submit annually to MDA the amount of these products sold/distributed specifically as fertilizer for lawns, turf, golf courses, nurseries and other uses. The purpose of such is to monitor the increase or reduction of these fertilizer products and the corresponding nutrients from year to year.



Turf and Seed

Seed is the single most important input to any agricultural system. To be successful, a grower must begin with quality seed. MDA's Turf and Seed Section conducts regulatory and service programs, including seed and field inspections, testing, certification and quality control services which are designed to ensure the continued availability of high quality seed to Maryland's seed consumers. Today's seed industry exists in an environment of rapid change. The continued development of biotechnology and the expansion of genetically modified organisms have 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, five MDA seed analysts are certified by AOSA in both purity and germination testing. The laboratory staff also routinely participates in various seed referee tests. These referees develop new testing methodology and ensure uniform and accurate seed testing throughout the country, while also serving as continuing education requirements necessary for certified analysts to maintain their credentials.

Seed Regulatory Activities

The Maryland Seed Law requires all seed offered for sale in the state to be labeled accurately. This includes agricultural, vegetable, flower, lawn and turf seed, as well as specialized

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

Seed Certification

The seed certification program is adapting to changes in the seed business. As large investments in biotech research by private companies increase, 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. MDA cooperated with the Maryland Crop Improvement Association, the Maryland Agricultural Experiment Stations, and the University of Maryland in the production and distribution of Maryland foundation seed. Much effort was spent to maintain the genetic purity of foundation seed of public varieties important to Maryland agriculture. This foundation seed was distributed to participating Maryland seedsmen for the production of Maryland certified seed.

Supervised Seed Mixing

The supervised seed mixing system enables certification to be continued when certified lots of different kinds and varieties of seeds are mixed together. Demand from the industry and consumers for this service is strong. MDA's oversight of this process ensures that consumers receive quality seed, not low quality substitutions. All seed used on State Highway

GOAL AND OBJECTIVES

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

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

Performance Measures	Actual 2014
Outcome: Percent of Seed Lots Found to be Correctly Labeled	87.4

TURF AND SEED ACTIVITIES: 2012 - 2014

	2012	2013	2014
Field Inspections			
Acres of Turf Inspected	4,811	5,895	7,333
Acres of Crop Seed Inspected	10,951	13,534	11,115
Supervised Mixing			
Pounds of Seed Mixed (thousand)	2,151	2,086	1,882
Retail and Wholesale Seed Inspections			
Number of Lots Sampled	995	1,053	865
Number of Regulatory Seed Tests Conducted	2,972	2,941	2,261
Seed Testing			
Purity Service Tests Conducted	3,140	2,902	2,556
Germination Service Tests Conducted	4,439	4,121	3,877

Administration projects and for the production of Maryland certified turfgrass sod is mixed under this program. Many county and local governments, school systems, golf courses, recreation departments and professional seeding contractors require that the seed they purchase be mixed under this program. Prior to mixing, component seed lots must be officially sampled and tested by the Maryland State Seed Laboratory. Seed lots that meet applicable standards are then mixed under the direct supervision of an MDA inspector who ensures that the mixer is free of contaminants and that only approved seed lots are used in the mixture. Special tags sewn onto each bag verify that the seed was mixed under MDA supervision.

Turf Regulation

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

Maryland public continues to be able to purchase some of the highest quality sod available anywhere.

Turf Certification

Maryland's turf certification program is a national model for certification programs. Growers must plant varieties recommended by the University of Maryland based on performance trials conducted in this region. All seed used in this program is tested by the Maryland State Seed Laboratory and mixed under the supervision of MDA inspectors. All certified turfgrass fields are inspected for quality before harvest. Many sod specifications require Maryland certified turfgrass as a means of assuring the use of high quality varieties that are well adapted to this area.

Customer Service

Providing good customer service is a priority of the Turf and Seed section. Because the marketing and planting of seed is time-sensitive, and because weather has an impact, customers rely on MDA staff to provide inspections, schedule supervised mixes, and send out seed test results rapidly to enable their businesses to remain successful in the seed market.



Office of Resource Conservation

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

the activities of Maryland's 24 soil conservation districts and appoints SCD supervisors. The committee also develops, reviews and refines policies on soil conservation and water quality issues, advises the Secretary of Agriculture, and serves as a forum for all agencies involved in protecting natural resources.

