



Maryland Department of Agriculture | 2015 Annual Report



Governor Larry Hogan



Lt. Governor Boyd K. Rutherford



Secretary Joseph Bartenfelder



Deputy Secretary James P. Eichhorst

MISSION STATEMENT

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

VISION STATEMENT

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



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Department of Agriculture

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CHANGING
Maryland
for the Better

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GREETINGS,

Not only am I pleased to present the Department of Agriculture's Annual Report for FY 2015, I am particularly pleased to do so as a member of Governor Larry Hogan's Cabinet. This administration's understanding of and commitment to farmers and other agricultural operations will unleash many new opportunities to grow this industry and provide more security for our small communities.

I was sworn in as Secretary in February 2015 – just four months before the fiscal year ended. My major goals are to diversify and expand agricultural businesses so that they become more profitable and secure. Another goal of mine is to work directly with elected officials and legislators to promote the importance of agriculture to our state.

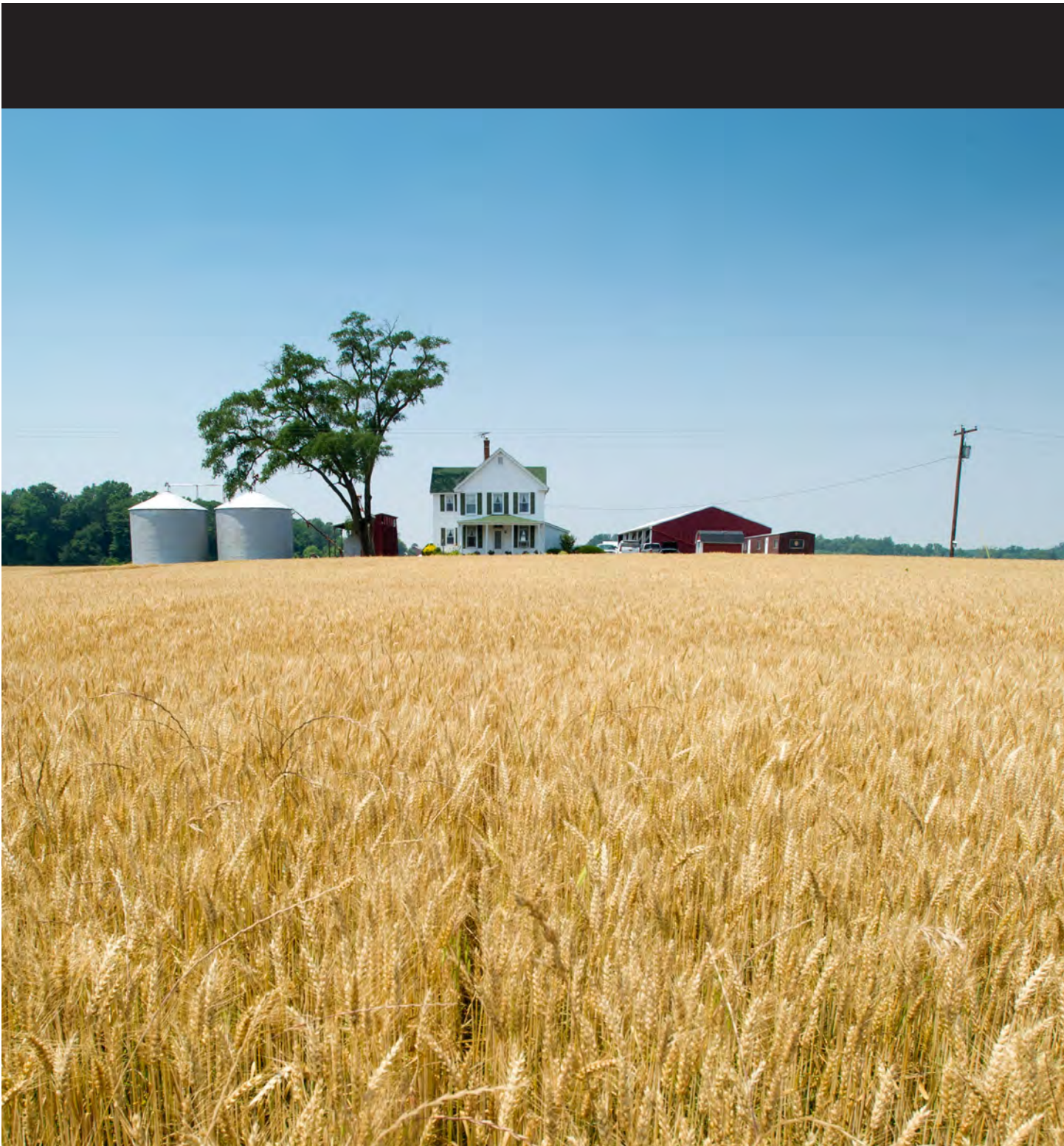
In May, with just a few months under our belts, the administration enhanced the Maryland's Best marketing logo to more effectively brand Maryland-grown products. Consumers are now better able to identify local products and support local farmers.

Farmers are also on the front line of Chesapeake Bay Restoration. It is my goal to both help farmers remain the strong environmental stewards they have long been while helping residents across the state understand the great many hardships they have endured to become even better stewards through the years.

Our small and rural communities across the state depend on farm businesses – not only for jobs but to protect a way of life that, for many farm families, goes back generations. The Hogan Administration is committed to doing all it can to help this sector of our economy flourish and the rural areas of our state thrive.

Sincerely,

Joe Bartenfelder



2015 Annual Report | Office of the 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 agriculture 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 current agriculture issues. This year the commission had notable speakers and subsequent in-depth discussions on the subjects of: the Maryland Department of Labor, Licensing and Regulation H-2A Program, Maryland forestry, Maryland nursery industry, deer and wildlife projects at the Maryland Department of Natural Resources, Maryland Young Farmers Advisory Board projects, Maryland Young Farmer Survey, LEAD Maryland program, the Phosphorus Site Index, genomics in the dairy industry, agriculture census, animal manure management in the Chesapeake Bay watershed,

Maryland's water quality goals and the Chesapeake Bay model, and Global VetLINK.

In December 2014, the commission wrote a letter to then-Governor Martin O'Malley formally opposing the proposed phosphorus management regulations. At the end of June 2015, the commission submitted a letter to Agriculture Secretary Joe Bartenfelder asking the Maryland Department of Agriculture to add Maryland's animal health regulations to the digital animal health system know as Global VetLink.

In addition, the commission conducted bi-annual farm tours in Washington and Frederick counties in the fall, and Somerset and Worcester counties in the spring.

These matters and activities, 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.

OFFICE OF THE ATTORNEY GENERAL

The Maryland 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. 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 Office of the Attorney General continues to support the Maryland Agricultural Land Preservation Foundation's efforts to enforce and defend preservation easements.

- In March 2015, the foundation prevailed in the Court of Special Appeals, which upheld a judgment by the Circuit Court for Queen Anne's County denying a claim of adverse possession against land subject to a foundation preservation easement. In June 2015, the Court of Appeals denied the appellant's petition for certiorari.
- In April 2015, the foundation sued two landowners in Montgomery County to enforce a subdivision and residential lot violation on a foundation easement property. After filing the lawsuit, both landowners agreed to settle the violations. The settlement process is ongoing.
- The office successfully defended the first easement termination request filed by landowners in Howard County against the foundation to terminate four foundation-held conservation easements. Under state law, for easements purchased before a certain date, a landowner may request that the easement be terminated at any time after 25 years from the date of purchase if the request is approved by the local governing body and profitable farming of the land is no longer feasible.

The Office of the Attorney General supported the department's enforcement of the state's Nutrient Management Law. It successfully represented the department in separate declaratory judgment actions filed against the department by the Waterkeeper Alliance and the Maryland Farm Bureau. This matter began when the Waterkeeper Alliance alleged that the department violated the Maryland Public Information Act when it construed another statute as prohibiting the release of certain information that the Waterkeeper requested. Conversely, the Farm Bureau alleged that the department violated this statute when it determined that other information that the alliance requested should be released. The circuit agreed with the department's construction of this statute, and the Waterkeeper Alliance appealed. The case finally ended when the Waterkeeper, after the Court of Appeals remanded it back to the circuit court, chose not to pursue the matter further.

The Attorney General's office also assisted the State Board of Veterinary Medical Examiners in its enforcement of the Veterinary Practice Act. The office helps the board to efficiently process new complaints through informal resolutions and advised the board on all legal matters, including a recent decision in the U.S. Supreme Court that affects the board's authority to regulate the practice of veterinary medicine.

The office provided training to department personnel on federal and state statutes prohibiting discrimination including Title VII of the Civil Rights Act of 1964, the Americans with Disabilities Act, the Equal Pay Act, the Age Discrimination Enforcement Act, and the Genetic Information Nondiscrimination Act.

The office also provided training to supervisors and staff of the Soil Conservation Districts on tort liability and immunities under the District Tort Claims Act, and the State Treasurer's procedures applicable to claims against a district.

MARYLAND AGRICULTURAL LAND PRESERVATION FOUNDATION

The Maryland Agricultural Land Preservation Foundation again combined appropriations from two fiscal years, FY 2015 and FY 2016, to maximize the number of acres purchased. The foundation has nearly \$38 million available for this cycle. Of this, about \$8.5 million is county funding used to match state funds at a ratio of 40 percent county to 60 percent state dollars. At the end of FY 2015, the foundation had purchased easements on a cumulative total of 2,187 properties, permanently preserving 296,682 acres. The program is expected to reach 300,000 acres preserved within the next 12-18 months.

The foundation 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, 2015, Maryland has preserved 608,493 acres of agricultural land under the foundation, Rural Legacy, GreenPrint, and through local land preservation and transfer of development rights programs. This represents about 59 percent of the goal and is an increase of more than 20,000 acres from last year.

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	2015 Actual
Output: Total number of easements, cumulative	2,187
Outcome: Total acres under easements	296,682

ADMINISTRATIVE SERVICES AND INFORMATION TECHNOLOGY

OFFICE OF ADMINISTRATIVE SERVICES

The Office of Administrative Services manages all technical and support services for the department. It is comprised of five sections – Human Resources, Central Services, Fiscal Services, IT Services and Emergency Management. The department 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 department fleet traveled more than 2.4 million miles last year. Fiscal Services handles all centralized accounting transactions for the department. This encompasses all phases of the budget, grants management, accounts receivable, accounts payable and leave management. Emergency Management for the department addresses all emergencies within the department. The department is in the process of completing a new management plan that will be tailored to the department and in concert with the statewide emergency operations plan. Additionally, the department continues to provide annual training and drills for first responders.

IT SERVICES

Constituent Services

- An online registration renewal system for businesses regulated by the Maryland Department of Agriculture's Weights and Measures Section was developed and went live in FY 2015. The online system allows for commercial weighing and measuring device owners to pay fees online with a credit card or electronic check and be issued their registration renewal immediately. The system allows businesses a quick, convenient,

and secure means of registering and paying fees, and provides real time information to department management regarding the registration status of the regulated businesses. For FY 2015, adoption rates for the online system were about 9 percent.

- The Weights and Measures program also obtained software that allows field inspectors to inspect devices and packages. The system eliminates paper-based processes and allows more timely inspections which are then electronically submitted to a central system. The central system has a searchable database that includes pertinent account information for each regulated business location and device which expedites the inspection process.
- An online registration renewal system to support the department's Pesticide Regulation Section was also developed and went live in FY 2015. The online system allows certified pesticide businesses, applicators, and dealers to renew licenses or registrations online and pay with a credit card. The system also contains a searchable database of approved recertification trainings and meetings (upcoming and past) and also provides a searchable public database of licensed pesticide businesses, permitted public agencies, certified applicators, and registered technicians. With the online system, an approval can take one day versus several weeks. Once payment is made and the department's approval is complete, applicators, businesses, and public agencies can print their license/certificate. For FY 2015, adoption rates for the online system were about 95 percent.

Maintenance and Support

- Laptops used by department field staff were upgraded to Windows 7 (if they weren't already) because Microsoft dropped support and security patches for Windows XP. This task was completed using existing hardware. A central support console was used for this effort.
- Other activities included replacing Storage Area Network hardware and migration to a centralized firewall in support of a state-wide enterprise security model. In FY 2015, information technology staff handled an average of 249 calls each month, down from 311 in FY 2014.

COMMUNICATIONS & PUBLIC INFORMATION

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

TRADITIONAL MEDIA

Media Monitoring. The Communications Office regularly distributes news releases to traditional media outlets about agency programs, activities and announcements. The office 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 2015, staff distributed 255 news releases to more than 460 news outlets and interested parties, which generated 363 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 Stories. With the arrival of a new governor and administration, some of the biggest news stories handled by the office during FY 2015 were related to administrative changes, including announcing a new Agriculture Secretary, a new State Veterinarian, and new Phosphorous Management Tool regulations. Other important stories handled by the office included:

- Unscheduled mosquito sprayings. These are conducted in areas not typically sprayed after a human or a mosquito pool tests positive for West Nile Virus. During FY 2015, there was a significant increase in the number of unscheduled sprayings conducting. During the year, the Communications Office posted information and maps on the agency website and social media platforms as well as through news releases.
- Launching the start of the Pesticide Use Survey, which is being paid for by the department but being conducted by the USDA National Agricultural Statistics Service. The survey was conducted as a result of legislation passed last year, requiring it.
- Communications surrounding various Buy Local promotions, including the Buy Local Challenge, the

Governor's Buy Local Cookout, the Maryland's Best Ice Cream Trail, and farmers market activities and offerings as well as Homegrown School Lunch Week and the Farm to School program.

The office also assisted with various seasonal promotions and continued to work closely with the Maryland Horse Industry Board to promote its monthly Touch of Class Award program, which recognizes excellence in Maryland's equine industry.

DIGITAL ENGAGEMENT

During FY 2015, the Communications Office began to strategically integrate its online presence (i.e., website and social media platforms) under the overarching practice of "digital engagement." Rather than each platform having its own goals and metrics, the department now uses them together to create more comprehensive, coordinated and far-reaching messaging. The goal of the agency's digital engagement is to ensure that the public sees this agency as the authoritative, honest, credible source for information about the agricultural activities, services, regulations and issues under the agency's purview. The website is home base, the place where all other digital platforms lead.

Website. During FY 2015, the agency website received a new, user friendly URL (www.mda.maryland.gov) and converted to a responsive design, making it easier to use on mobile devices.

- There were 344,122 visits to the site during FY 2015 – up 49,380 (14 percent) over the year before. Of this year's visitors, 131,895 (38 percent) came to the site more than once. About 28 percent came to the site through mobile devices – up 8 percent over last year.
- Last year, 3,981 website visitors came by way of Facebook. This year, 13,059 came via Facebook – an increase of 228 percent. Last year, 1,743 website visitors came by way of Twitter. This year, 1,888 came that way – an increase of 8.32 percent.
- These figures do not include referrals from tinyURL, which are likely Facebook related. Those links increased from 53 last year to 595 this year – or 1,022 percent! Note: The Maryland's Best website is a marketing website, designed to connect consumers with producers rather than to promote agency information. It is hosted by a private vendor and populated by the marketing office.

Social Media. More and more organizations, agencies, non profits and regular people are communicating via social media. Traditional media as well are moving to online, digital platforms. By its nature, social media is fast moving and immediate. Rumors and misunderstandings can “go viral” very quickly. By being online and engaged with a following, the department can not only become part of relevant discussions, it can also stop bad information from taking off. The department’s social media activities allow the agency:

- To maintain a constant and consistent presence in online communities and discussions;
- To provide credible information directly to the public, without relying solely on the media;
- To monitor trends and issues in public discourse, to correct rumors and provide alternative viewpoints on emerging controversies;
- To improve the image and increase citizen understanding of agriculture;
- To regularly and routinely – both seriously and informally – engage citizens in a variety of issues;
- To continually promote the agency’s website as the authoritative source of information.

The department continued to expand its social media presence during FY 2015 with growing followings on Twitter and Facebook and a less prominent presence on Instagram, Flickr and YouTube. These social media platforms provide the agency direct access to a new, younger, more tech savvy audience.

- The department’s official Facebook page ended FY 2015 with 5,167 followers. The department’s official Twitter feed ended the year with 8,338 followers.

Agency Twitter accounts include:

- @MdAgDept – Main Maryland Department of Agriculture account
- @MdsBest – The department’s marketing office account
- @MdEquines – The Maryland Horse Industry Board account
- @MdFarm2School – The Farm to School Program account
- @MdGypsyMoth – A small feed that live tweets when planes are spraying trees and forests for gypsy moth.

Agency Facebook pages include:

- Maryland Department of Agriculture

- Maryland Horse Industry Board
- Maryland Farm to School
- Maryland’s Best

News Digest. The Communications Office also distributes an electronic 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 2,000 subscribers.

IT’S NOT ALL SERIOUS

The Communications Office created the Bovine Beautification Bunch – a group of employees who use their own money and lunch hour to decorate the concrete cows in front of the building. Affectionately referred to as Elmer and Elsie, the cows were regularly dressed up by unknown neighbors until this past year when the decorating abruptly stopped. After several neighbors complained (phone calls and letters were received) and a few news stories and letters to the editor written in the local paper about the lack of garb on the cows, the Communications Office stepped in to provide the cows with the occasional spa day. In June 2014, the cows were named one of the five top pranked statues in the world by Fox News. (www.foxnews.com/travel/2014/06/10/worlds-most-pranked-statues/)

EMERGENCY MANAGEMENT

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. The communications office also assists in statewide emergency management efforts. Staff is responsible for assisting the Maryland Emergency Management Agency (MEMA) Joint Information Center. When/if necessary, staff handles information requests from traditional and social media and the public during times of emergency and monitors emergency events and helps manage rumor control.

SPECIAL PROJECTS FOR FY 2015

- The introduction of **High Path Avian Influenza** that entered the United States in December 2014 and moved swiftly across the country put the department on

special alert. The Communications Office worked closely with Animal Health staff to develop and print various materials, encouraging both commercial and backyard poultry growers to use enhanced biosecurity practices. Materials were distributed to feed stores throughout the state and mailed to all known poultry growers. The department also used the website and social media to post frequent reminders and updates about biosecurity practices.

- The department serves as the co-producer with Maryland Public Television (MPT) in the 13-part television series called ***“Maryland Farm and Harvest,”*** which debuted in November 2013. The Communications Office is the lead contact working with MPT. The series enjoyed continued success during its second season, which began November 2014. It is MPT’s highest rated locally produced show with more than 1.2 million viewers. Season three is set to air in November 2015.

- The office also represents the department 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.
- 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.

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 the department’s public information efforts are becoming increasingly successful.

GOVERNMENT RELATIONS

The 2015 General Assembly session began for the Maryland Department of Agriculture with the Phosphorous Management Tool regulations unresolved. The proposed regulations, submitted for approval in the final days of the O'Malley Administration, were revoked by Governor Larry Hogan. Both the House (HB 381) and Senate (SB 257) introduced legislation that would have put the December regulations into statute. The administration, however, worked with legislative, environmental and agricultural stakeholders to revise and ultimately achieve consensus on the proposed regulations. Both bills were then withdrawn. The administration's version of the PMT was published in the April 3 Maryland Register and is now in effect.

The department and other agricultural industry groups spent a significant amount of time working to defeat several anti-agriculture bills. The most notable were:

- **HB 605/SB 163.** This bill would have required labeling for any retail or wholesale nursery stock that is treated with neonicotinoids, a class of pesticides, and banned homeowner use of these products;
- **HB 928.** This bill would have repealed the current exemption from the sales and use tax for the purchase of inputs for farm operations;
- **HB 995.** This bill would have banned the use of lawn care pesticides at child care centers, schools and on recreation center sand fields used by children under age 18;
- **HB 701/SB 463.** This bill would have duplicated FDA regulatory oversight of antibiotic use in animal agriculture, and created an unnecessary burden on the department and Maryland animal producers;
- **HB 1019/SB 532.** This bill would have required the Attorney General to review and provide required elements for contracts between companies selling livestock and poultry products and those farmers with contracts to raise these animals. This legislation would affect the contractual terms and relationship between vertically integrated agricultural animal producers and the growers who contract with them to feed and care for their animals. There are five companies that contract with farmers to raise broilers in Maryland, one for turkeys, and a small but unknown number for hogs, heifers, and eggs.
- **HB 886/SB 533.** This bill would have established a new revenue source of about \$15.2 million to fund cover crops only on land where chicken manure is applied as fertilizer while rescinding \$10 million from the Chesapeake Bay Restoration Fund, a portion of which is a dedicated, non-reverting revenue source, for planting cover crops statewide.

The department did support legislation that passed the Senate but not the House. HB 536/SB345 would have added certain types of equipment to the list of eligible machinery under the definition of "enhanced agricultural management equipment."

GOVERNOR'S INTERGOVERNMENTAL COMMISSION FOR AGRICULTURE

The Governor's Intergovernmental Commission for Agriculture was established on June 29, 2006 to "promote the economic profitability of agriculture in the State by ensuring that all appropriate State agencies work in a cooperative, coordinated manner with local government and industry groups in planning, implementing, overseeing and evaluating intergovernmental initiatives related to agricultural affairs of the State."

During 2014, the commission's main focus was on agri-tourism, a value-added activity that more Maryland farmers are adding to their agricultural operations as an additional source of income. This year, the commission:

- Developed recommendations and a model definition for agri-tourism and held discussions with the Maryland Association of Counties Planners Auxiliary group about agri-tourism;
- Hosted presentations from the Maryland Department of Business and Economic Development and the State Highway Administration about opportunities for agri-tourism operators;
- Reviewed housing issues related to the H2A Visa program (also known as the "guest worker program");
- Reviewed the Maryland Agricultural Conflict Resolution Service's joint education program with the Maryland Association of Realtors; and
- Reviewed storm water regulations and issues pertaining to agricultural buildings.

During the follow up meeting with the county association planners, there was discussion about the need for a model definition for agri-tourism. The commission formed a workgroup to review existing definitions both nationally and at the county level. The workgroup was comprised of representatives of the Maryland Department of Agriculture, Maryland Farm Bureau, county planners, Maryland Farm Credit, Maryland Association of Counties, producers, the Maryland Wineries Association and agricultural marketing professionals. The workgroup held three conference calls over the summer, focusing primarily on zoning and permitting issues. It reviewed existing county definitions, county comprehensive plans and other state definitions. It then developed a list of recommendations.

The commission identified the following during its review of agri-tourism:

- There is a need for a model definition of "agritourism." Thirteen Maryland counties have enacted some sort of definition of "agri-tourism" in their county codes, and several states have enacted a definition of agri-tourism as well. The commission's model definition is as follows: "Agricultural Enterprise" includes an accessory farm-based business which is secondary to the primary agricultural use of the properties where activities such as on-farm processing of agricultural products and agri-tourism occur. "Agri-tourism" is a series of activities conducted on a farm and offered to the public or to invited groups for the purpose of education, recreation, or active involvement in the farm operation. These activities may include, but are not limited to, farm tours, hayrides, corn mazes, seasonal petting farms, farm museums, guest farm, pumpkin patches, "pick your own" or "cut your own" produce, classes related to agricultural products or skills, and picnic and party facilities offered in conjunction with the above. While "agri-tourism" is defined within another definition ("agricultural enterprise"), commission members felt that agri-tourism should be in addition (accessory) to the primary agricultural activity done on the farm and not a stand-alone farming activity. Members felt that a category of farm activities needed to be created in which to fit agri-tourism.
- Sixteen counties have information in their comprehensive plans that support agriculture as a business and not just for the purpose of preserving land.
- The word "commercial" has created a conflict for agri-tourism. It opens up the commercial code related to permitting and other requirements.
- Some counties have acreage definitions of farms to ensure there are no "farmettes."
- Maryland has a contributory negligence statute that is favorable to defendants.
- Within Title 12 Building and Material Codes, nine counties exempt agricultural buildings used for agri-tourism from building permit requirements. The law, however, does not preempt counties from enacting their own requirements.

