2010 PROGRESS REPORT

IMPLEMENTING NUTRIENT MANAGEMENT PROGRAMS

A Report to Governor Martin O'Malley
and the Maryland General Assembly
by the Nutrient Management Advisory Committee

July 1, 2010

Maryland Department of Agriculture
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THE NUTRIENT MANAGEMENT ADVISORY COMMITTEE

The Nutrient Management Certification and Licensing Law of 1992 required the Department to establish a Nutrient Management Advisory Committee to be appointed by the Secretary of Agriculture. The Committee is charged with helping develop regulations and guidelines regarding nutrient management planning. The Water Quality Improvement Act (WQIA) of 1998 further defined membership and responsibilities of the Nutrient Management Advisory Committee as follows:

§ 8-804.

(a) (1) The Department shall establish a Nutrient Management Advisory Committee. The Secretary shall appoint to the Committee representatives of the agricultural community, the environmental community, the commercial lawn care, biosolids and agricultural fertilizer industries, academia, and appropriate government units. The Secretary also shall appoint to the Committee a representative of county government from a list submitted by the Maryland Association of Counties. The President of the Senate of Maryland shall appoint to the Committee one Senator and the Speaker of the House of Delegates shall appoint to the Committee one Delegate.

(2) (i) The Nutrient Management Advisory Committee shall report to the Governor and the General Assembly, in accordance with § 2-1246 of the State Government Articles, by July 1 of each year on the implementation of the requirements of the Water Quality Improvement Act of 1998.

(ii) The report required under subparagraph (i) of this paragraph shall include information regarding:

1. the level of participation in the nutrient management plan program;
2. additional resources that may be needed to meet the requirements of § 8-803.1 of this subtitle;
3. the effectiveness of nutrient application education programs, and;
4. the effectiveness of the Manure Transport Project set forth in § 8-704.2 of this title.

(b) In consultation with the Nutrient Management Advisory Committee, the Department shall by regulation:

(1) Prescribe the criteria, form and content for certified nutrient management plans applicable to licensees and certificate holders;

(2) Establish continuing education requirements for certified nutrient management consultants and persons receiving vouchers of completion under § 8-803.3 of this subtitle, and;

(3) Adopt guidelines and requirements for licensees and certified nutrient management consultants on record keeping and on reporting requirements to the Department on nutrient management plans.

2010 NUTRIENT MANAGEMENT ADVISORY COMMITTEE MEMBERS

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INTRODUCTION

The Water Quality Improvement Act of 1998 requires the Nutrient Management Advisory Committee to report to the Governor of Maryland and the Maryland General Assembly on the progress of the nutrient management program implementation by July 1 of each year. Specifically, the law requires that the following areas be addressed:

- Status of nutrient management plan development and implementation
- Additional resources necessary to assist agricultural operations in developing and implementing nutrient management plans and meeting regulatory requirements
- Effectiveness of the nutrient application education program
- Effectiveness of the Manure Transport Project set forth in §8-704.2 of this title

EXECUTIVE SUMMARY

During fiscal year 2010, MDA's Nutrient Management Program marshaled resources to assure compliance with and enforcement of nutrient management regulations. MDA staff continued regulatory enforcement actions against farmers who had not completed and filed an initial nutrient management plan with the Department. Ninety-nine percent of operations are in compliance with submitting plans. During FY 2010, MDA initiated progressive enforcement actions with the remaining 46 non-responsive operators. After the initial plan filing, operators are required to file an Annual Implementation Report (AIR) that summarizes their nutrient applications by crop for the previous growing season. To date, ninety-eight percent of operators have met the AIR filing requirements for the 2009 growing season.

It is important that work continues on implementation of plans and enforcement of regulations. During Fiscal Year 2010 nearly 400 operations were inspected; however, MDA needs additional field staff to work with the 5727 operators across the State and adequate resources to improve and administer the database that tracks implementation and compliance. Providing MDA with the resources to be able to report aggregated data on the performance of agriculture must become a top priority of the Administration.