In FY 2014, the SSCC approved or recommended the following policy initiatives:

- Setback guidance required by new nutrient management regulations and role of SCD staff in assisting farmers;
- A training needs plan and calendar of training sessions for SCD field employees;
- Stormwater requirements for agricultural activities and structures; and
- SCD supervisor training.

In FY 2014, the SSCC received the following briefings and tracked these initiatives:

- Overview of the Chesapeake Bay Model, how it currently addresses agricultural inputs and best management practices (BMPs) installed by farmers; efforts to update methodology; BMP nutrient reduction efficiencies; and recognition of functional equivalents for BMPs installed without public funding;
- New legislation that may impact agricultural soil conservation and water quality programs;
- Stream water quality monitoring by the Maryland Department of the Environment (MDE) and the USDA's Natural Resources Conservation Service (NRCS) in the Catoctin Creek Watershed;
- New research and technologies, including soil health, irrigation, phosphorus management, BMPs and in-field bioreactors to address subsurface nitrate movement; and
- Proposed regulations for the Agricultural Certainty Program aimed at accelerating BMP implementation.

Program Planning and Development

The Program Planning and Development section is responsible for planning, developing and coordinating policy, programs, and public information about resource conservation issues and nonpoint source pollution. Programs and activities are coordinated among local soil conservation districts, federal and state agencies, and public and private agricultural and natural resource organizations. The section also provides staffing support to the State Soil Conservation Committee, Governor Martin O'Malley's BayStat Program and the Conservation Reserve Enhancement Program Advisory Committee.

Animal Waste Technology Fund: During the year, a \$2.5 million Animal Waste Technology Fund was established to support alternative uses for manure such as fertilizer manufacturing, composting and manure-to-energy projects. The fund provides incentives to companies that demonstrate new technologies on farms and alternative strategies for managing animal manure. In January, MDA issued a Request for Proposals for demonstration projects that use proven and innovative technologies. MDA received eight bids, which were evaluated by a six-member technical review subcommittee. Awards will be announced in August 2014.

Geographic Information Systems (GIS): GIS is a powerful software technology used for resource management and development planning. The technology allows a vast amount of information to be linked to a geographic location. Data from many sources, including digitized and scanned maps, aerial photography, soil surveys, global positioning systems data and others are integrated and analyzed to create a "smart map" of a specific location.

In FY 2014, staff continued to provide technical assistance and spatial data to a range of program areas within MDA. Training sessions were conducted on new ArcGIS 10.2.1 functionalities and ArcGIS Online, a cloud-based platform that allows anyone to make, share and host maps and applications.

During the year, a user-friendly watershed locator web map was developed and embedded on the MDA website to help nutrient management consultants, lawn care providers and staff identify the 12-digit watershed code associated with nutrient management planning.

GIS staff continued to participate in an interagency committee to revise and update the Maryland Integrated Map (MDiMap), a statewide data viewer that allows government agencies and the public to access state, local and municipal government spatial data sets and GIS applications.



Information and Education: The Information and Education Program provides creative, editorial, graphics and production services to program areas within the Office of Resource Conservation. Displays, brochures, fact sheets, and conservation education materials are provided to soil conservation districts statewide to assist with their educational outreach efforts.

In FY 2014, the program developed a comprehensive public education program titled “Manure Happens.” The campaign’s dual purpose is to educate citizens on how manure resources are managed on the farm while encouraging farmers who use commercial fertilizer to consider switching to poultry litter and livestock manure as a natural fertilizer and soil conditioner. As part of the campaign, a dedicated web page was created at www.mda.maryland.gov/manure. News releases, along with print, web and social media ads were created to promote the site, resulting in more than 2,500 page views in March and April 2014.

In other areas, annual reports for soil conservation districts, the Maryland Agricultural Water Quality Cost-Share (MACS) Program and the Nutrient Management Program were produced along with the spring and winter editions of the Maryland Nutrient Management Newsletter. Farmer outreach programs were developed to promote the Conservation Reserve Enhancement Program, Cover Crop Program, Manure Matching Service, Manure Transport Program, and grants for manure injection and incorporation. To assist poultry operations, a Record Keeping Guide was updated and new outdoor signs were developed on proper composting techniques for poultry mortalities.

In other areas, the program continued to educate citizens and lawn care professionals on Maryland’s new lawn care law through news releases, print and web ads and brochure updates. During the fiscal year, the Information and Education Program provided educational exhibits for approximately 25 events, including the 11-day Maryland State Fair, Fall and Spring Maryland Home and Garden Shows, University of Maryland Extension’s Open House, Towson Gardens Day, the Master Gardeners’ Workshop, and Delmarva Chicken Festival, while providing educational materials to homeowner associations, teachers and soil conservation districts statewide.