The commission made the following recommendations for the counties:

- County officials should designate a county “ombudsman” if there is no agricultural marketing professional.
- County tourism boards should include an agri-tourism operator as a board member.
- Agri-tourism operators should create an industry association, comprised of agri-tourism operations as well as other niche-market groups.
- Counties should encourage linkages/relationship building between agricultural marketing professionals and county tourism representatives.

The commission made the following recommendations for agri-tourism operators:

- Leave the existing contributory negligence statute alone but consider recommending that operations put signage at the front of their properties and/or have guests sign waiver forms.
- Provide a model “checklist” for people who want to go into agri-tourism, as well as for county planning and health officials.

USDA/NATIONAL AGRICULTURAL STATISTICS SERVICE

The Maryland Field office of the U.S. Department of Agriculture’s National Agricultural Statistics Service (NASS) – which has offices in the Maryland Department of Agriculture building in Annapolis – 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 150 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.

Agriculture generated more than \$2.4 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 12,300 farms in 2014 with an average size of 165 acres. Total land in farms in Maryland was 2.03 million acres, one-third of the state’s entire land area.

During 2015, NASS conducted a Pesticide Use Survey in cooperation with the the department. The report covers usage in 2014, was voluntary, and included farmers, private applicators, commercially licensed businesses and public agencies that are permitted by the department to apply pesticides. The results will be published in May 2016 and will be available on the department website.

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



2015 Annual Report | Office of Marketing, Animal Industries,
and Consumer Services



MARKETING AND AGRIBUSINESS DEVELOPMENT

The goal of the Maryland Department of Agriculture's Marketing and Agribusiness Development Section is to develop markets for Maryland agriculture and to connect producers to markets. Through this economic development and promotion activity, the department helps develop a profitable future for Maryland agriculture.

MARYLAND'S BEST

From in-store promotions of Maryland-grown apples and watermelons, to advertising, media events and press releases, the department's marketing projects 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 Specialty Crop Block Grant Program, the department'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 targeted food buyers and promoted Maryland consumers' preference for local and the local supply of Maryland produce. More than three million consumers received promotional messages from the department during the year through radio, print and online advertising. Press releases promoting Maryland agriculture products were distributed to more than 400 media outlets.

The Maryland's Best website (www.marylandsbest.net) is the consumer's primary source of information about local farm stands, farmers markets and Maryland farms. The website

includes contact farm information, web sites, directions and video interviews with about 1,000 farmers, wineries and small food processors. During FY 2015, there were 55,951 visits to the site by 46,112 users.

Marketing staff conducted meetings with produce buyers and marketing professionals from many of the major grocery store chains to increase Maryland grown produce sales and develop in-store promotional materials using the Maryland's Best logo. Staff took buyers from major grocery store chains on tours of Maryland farms, developing business relationships between farmers and retailers. The department'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 2015.

Also in FY 2015, 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 featured in articles by *The Washington Post*, *Baltimore Sun*, and *The News & Observer*, to name a few. In addition, the project was up for a marketing award by NAAMO (North American Agricultural Marketing Officials) and received first runner up.

A new logo was added to the Maryland's Best family of logos to feature the words "Fresh, Local." This new logo and subsequent and on-going promotional campaign aims to let consumers know that Maryland grown products are not only local, but the freshest possible option as well. New promotional materials have been developed to promote the campaign in grocery stores, farmers markets, and restaurants.

MARYLAND FARM TO SCHOOL PROGRAM

Educators, farmers, and federal, state and local officials gathered with Gwynn Park High School students in Prince George's County to kick off the seventh annual Maryland Homegrown School Lunch Week by eating healthy lunches, full of locally grown fruits and vegetables. Students (and officials) also discussed the diverse opportunities for careers in agriculture and culinary arts. To draw attention to the connection between healthy food and the local farms that grow it.

Prince George's County Public Schools, one of the state's largest school systems, has observed Maryland Homegrown School Lunch Week since it began in 2008 by incorporating fresh, local foods in student meals. More than 1,100 students at Gwynn Park High School in Brandywine enjoyed lunches that included items from many local farms.

All of the Gwynn Park High School Curriculum for Agricultural Science Education (CASE) and Pro-Start Hospitality Management students had an opportunity to check out the displays provided by the USDA AgDiscovery Program and Bowie Produce and talk with officials about opportunities for careers in agriculture and culinary arts. Dignitaries, escorted by CASE students, toured the school garden and recently renovated greenhouse. The Pro-Start students provided cooking demonstrations and presented food samples featuring produce grown in the school greenhouse and Maryland-grown ingredients such as Asian Style Vegetable Lettuce Wrap. Students also had the opportunity to explore the Maryland Agriculture Education Foundation Showcase featuring careers in agriculture.

Other county schools creatively incorporated local protein and developed infrastructure for local farmers into the 2014 Homegrown School Lunch Week. Examples include Caroline County schools sampled Maryland crab soup with local vegetables and crabmeat from J.M. Clayton, and Washington County schools serving Chesapeake Macaroni and Cheese with Palmyra Farm Chesapeake Cheddar Cheese.

School Collateral Materials. The Farm to School program distributed more than 6,000 posters, 600,000 bookmarks, 600,000 stickers, and 2,000 window clings among the 24 schools systems. The program also distributed 300 signs that said, "This Farm Feeds Schools" to producers who provided products to the schools during Maryland Homegrown School Lunch Week. A Maryland Farm to School brochure was also created with new seasonality charts for Maryland specialty crops for schools, parents and the public. In addition to the

above materials, the department piloted the Farmer-Specialty Crop trading card. The card featured a specialty crop product on one-side and the farmer on the other side. The producer on the card sold Maryland-grown product to the particular school system. Some 65,000 cards were printed and 42,000 cards were distributed to four school systems. The pilot was a success and farmers were particularly pleased with the cards.

Radio Ads. The department placed two weeks of radio ads on WYPR to promote Maryland Homegrown School Lunch Week in September 2014. As a result of the promotion, 167,000 different persons, age 6+, each heard 2.8 announcements.

Maryland's Farm to School SoundBooks. The Maryland Farm to School program worked with a professional photographer to produce more "soundbooks," which bring the story of Maryland's schools and farmers together with a photographic slideshow. The soundbooks are narrated by farmers and others involved with the program. The soundbooks have been successful in telling the Maryland Farm to School story. Two soundbooks were created in 2014 -- one for Prince George's County Public Schools and the other for Caroline County Public Schools.

The Homegrown School Lunch Week. An element of the Jane Lawton Farm to School Program, the 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. A partnership among the Maryland Agricultural Education Foundation, the Maryland Department of Agriculture, and the Mid-Atlantic Farm-Based Educators was awarded a Chesapeake Bay Trust Grant for FY 2014-15 for a collaborative curriculum project that combines the talents of classroom teachers and farm-based educators to create farm-based learning experiences for students grades 3-8. The partnership will develop a series of 12 unit/lessons for use on Maryland farms and agricultural education sites that host school students grades 3-8. Using Next Generation Science Standards as the framework to develop integrated, interdisciplinary on-farm educational curricula, the partnership hopes to provide Maryland farm-based educators, classroom teachers, and non-formal educators in environmental and social studies areas, a high quality curriculum product.

The department 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.

The department was also a member of the *Task Force to Explore Incorporating the Subject of Agriculture in Existing Curricular Areas*. During the 2012 legislative session, the Maryland General Assembly recognized the importance of expanding knowledge and understanding of agriculture's broader role in the state's communities.

FARMERS MARKET PROGRAMS

The goal of the Farmers Market programs within the department's Marketing and Agribusiness Section is to help farmers and farmers market managers connect to the general public and consumers who want to purchase Maryland products. Through this economic development and promotion activity, the department helps develop a sustainable future for Maryland's diversified agricultural products.

Farmers Market Nutrition Program. The Farmers Market Nutrition Program is a USDA Funded Nutrition Grant Program that is administered by the Maryland Department of Agriculture, in conjunction with the Maryland Department of Health and Mental Hygiene and the Maryland Department of Aging. The USDA gives grants to state agencies to provide checks to low-income participants. The two federal programs funded are the Women, Infants and Children and Seniors Farmers Market Nutrition Program. Checks can be used to buy fresh fruits, vegetables, and cut herbs (and honey for Seniors only) at Maryland farmers markets. The program runs every year from June 1 through Nov. 30. In Maryland, about 400 farmers participate.

The Farmers Market Nutrition Program helps expand access for low-income Marylanders to be able to purchase fresh local produce at their local farmers market. In addition to their economic importance, farmers markets are popular community meeting places where residents catch up with each other and purchase fresh, nutritious, locally produced fruits, vegetables, baked goods, and other food products. In Maryland, all of the 140 recognized markets have authorized farmers present who participate in the Farmers Market Nutrition Program. In FY 2014, authorized farmers received more than \$500,000 from the two programs.

Farmers Market Nutrition Program Farmers Market Finder Mobile Site. Starting on June 1, 2015, participants in the Women, Infants and Children Farmers Market Nutrition

Program, Senior Farmers Market Nutrition Program and Fruit & Vegetable Check Program were able to find farmers markets near them on the new Farmers Market Finder mobile site. The purpose of the mobile site is to encourage low income residents to use their checks at farmers markets and increase overall check redemption. Maryland is the first state to pilot this program.

Studies show that growing numbers of low-income Americans who may not be able to afford computers and in-home internet access are relying on smart phones as their primary means of reaching the internet. While the Farmers Market Nutrition Program programs provide the opportunity for low income participants to spend their federal assistance dollars buying produce at farmers markets, participants need to know how to find the farmers markets that accept their checks. The department sees this as a low cost effective way to provide them with information and to encourage them to use their checks at farmers markets. These checks provide the participants with access to fresh produce and provide local farmers with additional income at the farmers markets, so we encourage their use in any way we can.

The Farmers Market Finder site also reminds users how to use their checks at farmers market, reminds them what foods are eligible for purchase, and provides links to videos and photos of farmers who participate in the program. The site also has recipes for fresh produce dishes and provides farmers market shopping tips. Participants can also opt to receive mobile text messages every month from the site to remind them to use their checks before they expire.

Farmers Market Directory. Over 30,000 printed Maryland Farmers Market Directories are distributed to the general public every year through tourism offices, libraries, farmers markets, senior clinics, welcome centers and other facilities. This directory includes all the farmers markets recognized by the department in all 23 counties and Baltimore city. The online version is also available on the department's website and the Maryland's Best website.

Farmers Market Price Reporting Program. On June 1, 2015, the Maryland Department of Agriculture, in partnership with the U.S. Department of Agriculture Agricultural Marketing Service, started a pilot project that reports prices of products sold at five farmers markets in the state. The farmers market price reporting program gives a snapshot of retail prices of local produce and other food products for sale at various farmers markets around the region. The information gleaned through this program may be used by the USDA Risk

Management Agency as it improves crop insurance products for produce farmers, as currently there is little reliable data on sale prices for produce sold through retail farmers markets. Currently, farmers market managers at markets in Baltimore city, Anne Arundel County, Prince George's County and Caroline County gather information for weekly reports. Other markets throughout the state will be added as the pilot program progresses. Farmers whose prices are included are not identified and their information is confidential. Each market provides their product prices, and these are averaged together to reflect the average price of products around the state. The price reports are available weekly on the Maryland's Best website, and are often also reported in the weekly regional agricultural newspapers, *Lancaster Farming* and *The Delmarva Farmer*.

INTERNATIONAL MARKETING

The department's international marketing component represents Maryland's processed food companies and nurseries in the Southern United States Trade Association activities. The department is a member of the trade association through its membership in the Southern Association of State Departments of Agriculture. The trade association's activities for Maryland in FY 2015 included food trade shows in the United Arab Emirates, South Korea and China. Buyers were also hosted in Maryland for one-on-one meetings with buyers from Canada and South Korea. The department is also a member of the United States Livestock and Genetics Export Association. With funding from this organization, the department promoted the Maryland horse industry in Sweden. Like Maryland, Sweden has a long tradition of competitive racing as well as leisure activities and sports involving horses. The department also participated with Maryland soybean exporters in the Havana International Trade Fair in Cuba in November 2014. These resulted in sales of about \$22 million.

ACRES AND CROP INSURANCE PROMOTION

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

Crop insurance Promotion. This is funded with \$371,000 from the USDA Risk Management Agency. Through press releases, newsletters, presentations and advertisements in agricultural media, the department has increased participation of Maryland farmers in federal crop insurance programs to 6,984 farmers in FY 2015, 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 2015, more than \$364 million of agricultural production is insured on more than 930,000 acres.

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

These help ensure 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, the department 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, the department 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 in 2014. 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 to low income pet owners and for feral cats. Projects also include educational outreach. 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. A total of 14 projects were funded in FY 2015 that covered nine counties and will collectively spay/neuter more than 5,000 pets.

The program's second Request For Proposals was released on March 27, 2015 and a total of 30 applications were received with over \$1 million in combined requests. The Spay Neuter Advisory Board is currently reviewing these submissions for recommendations to the Secretary for funding.

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/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 department's Animal Health Program prevents and controls infectious and contagious diseases in Maryland livestock and poultry with particular emphasis on those diseases that threaten public health, endanger food supplies or threaten the economic security of animal industries. Staff members work closely with federal counterparts and those from other states as well as partners in the animal industries, local, state and federal governments and the public to ensure an efficient team effort for disease prevention, detection and control. Key components of the department's effort include animal health headquarters and administration with seven full time staff, field operations with eight full or part time staff, and the Diagnostic Laboratory System with 14 full- or part-time staff at two laboratories.

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 during a natural disaster. The Animal Health Program provides secondary support to other state agencies managing emergency support functions. The department 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. However, the department frequently

assists local animal control agencies and others 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 53,788 animals in FY 2015, a small decrease of 3 percent from movement in FY 2014 (55,519), and not considered a significant drop.

Animal Exhibitions and Non-Commercial Herds and Flocks. Animal Health staff performed 41 inspections of exhibitions (i.e., fairs and shows) and processed 9,113 exhibition health certificates in FY 2015, a 4 percent decrease in exhibitor entries from FY 2014 (9,476). The field inspection staff, augmented by other department 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 Swine Enteric Corona Disease virus (SECDv) in the United States, a new disease circulating in commercial swine, two cases of SECDv were detected in Maryland on small commercial farms in November 2014. As a result, the department initiated outreach and education activities regarding SECDv prior to USDA designating SECDv as a nationally reportable disease, requiring a standard federal program disease response. As a precaution, enhanced surveillance and outreach for swine exhibitions were continued. The department inspected swine at entry and working in concert with exhibition sponsors, Maryland Extension, and the Maryland Department of Health and Mental Hygiene, reissued outreach and education materials to swine owners, exhibitors and the general public. No SECDv cases were detected in exhibitions or on any other farms after November 2014. One case of swine influenza was detected late in the exhibition season. Animal Health quickly diagnosed and controlled the influenza incident to the one exhibitor's farm. The next swine exhibition was in Pennsylvania. The Pennsylvania Department of Agriculture was notified of the possible entry into Pennsylvania of Maryland show swine exposed to swine influenza. Because of Maryland Animal Health's quick detection and notification, there was no spread of this very contagious virus into Pennsylvania pigs. Outreach and education efforts, particularly for zoonotic diseases affecting humans and animals, continued throughout the year.

During FY 2015, 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 FY 2015, 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. 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 four trainings in FY 2015, training 20 new testers, for a total of 104 Maryland Certified Poultry Testers.

Livestock and Poultry Auctions and Dealers. During FY 2015, Animal Health staff inspected 183 commercial livestock auctions conducted in Maryland. Auction inspections continued to be lower than normal due to a fire at Westminster Auction in January 2014 which caused a partial shutdown of that facility. It reopened a new facility in March 2015. 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. 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 2015. All 35 licensed livestock dealers were inspected with an emphasis on record-keeping compliance checks and education regarding the new Animal Disease Traceability regulations.

Biologics. The Animal Health Program evaluated 36 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 2015, Animal Health staff performed three 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. The Tissue Residue Inspection contract with FDA was not renewed in May 2015 due to inadequate staff to continue the program.

Contagious Equine Metritis (CEM) Import Quarantine Station. The department operates one USDA quarantine station in partnership with private businesses. (A station that opened in August 2009 functioned under provisional approval status but discontinued operation in FY 2015.) At the quarantine station, imported horses receive extensive testing to ensure they are free of metritis prior to being released for breeding activity in the United States. Contagious Equine Metritis is common around the world but has been eradicated in the United States. The department issued 165 import permits in FY 2015, an increase of 15 percent from FY 2014 activity (143). This is consistent with a gradual increase in equine imports over the past four years since the low in 2010 of 109 annual import permits.

Animal Disease Traceability (ADT) Program. All five auction markets in the state were approved as “Livestock Tagging Stations” under USDA and department authority, allowing them to provide tagging and record keeping services to livestock producers at the market, facilitating interstate movement and official identification of Maryland animals. Official identification is usually an ear tag, and tag distributors are required to maintain records of tag issuance. Outreach to producers, markets, veterinarians and Extension personnel continued thru FY 2015 to increase compliance with requirements for animals moving interstate to have “official identification.” The eventual goal of the traceability program is to use automated record-keeper, 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 2015 indicated that Maryland can meet the 24-48 hour proposed federal standard for tracing individual animals. The department uses the federal Surveillance Collaboration Services 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 the department in FY 2012, replaced an antiquated USDA system. It 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 2,284 premises in Maryland, an increase of 35 percent from FY 2014 (1,696), demonstrated the effectiveness of outreach and requiring premise registration for interstate movement versus depending on voluntary compliance. This represents about 27 percent of Maryland livestock producers. Livestock premise registration is expected to continue to increase with increasing enforcement activities by USDA. Under Maryland law, most poultry premises must be registered with the department. In the event of disease outbreaks, the database allows staff to quickly identify nearby premises, test birds and provide appropriate information to producers. Department staff aggressively registers poultry premises as they are encountered. Some local jurisdictions require department registration as part of the local approval process for backyard flocks. To date, 4,849 poultry premises are registered under the state program, with 734 new

premises registered in FY 2015, an 18 percent increase from FY 2014 (4,115). This increase is a likely result of more awareness of the requirement due to the threat of Highly Pathogenic Avian Influenza and subsequent outreach efforts.

A second major means to improve traceability of animals is requiring animals to be tagged with traceable identification tags, or “official identification tags.” As of February 2014, most cattle are required to have official tags to move interstate as part of the federal animal disease traceability rule. To implement this requirement, Animal Health conducted outreach and education to producers, market operators and veterinarians throughout the state. In particular, in FY 2015, the department worked closely with University of Maryland Extension and the swine industry, led by the National Pork Board, to promote official identification of swine both in exhibitions and in commerce. Animal Health has distributed 23,000 tags in FY 2015, for a total of 53,400 official identification tags to producers and veterinarians free of charge, funded by the federal Animal Disease Traceability Cooperative Agreement.

EMERGENCY RESPONSE READINESS

The Animal Health program maintains a robust capacity for emergency response. Through continued training, department 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, 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. Activities in FY 2015 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, particularly to prepare for response to Highly Pathogenic Avian Influenza (also known as “bird flu”) threatening all flocks in the United States this year. 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 State Emergency Poultry Disease Management Committee and Delmarva Avian Influenza Task Force. The department also prepared and distributed education and outreach materials for poultry flock owners and conducted joint information and outreach sessions with other state agencies and poultry growers regarding bird flu emergency preparedness and prevention.

FY 2015 was the fourth year the department participated in the Mid Atlantic Secure Milk Supply initiative, a multistate continuity of business planning effort for the dairy industry in the event of a foot and mouth disease outbreak. The voluntary initiative is partially funded by USDA with significant contributions by the industry and participating states. During FY 2015, New York and Pennsylvania joined the seven Eastern states (VA, SC, NC, TN, MD, WV, and DE) 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 a foot and mouth disease outbreak, which results in less market disruptions and less financial hardship to producers, processors and haulers. The primary FY 2015 activities were as follows:

- Finalized Standard Operating Procedures and a regional Secure Milk Supply Plan for distribution to stakeholders.
- Implemented the final plan by identifying eligible and interested dairies and processing plants for audits and certification.
- Identified willing dairies to act as demonstration farms for Secure Milk Supply education and outreach to other potential participants.
- Conducted additional outreach to the industry, agencies with a regulatory interest and others, to include states not presently participating in the Secure Milk Supply plan that send or receive significant amounts of raw milk across the borders of member states
- Develop information systems to share essential information among member states in the event the Secure Milk Supply Plan is activated by a food and mouth disease event in the United States.

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 one federal-state cooperative agreement for

disease control programs for multiple livestock and poultry species 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.

Avian Influenza. The program conducts enhanced surveillance for avian influenza and other high consequence diseases in commercial and non-commercial poultry flocks with federal funding, and maintains readiness to respond to avian influenza outbreaks in the state or Delmarva region. With the increased threat of a highly pathogenic strain of avian influenza in the United States this year, the department increased surveillance at auction markets, re-instituted requirements for avian influenza testing of poultry entering exhibitions within 10 days of entry, and required testing of poultry entering into Maryland within 10 days of entry. The department performed 7,130 tests in FY 2015, a 43 percent increase in testing from FY 2014 (4,986), the increase due to heightened concern for high path avian influenza. No live virus was detected in this testing.

Foreign Animal Disease. No foreign animal disease was detected in Maryland during FY 2015, and seven foreign animal disease investigations were conducted. Four foreign animal disease trainings for Maryland accredited private practice veterinarians were conducted as part of the CORE training for new veterinarians. The department has three qualified foreign animal disease diagnosticians or practitioners on staff.

Tuberculosis. Maryland remains free of bovine tuberculosis; nevertheless, the ongoing reemergence of the disease 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 bovine tuberculosis testing for accredited veterinarians in response to an identified testing concern. Five bovine tuberculosis responders were identified and retested in FY 2015 with all five determined to be healthy.

Equine Herpes Virus. The neurologic strain of Equine Herpes Virus is a contagious and potentially fatal disease of horses that can result in racetrack quarantines and disruption of the horse industry overall. The department has developed the ability to rapidly test for this disease of high concern to prevent spread of the disease. Fifty-seven equine herpes virus tests were run at department labs in FY 2015. One positive test and EHV-1 incident involving a mare with neurological

clinical signs recovered, and the stallions exposed to her were also cleared of EHV-1 in 28 days.

Other livestock and poultry diseases and issues that continue to be part of the department’s surveillance programs include: Brucellosis in cattle, goats and swine; pseudorabies and Swine Enteric Corona Virus in swine; bovine spongiform encephalopathy (i.e., mad cow disease) in cattle; rabies in all livestock species; illegal garbage feeding to swine and stray swine that can become feral; Salmonella pullorum and exotic Newcastle disease in poultry; and scrapie in sheep and goats. The department assisted animal control authorities with evaluation and consultation on several welfare cases, including one seizure of about 100 multiple livestock species on a farm; seizure and testing of 45 fighting cocks; control of 100 head equine herd off property; and testing and controlling four stray swine herds.

Quarantines. As a result of disease surveillance and response efforts, 34 quarantines (“hold orders”) were placed and 28 quarantines were released on farms for: suspect tuberculosis in cattle ; suspect equine herpes virus and neurologic

syndrome in horses; rabies or rabies suspect in cattle and horses; infectious laryngotracheitis, infectious bronchitis virus, Mycoplasma gallisepticum and Mycoplasma synoviae in poultry; suspect Salmonella pullorum in poultry (negative); Swine Enteric Corona Virus in swine; vesicular stomatitis in horses and a giraffe; Burkholderia pseudomalleia in research Rhesus monkeys; scrapie in sheep and goats; swine garbage feeding; and suspect Equine Anemia Virus in horses (negative). Some 386 routine 30-day quarantines for swine entering the state were placed through the Swine Permit process. In addition, there were 165 quarantine actions associated with horses moving through the Contagious Equine Metritis Quarantine Import Stations in Maryland.

Other Activities. 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 shown below.