Technical assistance is an ongoing need to assure nutrient management plans are updated and properly implemented. The advisory committee supports the current menu of plan development options available to farmers, including cost-share for hiring private consultants, continued funding of University of Maryland Agricultural Nutrient Management Program services and farmer training and certification programs. As of June 2010, 325 operators have been trained and certified to write plans for their own operations, although relatively few have been active in writing their own plans. Continued evaluation of technical assistance needs and examination of efficiencies and alternatives is necessary to assure responsiveness of the program to meet farmers' needs and agricultural nutrient management goals.

The Manure Transport Project suspended assistance to the dairy sector during the first nine months of FY2010 to assure adequate funding was available to address expansion of

excess poultry litter transport out of the watershed, a Chesapeake Bay 2 year Milestone goal in Maryland. Manure export will assist animal operations faced with the limits imposed by phosphorus-based nutrient management plans. Increasing fertilizer costs have helped highlight the economic value of the nutrients in manure. It is anticipated that incentives to help cover manure transport costs will continue to be needed as economic and environmental factors make alternative uses for excess manure resources necessary. This program has become a model for other states.

Nutrient applicator training has helped 5248 individuals earn nutrient application vouchers since the program began statewide in 2001. MDA and University of Maryland Extension have continued to explore new approaches to provide continuing education that is useful, informative, and convenient for busy adult learners.

The Nutrient Management Advisory Committee recommends additional resources be provided for the efficient implementation of the program. The Committee also highlights the importance of a continuous funding source for research related to nutrient management and the need for coordination of information from research institutions across the country. Working cooperatively, government agencies and educational institutions can develop positive solutions to environmental issues while preserving the economic viability of agriculture.

PART I. NUTRIENT MANAGEMENT PLAN DEVELOPMENT & IMPLEMENTATION

Summary

The Water Quality Improvement Act of 1998 (WQIA), with amendments made in 2004, requires farm operators to submit a nutrient management plan to the Maryland Department of Agriculture and to implement that plan. Deadlines were included to phase in both nitrogen and phosphorus based plans, the last being July 1, 2005, when farm operators who used manure or biosolids were required to submit and implement a phosphorus-based plan. After filing their initial nutrient management plan, operators must have and implement updated plans and keep supporting documentation with their personal files. These records must be made available to MDA's Nutrient Management Specialists for inspection.

Each year by March 1st, farm operators must file an Annual Implementation Report (AIR) to verify farm information, document nutrients applied during the previous calendar year and certify that the farm operator will have a valid nutrient management plan and will continue to follow it during the current and upcoming cropping years.

Commercial applications of fertilizers to non-agricultural land (e.g., golf courses, campuses, public grounds and parks, highway rights-of-way and property serviced by lawn care companies) are not required to have a nutrient management plan; rather the service provider or manager must keep property-specific records regarding nutrient application timing and rates and follow University of Maryland recommendations based on soil test results.

As MDA works with individuals to bring them into compliance, the numbers of operators and acres that come under the auspices of the Water Quality Improvement Act continue to change. These changes may reflect land use changes to development, owner or operator changes as well as updates to the original database as follow up visits and communication verify who must comply.

Compliance with First Plan and Annual Implementation Report Filing

MDA current information indicates that 5727 farm operators manage 1,325,004 acres and are subject to nutrient management laws. Five thousand seven hundred nineteen agricultural operators have filed a nutrient management plan as of May 31, 2010, accounting for 1,323,997 acres as required by law. This represents 99.9 percent of applicable farm operators and 99.9 percent of farmland. MDA is currently pursuing enforcement actions against the remaining operators are subject to enforcement efforts as explained below.

Nutrient management regulations apply to operators, not necessarily the owners of agricultural land. Thirty-six percent of farm acreage is rented and the operator of any parcel of land may change from year to year. MDA continually works to update records with new operators, including equine enterprises on land that is not tax assessed as agricultural, and to eliminate parcels of land sold for development. The complexity of keeping records on various types of operations, changing land use and levels of compliance continues to

challenge MDA's computer database tracking system, which is currently based on manual data entry.