Conservation Grants

The Maryland Agricultural Water Quality Cost-Share (MACS) Program provides conservation grants to help farmers install

water quality improvement projects on their farms, adopt sustainable agricultural practices and comply with federal, state and local environmental requirements.

In 2014, MACS provided Maryland farmers with \$27.3 million in grants to install 2,371 conservation projects on their farms that control soil erosion, reduce nutrient runoff and protect water quality in streams, rivers and the Chesapeake Bay. These grants helped Maryland farmers meet or exceed most of the third set of two-year Bay restoration milestones.

Farmers who received cost-share grants from MACS in 2014 invested about \$685,000 of their own money into projects that will prevent an estimated 2.6 million pounds of nitrogen and 111,000 pounds of phosphorus from entering Maryland waterways. Cover crops were responsible for the bulk of the nitrogen and phosphorus savings. In addition, the projects will prevent an estimated 13,857 tons of soil from impacting local streams.

Although MACS helps farmers install conservation practices that they otherwise could not afford, grants do not cover equipment purchases or start-up costs for major projects. Low Interest Loans for Agricultural Conservation (LILAC) provide farmers with upfront funds needed to get a project up and running. Guaranteed by the Maryland Water Quality Revolving Loan Fund, LILAC loans are typically offered at below market rates. They are available at lending institutions statewide. In FY 2014, MACS provided farmers with \$300,395 in LILAC loans to help pay for manure handling and conservation equipment.

MACS Projects Financed with Special Funds: MACS BMPs are funded through the capital program, which includes the sale of general obligation bonds. Other programs and projects are financed using special funds from the Chesapeake Bay Restoration Fund, Chesapeake Bay 2010 Trust Fund and a combination of general and private funds.

- **Cover Crop Program:** Cover crops are one of the most cost-effective and environmentally promising ways to control soil erosion, reduce nutrient runoff and leaching, and protect water quality in streams, rivers and the Chesapeake Bay over the winter. MDA provides grants to help farmers offset seed, labor and equipment costs associated with planting cover crops on their fields following the fall harvest. During the 2013-2014 planting season, MACS provided farmers with \$21.2 million in grants to plant 423,212 acres of cover crops statewide with 410,530 of these acres located within the Chesapeake Bay Watershed. The planting enabled

agriculture to exceed its Chesapeake Bay milestone commitment for this practice. This marks the fifth consecutive year that Maryland farmers have planted more than 400,000 acres of cover crops annually.

- Manure Transport Program:** Addressing the amount of manure that needs to be transported off farms with high soil phosphorus levels is an important Bay milestone marker. MDA's revised nutrient management regulations restrict manure applications to fields in winter, making transport an important conservation option for poultry and livestock farmers with excess manure. In FY 2014, MDA provided Maryland farmers with \$608,259 in grants to transport 118,995 tons of manure to approved farms and businesses—more than double the amount of manure transported the previous year. About 39 percent of this tonnage was shipped to alternative use facilities and not land applied in the watershed. Delmarva poultry companies provided matching funds to transport poultry litter, bringing the total amount of financial support provided to farmers through the Manure Transport Program to \$1,028,188.
- Conservation Reserve Enhancement Program:** Maryland's Conservation Reserve Enhancement Program (CREP) is a federal-state partnership program that pays landowners to take environmentally sensitive cropland out of production for 10 to 15 years and install conservation practices that protect water quality and provide wildlife habitat. MACS provides CREP landowners with cost-share grants to establish conservation practices on environmentally sensitive land that they have agreed to no longer till or graze. Special funds are used to award a \$100/acre signing bonus for program enrollment or re-enrollment. In FY 2014, MACS provided 84 landowners with \$427,009 in cost-share funds to install stream protection measures and \$528,080 in signing bonuses. The 2014 Farm Bill reauthorized the program.
- Manure Injection and Incorporation Program:** This program helps farmers comply with Maryland's revised nutrient management regulations. Funded by the Chesapeake Bay 2010 Trust Fund, 131 farmers used \$674,640 in grants during the year to inject or incorporate manure and other organic products into the soil within 48 hours of application.

Resource Conservation Operations

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

Technical Assistance: In FY 2014, MDA funded 75 technical positions in local soil conservation district (SCD) offices statewide. An additional 45 technicians and conservation planners hired in 2013 with grant support from the 2010 Chesapeake Bay Trust Fund raises the total amount of field staff available to Maryland farmers to 120.