ANIMAL HEALTH PROGRAM FY 2015 – SELECTED PARAMETERS: 2015

Parameter	Total Number
Animals Certified to Move In, Out or Within Maryland	62,901
Biological Authorizations	39
CEM Permits (Quarantines)	165
Dealer Inspections	59
Drug Residue Inspections	3
Equine Health Certificate – Export	6,875
Equine Health Certificate – Import	4,792
Exhibition Inspections	41
Export Certificates (Non Equine)	14,532
Foreign Animal Disease Investigations	7
Import Certificates (Non Equine)	27,589
Inspections and Investigations – Total Combined	331
Intrastate Certificates Total (Show)	9,113
Livestock Dealer Licenses	43
Market Inspections	168
Quarantines Issued for Disease Investigations	34
Swine Permits Issued (Quarantines)	386

LABORATORY SYSTEM MISSIONS AND STAFF

The Animal Health Laboratory System supports the animal and public health regulatory and emergency response missions of the department, 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 to support 1) national disease control programs of the USDA, e.g. avian influenza in poultry; 2) the Food and Drug Administration Center for Veterinary Medicine initiative to promote animal and human health by investigating potential biologic contaminants in animal feeds, animal products, or produce; 3) the Department of Health and Mental Hygiene in diagnosing animal rabies and other animal diseases of public health significance; and 4) the Department of Natural Resources disease surveillance programs of wildlife consequence such as chronic wasting disease in deer and brucellosis in marine mammals. Additionally, the system provides postmortem and related diagnostic support to animal control agencies for certain matters involving cruelty and neglect.

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

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

Within the broad system missions, each laboratory has specific geographic and technical missions. The primary mission of the Frederick laboratory focuses on food animal

livestock and horses. Secondary missions include diagnostics for high consequence diseases of poultry, to include regional service and back-up for the poultry laboratory at Salisbury during an emergency. The Frederick laboratory primarily serves constituents on the western shore of the state. Four laboratory scientists perform diagnostic activities in molecular biology, bacteriology, serology, parasitological, virology and mycology as well as important duties of supervision, quality assurance, safety assurance and operational support.

The Frederick laboratory director is a veterinary pathologic diagnostician with responsibility for all activities of the laboratory. The director also serves as the lead diagnostician, conducting postmortem 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 avian influenza. Equine Herpes Virus testing capability was developed to be able to rapidly detect and control the spread of this disease which is of significant concern to the horse racing industry. 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 postmortem diagnostic support for certain diseases in other domestic animals of public health significance, support of 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 four scientists and one technician performing diagnostic activities in molecular biology, bacteriology, serology, parasitological, virology and mycology as well as important duties of supervision, quality assurance, safety assurance and operational support.

The Salisbury laboratory 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 postmortem examination of animals and interpreting results generated by the science staff. The facility has a large molecular diagnostic capability to assist the high volume of testing needed for the poultry industry, primarily used for the detection of avian influenza,

Newcastle disease, infectious bronchitis virus, infectious laryngotracheitis, Salmonella 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 2015 at the Animal Health diagnostic laboratories for regulatory or otherwise select significant diseases is provided below.

ANIMAL HEALTH PROGRAM LABORATORY STATISTICS: 2015

Diagnostic Activity	Number	Test Results
Mammalian Necropsy	174	n/a
Poultry Necropsies	664	n/a
Avian Influenza	7,168	All negative
Rabies	82	6 positive
Equine Infectious Anemia	12,018	All negative
Contagious Equine Metritis	2,002	All negative
Equine Herpesvirus (EHV-1)	57	0 positive
Johne's Disease in Cattle	2,309	43 positive

MARYLAND STATE BOARD OF VETERINARY MEDICAL EXAMINERS

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

The board 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.

The vet board staff consists of an executive director, administrative specialist, office secretary, investigator, and two inspectors. For half of 2015, the administrative staff was reduced by 33 percent. The board is in the process of recruiting an individual to fill this vacancy. The inspectors divide their time between the board and the Maryland Horse Industry Board. The board also funds the work of a part-time Assistant Attorney General who works exclusively for the board and serves as its prosecutor.

The vet board is an active, voting member of the American Association of Veterinary State Boards, 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 the state, the executive director participated on the association’s finance committee.

Regulations. In 2014, the vet board met with a veterinary representative of the Spay and Neuter Advisory Board, a

group created through legislation which provides grants to facilities and organizations that primarily provide dog and cat sterilization. As a result of this meeting, the vet board developed and adopted regulations that define “high-volume, low-cost spay/neuter facility” and establish advertising requirements for these types of facilities.

Other amendments to regulations included the following: language ensuring that all licensees are held to the same advertising requirements; clarification of the circumstances under which the term “specialist,” “specialty,” and “special” may be used in advertising; outlining the steps for reinstating a veterinary license; explaining the continuing education requirement for a newly licensed or newly reinstated veterinarian; requiring a reinstatement fee for veterinarians who have allowed their license to lapse for more than one year; expanding the list of board-preapproved continuing education requirements; and establishing a minimum grade in college courses for individuals seeking registration as veterinary technicians in Maryland.

Fiscally, the most significant impact of the regulatory amendments is a reduction in the registration fee for all veterinarians who register during the second half of the fiscal year. For these individuals, the fee has been reduced from \$215 to \$110. This reduction is expected to affect nearly 100 veterinarians seeking initial licensure in Maryland annually. As it did last year, the board mailed to all current licensees a booklet containing all laws and regulations adopted by the board, as of April 2015.

Laws. Over the course of several months, the vet board listened to presentations on animal dentistry by Maryland veterinarians and reviewed laws and informational materials from other state veterinary boards and other interested parties regarding cleaning and scaling animals’ teeth. The board has declined to initiate a change to its existing statute regarding cleaning and scaling by non-veterinarians.

Continuing Education. This year, the board collaborated with the Maryland Veterinary Medical Association to offer continuing education at the association’s most widely attended event of the year. The continuing education focused on veterinary law and ethics and record-keeper, and was provided by a nationally recognized veterinarian and attorney.

SBVME SELECTED STATISTICS: 2013 - 2015

Category	2013	2014	2015
Licenses Issued to New Veterinarians	150	163	170
Registrations Issued to Veterinarians	2,679	2,789	2,602
Registrations Issued to Registered Veterinary Technicians*	142	172	184
Licenses Issued to Veterinary Hospitals	582	540	527
Percentage of Veterinary Hospitals Inspected and in Compliance	99	98	98
Number of New Complaints Received**	89	72	79
Number of Complaints Closed	92	120	51

*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.

Licensure Renewal System. The vet board staff continues to review and modify the online licensure renewal system to determine where improvements can be made. Minor revisions to the system were made in the spring of 2015, and the following increases in the system's use since FY 2013 are: 13 percent for veterinarians, 22 percent for registered veterinary technicians, and 20 percent for hospital owners.

USE OF ONLINE REGISTRATION SYSTEM BY PERCENTAGE OF APPLICATIONS RECEIVED

Type of Registration*	FY 2014	FY 2015	FY 2016*
Veterinarian	53	61	64
Registered Veterinary Technician	63	73	75
Hospital Owner	39	50	52

*Percentages are based on fiscal year, with applications received from May 1 to August 24.



WEIGHTS AND MEASURES

The regulation of weights and measures is one of the oldest continual functions of government. The Maryland Department of Agriculture Weights and Measures Program ensures that consumers get what they pay for whether it is a gallon of gasoline or a pound of hamburger. Purchases that require measurement affect virtually every resident 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.

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

There are 60,834 weighing and measuring devices in commercial use in Maryland at 9,099 separate business locations. The department has 18 inspectors who are specially trained and certified to test and inspect these devices according to established protocols to make sure they are within the required tolerances. Devices failing inspection may be taken out of service until corrected by the owner. Inspectors also visit stores to verify that packaged products

contain the quantities specified and that consumers are being charged the correct prices at checkout.

During FY 2015, the field staff inspected 33,314 devices. Inspectors also tested 6,606 individual lots of prepackaged commodities. Price verification inspections were conducted at 165 stores. Inspectors found significant deviations from advertised prices in a number of these stores. Twelve firms received civil penalties for misrepresenting unit price and for short weight violations. In FY 2015, the department imposed \$12,100 in civil penalties for violations.

Also during FY 2015, the field staff investigated 516 consumer complaints, the majority of which were related to gasoline sales. Consumer complaints are given priority over routine inspections and require a significant amount of staff hours to investigate.

A database with about 7,000 registered businesses has become an effective management tool for program inspectors. Electronic inspection software has replaced the need for paper reports. These software programs maximize efficiency, government transparency and assist in cost reductions. Administrative staff is able to target the most critical areas and all field inspectors now possess a tool to plan 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 is being reorganized due to the retirement of the lab manager and a metrologist. The program is striving to re-open the laboratory facility by sending several staff members to the National Institute of Standards and Technology Office of Weights and Measures Metrology Classes. The goal is to have the laboratory operational no later than January 2016 and the department anticipates hiring for the vacant laboratory positions.

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

systems before they are approved for use in commerce. The National Type Evaluation Program laboratories are authorized by the National Conference on Weights and Measures. Meeting the required 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 National Type Evaluation Program laboratory is authorized in 14 areas of evaluation. All related costs are paid by the participating manufacturers requesting these services.

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.

WEIGHTS AND MEASURES ACTIVITIES TABLES: FIELD INSPECTION AND TEST EFFORT

	2013		2014		2015	
	% Violations	Total Tests	% Violations	Total Tests	% Violations	Total Tests
Weighing Systems						
Large Scales	25.9	850	21.9	850	19.2	850
Medium Scales	16.5	557	13.2	557	12.2	507
Small Scales	16.1	6,900	17.7	6,900	19.3	9,213
Liquid Measuring Systems						
Retail Gasoline Meters	24.1	28,894	21.2	23,576	21.2	23,576
L P Gas Meters	16.0	400	19.5	513	19.5	513
Vehicle Tank Meters and Other Large Meters	15.4	1,120	12.8	1,464	12.8	1,464
Grain Moisture Meters	13.4	112	12.3	106	19.3	114
Programmed Tare Inspections	12.3	1,686	13.3	1,406	11.6	1,752
Price Scanning and Method of Sale	3.1	9,977	2.2	30,277	2.7	10,851
Delivery Ticket Inspections	1.2	1,849	1.1	2,644	0.5	1,559
Package Lots	16.4	8,733	17.3	6,633	20.9	6,606

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	2013 Tested	% Rejected	2014 Tested	% Rejected	*2015 Tested	% Rejected
Weights	1,006	9.1	813	10.1		
Volumetric Measures, (Non-Glass)	30	66.7	59	54.2		
Length Devices	0	0.0	0	0.0		
Temperature Devices	104	0.0	20	0.0		
Timing Devices	6	0.0	6	0.0		
Volumetric (Glass)	0	0.0	0	0.0		
Scales/Meters	0	0.0	0	0.0		
Standard Grain Samples	451	N/A	378	N/A	238	N/A

**The laboratory is reorganizing due to the retirement of two metrologists. 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

	2013	2014	2015
Weighing and Measuring Devices Registration Certificates Issued	7,026	7,000	6,982
Type Evaluation of Devices Conducted (NTEP)	48	44	40
Citizen Complaints Received and Investigated	553	641	516
Disciplinary Hearings, Criminal Arrests, Summonses Obtained and/or Civil Penalties	56	23	12

FOOD QUALITY ASSURANCE

QUALITY, GRADE AND WEIGHT CERTIFICATION

The Food Quality Assurance Program offers producers and processors a voluntary certification program for agricultural commodities including meat, poultry, eggs, fruit, vegetables and grain. The department graders sample commodities and compare them with standards developed by the U.S. Department of Agriculture and/or the Maryland Department of Agriculture for microbial, chemical and/or physical contamination, quality, size, labeling and packaging. Commodities that meet the state and federal standards are certified by department 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. Demand for services varies from year to year and season to season depending on commodities being harvested and the types of commodities being exported. The metric tons of grain exported, which require department certification, have continued to increase each year. 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:

- 253 million pounds of poultry,
- 35.6 million dozens of shell eggs,
- 16.1 million pounds of meat, and
- 46.8 million metric tons of grain.

COMPLIANCE AUDITS

Many buyers require compliance audits of production practices as well as product certification. The Food Quality Assurance program 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, the department 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 Maryland Department of Agriculture Good Agricultural Practices (GAP) food safety program for fruit and vegetable producers has experienced a significant increase in participation. The number of producers the department GAP certified has continued to increase from 30 in FY 2014 to 35 in FY 2015. The department program has been funded to date through USDA Specialty Crop grants and has also provided food safety training to more than 800 fruit and vegetable producers. An additional 18 fruit and vegetable producers were audited by the department's compliance auditors and received USDA GAP certification. Three of these USDA-certified farms transitioned this year from the MDA GAP to the USDA GAP to meet their buyer requirements. These programs will help producers meet increasingly stringent buyer and federal food safety regulations for producing fresh fruits and vegetables.

EGG INSPECTION

The Egg Inspection Program enforces the Maryland Egg Law. Inspections are performed at the producer, wholesale, food service and retail levels to ensure eggs sold in Maryland meet the standards for quality, size, refrigeration, microbial and physical contamination, labeling and record keeping. The section also registers egg wholesalers and packers. Portions of the labeling, record keeping and registration requirements provide traceability in case of a Salmonella enteritidis outbreak. Other sections of the law were established to reduce the risk to consumers of food-borne illness. Eggs found to be out of compliance with the established standards are removed from sale, and violation notices are issued to the responsible parties. Inspection activities are funded through the collection of \$.0026 per dozen of eggs sold in Maryland. The percentage of sampled eggs found to be in compliance with the Maryland Egg Law increased to 84.44 percent this year from 80.59 percent last year. The number of lots being inspected increased slightly over last but has not reached the levels inspected in 2012 because of continuing vacancies in the program and other activities conducted by program employees.

ORGANIC CERTIFICATION

The USDA-accredited Maryland Organic Certification Program certified 126 farms and handlers of organic products during FY 2015. The program also registered an additional 20 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 the department 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 the department. 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. The department licensed 34 businesses with 67 locations in FY 2015.

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 farmers 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 the department. The program began in May 2010 and already more than 500 producers have been trained, and 45 producers have been certified.



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. During FY 2015, the horse board operated with a full slate of board members, conducted 11 monthly board meetings, co-hosted the industry's third Maryland Horse Forum and completed its 17th year of operation.

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

- Promote the use and development of horses in Maryland;
- Support research related to equine health and related issues;
- Create public awareness of the value of equine activities as they relate to green space preservation;
- Develop and disseminate information concerning the equine industry;

- Advise the department regarding matters affecting the state's horse industry; and
- 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, the horse board develops projects to help spur the economic development of the entire equine industry and particularly to initiate marketing efforts to help grow the recreational riding sector. Key accomplishments in FY 2015 are listed below.

Licensing. The Maryland Horse Industry Board licensed 770 stables in FY 2015; Feed Assessment Fund grew 8 Percent. The number of licensed stables—an increase of 112 stables from the previous year—represents the largest number in horse board history. The increase is the result of an aggressive campaign to identify and bring into compliance stables that have not been complying with the law as well as provide licensing information to a number of new stables being

established throughout Maryland. The horse board's Feed Assessment Fund grew by 8 percent in FY 2015, reaching its highest total in 17 years. The board also hired a new stable inspector who started work in July 2014.

Maryland Horse Forum. The horse industry board co-hosted the 2014 Maryland Horse Forum. The Maryland Horse Council, at their request, joined with the horse board to present the Third Maryland Horse Forum on August 7, 2014. These forums bring together industry leaders every five years to assess the current state of the industry and to discuss major issues and brainstorm ideas to help shape its future. Previous forums were held in 2004 and 2009. More than 350 leaders from across the state, representing Maryland's more than 200 equine organizations and 35 different equestrian disciplines, convened at the Prince George's Equestrian Center in Upper Marlboro to participate in four break-out sessions concerning marketing, business and regulatory issues, open space and managing Maryland's horse population. In addition, the attendees heard about industry trends and issues from a series of national speakers—Patti Colbert from the American Horse Council; Steve Day, CEO of Dover Saddlery; and Todd Gralla, global designer of equestrian parks. A total of 28 different breed and trade organizations, both from racing and non-racing sectors, sponsored the event. The major point acknowledged at the 2014 Forum is that “Maryland is on the Move,” evidenced by industry payroll increases, increase in number licensed stables, growth of the Feed Fund, increase in buying and selling of horses and number of competitions and competitors, and an increase in the number of racing stallions, mares and foals. To keep the momentum going, attendees asked its industry leaders to continue to market aggressively, foster cross disciplinary cooperation, be vigilant on issues confronting the industry and upgrade facilities. The horse board published a Final Report on the Forum in March 2015. It is posted on the horse board website.

Completion of the second phase of the Maryland Horse Park System Feasibility Study. Consultants, hired by the Maryland Stadium Authority at the request of the Maryland Department of Agriculture and the Maryland Horse Industry Board, completed the study in the spring of 2015 and started a series of 17 briefings of public officials, equine industry leaders and stakeholders of the various facilities who responded to a Request For Interest (RFI) to participate in the system. The report is to be made public by August 31, 2015. The study identifies three areas necessary to comprise the system: a major show/expo complex; a major field event venue; and a cultural and educational center. Consultants selected two sites to be studied: the Prince George's

Equestrian Center in Upper Marlboro as the major show/expo complex and the Fair Hill Natural Resources Management Area in Elkton as the major field event venue. The report calls for major upgrades at both facilities. No site was chosen at this time to be studied as the cultural and education center.

Marketing. The horse board entered the fourth year of implementation of its Five-Year Strategic Marketing Plan. Key components include:

- **Horse Discovery Centers.** Successful launch of its Horse Discovery Center program with the Maryland Horse Chase. The horse board launched the Horse Discovery Center network with the Maryland Horse Chase in the spring of 2015. Over a three week period, participants visited 35 participating Horse Discovery Centers, farms and racetracks, earning points toward \$10,000 worth of horse-related prizes by completing challenges at each location. The winner drove more than 1,500 miles and visited 33 of the 35 locations. A total of 300 participants registered for the event with 137 completing one or more challenges. Media coverage included six television news stories, three radio interviews, numerous print articles including a front page story in the Baltimore Sun and a myriad of social media postings. Horse Discovery Centers are existing licensed stables who have been certified by the horse board to provide friendly and knowledgeable outreach of equine activities to the general public.
- **“Horses for Courses” Horse School Curriculum.** The horse board started a partnership with the Maryland Agricultural Education Foundation to develop a horse curriculum for grades four through eight in the Maryland school system with support from the Maryland Department of Education. The foundation's Peggy Eppig held a series of workshops with 26 of the Horse Discovery Centers as well as representatives from other licensed stables who hope to become certified farm-based educators. A team of 10 stable operators started working with Eppig in the spring 2015 to write the curriculum. Completion of the first draft is due in the fall of 2015.
- **Tourism Award.** The horse board's first horse history trail, “Horses at the Beach,” won the award for best new product (costing \$5,000 or less) in the annual competition of the Maryland Tourism Council. The equine heritage trail consists of 11 sites in Worcester County, including the Assateague ponies, Ocean Downs and the old Glen Riddle Farm.

- **“Racing the Times” premiere.** On May 15, the 90-minute documentary film, “Racing the Times” had its premiere at the Senator Theatre in Baltimore. The film was also shown on MPT and was produced by horse board member Jay Griswold. The film, which chronicles the history of Maryland horse racing, was an outgrowth of the horse board’s Horse History Committee and was largely funded by the state’s horse racing organizations.
 - **Touch of Class Award, Horse Pals, Social Media and Speaker Series programs.** During 2015, the horse board honored Maryland horses and riders who won national and international recognition with the monthly Touch of Class Award in these 10 disciplines: polo, equestrian trade, 3-day eventing, show jumping, youth activities, endurance riding, equestrian journalism, Thoroughbred racing, steeplechasing and jousting. The horse board now has more than 1,300 Horse Pals and more than 2,000 Facebook and Twitter followers. More than 300 Horse Pals attended a Dec. 26, 2014 “Meet and Greet” with the Budweiser Clydesdales at the Prince George’s Equestrian Center. The horse board also sponsored a Speaker Series event with Maryland Rolex competitors Colleen Rutledge, Lillian Heard and Kate Chadderton at Loch Moy Farm in June.
 - **Publications.** The horse board produced three publications in FY 2015. In addition to the Horse Forum Final Report, the horse board published Saddle Up Maryland, a tri-fold brochure and map listing 35 licensed trail riding stables in 16 counties; a rack card with listings and contact information for the 35 Horse Discovery Centers in 15 counties; and a 2015 Calendar of 50 Premier Maryland Horse Events. The equestrian events were also entered on the state tourism calendar of events. All publications are available for download on the horse board website.
 - **Outreach.** The horse board conducted national and international outreach. In September 2014, a delegation of six Maryland horsemen and agricultural officials, three from the horse board and three from the state agriculture department, visited equine and other agricultural facilities in Sweden and Denmark on a grant from U.S. Livestock Genetics Export. A highlight of the trip was lunch with the American ambassador at the Klampenbourg racetrack on Danish Oaks Day. A race was named in honor of the Maryland Jockey Club. In June, the horse board executive director was a featured speaker at the American Horse Council annual meeting in Washington, D.C.
 - **Promotions and participation at 59 Maryland horse events.** During the year, the horse board provided a \$2,500 sponsorship for the Kid’s Korral at the Maryland Million horse race and had booths and/or made presentations at 36 venues: Ocean Downs Racing Under Saddle, Baltimore Co. TROT meeting, Maryland Horse Foundation polo charity game, 2014 Maryland Horse Forum, Oceans Downs horse races, Maryland State Fair, Maryland Horse Council quarterly and annual meetings, Days End Fall Festival, Retired Racehorse Training National Symposium, Baltimore County Agricultural Teachers Night, Washington International Horse Show, Horse Discovery Center tour for Maryland Department of Legislative Services, Maryland Tourism and Travel Summit, Lisbon Horse Parade, Horse World Expo, Maryland Tourism Day, LEAD Maryland equine program, Maryland Trails Summit, TROT annual dinner, Maryland Horse Industry Legislative Happy Hour, Green Spring Valley Point-to-Point, Maryland Horse Chase kick-off, Maryland Fairs Association spring meeting, Crofton and Baltimore City farmers markets, Maryland Jousting Association annual meeting, Freedom Hills Horse Rescue, Maryland Junior Hunt Cup, Maryland Travel Information Workshop, Pasadena Horse Appreciation Day, Armstrong Williams TV show, Veterans Memorial Day Tribute on Capitol Hill (military riding), Fair Hill Races, vR Equine Therapy kick off. The horse board also attended and participated in another 22 equine industry meetings and events.
- Grants.** The horse board awarded \$30,000 in grants to 26 Maryland horse organizations and individuals. For the second consecutive year, the board distributed \$30,000 in grants funding, the second highest amount in the board’s 17-year history.
- Cross Disciplinary Cooperation.** Following recommendations from attendees at the 2014 Maryland Horse Forum, the horse board began coordinating a series of monthly meetings of a newly formed Maryland Horse Industry Marketing/Leadership Circle. Starting in January 2015, this group started meeting informally to develop ways in which the industry could unite to principally develop marketing projects centered around Maryland horses. About 30 people, representing a cross section of 15 racing and non-racing organizations, who are largely CEOs, executive directors and marketing staff, meet to discuss prospective initiatives and provide industry updates. The group’s first project was the industry’s first Legislative Happy Hour held in March 2015 at the Governor Calvert

House in Annapolis. The group worked with the Maryland Horse Council and KO Public Affairs to educate legislators and their staffs on the economic impact, open space initiatives and civic outreach of the Maryland horse industry. The group

also funded the “Racing the Times” documentary film, the writers for the School Horse Curriculum project, started developing a “Horse Land” exhibit at the Maryland State Fair as well as other marketing and advertising programs.