Ongoing compliance tracking of nutrient management regulatory requirements is also documented through a farm operator's submission of an Annual Implementation Report (AIR). This report is designed to verify farm operation information, any changes in property farmed, the continued use of a nutrient management plan and documented fertilizer and nutrient uses during the previous calendar year. Five thousand five hundred fifty-four farm operators were required to submit an AIR for 2009 by March 1. As of May 31, 2010, 5424 (98 percent) of AIRs covering approximately 1,231,874 acres (96 percent) had been received. MDA issued warning notices to 1367 operators in mid-April followed by penalty notices in mid-May to 473 farm operators who had not submitted an AIR.

Nutrient management implementation staff is responsible for encouraging the prompt and accurate filing of the AIR. Starting January 2009, operators were provided with an alternative to filing a paper AIR. The University of Maryland developed an electronic format, *NuMan Reporter*, to summarize and submit information from plans developed using the software *NuMan Pro.* Thirteen operators used *NuMan Reporter* to report their 2009 crop year activities. Another 25 users submitted a web-based fill-in form that could be submitted electronically. Extensive promotion and training are needed to increase awareness and use of the site among operators. The Nutrient Management Advisory Committee recommends additional resources for improved data management capacity and further development of electronic filing to improve the documentation of implementation of plans by operators.

At the beginning of FY 2010, there were 46 operators who had not filed a nutrient management plan or had not been responsive to MDA's attempts to contact them by mail or telephone. Twenty-six of these cases were resolved by operators submitting their nutrient management plan as required or by MDA verifying that the operation was no longer active. Fifteen cases were forwarded to collections, the last step in the enforcement process. As of June 30, 2010, enforcement actions continue against five operators who are still out of compliance for filing a first nutrient management plan.

Plan Implementation Inspection

The submission of the initial nutrient management plan is the first step in coming into compliance. Maintaining compliance requires ongoing plan implementation, record keeping, updating the plan when conditions change, and timely filing of the AIR. MDA Nutrient Management specialists conduct site visits and review the implementation of plans with operators to verify that an operator is following the plan as written by a certified consultant. Six nutrient management specialists, located in six regional offices, worked with 5727 eligible operators in FY 2010. Specialists provide compliance assistance, educational programs and conduct site visits for plan implementation inspection and enforcement of the regulatory requirements. As of May 31, 2010, nutrient management implementation staff had completed 391 implementation reviews and inspections for this reporting period. During these visits, MDA staff often assisted operators with more information about technical and regulatory aspects of nutrient management and helped set up record keeping

systems. Specialists issued 152 warnings for operators to correct major violations and documented minor violations to be corrected.

MDA has developed enforcement policies and procedures for plan implementation reviews. An implementation specialist schedules site visits with operators at a mutually agreeable time. The specialist mails a follow-up packet with confirmation of time and date for the visit, and fact sheets that explain the review process and a checklist of the records the operator should make available for review. Once the inspection is complete, an operator may receive a written warning for major violations such as not having a current plan, absence of actual yield records, mistiming or over application of nutrients, and mismanagement of organic wastes. If an operator fails to correct the violations within a prescribed timeframe, the enforcement actions will be followed by a charge letter describing the violations, associated fines, right to request a hearing, and other subsequent steps of the enforcement process.

Incentives and Cost-Share for Nutrient Management Planning

Eligibility for State incentive programs is linked to an operator's compliance with nutrient management regulations. Those who are not in compliance are ineligible to receive cost-share from any program funded through the Maryland Agricultural Water Quality Cost-Share (MACS) Program. This includes the Cover Crop Program, Manure Transport Project and support for any of the best management practices eligible for state cost-share.

MACS provides cost share support to farmers who retained the services of private sector nutrient management consultants. The allocated annual budget for nutrient management planning has fallen from $750,000 in 2003 to $70,000 in FY09. Although cost share assistance was eliminated from the FY 2010 budget, nearly $90,000 was encumbered in outstanding contracts. At the end of FY10 farmers had used $63,215 for nutrient management cost share services.