During the year, field staff worked with farmers to develop soil conservation and water quality plans (SCWQPs) to manage and protect natural resources on farms. In FY 2014, a total of 933,965 acres of agricultural land in Maryland were managed under a current SCWQP, a figure that exceeds Maryland's two-year Chesapeake Bay milestone commitment of 926,207 acres.

SCWQPs often call for a menu of best management practices (BMPs) that protect local streams and other natural resources and meet the Chesapeake Bay's Total Maximum Daily Load (TMDL) reduction goals for nitrogen, phosphorus, and sediment. Field staff works with farmers to design, install, and maintain BMPs such as livestock stream crossings and animal waste storage structures. Field staff also help farmers calculate costs to install BMPs and apply for state and federal cost-share and low interest loans. In FY 2014, field staff helped Maryland farmers install 904 highly valued BMPs on their farms that were supported by both state and federal financial assistance programs.

Chesapeake Bay Restoration Partner: As part of the Clean Water Act, the U.S. Environmental Protection Agency (EPA) has set limits on the amount of nutrients and sediments that can enter the Chesapeake Bay. Maryland, and the other Bay jurisdictions have developed Watershed Implementation Plans (WIPs) outlining strategies to achieve these pollution limits, known as the Bay's Total Maximum Daily Load or TMDL, by 2025. The ultimate goal of this watershed-wide effort is to restore the health and vitality of the Chesapeake Bay so that it can be removed from the federal government's list of impaired waters.

MDA technical staff sits on 16 workgroups with the Chesapeake Bay Partnership to provide insight and input on

restoration goals, policies, programs, and research needed to reduce agricultural pollutants entering the Bay and its tributaries.

In addition, MDA field staff working in soil conservation districts work directly with farmers to meet short-term,

two-year Bay cleanup commitments called milestones to ensure that long term restoration goals remain on track.

In FY 2014, Maryland agriculture was on track to meet or exceed most of its third set of Chesapeake Bay milestone commitments to be completed by June 30, 2015.

CHESAPEAKE BAY MILESTONES

2-4 Year Agricultural Milestone Progress—July 2013 through June 2015*

Milestone	Goal	Status as of June 30, 2013	% of Milestone Achieved
Cover Crops	Plant 386,007 acres annually	410,530 acres planted during 2013-2014 planting season	106%
Manure Transport	Annually transport 44,000 tons of excess poultry litter or livestock manure to farms or alternative use facilities that can use the manure safely and in accordance with nutrient management plans	118,995 tons of manure transported in 2014	270%
Retirement of Highly Erodible Land	Retire 973 acres of highly erodible land by 2015	832 acres retired and planted with protective vegetation	86%
Streamside Forest Buffers	Plant 353 acres of forest buffers next to streams by 2015	356 acres planted	100%
Streamside Grass Buffers	Plant 866 acres of grassed buffers next to streams by 2015	1,038 acres planted	119%
Waste Storage Structures/Livestock	Construct 55 livestock waste storage structures by 2015	47 structures installed	85%
Waste Storage Structures/Poultry	Construct 12 poultry waste storage structures by 2015	15 structures installed	125%

*Progress includes practices installed with funds from both or either MACS and USDA's Natural Resources Conservation Service.

Enforcement: Cases of water pollution caused by agriculture are handled using a progressive approach that is based on the severity of the situation. Conditions likely to cause pollution or that result in inadvertent farm pollution require timely corrective action, whereas chronic or willful mismanagement of farm resources is handled through a formal enforcement action. During the year, MDA and the Maryland Department of the Environment (MDE) worked jointly with soil conservation districts to assess farm management complaints and take action against polluters when necessary.

In FY 2014, MDA received 75 complaints concerning mainly agronomic issues, odors, manure, and livestock concerns. Sixty-six of these complaints were corrected or closed, seven complaints are pending, and two enforcement actions were initiated.

Agricultural Water Management: Drainage ditches are commonplace on the Eastern Shore. A network of approximately 820 miles of ditches is maintained by 101 public drainage associations (PDAs) and four public watershed associations in Caroline, Queen Anne’s, Somerset, Wicomico, and Worcester counties. The network drains about 183,000 acres of agricultural and developed land. MDA regulates local PDAs to ensure that operation and maintenance plans are in good working order and that best management practices are installed to protect water quality.