MHIB SELECTED STATISTICS: 2013 - 2015

	2013	2014	2015
Category			
Number of Stable Licenses Issued	619	658	770
Number of Inspections Performed Annually	367	253	539
Percentage of Facilities Inspected and in Compliance	100%	100%	100%
Revenue Collected from Licensing Horse Stables in Maryland	\$76,750	\$82,250	\$92,250
Revenue Collected from Assessment Based on Tons of Horse Feed Sold in Maryland	\$200,315	\$193,198	\$213,198
Outcomes			
Total Amount of Money Distributed as Grants for Promotional, Educational or Research Projects for Maryland Horse Industry	\$25,350	\$30,000	\$30,000
Percentage of Total Revenue Distributed as Grants for Maryland Horse Industry	8.3%	15.5%	8%
Staffed Booths or Presented Talks at Trade Shows, Conferences, Fairs and Exhibitions Promoting Maryland Equine	35	38	36



MARYLAND AGRICULTURAL FAIR BOARD

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

The board 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. Members may come back on the board after a break in service. The current board divided the state into regions that individual board members manage. 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 the department. In 2014 the board decided to meet throughout the state at various fairgrounds. In 2015, the board met at the Howard County Fairgrounds and the Maryland State Fair grounds. The board is managed by an executive secretary who is employed by the department on a part-time basis.

Funding comes through the Maryland Racing Commission through a special grant 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 only. Currently the board funds about 165 events. These range from the Maryland State Fair, to county fairs, to local community shows, to youth activities in 4-H and FFA.

The board publishes an annual guide listing fairs and shows that it funds. These brochures are distributed to all welcome centers on state highways, all Extension offices, all fairs and shows, all chambers of commerce, all libraries, all county farm bureau's and the Maryland Farm Bureau. It is also posted on the department's 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.



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PLANT PROTECTION AND WEED MANAGEMENT

APIARY INSPECTION

The Maryland Department of Agriculture 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. This is the most serious brood disease of honey bees and can destroy a colony in one year. The 13 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 – 0.2% of colonies inspected.

Varroa Mites. Varroa mite (*Varroa destructor*) populations were very high in Maryland in 2014, and brood problems were attributed to varroa mite. 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. One of the serious problems caused by varroa is the transmission to honey bees of viruses which cause deadly diseases. Nearly 20 honey bee viruses have been discovered and most are associated with varroa mites. Therefore, controlling varroa populations in a hive will often control the associated viruses and symptoms of the viral diseases.

Tracheal Mites. Tracheal mite (*Acarapis woodi*) populations, as documented by the USDA honey bee laboratory, continue to be so low that tracheal mite is no longer considered a threat to honey bees if colonies are monitored on a regular basis.

Africanized Honey Bees. These 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. The Maryland Department of Agriculture is working with the Mid-Atlantic Apiculture Research and the Extension Consortium to provide information to the general public about emergency incidents, and the Apiary Inspectors of America for information about the control of Africanized honey bee movement, other than through natural spread.

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

Permits. Permits were issued for 3,684 honey bee colonies to move into Maryland, primarily for overwintering, and 2,500 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 2014, 1,520 colonies were again transported to California for this purpose.

NURSERY INSPECTION AND PLANT QUARANTINE

The nursery and greenhouse industry continues to be a leading part of Maryland's agricultural economy, currently ranking second among commodities, with about \$960 million in farm income. Other horticultural products and services boosted total gross receipts to more than \$1.96 billion.

A primary goal of state plant protection and quarantine efforts is to facilitate the production, sale and distribution of Maryland nursery stock. This is accomplished in large part by inspection and certification activities conducted on-site by Plant Protection and Weed Management Program staff. 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 ensure plant materials are received and maintained in a healthy and pest-free condition for wholesale and retail sale.

In 2014, the Maryland Nursery Inspection Program licensed 309 nurseries, 1,342 plant dealers, and seven plant brokers. In 2014, some 9,263 acres of nursery stock and nearly 10,000,000 square feet of greenhouse production were certified. In 2014, Plant Protection and Weed Management Program staff performed routine inspections at 411 Maryland locations. The general health of Maryland-produced nursery stock was found to be excellent. In additional certification activities, 151 state phytosanitary certificates that assure compliance with established domestic quarantines were issued to 12 states and U.S. territories. In 2014, there were 315 federal phytosanitary certificates, required to export Maryland nursery stock from the United States, issued to 39 foreign countries.

Specific Events of Note

- In 2014, Nursery Inspection Program staff continued to perform follow-up inspections on trace-forward mail-order plant material for possible *Phytophthora ramorum* contamination. No infected plants were detected. Staff also assisted with cooperative agricultural pest survey for *P. ramorum* in nurseries.
- Of the two Maryland Eastern Shore nurseries where stop sale orders were issued in 2013 for plant material infected with boxwood blight, *Calonectria pseudonaviculata*, and after repeated attempts to selectively eradicate infected material, one nursery destroyed all host material in 2014 and the other nursery

is in the process of doing so in early 2015. Additionally in 2014, a nursery where boxwood blight was first found in 2012 and where the disease had apparently been eradicated was again found to be positive for the disease in 2014. Standard eradication protocols and best management practices were again conducted at the nursery with department staff direction. For the first time in 2014, boxwood blight began to show up in a few home landscape sites in the state, with the apparent source of infection being contaminated nursery stock installed on those properties.

- Nursery Inspection Program staff worked with landowners and lumber mills to ensure that interstate movement of walnut timber was only allowed from areas in Maryland not found by survey to be infested with walnut twig beetle, *Pityophthorus juglandis*, and thousand canker disease, *Geosmithia morbida*. Plant Protection and Weed Management Program 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 which was distributed to both foreign and domestic markets.

PEST SURVEYS

The Cooperative Agricultural Pest Survey and Farm Bill surveys are joint projects between the Maryland Department of Agriculture 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.

The 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 cooperative pest surveys include: exotic wood borers, cyst nematode, khapra beetle (*Trogoderma granarium*) /noxious weeds, imported fire ant and emerald ash borer. The farm bill surveys include: nursery (*P. ramorum* and exotic moth), stone fruit and tomato.

In 2014, the department deployed and monitored 2,142 insect traps and, from these various traps, collected 2,155 samples. Survey and trapping techniques vary depending on the pest being surveyed. Some trapping devices include purple prism traps, bucket traps, delta traps and Lindgren funnel traps. All traps include an attractant such as a lure, food bait and host volatiles. There were eight extensive surveys targeting 40 exotic pests that impact trees, store products, field, orchard commodities and nursery stock.

Cooperative Agricultural Pest Surveys

Red Imported Fire Ant Survey. The red imported fire ant, *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 United States. In 2014, 97 sites were surveyed and five were confirmed positive for the ants. Four of the positive sites were retail establishments and one was a licensed nursery. All five sites were issued eradication treatment orders and all have completed the treatments.

Emerald Ash Borer Survey. The emerald ash borer (EAB), *Agrilus planipennis*, has been in Maryland since 2003. It is now in 12 counties on Maryland's western shore and Baltimore city. In 2014, Carroll County and Baltimore city were added to that list. The 2014 survey consisted of 304 purple prism trap sites, 26 of these sites were found positive. An additional trap trial survey was conducted for USDA, consisting of ten sites with four traps each, testing different lure and trap combinations throughout the infested part of the state. At the end of FY 2015, Maryland's Eastern Shore was still negative and not under a state or federal quarantine. All counties west of the Chesapeake Bay and the Susquehanna River were under both state and federal quarantines.

The department, along with USDA partners, participates in parasitoid releases. Three parasitoids are approved for release, and the department has released all of these since 2009. In 2014, 59,218 parasitoids were released at eight biocontrol sites in six counties. All three introduced parasitoids have been recovered in Maryland. The department also raises tropical ash (*Fraxinus uhdei*) to assist in the parasitoid production.

Cyst Nematodes Survey. The cyst nematodes can be found

throughout the world and have caused severe agricultural damage to many crops grown in Maryland. Calvert, Charles and St. Mary's counties were surveyed for ten exotic cyst nematodes. There were nine sites surveyed per county – all were crop fields recently planted in corn or soybeans. All samples were negative.

Exotic Wood Boring Beetles Survey. USDA regulations require all wood packing material to be treated to ensure any insect living in the wood is killed; however some packing material is not properly treated, causing possible exotic wood borers to be shipped to the United States and thus be introduced to the environment. Bark beetles can be extremely destructive and in parts of the world have been known to destroy large acreages of forest. In 2014, 11 sites were 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, and each trap has a specific lure which is used as an attractant to one or more of the exotic beetles being surveyed. All samples were negative. Two of the sites surveyed for the beetles also house a blacklight trap. The blacklight trap is used for longhorned beetle detection. These two traps did not detect any of the high priority pests being surveyed.

Khapra Beetle / Noxious Weeds Survey. 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. The department surveys a large warehouse that receives seed from countries known to have established populations of the khapra beetle. There are 10 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 Surveys

Tomato Survey. In 2014, the department surveyed for five 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 of high priority for survey because it is known to be in the Caribbean. Six sites on Maryland's Eastern Shore and in southern Maryland were surveyed from June-September, and 173 samples were collected. All samples were negative.

Stone Fruit Survey. There were seven sites randomly chosen throughout the state and surveyed for the stone fruit survey. Traps were hung in stone fruit trees, 385 samples were

collected, and all samples were negative. If any of these targets were to become established in the United States, there would be large losses to the stone fruit industry.

Nursery Survey. This survey was split into two parts. An exotic moth species survey was conducted at eight sites in six counties throughout the state, and a *P. ramorum* survey was conducted at several nurseries in Maryland. The moth survey included three high priority pests and one pest of state concern, the European pepper moth, *Duponchelia fovealis*. While none of the high priority pests were detected, the European pepper moth was found in five counties, all official county records. There were 255 samples collected during the moth survey which focused on greenhouse growers receiving large numbers of annual plants.

DIAGNOSTIC LABORATORIES

The Plant Protection and Weed Management Section laboratories provide testing, analyses and identifications to support department programs as well as to provide answers to inquiries from outside the department.

Entomology Laboratory. Along with the normal predictable nursery, garden, and household pests, and common creatures submitted in 2014, a number of more interesting specimens were seen. Among them were a hickory horned devil (*Citheronia regalis*) caterpillar which can reach five inches in length, an uncommon large red and black assassin bug (*Microtomus purcis*), and the spectacular giant ichneumonid wasp, (*Megarhyssa atrata atrata*), which is five to six inches long, including its ovipositor. Several specimens of lawn bagworm (*Astata confederata*) were submitted by the Home and Garden Information Center from Western Maryland. In mid-May, over three to four days, emergences of large numbers of a predatory carabid beetle (*Calosoma wilcoxii*) were recorded in parts of Maryland and Virginia. A five-inch long Eastern worm snake (*Carphophis amoenus amoenus*) frightened a homeowner who was assured it was harmless. Viburnum leaf beetle (*Pyrrhalta viburni*) eggs and damage were detected on several native viburnums by a landowner in Western Maryland in November 2014. This is a first detection. Other samples included two plants, Italian bugloss (*Anchusa azurea*), displaying brilliant blue flowers, parachute plant (*Ceropegia sandersonii*) which has unique flowers, and a disease, oxalis rust (*Puccinia oxalidis*) found on a greenhouse wood sorrel (*Oxalis triangularis*).

Plant Pathology Laboratory. The Plant Protection and Weed Management plant pathology laboratory provides testing,

analysis, and recommendation services for problems caused by biotic pathogens such as fungi, bacteria, viruses, and nematodes, as well as abiotic, such as soil and environmental related problems, to support department programs. It also provides answers to inquiries from outside the department. The plant disease specialist continued relocation, refitting, and updating of equipment in the laboratory. Collection, maintenance, and calibration of equipment plus updating and improving the lab's molecular capabilities are continuing.

The pathology laboratory received more than 125 samples for diagnosis and management solutions during the 2014 growing season. A majority of the samples came from nursery inspectors, some from pesticide inspectors, landscapers, and home owners. About 15 percent of samples received were abiotic-related, such as watering issues, soil management, cold damage, etc., while the other samples were caused by biotic pathogens, such as fungi, bacteria, viruses and nematodes. The majority of samples received were caused by fungal pathogens. Management strategies based on an integrated pest management approach were recommended for these problems.

The exotic disease, boxwood blight, *Cylindrocladium buxicola* (syn. *Calonectria pseudonaviculatum*) remained a high priority problem. Several samples were received to confirm absence of *C. buxicola* fungi from a boxwood nursery and plantation. The plant disease specialist also visited nurseries to investigate the disease in the field and took extensive samples. Complete destruction of boxwood plants was recommended to a nursery because of continued presence of the pathogen and a potential danger of spreading it by human activities. The presence of *Geosmithia morbida*, the fungus causing thousand canker disease, which is associated with walnut twig beetle, found in one site in Maryland in 2013, was confirmed in the state, and disease management strategies have been recommended.

In 2014, the department obtained funding and completed a survey for *Phytophthora ramorum*. The survey covered nurseries, garden centers, and landscape sites. Staff visited 12 nurseries and garden centers receiving plant material from Oregon, California, and Canada and inspected 115,327 *Azalea*, *Camellia*, *Kalmia*, *Pieris*, *Rhododendron*, and *Viburnum* plants; 587 symptomatic samples of different plant species were collected and tested for *Phytophthora* spp. by ELISA kit. Of these, 26 samples were found positive for *Phytophthora* spp. and submitted to the Cornell University Diagnostic Clinic for *P. ramorum* confirmation. All 26 samples tested negative for *P. ramorum*. Staff made trace forward visits to eight homeowner

properties, inspected 68 plants, and collected 22 suspect/symptomatic samples to test for *P. ramorum*. They were tested for *Phytophthora* spp. by ELISA kit, and none were positive for the fungus.

Soil samples from 27 soybean fields were processed and examined for soybean cyst nematode (*Heterodera glycines*); all fields were found free from soybean cyst nematode. Close to 200 asymptomatic trace forward samples of *Osteospermum*, *Impatiens* Tamarinda® and *Calibrachoa* were received and tested for *Ralstonia solanacearum* race 3 biovar 2, a select agent. About 36 pooled samples were found positive for *R. solanacearum* by Agdias ELISA kit. These samples were submitted to a USDA laboratory. The laboratory confirmed the absence of *R. solanacearum* race 3 biovar 2.

Greenhouse Laboratory. Mile-a-minute weed plants (*Persicaria perfoliata*) were produced for the integrated pest management and biological control program for insect colonies that require food and plant material for research. 1,700 stem cuttings were taken and 1,370 plants were transplanted and grown in the greenhouse until they were ready to be used as food for colonies of the stem boring weevil, *Rhynoncomimus latipes*.

Four hundred twenty five tropical ash, *Fraxinus uhdei*, continue to be grown and maintained in the greenhouse in support of the emerald ash borer biological control program. Two dozen leaves a week are used at the department's rearing facility. These trees are also used to support the emerald ash borer rearing facility in Michigan, where 200 leaves a week are sent to feed parasites used for the biological control effort. To support the continued healthy growth of these plants, biological controls are released on a regular basis to control outbreaks of various greenhouse pests. The thrips predator *Neoseiulus cucumeris* and the spider mite predators *Mesoseiulus longipes* and *N. californicus* are used throughout the year.

Virus testing on five varieties of strawberry (*Fragaria*) is being conducted. Strawberry plants are maintained throughout the year to support the testing.

A variety of support programs take place at the greenhouse on a yearly basis. These include plants produced to support department displays at the Maryland Flower and Garden Show as well as the Maryland State Fair.

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. The Maryland Department of Agriculture conducts a management program in cooperation with the U.S. Fish and Wildlife Service that follows established protocols and Convention on the International Trade in Endangered Species regulations to ensure the continued viability of this potentially threatened native resource and to protect it from over-harvest. Harvested ginseng is certified through this program to enable licensed dealers to sell this wild-harvested plant product in international markets. The department 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 (fresh) wild ginseng root, 125.25 pounds of artificially propagated dry ginseng root and 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 three 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 reflect 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 convention requirements.

The amount of ginseng cultivated, including woods-grown and wild-simulated designations in Maryland, and certified by the department 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 2014 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.

In 2014, the department 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 to September 1 to December 15 (rather than August 20 to December 20). This change effectively gives the ginseng fruit longer to ripen, on average, and ensures a higher percentage of viable seed. This will allow wild ginseng populations a better opportunity to recover 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. This revision 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 is 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

Plant Protection and Weed Management Section entomologists and staff continued to work with the Maryland Department of Transportation, State Highway Administration to conduct an integrated pest management program to provide biological control for certain targeted weed species on state highway right of ways. Weed integrated pest management research activities were continued on State Highway right of ways using funding from State Highways and USDA. The department weed management and biological control research projects have been conducted over each of the past 17 years, and have involved cooperation with the State Highways, 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. Integrated pest management investigations now target the suppression of mile-a-minute weed, *Persicaria perfoliata*, through use of biological control. Department 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 the department, continues to be monitored.

Over the past 17 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. The department is now focused strictly on biological control of mile-a-minute weed, using very specific insect biological control agents.

Currently, the department is in the final months of a two year agreement with the Landscape Operations Division of State Highways to administer a program to continue 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, *Rhyncomimus latipes*. Funding for rearing and release of the weevil is provided in part by State Highways and in part by USDA APHIS.

In 2014, the department continued a rearing program for the mile-a-minute weevil, *Rhyncomimus latipes*. The program involves both rearing of the host plant, mile-a-minute weed, as well as the weevil. The host plants are grown in the department greenhouse in Annapolis. In 2014, more than 1,500 *P. perfoliata* plants were grown. At the department's Insect Rearing Lab, staff reared more than 6,964 weevils in 2014. Release numbers were supplemented by 5,000 additional weevils acquired from the New Jersey Department of Agriculture, Phillip Alampi Beneficial Insects Laboratory. In 2014, 10,056 adult weevils were released at 14 sites statewide, nine of which were new site locations.

R. latipes has now been released in Allegany, Anne Arundel, Baltimore, Carroll, Cecil, Charles, Frederick, Garrett, Howard, Montgomery, Prince Georges, Queen Anne's, Somerset, Washington, and Wicomico counties.

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, it was rewritten and renamed the Noxious Weed Law (Title 9, Subtitle 4, Agriculture Article, Annotated Code of Maryland). The Noxious Weed Law requires that a landowner, or a person who possesses and manages land, eradicate or control the noxious weeds on that land by using practices prescribed by the department, including mowing, cultivating, or treating with an approved herbicide. The law prohibits the importation and transportation of these weeds in the state and prohibits the presence of viable noxious weed seed and rhizomes in seed, topsoil, mulch, nursery stock, on farm machinery, or any other article. The Noxious Weed Law also provides that the department 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 on 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 the State Highway Administration, to help eliminate Johnsongrass or thistles and to control noxious weeds on private or public lands for a fee. In counties with no weed control coordinator, the department's 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 revenue for all the county programs was in excess of one million dollars. The county Weed Control Programs are supervised by state personnel as specified by agreement.

Noxious weed advisory notices were mailed to 309 managers of property infested with noxious weeds. Generally these notices were effective in obtaining compliance. When necessary, the department sent follow-up correspondence, mostly 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, callery pears, and bamboo.

Giant Hogweed (*Heracleum Mantegazzianum*). This 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 five sites needed treatment this past year; three in Baltimore County, one in Garrett County, and one in Harford County were treated. Frederick County's 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's 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 for the 15th 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. Natural Resources 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 \$100,000 for treating about 103 acres at 160 locations in 19 counties. The spray programs pay for the regulatory and non-regulatory work of the weed control program in the counties.

In all counties, the noxious weed control program’s spraying service was offered to landowners participating in the Conservation Reserve Program or Conservation Reserve Enhancement Program. It is thought that seed contamination at planting is responsible for the occurrence and spread of noxious weeds in these plantings. Due to the likelihood of weed problems occurring on land in these programs, spraying services were offered for noxious weed control.

OTHER ACTIVITIES

During 2014, the Maryland Department of Agriculture continued to take a leadership role in the Maryland Invasive Species Council, a forum for information exchange and consensus building among diverse interests in public and private agencies or organizations concerned with invasive species. Several department staff members were directly involved with the council. Participation in the council allows for cooperation through many state agencies, private industry and the public, and the department has been able to disseminate information on many of the serious pests cited in this report.

The department 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 to raise and improve the professional standards of Maryland’s nursery, landscape, and garden center industry by giving special recognition to individuals who have shown a high level of competence in the principles and practices of this industry. Certification also allows this high level of attainment to be recognized by the gardening public. Additionally, department staff participated in a major rewrite of the training manual and assisted in evaluating the exams that are given.