The Advisory committee supports continuation and increased funding for nutrient management planning through private and public resources. Cost share incentives can help defray with the cost of plan development for farmers who retain private sector consultant services and keep operators in compliance. This is especially a concern because most of the inspection violations (70%) are issued for failure to maintain an up-to-date nutrient management plan.

Consultants Plan Development Review and Technical Assistance

Certified nutrient management consultants and certified farmer operators are authorized to develop nutrient management plans. Three MDA nutrient management specialists conduct plan reviews and site inspections of certified consultants. These reviews of plans and associated records ensure the accuracy of recommendations and compliance of consultants and certified plans with the nutrient management law and regulations.

In FY 2010 staff conducted site inspections and reviewed 256 plans of certified consultants, all of which were found to comply with regulatory requirements. Eighty-one commercial nutrient applicators were also inspected and found to be in compliance. Certification and licensing staff participated in the plan review and approval process of 113

nutrient management plans required for the Maryland Agricultural Cost-Share (MACS) program eligibility. Staff reviewed 22 nutrient management plans that were a part of the cross compliance with Maryland Department of the Environment Sewage Sludge Utility permitting process.

Technical assistance for operators by certified consultants during the process of plan development is vitally important. Nutrient management plans are site-specific and each operation presents unique management challenges. Certified consultants are charged with helping operators understand their plans. Certified consultants are encouraged to develop close working relationships with their clientele in order to optimize nutrient efficiency and crop production. The availability of technical assistance and incentives are essential if consultants are to write quality plans.

University of Maryland Extension (UME) has expressed concerns about the its capacity to deliver meaningful plan development services in light of declining and unstable funding. While these services will continue to be provided through UME for FY 11, UME has requested MDA convene discussions with stakeholders regarding a long term strategy to sustain nutrient management plan development. The NMAC recommends MDA work within agricultural sectors to explore and develop a long term plan to provide support for plan development and consider viable funding mechanisms to support this activity.

Management of Nutrient Application on Non-Agricultural Land

Non-agricultural land encompasses a wide range of properties, including private landscapes managed by commercial service companies, highway rights-of-way, golf courses, athletic fields, school campuses and recreational facilities. Nutrient management regulations outline the requirements for fertilizer application to a total of 10 or more acres of non-agricultural lands: use fertilizer rates and timing as recommended by the University of Maryland; keep records of each application and amount of nutrients applied; and, have current soil tests for each client or management unit. Operators are required to make these records available for inspection by the nutrient management specialist.

Non-agricultural land managers are selected for inspection randomly from among approximately 700 eligible operations statewide. Eligible operations are those that apply nutrients to a total of 10 or more acres per year. The records of twenty-four golf courses, 32 lawn and landscape companies and three public lands maintenance offices were reviewed in FY 2010. These 59 reviews resulted in a total of 19 warnings issued for non-compliance—five golf courses and 14 lawn and landscape maintenance companies. The most common reasons for the citations were lack of soil tests (89 percent), over application of nutrients (21 percent) or both (10 percent). Operations that failed the first inspection were visited again after a prescribed time period to allow the operator to secure soil tests or adjust fertilization rates for subsequent applications. Each of 12 follow up visits showed that the operations had come into compliance with regulations.

PART II: NUTRIENT APPLICATION AND OTHER EDUCATION PROGRAMS

Education related to nutrient application to agricultural land, as required by COMAR 15.20.06, helps farmers and growers improve efficiency and cost-effectiveness of nutrient use while protecting the environment. Those who apply nutrients to more than 10 acres of agricultural land in Maryland are required to have a nutrient applicator voucher or be a certified operator or consultant and to make applications according to the operator's nutrient management plan.

Workshops for those who apply nutrients to non-agricultural lands (e.g., lawn care companies, state land, golf courses) are delivered by MDA's urban nutrient management program in English and sometimes Spanish. Training covers the principles of nutrient recommendations, the meaning of the fertilizer guarantee, considerations in the choice of commercial fertilizer, how to determine the nutrient content of organic nutrient sources, and procedures for calibrating nutrient application equipment. While not required by law, the training sessions are fully enrolled and demand for these programs remains high. The two programs offered in FY 2010 served 34 participants.