CAFO Permitting and Compliance Assistance: MDA works closely with the Maryland Department of the Environment (MDE) to help Concentrated Animal Feeding Operations (CAFOs) comply with their permit requirements. During the year, MDA assessed Eastern Shore poultry operations to help farmers determine if they are subject to permit requirements

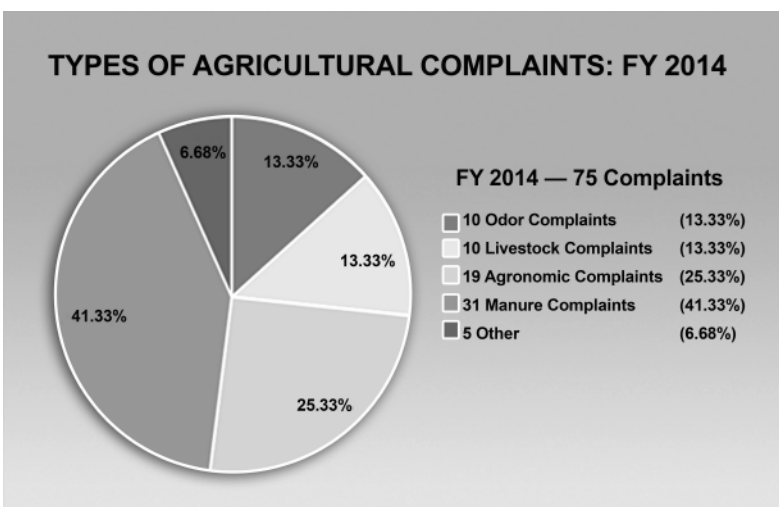
and to assist with permit compliance.

In addition, MDA works closely with MDE to resolve permit and compliance issues for CAFOs. In FY 2014, MDA and University of Maryland Extension staff assisted CAFOs with record keeping, site selection, annual reporting, required documentation and facilities maintenance requirements. The MDA publication, Poultry Operation Record Keeping Guide & Quick Reference Booklet, was updated and distributed to further assist poultry producers with record keeping requirements. In addition, outdoor signage containing a recipe for properly composting poultry mortalities was developed and physically installed at composting facilities during site visits.

During the year, MDA helped 30 CAFOs obtain Comprehensive Nutrient Management Plans (CNMPs) required by their MDE permits.

Nutrient Trading: The Maryland Nutrient Trading Program was launched in 2010 as a voluntary, public marketplace for the sale and purchase of nutrient credits. Additional legislation passed in 2012 allowed the program to certify sediment credits while bringing the state into agreement with the Bay TMDL. In addition, the 2012 legislation allowed the program to take the first step toward creating a comprehensive ecosystem marketplace in Maryland. The performance-based program uses a state-specific, online version of the Chesapeake Bay Nutrient Trading Tool (www.mdnutrienttrading.com) to estimate nutrient loads and reductions, determine baseline compliance, and compute credits generated by agricultural BMPs. One of the most sophisticated and versatile of its kind in the country, the Maryland trading platform is built on the World Resources Institute’s NutrientNet suite of tools and incorporates both the Chesapeake Bay Watershed Model and county-specific geophysical and agronomic data from the national Nutrient Tracking Tool developed by U.S. Department of Agriculture’s Natural Resources Conservation Service (NRCS). The assessment tool used by the trading program also will be employed by the new Maryland Agricultural Certainty Program to determine eligibility and compliance.

Special Projects and Grants: The Office of Resource Conservation manages 35 ongoing research and technical assistance grants totaling \$7.9 million for special programs and demonstration projects designed to help small-sized equine operations, poultry producers and other agricultural landowners improve pasture and



manure management, control soil erosion, manage nutrients, reduce runoff and safeguard water quality.

Agricultural Certainty Program

In 2013, the Maryland General Assembly passed a bill to establish an Agricultural Certainty Program that will give Maryland farmers a 10-year exemption from new environmental laws and regulations in return for installing voluntary best management practices on their farms that will meet the Chesapeake Bay's 2025 nutrient reduction goals ahead of schedule. In 2014, an advisory committee comprised of key stakeholders was established, resulting in the development of regulations to guide the administration of the program. The regulations are scheduled for proposal in fall 2014. Additionally, a Certainty Program coordinator was hired to get the initiative up and running.