PLANT PROTECTION AND WEED MANAGEMENT SUMMARY OF ACTIVITIES: CY 2012 - 2014

	CY 2012	CY 2013	CY 2014
Beekeepers Registered	1,782	1,821	1,838
Honeybee Colonies Registered	13,924	14,711	14,412
Honeybee Colonies Inspected	3,841	2,993	4,515
Ginseng Dealers Registered	16	19	15
Ginseng Collectors Licensed	291	186	257
Nurseries Certified	330	326	309
Plant Dealers and Brokers Licensed	1,362	1334	1349
Phytosanitary Certificates Issued	364	693	466
Plant Pest Surveys # Target Pests	49	71	41
Plant Pest Surveys # Samples Processed	6,820	4,874	2,656
Target Pests Detected	13	26	2
Number of Noxious Weed Advisory Notices Issued	147	222	303

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

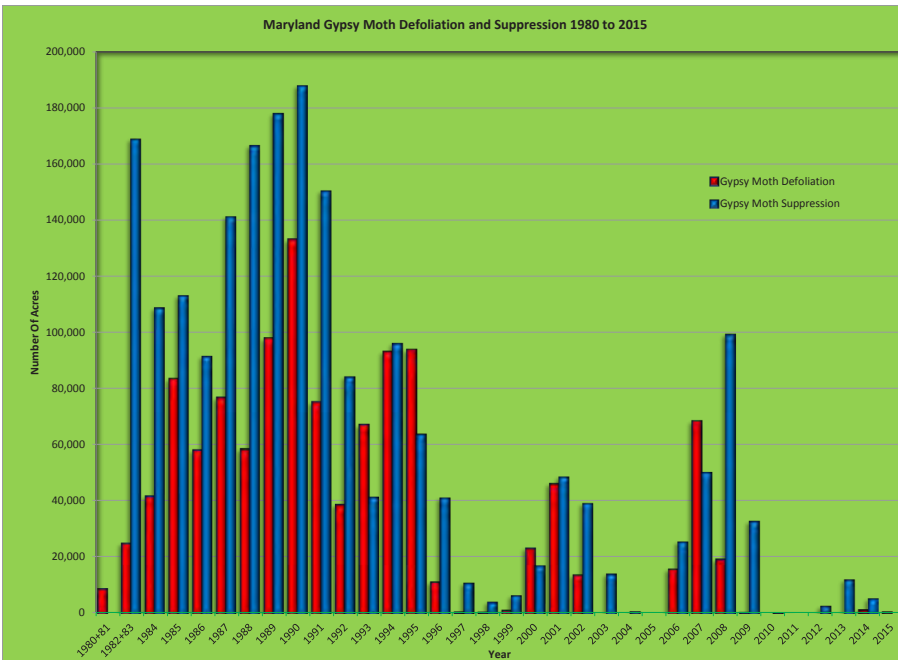
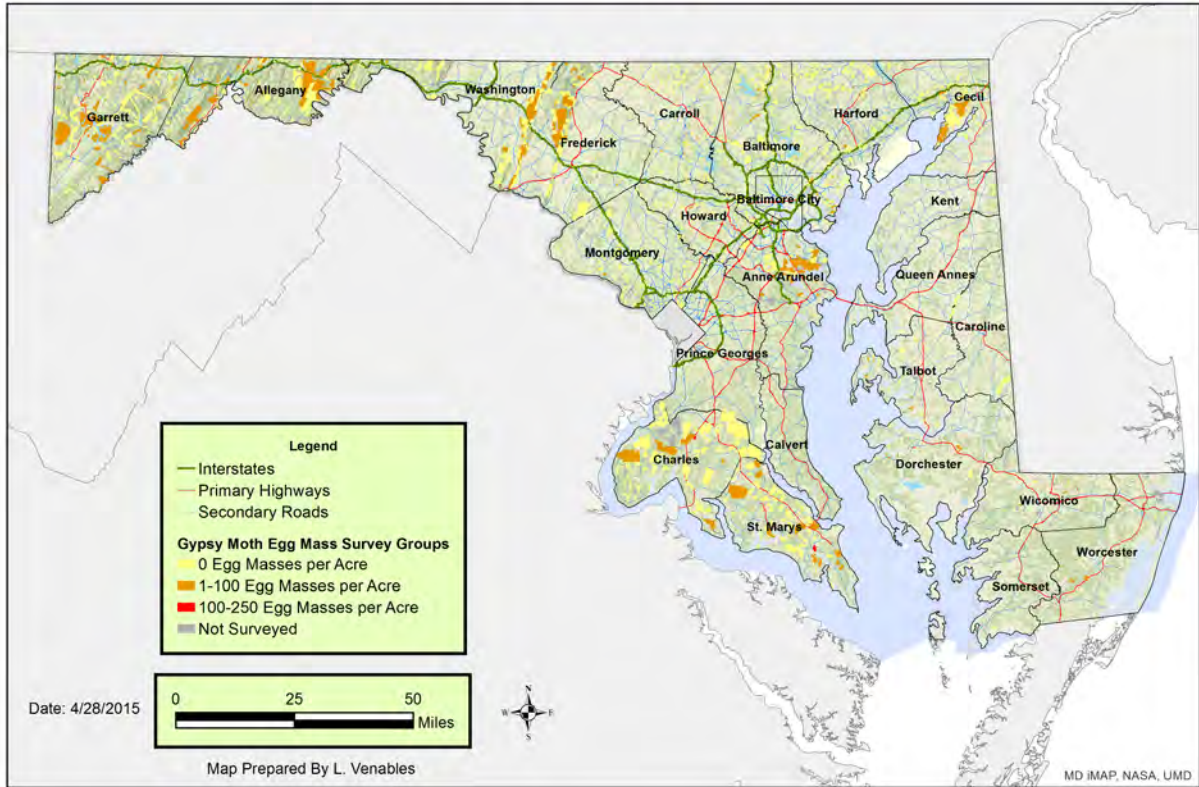
FOREST PEST MANAGEMENT

2014 - 2015 GYPSY MOTH EGG MASS SURVEY SUMMARY

County	Number of Blocks Surveyed	Number of Acres Surveyed	Number of Points Surveyed
Anne Arundel	39	22,439	304
Allegany	183	50,919	1,066
Baltimore	232	35,970	809
Baltimore City	0	0	0
Calvert	0	0	0
Carroll	234	17,744	536
Cecil	94	24,921	461
Charles	67	79,107	179
Caroline	6	3,848	43
Dorchester	33	2,710	114
Frederick	115	41,626	592
Garrett	269	72,155	1,584
Harford	128	22,126	475
Howard	129	12,034	353
Kent	6	1,121	19
Montgomery	210	22,108	697
Prince George's	1	0	3
Queen Anne's	7	402	18
St. Mary's	61	43,475	186
Somerset	14	812	43
Talbot	57	5,281	166
Washington	138	36,143	700
Wicomico	39	2,590	116
Worcester	38	2,723	121
TOTAL	2,100	500,254	8,585

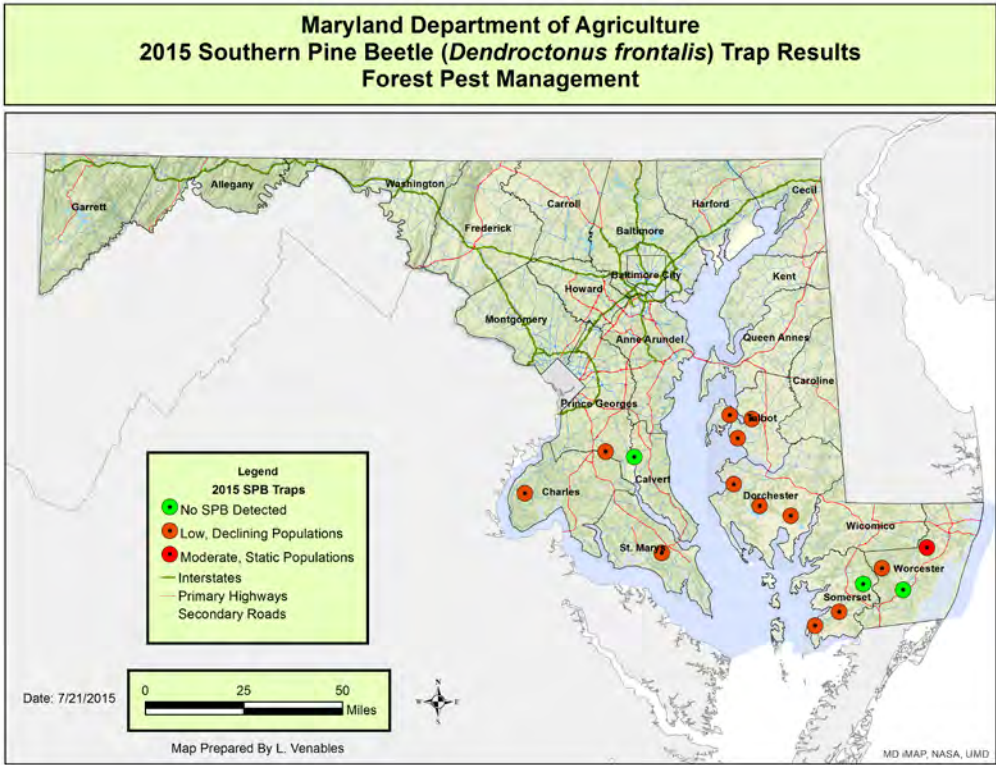
Gypsy Moth. Gypsy moth is the most serious threat to oak forests in the United States. The first eggs were detected in Maryland in 1971, and the first extensive defoliation occurred in 1981. Each fall and winter, the department conducts an extensive survey for gypsy moth egg masses to determine potential areas of defoliation. From August 2014 to March 2015, the department conducted gypsy moth egg mass surveys on 500,254 acres of "high value" forested lands. "High value" forested sites include areas with development, recreational use, managed forest and wildlife resources and other site conditions that render dieback and mortality to be economically and socially important. The survey results indicated that there were no populations sufficient to cause moderate to heavy defoliation of high value rural and urban forest in 2015. The department did not spray for gypsy moth in 2015. Only 612 acres of gypsy moth defoliation occurred this year, mostly on the Eastern Shore and in counties that do not participate in the Cooperative Gypsy Moth Program. Only four acres of defoliation occurred in Southern Maryland.

Maryland Department of Agriculture 2014 to 2015 Maryland Gypsy Moth Egg Mass Survey Results Forest Pest Management



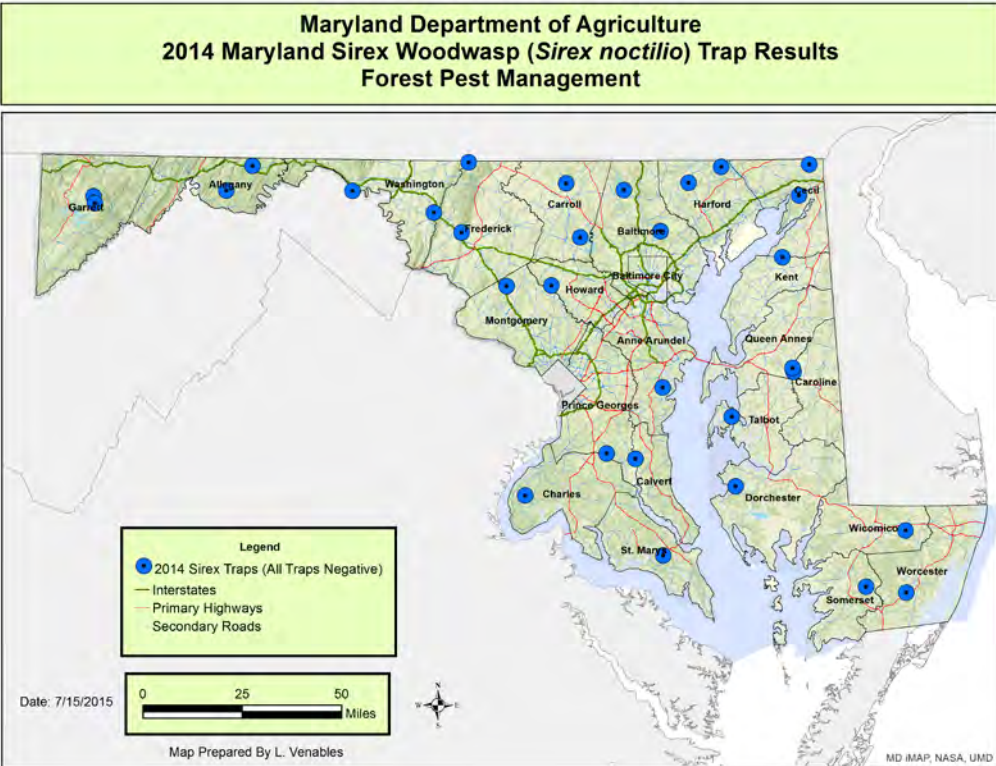
2014 - 2015 GYPSY MOTH EGG MASS SURVEY SUMMARY

County	Total	Private & County	State	# Positive	% Positive	# Blocks	# Acres
EASTERN SHORE							
Dorchester	114	76	38	22	19.3	33	2,710
Somerset	43	43	0	2	4.7	14	812
Talbot	166	162	4	17	10.2	57	5,281
Wicomico	116	110	6	16	13.8	39	2,590
Worcester	121	80	41	13	10.7	38	2,723
Caroline	43	0	43	0	0.0	6	3,848
Queen Anne's	18	0	18	2	11.1	7	402
TOTAL	621	471	150	72	11.6	194	18,366
SOUTHERN							
Charles	179	155	24	7	3.9	67	79,107
St Marys	186	177	9	19	10.2	61	43,475
Anne Arundel	304	301	3	34	11.2	39	22,439
Prince Georges	3	0	3	0	0.0	1	0
Calvert	0	0	0	0	0.0	0	0
TOTAL	672	633	39	60	8.9	168	145,021
NORTHEAST							
Baltimore	809	722	87	17	2.1	232	35,970
Cecil	461	375	86	15	3.3	94	24,921
Harford	475	449	26	2	0.4	128	22,126
Kent	19	13	6	0	0.0	6	1,121
Baltimore City	0	0	0	0	0.0	0	0
TOTAL	1764	1559	205	34	1.9	460	84,138
WESTERN							
Allegany	1066	551	515	130	12.2	183	50,919
Garrett	1584	1081	503	72	4.5	269	72,155
Washington West	332	238	94	15	4.5	71	12,823
TOTAL	2982	1870	1112	217	7.3	523	135,897
CENTRAL							
Carroll	536	511	25	11	2.1	234	17,744
Frederick	592	459	133	59	10.0	115	41,626
Howard	353	315	38	2	0.6	129	12,034
Montgomery	697	615	82	2	0.3	210	22,108
Washington East	368	265	103	42	11.4	67	23,320
TOTAL	2546	2165	381	116	4.6	755	116,832
TOTAL	8585	6698	1887	499	5.8	2100	500,254

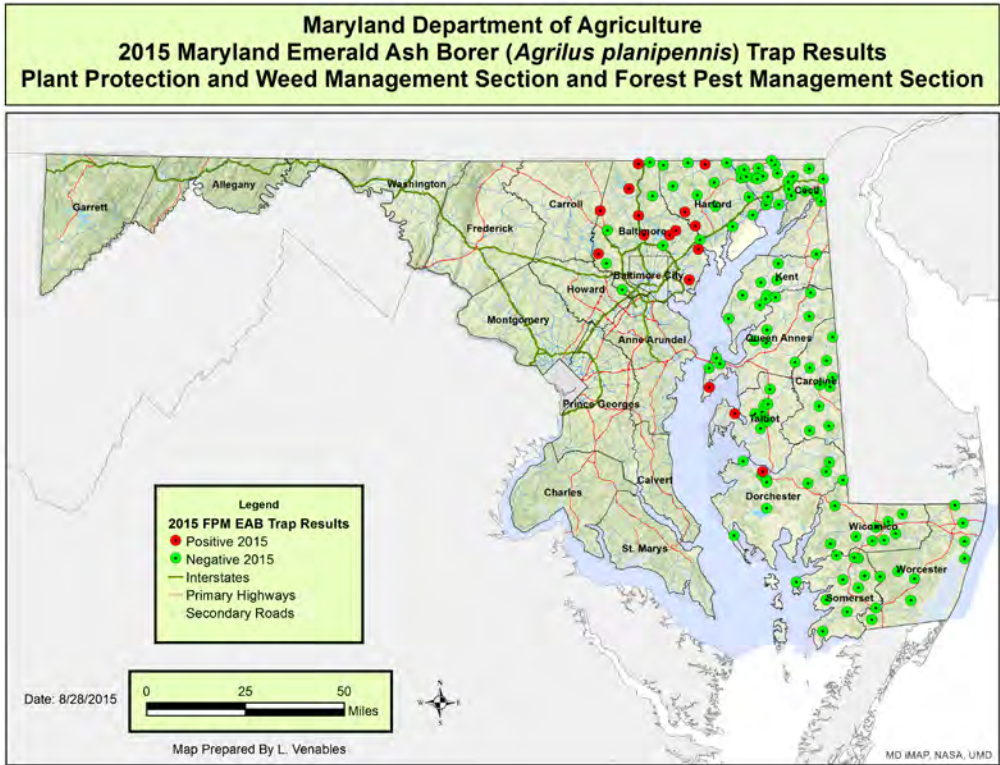


Forest Pest Monitoring and Surveying. 299 traps for various forest pests have been deployed in 2015.

Southern Pine Beetle. This is one of the most destructive insect pests of pines. Maryland is at the northern edge of its range, and the beetle is commonly found on the lower Eastern Shore and Southern Maryland. Since 1989, Maryland has participated in a Southern Pine Beetle survey throughout the southern United States using pheromone-baited traps. Trap data indicated that beetle numbers would continue to remain low in 2015. Populations have been below outbreak level since 1994. However, in 2015 an outbreak of southern pine beetle killed more than 100 acres in Dorchester County.

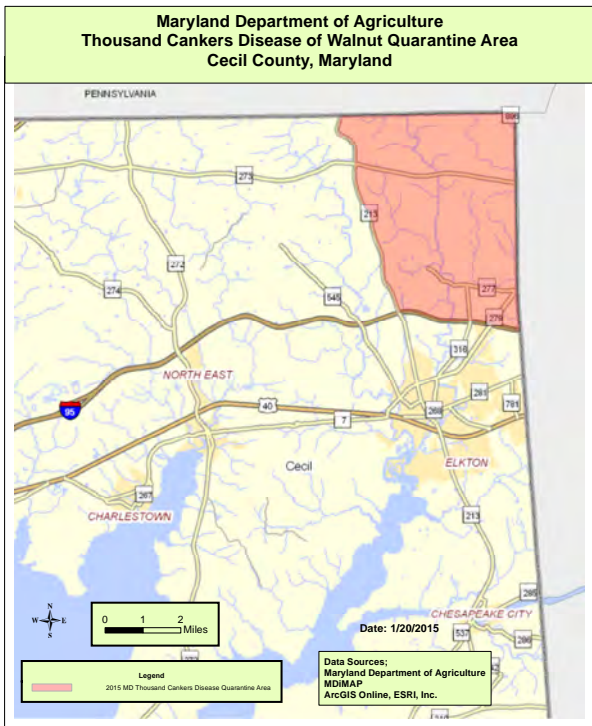
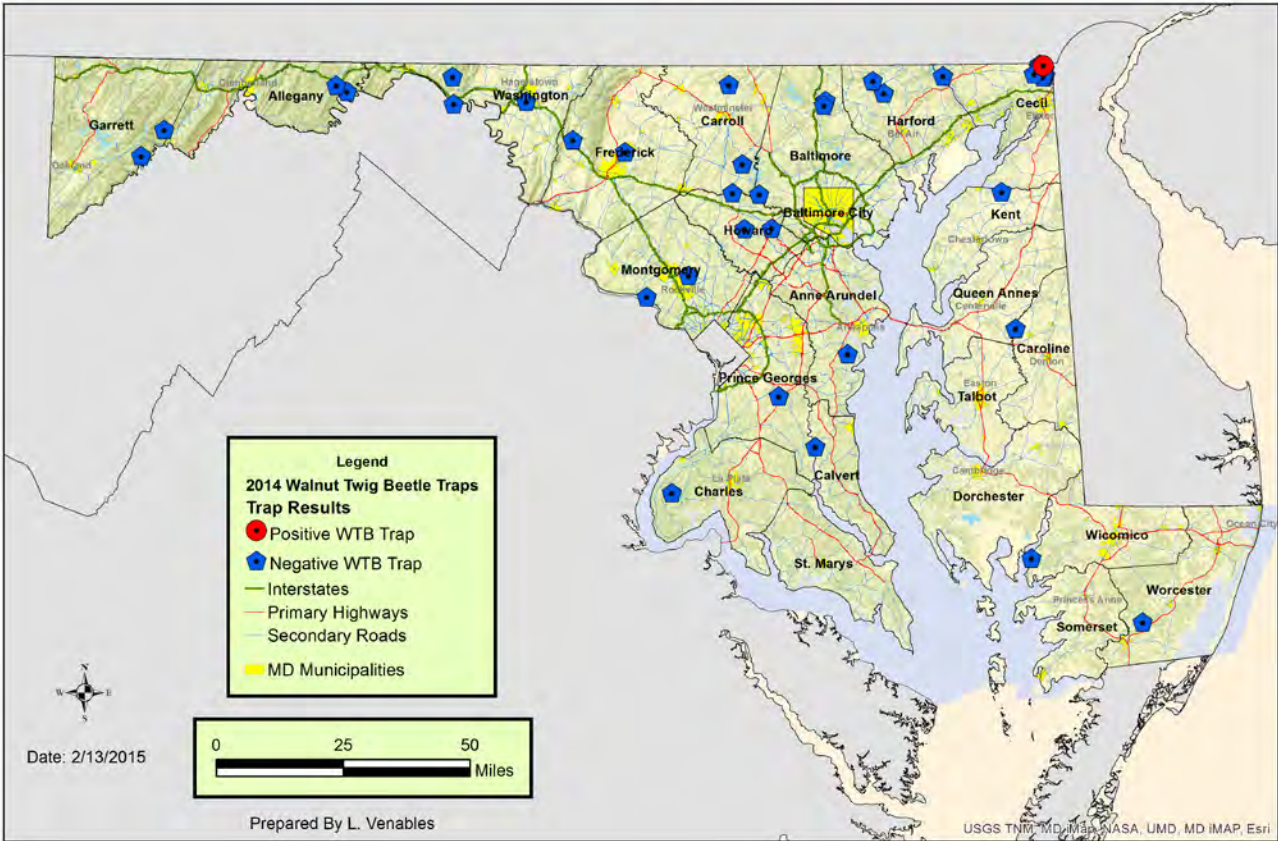


Wood Wasp. *Sirex noctilio* (Wood Wasp) has been the most common species of exotic wood wasp detected at United States ports-of-entry associated with solid wood packing materials. Recent detections of the wood wasp outside of port areas in the United States have raised concerns because this insect has 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, the department 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 2015.



Emerald Ash Borer. The Forest Pest Management Section put up 27 purple sticky traps and four green funnel traps in two of the quarantined counties of Maryland. There were 10 positive traps in Baltimore County and three positive traps in Harford County in 2015, representing the first detections of Emerald Ash Borer in each of these counties.

**Maryland Department of Agriculture
2014 Maryland Walnut Twig Beetle (*Pityophthorus juglandis*) Traps
Forest Pest Management**



Thousand Cankers Disease of Black Walnut and Walnut Twig Beetle. Eastern black walnut trees planted in the western United States have experienced dieback and mortality. The beetle spreads the disease. 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, the beetle was detected in Maryland. In October 2014, thousand cankers disease was confirmed. The northeastern corner of Cecil County has been quarantined.

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

FALL 2014 - SPRING 2015 IMIDACLOPRID TREATMENTS FOR HEMLOCK WOOLLY ADELGID CONTROL IN MARYLAND

Hemlock Stand	County	Trunk Injection #Trees	Trunk Injection Inches DBH*	Soil Injection # Trees	Soil Injection Inches DBH*	Total #Trees	Total Inches DBH*
Prettyboy Reservoir	Baltimore	0	0	707	5746	707	5,746
Fair Hill NRMA	Cecil	48	449	57	436	105	885
Catoctin Creek	Frederick	36	525	17	136	53	661
Cranesville Swamp**	Garrett	225	2510	345	3814	570	6,324
Deep Creek Lake State Park**	Garrett	18	287	0	0	18	287
Frostburg Watershed	Garrett	124	1096	178	1837	302	2,933
Herrington Manor State Park	Garrett	0	0	300	3064	300	3,064
Savage River State Forest	Garrett	344	3371	114	1171	458	4,542
Swallow Falls State Park	Garrett	264	2956	3203	41648	3,467	44,604
Patuxent River	Howard	72	748	49	583	121	1,331
Middle Patuxent	Howard	35	386	0	0	35	386
South Mountain State Park	Washington	239	1714	122	962	361	2,676
TOTAL		1,405	14,041	5,092	59,397	6,497	73,437

*DBH = the diameter of the tree trunk at 4.5 feet above the ground; ** Owned By The Nature Conservancy

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

Hemlock Woolly Adelgid Suppression. The Hemlock Woolly Adelgid 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 Cecil to Garrett counties. In 2003-04, a joint task force of the Maryland Departments of Agriculture and Natural Resources experts addressed the multi-disciplinary needs of the infestation. The task force prioritized more than 50 hemlock stands and selected them as the sites for joint suppression efforts (chemical and/or biocontrol). Only publicly owned or public use sites would be part of this suppression project. Currently, the chemical option involves treating the hemlock trees with the insecticide imidacloprid by trunk injection or soil injection. The biocontrol option involves releasing predators into the hemlock stands in an effort to reduce adelgid populations.

From 2004 to the present, more than 54,000 hemlock trees have been treated. During the last year, 1,405 hemlocks were

treated by trunk injection. All of these trunk injected hemlocks are within 50 feet of water. There were 5,092 hemlocks treated by soil injection during the same time period, creating a total of 6,497 hemlocks treated in Maryland this past year.

Biocontrol efforts to combat the hemlock woolly adelgid began in 1999, and several predators have been released throughout the state since that time. From 2004 to the present, more than 21,000 predatory beetles have been released to combat the hemlock woolly adelgid throughout the state.

In the fall of 2014, 819 predatory beetles were released at two sites, one in Garrett County and one in Harford County. *Laricobius nigrinus*, one of these predatory beetles of the hemlock woolly adelgid, has become established at the department "nursery" at Rocky Gap State Park, and many beetles have been caught there and released in other hemlock stands throughout Maryland in recent years.