Conservation Tracker

Conservation Tracker is an integrated database management system that monitors agricultural conservation practices implemented in Maryland. The system tracks both publicly and privately funded BMPs outlined in Maryland's Watershed Implementation Plan. In FY 2014, BMP information obtained through Conservation Tracker was provided to Maryland's BayStat Program and the Environmental Protection Agency's Chesapeake Bay Program for use in gauging progress.

Maryland Envirothon

The State Soil Conservation Committee and soil conservation districts are primary sponsors of the Maryland Envirothon, an outdoor natural resources competition for high school students interested in learning about natural resources and gaining a better understanding of today's complex environmental issues. Designed by soil conservationists, foresters, wildlife experts and other natural resource professionals, the Envirothon moves students beyond the classroom to solve real life environmental problems in a natural setting. Students compete at the local, state, and national levels. A five-member team of students from Carroll County won this year's state competition. The Maryland Envirothon is sponsored by the State Soil Conservation Committee, the Maryland Association of Soil Conservation Districts, and other natural resource agencies.

Maryland Nutrient Management Program

The Nutrient Management Program protects water quality in the Chesapeake Bay and its tributaries by ensuring that farmers and turfgrass professionals apply fertilizers, animal manure and other nutrient sources in an effective and

environmentally sound manner. The Agricultural Nutrient Management Program provides regulatory and enforcement activities, a certification and licensing program for nutrient management consultants and farmers, and continuing education classes. The Turfgrass Nutrient Management Program includes a certification and licensing program for lawn turfgrass professionals, enforcement activities, continuing education classes for certified professionals and a homeowner outreach program.

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

MDA's nutrient management regulations require farmers to incorporate manure and other organic nutrient sources into the soil, establish no-fertilizer application zones next to streams, limit livestock access to waterways and limit fall nitrogen applications for small grains. A winter ban on spreading manure will be phased in beginning July 1, 2016 with complete implementation by March 1, 2020. Regulatory changes concerning updates to the Phosphorus Management Tool (PMT) were proposed in FY 2014, but not finalized, pending the results of an economic impact study due to be completed by the Business, Economic and Community Outreach Network at Salisbury University in 2014.

Enforcement

Nutrient Management Plan Submissions

Maryland farmers are required to submit their initial nutrient management plans to MDA. By the end of the fiscal year, 98.6 percent of the state's 5,426 regulated farm operators had met the requirement. MDA is pursuing enforcement actions against 75 operators who have not submitted their initial nutrient management plans. In FY 2014, MDA issued \$3,850 in fines against 11 farmers who failed to file an initial nutrient management plan.

Annual Implementation Reports

Farmers are required to update their nutrient management plans and submit Annual Implementation Reports (AIRs) to

MDA by March 1 summarizing their nutrient applications for the previous growing season. In April 2014, MDA issued warning notices to 974 farmers who failed to file their AIRs on time, followed by 299 notices of pending fines and 117 default notices. By the end of the fiscal year, 97.9 percent of regulated farmers had submitted their AIRs. In FY 2014, MDA issued \$23,250 in fines against 93 farmers for late or missing AIRs.

On-Farm Audits and Inspections

MDA nutrient management specialists conducted 733 on-farm audits in FY 2014 representing about 14 percent of regulated farms. During these visits, specialists educated farmers on technical and regulatory aspects of nutrient management and helped set up recordkeeping systems. Specialists issued 211 warnings to correct major violations and documented minor violations to be corrected. Follow-up visits determined that 66 percent of the operators had come into compliance and the remaining operators are progressing through the enforcement process. In FY 2014, MDA issued \$21,450 in fines against 33 farmers who failed to take corrective actions in a timely manner.

Certification, Licensing and Education Programs

Nutrient Management Exam Training

Provided a two-day training course for individuals planning to take the certification exam. Twenty-three new consultants were certified following the exam.

University of Maryland Consultant Program

Funded 20 University of Maryland consultants in FY 2014.

Farmer Training and Certification

Trained and certified 46 farmers to write their own nutrient management plans.

Nutrient Applicator Voucher Training—Conducted 22 voucher training sessions attended by 335 individuals who wanted to obtain or renew their vouchers.

Continuing Education—Co-sponsored with UME 46 education classes on nutrient management topics and approved an additional 47 courses and field events sponsored by other recognized organizations. The sessions were attended by 2,664 individuals.

Turfgrass Nutrient Management Program

Maryland's New Lawn Fertilizer Law

The Fertilizer Use Act of 2011, also known as Maryland's Lawn

Fertilizer Law, became effective October 1, 2013. The law requires lawn care professionals to be certified and licensed by MDA's Turfgrass Nutrient Management Program to apply fertilizer to lawns that they manage. The law also limits the amount of nutrients contained in lawn fertilizer products used by homeowners and lawn care professionals.

Certification and Licensing

As of June 30, 2014, MDA had certified 1,218 turfgrass professionals to apply lawn fertilizer as required by law. In addition, it issued 454 business licenses.

Enforcement Activities

The program conducted 16 reviews of turf managers' fertilizer records to assess compliance with the law. Two warnings were issued; one for over-application of nitrogen, and the other for missing fertilizer application records.

Homeowner Outreach

In September 2013, MDA rolled out a public education campaign using social media, the internet and print advertising to help spread the word about the new lawn fertilizer law. Fact sheets were updated and reprinted and displays were presented at various public events and functions across the state.



Maryland Department of Agriculture Budget Allocation for FY 2014

State of Maryland Budget Allocation for FY 2014

Operating	\$32,893,817,947
Capital	\$1,521,806,000
Total State Budget	\$ 34,415,623,947

Maryland Department of Agriculture Budget Allocation for FY 2014

	General	Special	Federal	Bonds	Total
Operating	\$27,648,219	\$23,753,363	\$5,532,716	—	\$57,559,935
Capital	—	\$28,578,620	—	\$18,402,000	\$46,980,620
Total	\$27,648,219	\$52,957,620	\$5,532,716	\$18,402,000	\$104,540,555

Bonds

AgLand	\$10,235,000
MACS	\$3,750,000
Tobacco	\$1,917,000
Total	\$15,902,000



Long Service Awards

MDA Honors Employees with Long Service Awards

MDA honored 51 employees for their years of dedicated service to the department. Sally Terry, who works in Executive Direction, and Sandra Mills, who works in the State Chemist Section, received special recognition for 40 outstanding years of public service. Six MDA employees were recognized for 35 years of service; 10 employees for 30 years of service; seven employees for 25 years; three for serving 20 years; 19 employees for 15 years; and four for serving 10 years. **The following is a listing by county of the MDA employees who were recognized with long-service awards.**

Allegany County

- Charlotta S. Winebrenner, Forest Pest Management, 25 years

Anne Arundel County

- Deanna L. Baldwin, Food Quality Assurance, 35 years
- Richard A. Bean, Plant Protection and Weed Management, 35 years
- Bonita F. Brown, Fiscal Services, 15 years
- Francisca M. De Castro, Human Resources, 15 years
- Beverly H. Edwards, Resource Conservation, 30 years
- Darlene C. Hallett, Plant Industries, 20 years
- Joseph M. Harrington, Central Services, 35 years
- Shelley D. Hicks, Plant Protection and Weed Management, 30 years
- Elizabeth A. Horsey, Resource Conservation, 20 years
- Sandra G. Mills, State Chemist Section, 40 years
- Patricia C. Ray, State Chemist, 20 years
- Sally S. Terry, Executive Direction, 40 years

Baltimore City

- Thomas C. Fagan Jr., Weights and Measures, 30 years
- William L. Jones, Central Services, 10 years
- Zenon M. Waclawiw, Weights and Measures, 15 years

Baltimore County

- Stephen C. Malan, Plant Protection and Weed Management, 35 years

- Kenneth R. Ramsburg, Weights and Measures, 30 years
- Lee Venables, Forest Pest Management, 30 years
- James P. Wallace, Administration, 30 years

Calvert County

- Julianne Oberg, Executive Direction, 10 years

Caroline County

- Dexter C. Crotts, Animal Health, 15 years
- Mark S. Powell, Marketing Services, 10 years

Carroll County

- Melissa S. Edmonds, Resource Conservation, 15 years
- Glenn G. Krout, Pesticide Regulation, 15 years
- Marla J. Stevens, Animal Health, 10 years

Cecil County

- Norman E. Astle, Jr., Maryland Agricultural Cost Share Program, 15 years
- Anthony J. Calao, Plant Protection and Weed Management, 15 years

Dorchester County

- Richard B. Corkran, Resource Conservation, 15 years

Frederick County

- Mark Freese, Resource Conservation, 15 years
- Elizabeth G. Warner, Forest Pest Management, 25 years

Harford County

- Brian R. Galbreath, Resource Conservation, 15 years

Howard County

- Dale A. Morris, Turf and Seed, 35 years

Prince George's

- Shelley L. Bello, Weights and Measures, 25 years
- Ethan A. Halpern, Weights and Measures, 30 years