Twenty four hemlock stands have been evaluated for efficacy of hemlock woolly adelgid treatments with imidacloprid between 2005 and 2015. Treated trees averaged an 83 percent reduction in hemlock woolly adelgid populations when measured one year post treatment and non-treated

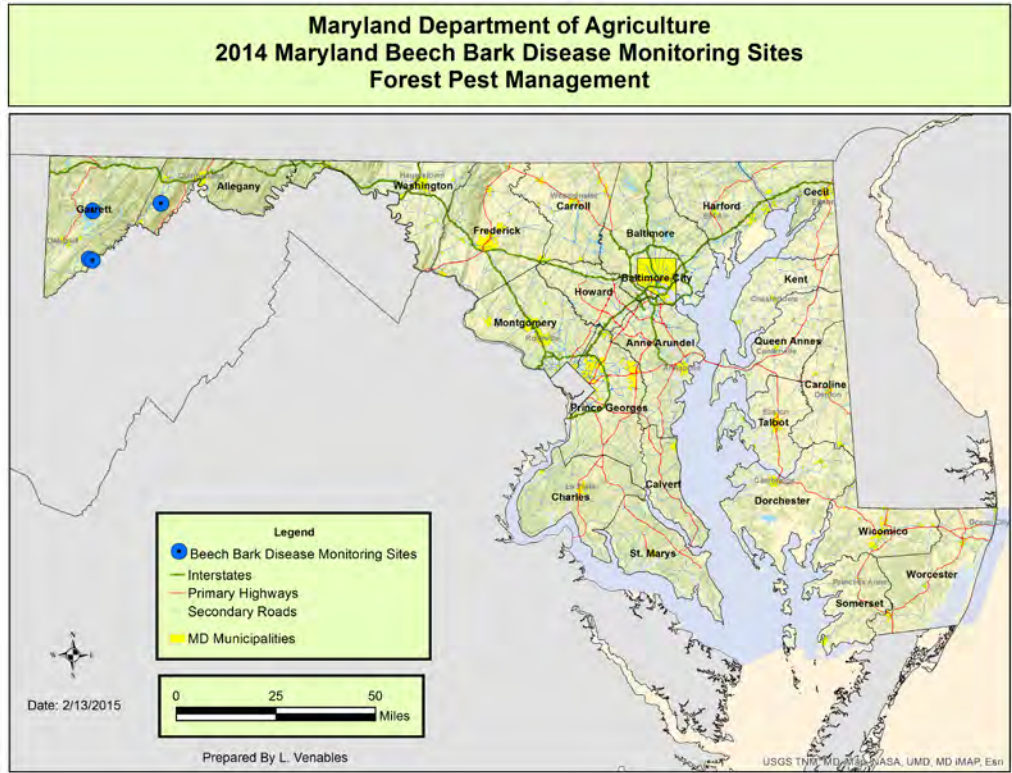
trees averaged a 34 percent reduction in populations when measured over the same time period. Measurements were based on three to 10 treated hemlock trees and three to 10 untreated hemlock trees per site with the pests counted on two to four 30-cm branch tips per tree.

MARYLAND HEMLOCK WOOLLY ADELGID PREDATOR RELEASES 2003 - 2015

County	Hemlock Stand	Number Released	Species Released	
	Rocky Gap State Park	Allegany	3476	<i>Laricobius nigrinus</i>
	Prettyboy Reservoir	Baltimore	2672	<i>Laricobius nigrinus</i>
	Cunningham Falls State Park	Frederick	451	<i>Laricobius nigrinus</i>
	Frederick City Watershed	Frederick	2381	<i>Laricobius nigrinus</i>
	Broad Creek Scout Camp	Harford	2302	<i>Laricobius nigrinus</i>
	Rocks State Park	Harford	1424	<i>Laricobius nigrinus</i>
	Hagerstown Watershed	Washington	853	<i>Laricobius nigrinus</i>
	Big Run (Savage River State Forest)	Garrett	685	<i>Laricobius nigrinus</i>
	Big Run State Park	Garrett	1050	<i>Laricobius nigrinus</i>
	Dry Run (Savage River State Forest)	Garrett	150	<i>Laricobius nigrinus</i>
	Frostburg Watershed	Garrett	300	<i>Laricobius nigrinus</i>
	Laurel Run (Potomac State Forest)	Garrett	1000	<i>Laricobius nigrinus</i>
	Lostland Run (Potomac State Forest)	Garrett	1500	<i>Laricobius nigrinus</i>
	Poplar Lick (Savage River State Forest)	Garrett	1616	<i>Laricobius nigrinus</i>
	Poplar Lick (Savage River State Forest)	Garrett	1510	<i>Laricobius osakensis</i>
TOTAL		21370		

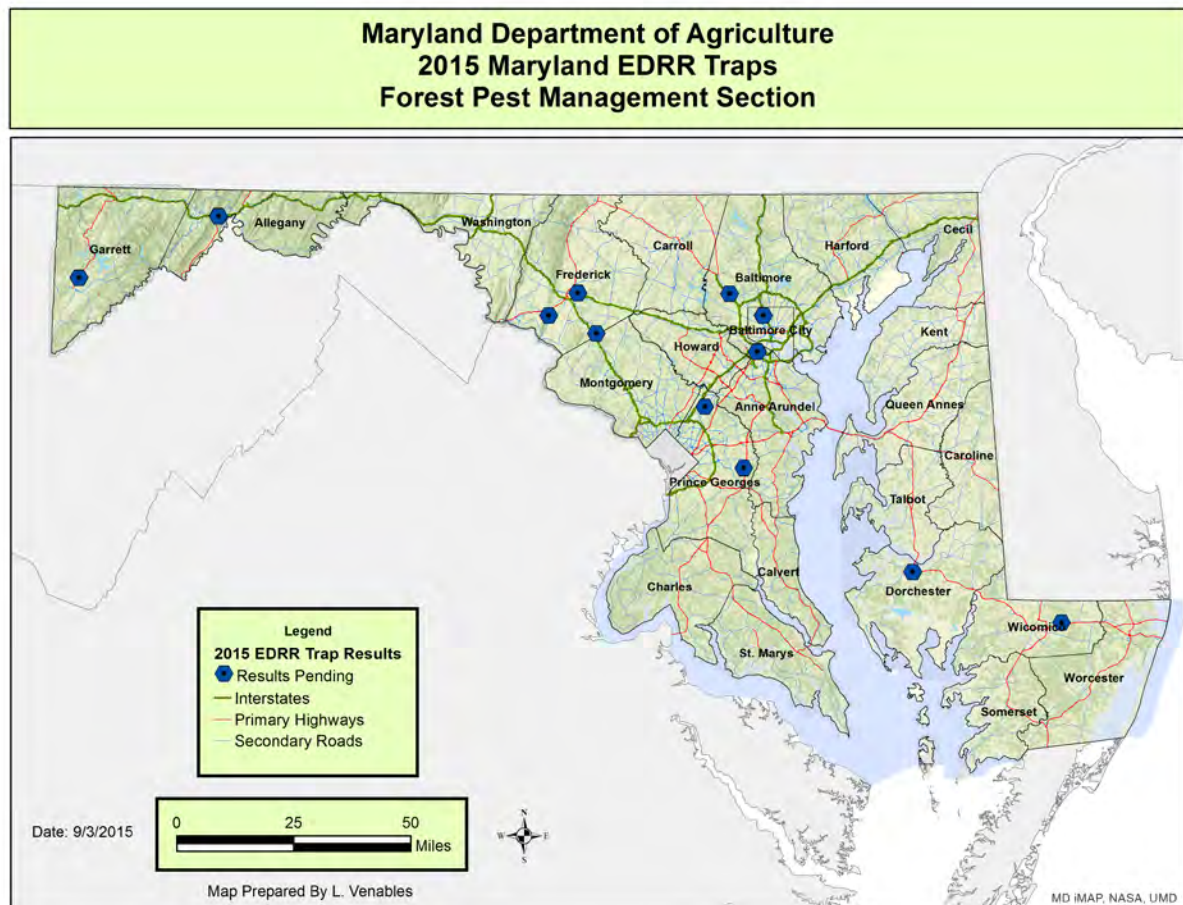
MARYLAND HEMLOCK WOOLLY ADELGID PREDATOR RELEASES FALL 2014 TO SPRING 2015

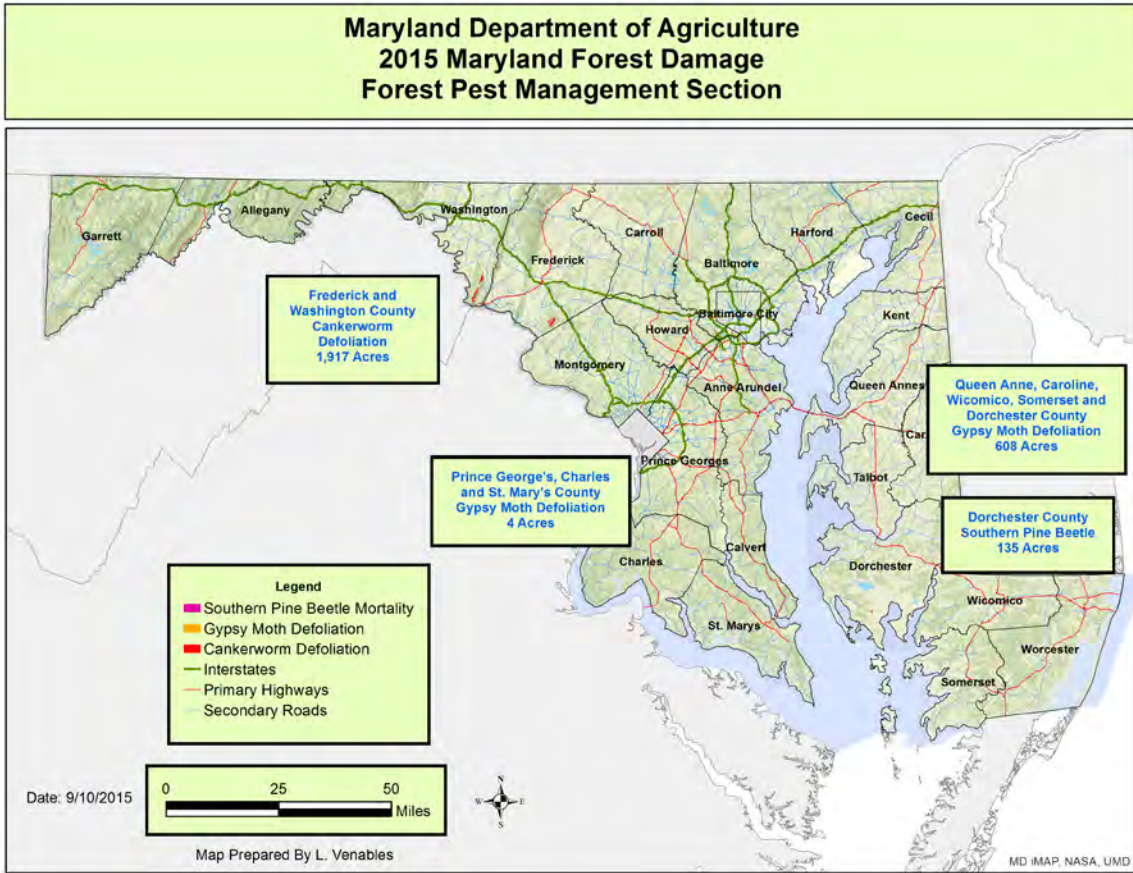
County	Hemlock Stand	Number Released	Species Released	
	Rocks State Park	Harford	309	<i>Laricobius nigrinus</i>
	Poplar Lick (Savage River State Forest)	Garrett	510	<i>Laricobius osakensis</i>
TOTAL		819		



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

Early Detection Rapid Response. This year the department added the Exotic Bark Beetle Detection and Rapid Response to its surveys. The department participates in this activity every four years. The specimens collected were sent to be identified but the results have not been reported yet.





FOREST PEST DAMAGE

Gypsy Moth.
612 acres defoliated.

Cankerworm.
A native species incurred 1,917 acres of defoliation in Frederick and Washington counties.

Southern Pine Beetle. Loblolly pine mortality 135 acres.

Also, see forest damage table and map.

2015 MARYLAND FOREST PEST DAMAGE

County	Damage Causal Agent	Host	Number of Acres
Dorchester	Southern Pine Beetle Mortality	Loblolly Pine	135
Wicomico	Gypsy Moth Defoliation	Oak	130
Somerset	Gypsy Moth Defoliation	Oak	142
Queen Anne's	Gypsy Moth Defoliation	Oak	46
Caroline	Gypsy Moth Defoliation	Oak	79
Dorchester	Gypsy Moth Defoliation	Oak	211
Prince George's	Gypsy Moth Defoliation	Oak	1
Charles	Gypsy Moth Defoliation	Oak	2
St. Mary's	Gypsy Moth Defoliation	Oak	1
Frederick and Washington	Cankerworm Defoliation	Hardwoods	1,917
Total			2,664



MOSQUITO CONTROL

The Mosquito Control Section provides an important public health and quality of life service to Maryland residents in 2,153 communities in 16 counties through mosquito abatement work, arbovirus surveillance, public education and enforcement.

The program is staffed by 15 classified employees, four long-term contractual employees, and 60 seasonal contractual employees. Program administration, a laboratory and the Anne Arundel County program staff are located in the Maryland Department of Agriculture's Annapolis headquarters. Regional offices and laboratories are in College Park, Hollywood and Salisbury.

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 communities to pay for services.

MOSQUITO-BORNE DISEASE SURVEILLANCE

West Nile virus continues to be the mosquito-borne disease of greatest public health importance in Maryland. In 2014, six human cases were reported by the Maryland Department of

Health and Mental Hygiene with zero fatalities. In addition, 33 pools of mosquitoes tested positive for West Nile.

A single mosquito pool was collected by department personnel and tested positive for Cache Valley Virus, which is a member of the Bunyamwera serogroup and is geographically widespread in North America. The transmission cycle involves mosquitoes and various mammalian hosts. Its incidence in Maryland is low. This Cache Valley pool was collected in Worcester County.

Eastern Equine Encephalitis (EEE), one of the most severe mosquito-borne diseases in the United States, was isolated from mosquitoes collected by department personnel in Worcester county. This encephalitis has an average mortality rate of 33 percent, and most survivors experience significant brain damage. After the department of health reported this positive mosquito pool on September 18, the department conducted aerial spraying of 10,916 acres on September 19. Following a management plan for prevention and control of arboviruses, the department carried out aggressive and timely responses to reduce the number of infected adult mosquitoes thereby reducing the risk of transmission to humans and animals.

Chikungunya continues to be a virus of concern. During the winter of 2013, an outbreak of Chikungunya virus occurred in the Caribbean region and spread to South and Central America and Florida. Unlike West Nile, which produces mild symptoms in the majority of infected people, Chikungunya symptoms progress rapidly with sudden onset of high fever, headache and intense joint pain. Symptoms usually subside in 7 to 14 days but can be severe and disabling. Chikungunya is rarely fatal. In 2014, there were 61 travel associated human cases of Chikungunya reported in Maryland. This disease can be transmitted by the Asian tiger mosquito which is the predominant urban and suburban pest mosquito in Maryland.

PERMANENT WORK PROJECTS

The Kubota Excavator, which went into service in 2012, is still the department's primary unit used for ditching and water management projects. The total acreage managed by source reduction projects in 2014 was 1,432 acres. In cooperation with Dorchester County Commissioners, three projects were completed in the communities of Toddville, Wesley and Crapo. These ditch maintenance projects involved the removal of silt, debris, and vegetation from the outlets of these systems to allow floodwater to flow thus eliminating mosquito breeding habitat. In addition, these projects eliminated flooding issues on two county roads.

Additional ditch maintenance projects were completed in cooperation with the Somerset County Commission in the communities of Deal Island, Kingston, and Mount Vernon. Debris in these ditches was removed and this eliminated chronic, problematic mosquito breeding habitat in these residential areas.

The department continued to maintain the Crisfield City Dike system. Three tide gate culverts had to be repaired and reinstalled and four large breaches in the earthen dike had to be filled. This damage was the result of winter storms that had impacted this area. In addition to the excavator, the department also used an all-terrain Argo ATV for personnel and equipment transport to remote areas of this system.

Follow up inspections indicate that the repairs are successful and the tide gates are operating effectively. The department 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.

BIOLOGICAL CONTROL

In the effort to control mosquitoes, the department uses several approaches as part of its integrated pest management 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 storm water management facilities, closed ditches and artificial containment sites. These areas are inspected by department 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 2014 mosquito season, 850 fish were stocked in closed pond and woodland habitats. The department 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 11 interviews done this season by mosquito control or public information office employees, with both print and TV media outlets throughout the state.

In 2014, the mosquito control section was proud to host the 39th Annual Conference of the Mid-Atlantic Mosquito Control Association at the Hyatt Resort in Cambridge. Members from nine participating states attended the meeting which serves as a forum for the advancement of mosquito and vector control.

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 2014, outreach was done at 20 different school functions. Mosquito control employees judged science fairs and the Prince George's Public Schools Science Bowl. Mosquito control staff presented half-day workshops for insect camps with Maryland National Capital

Park and Planning Commission nature centers. Presentations were also given to the entomology class from Salisbury University, and the ecology class from Frostburg University who gained first-hand experience in learning about salt marsh ecology on an open marsh water management marsh site.

Many of these public education efforts are difficult to quantify, particularly the media interviews. However, more than 880 people attended events with known participant levels. Some of the public education and outreach activities are summarized below.

- Mosquito control employees spoke at two community meetings: one in Prince George’s County and one in Baltimore County.
- Employees spoke at two professional meetings – the Mid-Atlantic Mosquito Control Association regional conference and an annual pesticide recertification meeting.
- The department hosted a month-long exhibit during the month of July in two different Prince George’s County libraries: Greenbelt, and Surratts-Clinton.

A county breakdown of public education outreach is as follows:

- Prince George’s: 20
- Baltimore County: 5
- Anne Arundel County: 2
- Eastern Shore: 9
- Others: 7

AIR SPRAY

The air spray program continues to provide a high level of service to the state. The department 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 4,530 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 later in the season.

In 2014, 120,071 acres were treated by aircraft, the majority for control of adult mosquitoes.

Precision navigation and flow control equipment are critical for the safe and efficient aerial application of insecticides. The mosquito control section uses Ag-Nav Guia, a state of the art GPS based navigation system, for all aerial applications of insecticide. 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 2012 - 2014

	CY 2012	CY 2013	CY 2014
Communities Participating in Mosquito Control Program	2,614	2,568	2,153
Number of Light Trap Nights	2,682	3,758	3,338
Percent of Light Trap Nights Below Threshold	71%	69%	78%
Number of Landing Rate Counts Performed	20,789	35,461	24,338
Percent of Landing Rate Counts Below Action Threshold	48%	28.6%	30.7%
Number of Public Service Requests	3,641	4,449	2,677
Number of Inspections by Request	n/a	3,578	1,853
Number of Adverse Effects Inspections	n/a	770	600
Number of Mosquitofish Stocked	5,425	6,282	850
Acres Managed by Open Marsh Water Management	283	455.5	1,432
Acres Treated with Insecticide	1,359,100	1,551,128.5	1,065,874
Acres Treated for Mosquito Larvae	6,234	6,447.45	5,270
Acres Treated for Adult Mosquitoes	1,352,866	1,544,681.1	1,060,604
Acres Treated by Aircraft	151,066	134,026	120,071
Acres Treated by Ground Equipment	1,208,034	1,417,102.5	945,803
Number of Mosquitoes Tested for Arboviruses	15,522	21,960	16,334
Number of Human Cases of West Nile Virus Statewide	47	16	6
Number of Cases of Arbovirus in Domestic Animals	3	3	1
Number of Mosquito Pools Positive for Arbovirus	11	12	*35

**Of the 35 mosquito pools that tested positive for Arbovirus, the breakdown was as follows: Anne Arundel Co: 6, Dorchester Co: 1, Harford Co: 4, Montgomery Co: 5, Prince George's Co: 16, Talbot Co: 1, Worcester Co: 2.
The breakdown of virus types is as follows: Eastern Equine Encephalitis, one case; West Nile Virus, thirty-three cases; Cache Valley Virus, two cases.*



PESTICIDE REGULATION

The 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. Pesticide Regulation includes five major programs: (1) Pesticide Applicator Certification and Training; (2) Pesticide Use Inspection and Enforcement; (3) Pesticide Technical Information Collection and Dissemination; (4) Integrated Pest Management in Schools and on School Grounds; and (5) Special Programs.

PESTICIDE APPLICATOR CERTIFICATION AND TRAINING

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

A total of 147 new private applicators were certified in 2015 for a three-year period after passing a closed book examination administered by section personnel; 1,754 private applicators renewed their certificates by attending recertification training meetings. Currently, there are 3,426

certified private applicators. Section staff approved and monitored 128 private applicator recertification training sessions conducted by the University of Maryland Extension, the Maryland Department of Agriculture, or the pesticide industry.

A total of 548 new commercial pest control applicators and consultants were certified in 2015 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 1,060 public agency applicators in 2015, bringing the total number of certified commercial, public agency applicators and consultants to 4,553 in 2015. A total of 18 exam sessions were held during which 1,965 exams were administered to 768 applicants. Once certified, commercial applicators are required to participate in at least one update training session approved by the department each year in order to renew their certificates. Some 493 recertification training sessions for commercial pesticide applicators were approved and monitored by this section and were conducted by the pesticide industry, the University of Maryland Extension or the department. By attending recertification training, 3,994 applicators were recertified in 2015.

During 2015:

- 1,842 commercial businesses and 161 not-for-hire businesses were licensed to apply pesticides and to perform pest control services.

- 320 public agency permits were issued to governmental agencies that apply pesticides.
- 38 pest control consultant licenses were issued.
- 7,876 registered employee identification cards were issued during 2015. These employees of pesticide businesses and public agencies are registered to apply pesticides under the supervision of certified applicators.
- 160 dealer permits were issued to businesses that sell restricted use pesticides.

PESTICIDE USE INSPECTION AND ENFORCEMENT

In addition to enforcing state pesticide laws, the department enforces federal pesticide laws under a Cooperative Enforcement Agreement with the U.S. Environmental Protection Agency. 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.

In 2015, 983 inspections were performed during which 277 businesses were cited for violations of the Pesticide Applicators Law and Regulations. Eighty-two pesticide dealer inspections were conducted to ensure that restricted use pesticides were sold only to certified applicators. One hundred fifty-seven use observations were conducted, during which pest inspection and pesticide applications performed by commercial, public agency and private applicators, were observed by department personnel. A total of 90 consumer complaints were investigated. Under the federal cooperative agreement, 28 pesticide producer establishments and 30 market place inspection were conducted. Enforcement actions taken in 2015 included the assessment of eight civil penalties totaling \$6,000. In FY 2015, Pesticide Regulation continued conducting inspections at commercial agricultural pesticide application firms, custom blending operations and agricultural pesticide refilling establishments. Inspectors conduct inspections of bulk pesticide storage containers, as well as, 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

Pesticide Regulation continues to maintain an online mapping application, called the "Sensitive Crop Locator," on the department website. This application was initiated in 2013 and shows the locations of crops/commodities that are 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 the department for each field to be listed on the website.

A list of pesticide-sensitive individuals was first compiled in 1989. During 2015, the department registered 189 individuals, who receive 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 the department'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 addresses of licensed pesticide businesses. Pesticide dealers can check the certification status of pesticide applicators prior to selling them restricted use pesticides. This database is linked to U.S. Environmental Protection Agency's registration database so that applicators and consumers can obtain information on each pesticide product queried, such as the federal registration number, pests controlled, sites of application, formulation, active ingredient and the brand name.

INTEGRATED PEST MANAGEMENT IN SCHOOLS

Pesticide Regulation continues to promote and support implementation of the Integrated Pest Management Program in Public Schools. Regulations that require schools to develop and implement notification and integrated pest management plans for indoor pest control became effective in 1999, and regulations for notification and integrated pest management 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. Pesticide Regulation staff continues to work with Maryland Public School districts to implement integrated pest management on school property. In addition, Pesticide Regulation staff members serve as members of the Northeast Region Integrated Pest Management Center's School Working Group, the Northeast Region's K-12 Integrated Pest Management Curriculum Subcommittee, and the Association of Structural Pest Control Regulatory Official's Integrated Pest Management in School Committee. Pesticide Regulation staff continues to work with Maryland public school district's on the use and implementation of integrated pest management on school property.

TRAINING EVENTS

During 2015, the Pesticide Regulation enforcement program coordinator and inspectors attended the annual Environmental Protection Agency Region III State Pesticide Inspector's Workshop hosted by the Virginia Department of Agriculture and Consumer Services. Seventy-eight 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 2015, the section again offered a recycling program for empty plastic pesticide containers to growers and commercial pesticide applicators. Collection centers were maintained in Frederick, Harford, Kent, Prince George's, Talbot and Washington counties, 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 46,800 containers weighing 23 tons were collected. The containers were processed for transport to a plastic recycling facility.

In 1995, the Maryland Department of Agriculture began conducting a pesticide disposal program. Due to budget constraints, the department had not been able to conduct the program since 2007. However, the department 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. Since this program started it has collected and properly disposed of more than 188,084 pounds of unusable or unwanted pesticides.

Pesticide Regulation continued to offer outreach and assistance to growers and pesticide dealers under the Worker Protection Program. The Worker Protection Standard was established to minimize occupational exposure to agricultural pesticides. The standard requires agricultural workers who could be exposed to pesticides to receive training on pesticide safety. Brochures on the standard requirements have been produced and widely distributed to the regulated community.

To aid with on-farm compliance, the section has developed a pocket-sized Worker Protect Standard Compliance Evaluation Checklist which is available to the regulated community. The section also contracted with Telamon Corporation to provide pesticide safety training to farm worker. In 2015, Telamon members provided training in Spanish to 434 farm workers. In addition, Telamon continues to teach pesticide safety awareness to children of farm workers. During 2015, Telamon provided safety awareness lessons to 18 children of farm workers.

PESTICIDE REGULATION SECTION ACTIVITIES: 2013 - 2015

	2013	2014	2015
Commercial Pesticide Businesses Licensed	1,553	1,809	1,842
Not-For-Hire Businesses Licensed	154	1155	161
Commercial Pest Control Applicators Certified In One or More Category	3,410	3,300	3,480
Registered Personnel Employed by Licensed Businesses and Public Agencies	7,942	7,971	7,824
Public Agency Permits Issued	325	325	325
Public Agency Applicators Certified In One or More Category	1,072	1,077	1,054
Private Applicators Certified to Date	3,256	3,246	3,174
Dealer Permits Issued	148	162	160
Applicator Certification Examination Sessions Held	18	18	18
Individuals Taking Certification Examinations	850	840	768
Certification Examinations Administered in All Categories	1,922	1,998	1,964
Number of Businesses Inspected	601	750	983
Number of Businesses with Violations	142	222	277
Unregistered Employee Violations	13	19	16
Records Incomplete or Inaccurate Violations	97	143	115
Vehicles Not Properly Identified Violations	30	51	45
No Anti-siphon Device Violations	13	11	17
No First Aid/Safety Equipment Violations	10	5	5
Incomplete or No Customer Information Violations	11	18	32
Pesticide Dealer Inspections	78	89	82
Application Records Reviewed	709	978	782
Hearing and Investigational Conferences	2	1	1
Consumer Complaint Investigations	26	40	101
Pesticide Use Observations	82	156	157
Pesticide Samples Collected for Analysis	50	70	56
Market Place Inspections	31	32	30
Pesticide Producer Establishment Inspections	30	31	28
Container/Containment Inspections	9	9	13



STATE CHEMIST

MISSION

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

Registration of Products. Pesticide products, commercial feeds, fertilizers, fertilizer/pesticides, liming materials, and soil conditioners are registered for sale or distribution only after careful review of the label to determine the material's nature, proposed uses and potential adverse impacts on agriculture, the environment, the general public, and the regulated industry. During FY 2015, the section registered 12,710 pesticide products; 3,951 fertilizers; 634 soil conditioners; 694 fertilizer/pesticide combinations; 164 liming materials; and 14,959 commercial feeds. Department inspectors also brought 506 previously unregistered products into compliance. See Table.1

Inspection. Field inspectors routinely sample randomly selected products at retail outlets, distribution centers, warehouses, and formulating facilities. These inspections enable the department to maintain efficient regulatory control that ensures the sale, distribution and use of effective products that are safe for the consumer and environment, when used in accordance with approved label instructions. The inspectors sample a representative cross section of products for chemical analysis and obtain reliable data on the distribution, formulation and sale of these commodities. This enables the section to stop the sale or distribution of ineffective products or those that are harmful to humans, animals or the environment because of unacceptable levels of pesticides, presence of pathogens, plant nutrients, trace elements and/or toxic materials. In FY 2015, the State Chemist Section inspectors performed 874 on-site inspections. See Table 2.

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

Laboratory Analyses/Investigations. The department's state-of-the-science laboratory is staffed with chemists and technicians who have expertise and experience in the use of highly sophisticated, computer-controlled instruments which are used to analyze agricultural chemicals and toxic contaminants in commercial products, crops and environmental samples (water, soil, fish, etc.) The laboratory staff provides reliable scientific data that are used to assist farmers and to initiate or support regulatory actions against violative products or violators of state and federal agricultural and environmental laws. The laboratory also provides support to the Maryland Department of the Environment, the Maryland Department of Natural Resources, the U. S. Department of Agriculture, and the U. S. Environmental Protection Agency. See Table 4.

HOMELAND SECURITY

Ammonium Nitrate – Potential Explosive for Terrorist Activities. The department inspects fertilizer manufacturers and warehouses twice a year to determine how much ammonium nitrate is being stored and to monitor sales and distribution records to ensure they are maintained in accordance with federal/state law.

Food Emergency Response Network for Chemistry. The State Chemist Section's laboratory is the primary Food Emergency Response Network chemistry laboratory for Maryland. It is an essential part of a national federal-state-local jurisdictional network of laboratories that are expected to be in a state of readiness for immediate response to a chemical event, whether terrorist or accidental, on human and animal food supplies. In the event of an incident, the laboratory staff provides rapid and accurate analysis of food, feed, crops and water samples to determine if these items that provide points of entry into the food chain should be embargoed or released as safe. The laboratory is an active participant in the proficiency program for the analysis of highly toxic materials in food and water. Since 2005 the laboratory has participated in 21 check sample rounds involving highly toxic materials, four of which are among the most deadly toxins known. The laboratory successfully identified the toxic materials in the check samples. The toxins and chemicals include heavy metals, ricin, alpha amanatin, melamine, mycotoxins, tetramine, cyanide, sodium fluoroacetate, alkaloid toxins and pesticides.

The laboratory has been called upon to analyze samples for the U.S. Food and Drug Administration Baltimore-District

Office as an overflow capacity laboratory. This occurred during the melamine incidents since the laboratory has been part of the network. The department currently maintains preparedness by validating the network methods in the laboratory and extending the methods to animal feeds and pet foods.

HUMAN AND ANIMAL HEALTH ACTIVITIES

Pathogen Screening Laboratory. Both the U.S. Food and Drug Administration (FDA) and the Maryland Department of Agriculture are concerned about the presence of various pathogenic organisms in dog and cat food. The FDA has indicated that between June and August 2015, ten pet food manufacturers were required to remove products from the market place due to the presence of Salmonella and Listeria pathogens. These pathogens most likely were associated with raw meat, eggs, and poultry that may have become contaminated during the manufacturing of the commercial product.

Pathogens may be transmitted to households via contamination by handling and preparation of pet food in the home kitchen area used both for human and pet food preparation. Contamination may also result from opening a bag of pet food whereby small particles of pet food become airborne and adhere to kitchen counter top surfaces and improper cleaning of the same kitchen utensils to prepare both human and pet food. The pathogen contaminated pet food may be in bowls, plates, etc. placed in a pet feeding area easily accessible to young children.

In FY 2016, department scientists and technicians will routinely screen pet food products collected by the inspection staff from warehouses, distributors and retail outlets. Products found to contain pathogens will be subject to removal from the marketplace via Stop Sale Orders and recalls. The three principle pathogens of concern at this time are Salmonella, Listeria, and E. Coli. Screening procedures will be those used by federal regulatory agencies based on DNA identification, bioluminescence, as well as other established techniques.

Mycotoxins and Environmental Toxins Contamination in Grains and Animal Feed Ingredients. The department routinely monitors Maryland produced and imported grain products (i.e., livestock and human use) for certain mold secondary metabolites (mycotoxins) known as aflatoxins, fumonisins, and vomitoxin. Samples of winter wheat from different areas of Maryland were analyzed for vomitoxin and aflatoxin as requested by Maryland Extension. The analysis

indicated the presence of deoxynivalanol (vomitoxin) and aflatoxins in two samples. The levels found were over the FDA action level of 1.0 ppm for vomitoxin and under 20 ppb, which is the action level for aflatoxins. This indicates that the cool, wet spring of 2014 and the dry summer did not have an adverse effect on the winter wheat crop and the corn crop.

The laboratory routinely analyzes finished feeds and feed ingredients as part of normal surveillance of the marketplace. Samples that were analyzed ranged from ingredient, i.e., grains and grain by-products, to finished feeds. Results from analysis indicated that the overall mycotoxin contamination was low, as seen by no violations being detected. The department also analyzed animal feed ingredients under a FDA contract for the following mycotoxins: aflatoxins, vomitoxin and fumonisins. Three of the samples analyzed were over the FDA action levels for the particular mycotoxin. Trace forwards, which enables the section's inspectors to see where the grain is used, were conducted to identify the particular animal feeds that had the contaminated grain.

The department routinely assists the farm community in ascertaining the levels of nitrates and prussic acid in silage and feed resulting from drought to prevent livestock illness or death.

Soybean samples were analyzed for aflatoxins for the department's Food Quality Assurance Program. These were sampled and analyzed to determine if the lots were suitable for export to the Asian marketplace as a product of Maryland. Out of the samples, only one was resampled and reanalyzed. This sample passed and was shipped to Asia. Two other samples were analyzed for aflatoxin in corn. These samples were under the FDA guidance levels for the commodity.

One sample from the department's Animal Health program was analyzed for aflatoxin, vomitoxin and fumonisins. This sample was from a finished feed from a swine farm. The swine were wasting and refusing feed. Analysis indicated that mycotoxins were not a causative agent due to the levels found, which were under FDA's guidance levels for swine feed.

Other State Chemist Public Health Concerns – Beware of Home Use Products That Look Like Candy. The State Chemist Section inspection and laboratory programs go beyond activities that many citizens do not associate with the Maryland Department of Agriculture. A significant segment of time is spent on collecting and performing chemical analysis on commercial products solely intended to disinfect kitchen area surfaces, toilet bowls, swimming pools, spas, etc.

Surveillance by the inspection staff ferrets out commercial products that have not been approved for sale. Inspectors also select random samples of products for laboratory scientists and technicians to determine if they are safe and meet the specification as registered (approved) by the State Chemist Section. Swimming pool products intended for control of bacteria and algae are the principle products sampled during summer months. Throughout the year the inspection staff performs surveillance of retail outlets for various household products that are regulated by the department.

Various household cleaners such as those used to clean toilet bowls may have the appearance and color (or even the smell) of candy. For example, children have been mistaking a popular laundry detergent for colorful pieces of candy. The detergent is packaged in the form of a quick dissolving pod which has a unique candy-like shape and colorful appearance. The color and shape have induced some children to digest the tasty-looking pieces and suffered from gastric distress due to the high detergent level.

The State Chemist Section regulates antimicrobial toilet cleaners and other cleaning products. The State Chemist Section received a box of toilet bowl cleaners. Upon examination, the attractive outer packing resembled a box that contained toys and the contents of the box (the toilet bowl cleaner) had the distinct look and color of a sugary candy. The product was evaluated and determined to contain quaternary ammonium chloride compounds (quats) and a highly concentrated blue dye. A Stop Sale Order was issued to the retailer and manufacturer of the product for insufficient labeling and non-registration in Maryland.

Drugs and Arsenic in Livestock Feeds. An analysis program was initiated for finished feeds as part of the Section's FDA contract. Twenty five animal feeds were analyzed for the following drugs: monensin, narasin, nicarbazine, lasalocid, decoquinate and amprolium. These drugs are routinely used in Maryland for the control of coccidiosis in cattle, poultry, swine, goats, and rabbits. The drugs are also used to increase feed efficiency, weight gain and milk production. All samples analyzed were found to be within the FDA assay control limits for Type A, B and C medicated feeds. These control limits are set when a drug manufacturer wants to market a particular drug for a particular species of animal. These limits are determined by analysis of the drug by several laboratories at different concentration levels.

Arsenic is a natural occurring substance in soil and is present in most soil grown foods and seafood. Various arsenic

compounds were used by the poultry industry for dietary purposes and disease. The element is no longer allowed to be added to poultry feed in Maryland. The State Chemist Section screens poultry feed for arsenic to determine if its presence is above normal natural levels. A feed containing arsenic above naturally occurring background levels are removed from the marketplace by issuance of Stop Sale Orders. In FY 2015, department scientists analyzed 100 poultry feed samples. The analyses indicated that the feed was compliant with Maryland law.

Bovine Spongiform Encephalopathy – BSE or Mad Cow Disease. The department continued an inspection program in conjunction with FDA that began in 1999 to determine if feed mills, retail and wholesale distributors, haulers and grain storage facilities within Maryland comply with federal regulations pertaining to the prevention of Mad Cow Disease. Feed mills and/or feed distributors are issued stop sale orders for products determined to be in non-compliance with state and federal regulations. In FY 2015, the section inspected and collected samples from feed mills, various retail and wholesale distributors, grain haulers/storage facilities and pet food manufacturers. All inspected facilities complied with federal regulations.

The section implemented a new analytical method that uses multiplex PCR instead of the regular PCR analysis done in the past. The multiplex method allows for the simultaneous determination of DNA from swine, sheep/goats and cattle. This saves the section time in doing the analysis. All samples analyzed were negative for bovine (cattle) DNA indicating there was no prohibited material in the animal feed or feed ingredient.

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

U.S. Department of Agriculture Pesticide Data Program. Since 1997, the USDA has contracted with the department to sample various food items from principal distribution centers in the state. These samples consist of such diverse items as pineapples, potatoes, processed food, processed fruit juices, produce, milk, and peanut butter which are analyzed by

federal and state laboratories for several hundred different pesticides. In concert with the U.S. Environmental Protection Agency Food Safety Program, the data will be used to establish new pesticide food tolerances with added emphasis on the diet of infants and children.

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

ENVIRONMENT

Protection of the Chesapeake Bay – Fertilizer Restrictions. The State Chemist's registration staff carefully reviews and approves the labels of all fertilizers intended for use on lawns/turf and golf courses. The purpose is to ensure that the directions for use comply with the 2011 Fertilizer Use Act which specifies phosphorous monitoring, nitrogen application limits, and removing applied fertilizer from paved surfaces. Nearly all lawn fertilizers containing phosphorus require soil testing prior to application. With regards to nitrogen, application limits are set at 0.7 pounds per 1,000 square feet for rapidly available nitrogen, or 0.9 pound of nitrogen per 1,000 square feet of which at least 20 percent must be slow release. State Chemist inspectors perform surveillance of retail outlets to ensure that lawn/turf products are in compliance and will issue stop sale orders for those that are not. Lawn fertilizer labels without the restriction language may lead to over-application which may increase nutrient runoff due to erosion, driveway run-off, etc. Additionally, the law requires the registrants and manufacturers of the products to submit annually the amount of these products sold and distributed specifically as fertilizer for lawns, turf, gold courses, nurseries, etc. The purpose of such is to monitor the increase or reduction of these fertilizer products and the corresponding nutrients from year to year.

Compost Facility Operator Certification. The Maryland Commercial Compost Regulation requires a department-certified facility operator to be onsite to oversee the compost manufacturing process. Before becoming certified, an individual must pass an examination. Eight people passed the exam during FY 2015. Since 2008, 74 people have taken the exam and have become certified. Additionally, individuals passing the exam must maintain their certification

by attending training courses approved by the Maryland State Chemist as well as participating in facility inspections conducted by State Chemist inspectors. Five individuals were recertified during FY 2015. Since 2008, 34 people have met the qualifications for recertification.

Maryland now has a law entitled **Environment – Composting (HB 817)** which requires the department to work with the

Maryland Department of the Environment and the Maryland Environmental Service to 1) study composting in the state including laws and regulations governing composting by individuals and composting businesses, and 2) develop recommendations on how to promote composting in the state including any necessary programmatic, legislative or regulatory changes.

TABLE 1 FY 2015: REGISTRATION AND ENFORCEMENT

Registration	
Pesticides	12,710
Fertilizers	3,951
Soil Conditioners	634
Fertilizer/Pesticide Mixtures	694
Liming Materials	164
Feeds	14,959
Total	33,112
Companies with Registered Products	2,923
Registrants	2,325
Enforcement - Non Registered Notices Brought Into Compliance	
Pesticides	5
Fertilizers	20
Soil Conditioners	41
Fertilizer/Pesticide Mixtures	0
Liming Materials	2
Feeds	257
Total	325
Enforcement - Non Registered Stop Sales	
Pesticides	0
Fertilizers	3
Soil Conditioners	0
Fertilizer/Pesticide Mixtures	1
Liming Materials	0
Feeds	77
Total	81

TABLE 2 FY 2015: INSPECTIONS

Product Manufacturing Sites Visited [Plants, Warehouses, Retailers]	874
FDA Regulation Ruminant Tissue [BSE] Feed Inspections	43
USDA/MDA Pesticide Data Program Sites Visited	192
USDA/MDA Pesticide Data Program Samples Collected	720

TABLE 3 FY 2015: REGULATORY ACTIONS

Regulatory Action Stop Sales	
Active Ingredient Deficiencies	
Pesticides	0
Fertilizers	75
Feeds	26
Active Ingredient Over Formulations	
Pesticides	0
Fertilizers	24
Feeds	0
Mycotoxins in Feeds	0
Label Violations	2
Phosphorus Levels in Turf/Lawn Fertilizers	1
Regulatory Action Warnings	
Active Ingredient Deficiencies	
Pesticides	0
Fertilizers	30
Feeds	10
Active Ingredient Over Formulations	
Pesticides	0
Fertilizers	15
Feeds	2
Mycotoxins in Feeds	0

TABLE 4 FY 2015: LABORATORY ANALYSES PERFORMED

	Samples Collected	Number of Analyses
Pesticides	178	215
Fertilizers	293	2,344
Liming Materials	24	89
Feeds and Pet Foods	659	3,856
Broiler Feeds for Phytase	51	102
Livestock Feeds - Drugs, Additives, Mineral Supplements, Ingredients	53	659
Ruminant Tissue Analysis - State	15	15
Melamine	0	0
Vomitoxin [DON] in Feeds	65	86
Aflatoxin	66	78
Toxic Metal Screen	57	676
Food Safety - Maryland Grown Produce	64	16,640
Service Samples	50	613
Quality Assurance - National and International Products	77	315
EPA (Pesticide - Washington D.C.)	10	83
EPA (Pesticide Regulation - Maryland)	60	503
BSE – FDA	25	25
Food Emergency Response Network of Federal & State Laboratories	24	48

TABLE 5 FY 2015: PRODUCT SALES IN TONS

Fertilizers	377,287
Fertilizer/Pesticide Mixtures	6,788
Soil Conditioners	248,903
Liming Materials	187,533
Total	1,120,513

TURF AND SEED

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

SEED LABORATORY

The department'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 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 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 seed analysts with

the department are certified in both purity and germination testing by the association. 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 be labeled accurately. This includes agricultural, vegetable, flower, lawn and turf seed, as well as seed 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 to bulk sales of thousands of pounds of crop seed. All seed distributed in Maryland is subject to inspection by the department. For much of its seed needs, Maryland relies on other areas of the country, and the world, where climates are better suited for 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. The department inspects both retail and wholesale seed dealers throughout the state. Inspectors review label claims, ensure that germination test dates are current and look for seed lots that have been found to be mislabeled or otherwise illegal for sale based on samples taken at other locations. Seed lots are sampled and submitted to the laboratory for testing. Lots found in violation of the Maryland Seed Law are placed under a stop sale order until they are brought into compliance. Corrective action may include re-labeling, reconditioning, destruction of the seed lot or its removal from the state. Seed dealers who fail to comply with a stop sale order are subject to civil penalties.

SEED CERTIFICATION

The seed certification program is adapting to changes in the seed business. As large investments in biotech research by private companies increases, demand for traditional certification services decrease, 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 the department for expertise in field inspections, sampling, and laboratory analysis for quality control. The department 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. The department cooperates 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 is spent to maintain the genetic purity of foundation seed of public varieties important to Maryland agriculture. This foundation seed is 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 seed are mixed together. Demand from the industry and consumers for this service is strong. The department’s oversight of this process ensures that consumers receive quality seed. All seed used on State Highway Administration projects and for the production of Maryland certified turfgrass sod is mixed under this program. Many county and

local governments, school systems, golf courses, recreation departments and professional seeding contractors require that the seed they purchase be mixed under this program. Prior to mixing, component seed lots must be officially sampled and tested by the Maryland State Seed Laboratory. Seed lots that meet applicable standards are then mixed under the direct supervision of a department 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 department 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. 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 department inspectors. All certified turfgrass fields are inspected several times during the growing season for quality. 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.

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 2015
Outcome: Percent of Seed Lots Found to be Correctly Labeled	92

TURF AND SEED ACTIVITIES: 2013 - 2015

	2013	2014	2015
Field Inspections			
Acres of Turf Inspected	5,895	7,333	6,641
Acres of Crop Seed Inspected	13,534	11,115	10,088
Supervised Mixing			
Pounds of Seed Mixed (thousand)	2,086	1,882	1,651
Retail and Wholesale Seed Inspections			
Number of Lots Sampled	1,053	865	997
Number of Regulatory Seed Tests Conducted	2,941	2,261	2,767
Seed Testing			
Samples Tested	2,902	2,556	2,777
Service Seed Tests Conducted	4,121	3,877	4,551

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 department 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.



2015 Annual Report | Office of Resource Conservation



OFFICE OF RESOURCE CONSERVATION

The 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 five key areas: Program Planning and Development, Conservation Grants, Conservation Operations, Watershed Implementation, and the Nutrient Management Program.

STATE SOIL CONSERVATION COMMITTEE

Established in 1938, the State Soil Conservation Committee consists of 11 members representing local soil conservation districts and state and federal agricultural and natural resource agencies. The committee coordinates the activities

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

In FY 2015, the committee approved or developed policy recommendations on the following initiatives:

- State cost-share for roofs and covers used mainly for waste management/containment;
- Erosion and sediment control for forest harvesting activities;
- Nomination form for district supervisor appointments;
- District supervisor training; and
- Maryland Department of the Environment guidance for storm water management requirements for agricultural activities.

In FY 2015, the committee received the following briefings and tracked these initiatives:

- Maryland Department of the Environment composting regulations;
- The U.S. Geological Survey study of paired agricultural watersheds to compare groundwater nutrient levels for using irrigation with non-irrigated crops;
- Phosphorus Management Tool regulations and economic study;
- Agricultural progress in achieving Watershed Implementation Plan milestones towards the Total Maximum Daily Load compliance; and
- Chesapeake Land and Litter Initiative.

PROGRAM PLANNING AND DEVELOPMENT

Program Planning and Development 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, and the Conservation Reserve Enhancement Program Advisory Committee.

Animal Waste Technology Fund. Established in 2013, the Animal Waste Technology Fund provides grants to companies that demonstrate new technologies on farms and provide alternative strategies for managing animal manure. These technologies may generate energy from animal manure, reduce on-farm waste streams, and repurpose manure by creating marketable fertilizer and other products and by-products. During the fiscal year, the program issued about \$2 million in grants to three projects that support alternative uses for chicken litter, equine and dairy manure, and turkey processing waste. These include:

- **Biomass Heating Solutions USA.** \$970,000 to install electricity generating technology to convert poultry litter into energy that will be used to heat and cool four poultry houses in Dorchester County;
- **Planet Found Energy Development.** \$676,144 to install an anaerobic digester to convert chicken litter into electricity at a Worcester County poultry farm; and

- **Green Mountain Technologies.** \$388,310 to install a state-of-the-art in-vessel turnkey composting system that will reduce waste at an equine operation in Howard County and a dairy and turkey farm in Frederick County .