Queen Anne's County

- Kathy A. Myers, Maryland Agricultural Cost Share Program, 15 years
- Matthew D. Yoash, Resource Conservation, 25 years

St. Mary's County

- George B. Beavan, Resource Conservation, 15 years
- Ralf R. Johnson, State Chemist, 25 years
- Thomas A. Koviak, Jr., Resource Conservation, 15 years

Talbot County

- Thomas F. Filbert, Attorney General, 30 years
- Gerald F. Skipper, Resource Conservation, 25 years

Wicomico County

- Arthur Meilhammer Jr., Mosquito Control, 30 years
- David J. Mister, Resource Conservation, 25 years
- Robert L. Robison II, Animal Health, 35 years

Other

- Anthony Riggi, Resource Conservation, 15 years (Delaware)
- Richard J. Shepard, Jr. Resource Conservation, 15 years (Delaware)
- Matthew McMahon, Resource Conservation, 15 years (Pennsylvania)
- Daniel L. Polite, Resource Conservation, 15 years (Pennsylvania)
- Keith E. Potter, Nutrient Management, 15 years (Pennsylvania)
- Sarah H. Cannon, Forest Pest Management, 30 years (West Virginia)

MDA Employee of the Year - 2014



Employee of the Year

Allen Ingling of the Frederick Veterinary Diagnostic Laboratory.

Pictured (left to right):
Dr. Thomas Jacobs, MDA
Deputy Secretary Mary Ellen
Setting, Allen Ingling, MDA
Secretary Buddy Hance, Dr.
Guy Hohenhaus

Allen Ingling, a maintenance and electrical engineer at the MDA Animal Health Diagnostic Laboratory in Frederick, was honored as Employees of the Year for Innovation. Dr. Ingling developed a cost effective conveyer and barrel machine to load and transport large animal carcasses, effectively eliminating employee injury and excessive physical effort in loading large animals. The winch in the system is an original design he developed after all commercial winches failed during demonstrations.

MDA Team of the Year - 2014



Team of the Year

Pictured (left to right):
Dr. Thomas Jacobs, MDA
Deputy Secretary Mary
Ellen Setting, Dr. Claudia
Osorio, MDA Secretary
Buddy Hance

Dr. Claudia Osorio, director of the MDA Animal Health Diagnostic Laboratory in Salisbury, and Dr. Virginia Pierce, director of the MDA Animal Health Diagnostic Laboratory in Frederick were recognized as Team of the Year. The two directors worked together to acquire ISO 17025 OIE Accreditation Standard, which is recognized by Maryland's national and international trading partners and verifies that the labs perform important diagnostic tests according to international protocols and procedures. Obtaining the accreditation required intense focus and effort over three years and makes the labs eligible for federal grants they were not eligible for before. Both labs are now recognized by USDA, FDA and neighboring state animal health labs, other accredited labs and academia.

Forty Years of Service



Pictured (left to right):
MDA Deputy Secretary
Mary Ellen Setting, Sally
Terry, Sandra Mills, MDA
Secretary Buddy Hance

Thirty-five Years of Service



Pictured (left to right):
MDA Deputy Secretary
Mary Ellen Setting, Richard
Bean, Deanna Baldwin,
Robert Robison II, Dale
Morris, MDA Secretary
Buddy Hance

Thirty Years of Service



Pictured (left to right):
Top row: MDA Deputy Secretary Mary Ellen Setting, James Wallace, Thomas Filbert, Beverly Edwards, Shelley Hicks, Ethan Halpern, Thomas Fagan, Michael Frailer
Bottom: Kenneth Ramsbury, Arthur Meilhammer Jr., MDA Secretary Buddy Hance, Sarah Cannon

Twenty-five Years of Service



Pictured (left to right):
MDA Deputy Secretary Mary Ellen Setting, Matthew Yoash, David Mister, Shelly Bello, Charlotta Winebrenner, Ralf Johnson, MDA Secretary Buddy Hance

Fifteen Years of Service



Pictured (left to right):
MDA Assistant Secretary
Royden Powell, MDA Deputy
Secretary Mary Ellen Setting,
Kathy Myers, MDA Secretary
Buddy Hance, Norman Astle

Ten Years of Service



Pictured (left to right):
MDA Deputy Secretary Mary
Ellen Setting, William Jones,
Mark Powell, Julie Oberg,
Thomas Jacobs (for Marla
Stevens), MDA Secretary
Buddy Hance



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Department of Agriculture