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 for decision making and emergency preparedness. Data from many sources, including digitized and scanned maps, aerial photography, soil surveys, and global positioning systems are integrated and analyzed to create “smart maps” of specific locations. In FY 2015, staff continued to provide technical assistance and spatial data to a range of program areas within the department. Training sessions were conducted on new ArcGIS 10.3.1 functionalities and ArcGIS Online, a cloud-based platform that allows anyone to make, share, and host maps and applications. During the year, technical assistance was provided to Animal Health in preparation for the Highly Pathogenic Avian Influenza Response Plan. The plan provides strategic guidance on responding to an avian influenza outbreak. GIS staff participates in an interagency committee charged with revising and updating the Maryland Integrated Map, which provides users with a large collection of data used for analysis and mapping applications.

The Information and Education Program. The Information and Education Program provides creative, editorial, web content and graphics and production services to all 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 educational outreach efforts. In FY 2015, annual reports for soil conservation districts, the Maryland Agricultural Water Quality Cost-Share Program and the Nutrient Management Program were produced along with the spring and winter editions of the *Maryland Nutrient Management Newsletter*. Farmer and citizen outreach programs and materials were developed to promote the Agricultural Certainty Program, Animal Waste Technology Fund, Cover Crop Program, Manure Matching Service, Manure Transport Program, grants for manure injection and incorporation, and Maryland’s Lawn Fertilizer Law. During the fiscal year, the Information and Education Program provided educational exhibits for about 40 events, including the Maryland State Fair, Maryland Home and Garden Show, Maryland Farm Bureau Convention, county fairs, agricultural events/cooperator’s dinners and community events throughout Maryland.

CONSERVATION GRANTS

The Maryland Agricultural Water Quality Cost-Share Program provides farmers with grants to install water quality improvement projects on their farms, adopt sustainable agricultural practices and comply with federal, state and local environmental requirements. In FY 2015, the program provided Maryland farmers with \$31.2 million in grants to install 2,440 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 the majority of the third set of two-year Bay restoration milestones. Farmers who received cost-share grants in FY 2015 invested about \$771,500 of their own money into projects that will prevent an estimated 77,766 pounds of nitrogen and 18,390 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 13,843 tons of soil from impacting local streams.

Low Interest Loans for Agricultural Conservation (LILAC) are available to help farmers cover equipment purchases and other start-up costs for major projects. Guaranteed by the Maryland Water Quality Revolving Loan Fund, these low interest loans are typically offered at 3 to 4 percent below market interest rates at lending institutions statewide. In FY 2015, farmers were approved for \$205,845 in loans to help pay for manure handling and conservation equipment.

Maryland Agricultural Water Quality Cost-Share Program Projects Financed with Special Funds. The cost-share program receives funding from the Chesapeake Bay Restoration Fund and the Chesapeake Bay 2010 Trust Fund to finance certain highly valued best management practices included in Maryland's Bay milestone commitments. These include the Cover Crop Program and contract signing incentive payment for the Conservation Reserve Enhancement Program. Portions of the Manure Transport Program, certain best management practices, and Manure Incorporation and Injection Grants are financed using these sources.

- **Cover Crop Program.** Cover crops are one of the most cost-effective ways to prevent nitrogen and phosphorus from entering the Chesapeake Bay and its tributaries. The department provides grants to help farmers offset seed, labor and equipment costs associated with planting small grains and legume mixes on their fields following the fall harvest. During the 2014-15 planting

season, the cost share program provided farmers with \$24 million in grants to plant 475,560 acres of cover crops statewide. The planting enabled agriculture to exceed its Chesapeake Bay milestone commitment for this practice and marked the sixth consecutive year that Maryland farmers have planted more than 400,000 acres of protective cover crops annually.

- **Manure Transport Program.** This program helps poultry, dairy, beef and other livestock producers transport excess manure away from farms with high soil phosphorus levels. In FY 2015, the department provided Maryland farmers with \$851,304 in grants to transport 167,237 tons of manure to approved farms and businesses—an increase of more than 40 percent over 2014. More than 31 percent of the manure 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 program to \$1,260,852.
- **Conservation Reserve Enhancement Program.** Maryland's Conservation Reserve Enhancement Program 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. The cost share program provides these 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 per acre signing bonus for initial program enrollment or re-enrollment. In FY 2015, the cost share program provided landowners with \$94,393 in cost-share funds to install conservation reserve practices such as stream protection and \$305,214 in signing bonuses.
- **Manure Injection and Incorporation Program.** Maryland's nutrient management regulations require farmers to inject or incorporate manure and other organic nutrient sources into the soil within 48 hours of application in order to protect water quality. This grant program helps farmers comply with environmental requirements while making the most of manure resources. In FY 2015, the program provided 132 farmers with \$806,856 in grants to inject or incorporate manure, sludge food waste and other organic products into 40,261 acres of cropland 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 promotion and delivery of local soil conservation and water quality programs to the agricultural community.

Technical Assistance. In FY 2015, the department funded 75 technical positions in local soil conservation district offices statewide. An additional 36 agricultural technicians and conservation planners were funded through grants provided by the 2010 Chesapeake Bay Trust Fund. During the year, field staff worked with farmers to develop soil conservation and water quality plans to manage and protect natural resources on farms. By the end of the fiscal year, 934,356 acres of agricultural land in Maryland were managed under a current plan, a figure that exceeds Maryland's two-year Chesapeake Bay 2015 milestone commitment of 926,207 acres.

Soil conservation and water quality plans often call for a menu of best management practices to protect local streams and other natural resources and meet the Chesapeake Bay's Total Maximum Daily Load reduction goals for nitrogen, phosphorus, and sediment. Field staff work with farmers to design, install, and maintain best management practices such as livestock stream crossings and animal waste storage structures. Field staff also help farmers calculate costs to install best management practices and apply for state and federal cost-share and low interest loans. In FY 2015, field staff helped Maryland farmers install 932 highly valued practices on their farms that were supported by both state and federal financial assistance programs.

Enforcement. Cases of water pollution caused by agriculture are handled using a progressive approach that is based on the severity of the situation. Conditions likely to cause pollution or that result in inadvertent farm pollution require timely corrective action whereas chronic or willful mismanagement of farm resources is handled through a formal enforcement action. During the year, the Maryland Department of Agriculture and the Maryland Department of the Environment worked jointly with soil conservation districts to address farm management complaints and take action against polluters when necessary. In FY 2015, the department received 69 complaints concerning odor, livestock, manure, sediment, and stream intrusion issues. Sixty-one of these complaints were corrected or closed, five complaints are pending and three enforcement actions were initiated.

Agricultural Water Management. Drainage ditches are commonplace on the Eastern Shore. A network of about 820 miles of ditches is maintained by 101 public drainage associations 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. The department regulates local public drainage associations to ensure that operation and maintenance plans are in good working order and that best management practices are installed to protect water quality.

Concentrated Animal Feeding Operations Permitting and Compliance Assistance. The department works closely with the Maryland Department of the Environment to help Concentrated Animal Feeding Operations comply with their permit requirements. The department assesses Eastern Shore poultry operations to help farmers determine if they are subject to permit requirements, works with the environment department to resolve permit and compliance issues, and helps concentrated animal feeding operations with record keeping, site selection, annual reporting, and facilities maintenance requirements. During the year, the department's regional office in Salisbury helped 90 farmers obtain Comprehensive Nutrient Management Plans required by their permits.

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 and placed seventh overall and first in the wildlife category at the National Envirothon held later in the year at Missouri State University. The national event featured teams from more than 50 states and Canadian territories.

THE WATERSHED IMPLEMENTATION PROGRAM

The Watershed Implementation Program provides direction and leadership in developing and evaluating agriculture's strategy to carry out its portion of Maryland's Watershed Implementation Plan to protect and restore the Chesapeake Bay by 2025, as required by the Chesapeake Bay Agreement.

Chesapeake Bay Restoration Partner. As part of the Clean Water Act, the U.S. Environmental Protection Agency 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 outlining strategies to achieve these pollution limits, known as the Bay's Total Maximum Daily Load by 2025. The 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. By the end of FY 2015, Maryland agriculture met or exceeded most of its third set of two-year Chesapeake Bay milestone commitments to be completed by June 30, 2015. See chart on page 82.

Agricultural Representation. The department representatives sit on 16 Chesapeake Bay Partnership workgroups to provide technical information and input concerning restoration goals, policies, programs, and research needed to reduce agricultural pollutants entering the Chesapeake Bay and its tributaries.

Nutrient Trading. The Maryland Nutrient Trading Program is a voluntary, public marketplace for the sale and purchase of nitrogen, phosphorus and sediment credits. The program is designed to help bring the state into compliance with the Bay Total Maximum Daily Load while taking the first step toward creating a comprehensive ecosystem marketplace in Maryland. This performance-based program uses a state-specific, online version of the Chesapeake Bay Nutrient Trading/Tracking Tool (found at www.mdnutrienttrading.com) to estimate nutrient loads and reductions, determine baseline compliance, and compute credits generated by agricultural best management practices. 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. The assessment tool used by the trading program also will be employed by the Maryland Agricultural Certainty Program to determine eligibility and compliance.

Agricultural Certainty Program. In 2013, the Maryland General Assembly passed a bill to establish an Agricultural Certainty Program that gives Maryland farmers a 10-year exemption from new environmental laws and regulations in return for installing voluntary best management practices on their farms that meet the Chesapeake Bay's 2025 nutrient reduction goals ahead of schedule. In FY 2015, an advisory committee comprised of key stakeholders was established.

Regulations to administer the program were adopted on January 4, 2015. During the year, a training program was established to accredit individuals as *Certified Verifiers* for farms participating in both the Certainty and Nutrient Trading programs. Three training sessions were offered statewide and 31 conservation professionals successfully completed the course. In addition, all required program materials for the Certainty Program were developed during the year, including a Certainty Program Manual and a Memorandum of Understanding between the department and the Maryland Department of the Environment which defines agency roles in implementing the Certainty Program.

Research and Special Projects. The Research and Special Projects Program manages six ongoing research and technical assistance grants totaling \$3.7 million dollars. These projects demonstrate new and innovative ways to improve manure management, reduce nutrient runoff, control soil erosion and safeguard water quality. One area of research focuses on controlling nutrient losses in drainage ditches. Another demonstration project focuses on ways to manage phosphorus content in dairy manure. If successful, this demonstration could be used to help farmers comply with Phosphorus Management Tool regulations. Additional research projects focusing on bioreactors and phosphorus filters may one day give farmers and landowners new tools to manage or prevent nutrient losses.

Conservation Tracker. The Conservation Tracker is an integrated database management system that tracks agricultural conservation practices implemented in Maryland. The system tracks both publicly and privately funded best management practices outlined in **Maryland's Watershed Implementation Plan**. In FY 2015, best management practice 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.

THE 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 environmentally sound manner. The Agricultural Nutrient Management Program implements regulatory requirements, a certification and licensing program for nutrient management consultants and farmers, and continuing education classes. The Turfgrass

CHESAPEAKE BAY MILESTONES

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

Milestone	Goal	Status as of June 30, 2015	% of Milestone Achieved
Cover Crops	Plant 386,007 acres annually	475,560 acres planted during 2014-2015 planting season	123%
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	167,237 tons of manure transported in 2015	380%
Off-Stream Watering Without Fencing	Construct 1,832 acres of off-stream watering sources for livestock	3,948 acres protected	216%
Soil Conservation and Water Quality Plans	Develop plans for 926,207 acres by 2015	934,356 acres planned	101%
Retirement of Highly Erodible Land	Retire 973 acres of highly erodible land by 2015	1,651 acres retired and planted with protective vegetation	170%
Streamside Forest Buffers	Plant 353 acres of forest buffers next to streams by 2015	332 acres planted	94%
Streamside Grass Buffers	Plant 866 acres of grassed buffers next to streams by 2015	779 acres planted	90%
Waste Storage Structures/Livestock	Construct 55 livestock waste storage structures by 2015	104 structures installed	189%
Waste Storage Structures/Poultry	Construct 12 poultry waste storage structures by 2015	36 structures installed	300%

**Progress includes practices installed with funds from both or either the Maryland Agricultural Water Quality Cost Share Program and USDA's Natural Resources Conservation Service.*

Nutrient Management Program includes a certification and licensing program for turfgrass professionals, enforcement activities, continuing education classes for certified professionals and a homeowner outreach program.

Agricultural Nutrient Management Program. Maryland law requires all farmers grossing \$2,500 a year or more, or livestock producers with 8,000 pounds or more of live animal weight to follow nutrient management plans when fertilizing crops and managing animal manure. These science-based plans specify how much fertilizer, manure or other nutrient sources may be safely applied to crops to achieve yields and prevent excess nutrients from impacting waterways. Nutrient management plans are required for all agricultural land used to produce plants, food, feed, fiber, animals or other agricultural products.

Maryland's Phosphorus Management Tool regulations became effective June 8, 2015. The regulations provide a multi-year process for farmers to transition from the Phosphorus Site Index to the Phosphorus Management Tool, an updated tool that uses the latest scientific findings to identify the potential risk of phosphorus loss from farm fields. The new tool will also help prevent the additional buildup of phosphorus in soils that are already saturated. Effective immediately, fields with the greatest risk for phosphorus runoff into nearby waterways as indicated by a fertility index value of 500 or greater are banned from receiving additional phosphorus.

To take advantage of the latest scientific data on nutrient movement and provide enhanced protections for Maryland's waterways, the department revised its nutrient management regulations in 2012 and developed a phased-in implementation schedule. The revised regulations modify how a farm nutrient management plan is developed and implemented and change the way organic nutrient sources are managed. Farmers are now required to incorporate manure and other organic nutrient sources into the soil, establish no-fertilizer zones next to streams, and curb livestock access to waterways. The regulations further limit fall nitrogen applications to small grains and, beginning in 2016, phase in a ban on spreading manure, biosolids, and organic nutrients in winter.

Enforcement

- **Nutrient Management Plan Submissions.** Maryland farmers are required to submit their initial nutrient management plans to the department. By the end of

the fiscal year, more than 99 percent of the state's 5,332 regulated farm operators had met the requirement. The department is pursuing enforcement actions against 25 operators who have not submitted their initial nutrient management plans. In FY 2015, the department issued \$5,600 in fines against 16 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 summarizing their nutrient applications for the previous calendar year to the department by March 1. In April 2015, the department issued warning notices to 919 farmers who failed to file their reports on time, followed by 395 notices of pending fines and 143 default notices. By the end of the fiscal year, 97.6 percent of regulated farmers managing about 1.3 million acres of land had submitted their reports. In FY 2015, the department issued \$30,750 in fines against 123 farmers for late or missing annual implementation reports.
- **On-Farm Audits and Inspections.** During FY 2015, department enforcement specialists conducted 772 random on-farm audits. Sixty-nine percent of these farms were found to be fully in compliance, slightly higher than last year. An additional 118 on-farm audits were scheduled as a result of incomplete, irregular, or inaccurate information on the annual implementation reports. These farms represent 2 percent of total regulated farms. The department is actively pursuing full compliance for these operations. In FY 2015, the department issued \$32,950 in fines against 47 farmers who failed to take corrective actions by prescribed deadlines.

Certification, Licensing and Education Programs

- **Nutrient Management Exam Training.** During the year, the department provided a two-day training course for individuals planning to take the certification exam. Twenty-eight new consultants were certified, bringing the total number of consultants certified under the program to 1,289.
- **University of Maryland Consultant Program.** Funded 20 University of Maryland consultants in FY 2015 who provide farmers with nutrient management plans.
- **Farmer Training and Certification.** Trained and certified 38 farmers to write their own nutrient

management plans in FY 2015. To date, 565 farmers have been trained and certified.

- **Nutrient Applicator Voucher Training.** Partnered with the University of Maryland Extension to conduct 32 voucher training sessions attended by 698 farmers who wanted to obtain or renew their vouchers.
- **Continuing Education.** The department and Extension sponsored 42 education classes on nutrient management topics and approved an additional 64 courses and field events sponsored by other recognized organizations. The sessions were attended by 2,806 individuals.

Turfgrass Nutrient Management Program. The Fertilizer Use Act of 2011—Maryland’s Lawn Fertilizer Law—significantly strengthened the department’s Turfgrass Nutrient Management Program by expanding its regulatory authority to include more than 1,500 individuals and companies that apply lawn fertilizer to properties that they manage, including golf courses, parks, recreation areas, athletic fields, business properties, school campuses, cemeteries, highway right-of-ways and home lawns. The law requires both homeowners and lawn care professionals to obey fertilizer application restrictions, use best management practices when applying fertilizer to lawns, observe designated fertilizer blackout dates, and follow University of Maryland fertilizer recommendations. The department, with technical guidance from the University of Maryland, has established a training, certification and licensing program for lawn care professionals and a public education program for homeowners.

Professional Training, Certification and Licensing. In FY 2015, the department, in cooperation with the University of Maryland, area businesses and trade organizations, conducted 27 training sessions and certification exams across the

state for lawn care professionals. As of June 30, 2015, 1,507 individuals have received Professional Fertilizer Applicator certificates and 1,248 employees have been trained and issued a “Trained Employee” card. Additionally, 848 business licenses have been issued.

Recertification Training. Professional fertilizer applicators are required to complete two hours of continuing education each year in order to renew their certificates. During the fiscal year, the department offered 46 recertification courses and approved numerous training courses offered by private industry and trade groups. About 960 individuals attended this training.

Annual Activity Report. License holders are required to file an annual activity report with the department covering the previous year. The first activity report was due March 1, 2015. By the end of the fiscal year, the department received activity reports from about 99 percent of these businesses.

Enforcement Activities. During FY 2015, the program conducted 344 reviews of turf managers’ fertilizer records to assess compliance with the law. Ten warnings were issued and all but one were resolved through follow-up inspections and education. The warnings were issued for no-shows at inspections, inadequate fertilization records, and over-application of fertilizer products.

Homeowner Outreach. During FY 2015, the department continued to use social media, its website and public events to spread the word about Maryland’s lawn fertilizer law. Fact sheets were updated and displays were presented at various public events and functions across the state. In addition, the department offered support to local governments, homeowner associations and other organizations to ensure that lawn care contract specifications are in line with Maryland law and regulations.

MARYLAND DEPARTMENT OF AGRICULTURE BUDGET ALLOCATION FOR FY 2015

State of Maryland Budget Allocation for FY 2015

Operating	\$34,769,593,400
Capital	\$1,526,320,589
Total State Budget	\$36,295,913,989

Maryland Department of Agriculture Budget Allocation for FY 2015

	General	Special	Federal	Bonds	Total
Operating	\$27,794,609	\$42,314,134	\$4,240,382	—	\$74,349,125
Capital	—	\$12,312,966	—	\$21,378,000	\$33,690,966
Total	\$27,794,609	\$54,627,100	\$4,240,382	\$21,378,000	\$108,040,091

Bonds

AgLand	\$15,188,000
MACS	\$6,190,000
Tobacco	—
Total	\$21,378,000

LONG SERVICE AWARDS

MARYLAND DEPARTMENT OF AGRICULTURE HONORS EMPLOYEES WITH LONG SERVICE AWARDS

The Maryland Department of Agriculture honored 52 employees during FY 2015 for their years of dedicated service to the department and to the state. Collectively, these 52 employees have provided the state with 1,000 years and 2.3 million hours of public service. Harwood Owings III in the State Chemist section received special recognition for celebrating 45 years with state government. The following is a listing by county of department employees who were recognized with long-service awards.

Anne Arundel County

- Carol West, Maryland Agricultural Land Preservation Foundation, 35 years
- Sherry Weygant, Food Quality Assurance, 35 years
- Donna Hill, Marketing Services, 25 years
- Nancy Wilkinson, Turf and Seed, 25 years
- Derrick Howe, State Chemist section, 20 years
- Offiah Offiah, State Chemist section, 20 years
- Sheila Saffell, Fiscal Services, 20 years
- Jennifer Schaafsma, Resource Conservation, 15 years
- Mary Darling, Human Resources, 15 years
- Karen Fedor, Marketing Services, 10 years
- Jennifer David, Resource Conservation, 15 years
- Jennifer Snoddy, Resource Conservation, 15 years

Caroline County

- Deborah Minnich, Resource Conservation, 20 years

Carroll County

- Charles Null, Jr., Resource Conservation, 40 years
- Jeanine Deleonardo, Food Quality Assurance, 10 years

Dorchester County

- Keith Connolley, Food Quality Assurance, 30 years
- Ronald Mitchell, Mosquito Control, 25 years
- Paul Nuwer II, Mosquito Control, 15 years

Frederick County

- George Nicholson, Resource Conservation, 15 years
- Peter Rupp, Plant Protection and Weed Management, 15 years

Garrett County

- Cheston Miller, Resource Conservation, 30 years

Harford County

- Stephen Grossi, Forest Pest Management, 25 years
- Darren Alles, Nutrient Management, 15 years

Baltimore City

- Aaron Webb, Weights and Measures, 40 years
- Joseph Boako, Weights and Measures, 15 years

Baltimore County

- Kenneth McManus, State Chemist section, 30 years
- Rona Flagle, Resource Conservation, 25 years
- Theresa Brophy, Marketing Services, 25 years
- Warren Bontoyan, State Chemist, 25 years
- Sonya Gaynor, State Chemist Section, 20 years
- Erika Nix, State Chemist Section, 10 years

Calvert County

- Anuradha Teachout, Information Technology, 20 years

Howard County

- Harwood Owings III, State Chemist Section, 45 years

Prince George's

- Christal Stanbrough, Animal Health, 40 years
- Catrilla Simpkins, Resource Conservation, 30 years
- Roshawn Diggs, Mosquito Control, 15 years

Queen Anne's County

- Lynne Willson, Resource Conservation, 30 years
- Gloria Chambers, Executive Direction, 25 years
- Royden Powell III, Resource Conservation, 20 years
- Laura Downes, State Board of Veterinary Medical Examiners, 15 years
- Phyllis Riggin, Resource Conservation, 15 years

St. Mary's County

- Sara Burbage, Resource Conservation, 15 years

Talbot County

- Craig Zinter, Resource Conservation Operations, 25 years
- Levin Schwaninger, Resource Conservation, 15 years

Washington County

- Nancy Tucker, Animal Health, 20 years

Wicomico County

- Mark Taylor, Plant Protection and Weed Management, 30 years
- Kimberly Arnold, Animal Health, 25 years
- Daniel Schamberger, Mosquito Control, 20 years
- Jean Kerley, Mosquito Control, 20 years
- Barbara Kunie, Animal Health, 15 years

Other

- Stephanie Knutsen, Resource Conservation, 15 years (Delaware)
- Charles Hayes, Resource Conservation, 15 years (West Virginia)

MARYLAND DEPARTMENT OF AGRICULTURE EMPLOYEE OF THE YEAR FY 2015

The Maryland Department of Agriculture presented its FY 2015 Employee of the Year Award to Deanna L. Baldwin, manager of the department's Food Quality Assurance Program since 1992. This is a particularly complex and challenging state program to manage because of its wide range of services and activities, each of which requires familiarity with detailed specifications, record keeping and reporting requirements. Demand for many services is seasonal and unpredictable. In addition to being an excellent manager, Ms. Baldwin was selected as Employee of the Year for developing five new elective services to meet the evolving needs of Maryland's farmers and agribusiness. She developed these services without any additional state funding, while continuing to fulfill the program's regulatory responsibilities and satisfy customers' demand. The five are: containerized export grain grading, on-farm poultry and rabbit processing certification, Maryland Good Agricultural Practices Certification, meat grade certification, and Maryland Organic Certification Program and its cost share assistance. Ms. Baldwin began her career with MDA in 1978 as an Agriculture Inspector Technician I. She steadily advanced, mastering all aspects of the program prior to being promoted to manage the section in 1992.



CHANGING
Maryland
for the Better

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Maryland
Department of Agriculture