University of Maryland Extension, with support from MDA's Nutrient Management Program, delivers nutrient applicator training workshops statewide. During FY 2010, University of Maryland Extension developed and offered 31 courses to award or renew applicator vouchers, with 634 attending the training. Since the inception of the applicator voucher program, 5828 vouchers have been issued. Ongoing participation and voucher renewals are dependent on the development of current and practical information.

Five hundred twenty-six certified consultants or operators received continuing education credit at 37 MDA- and University of Maryland Extension-sponsored events. Another 874 certified individuals earned continuing education credits at 50 courses and events sponsored by other agencies and organizations. MDA and UM staff and faculty also provided outreach to the agricultural and green industries and general public at 8 field days, fairs and other events.

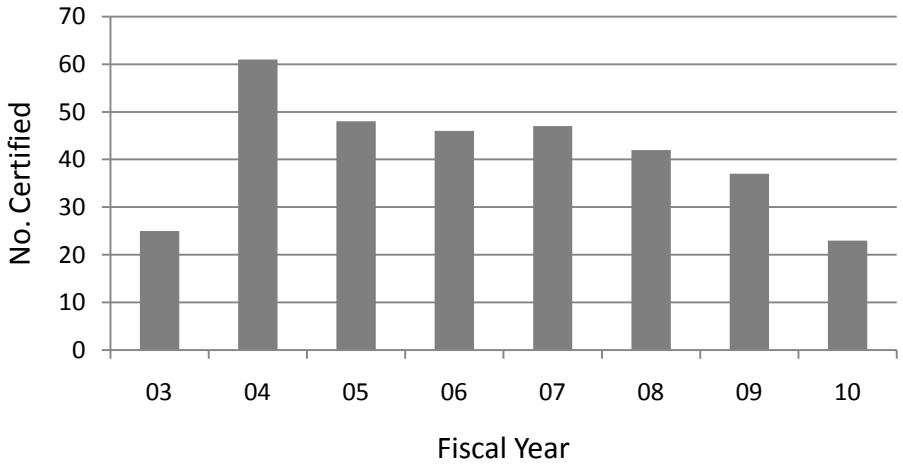
Fifty-one participants completed the two-day course in preparation for the certification exam for nutrient management consultants. After the certification exam, UME-organized workshops on "How to Write a Nutrient Management Plan" presented the detailed steps of plan writing and using the plan development software program.

In response to the development of MAFO/CAFO regulations and requirements of Comprehensive Nutrient Management Planning, a special one-day session of the certification preparation course and examination was provided to 54 personnel from five agencies and eight private consulting firms or individuals.

MDA and University of Maryland Extension have devoted considerable resources toward certifying and encouraging operators to write their own plans. Farmer/operator certification training for diverse operations, poultry litter and greenhouse/nursery served 23 participants. To date, 325 operators have completed the training and become certified to write their own nutrient management plans. For a number of reasons, including the availability of "free" plan writing services through Maryland Extension advisors, few farmers are writing their own plans. In the early years of the program, many more farmers sought

certification. As the pool of potential students has dwindled, so has enrollment in farmer training and certification courses. (see Table 1). Certified consultants and the Extension advisors assigned to each county generate the most plans by a large margin over the certified operators. Discussions with producers suggest that farmers consider their time and skills more valuable than the fees commercial consultants charge. Extension advisors provide free plan writing services, but they are already working at capacity. Declines in funding since 2009 has reduced staffing from 28 in 2009, to 24 in FY 2010, to 20 in FY 2011. Cost-share has been made available for farmers to pay for a plan, but not to compensate them for writing their own plan.

Table 1. Number of Newly-Certified Operators by Year



MDA should continue to work with Maryland Extension to ensure that the information offered to consultants and operators for meeting continuing education requirements provides useful and timely information that enhances knowledge and understanding of nutrient management concepts and technologies.

PART III: MANURE TRANSPORT PROJECT

Implementation

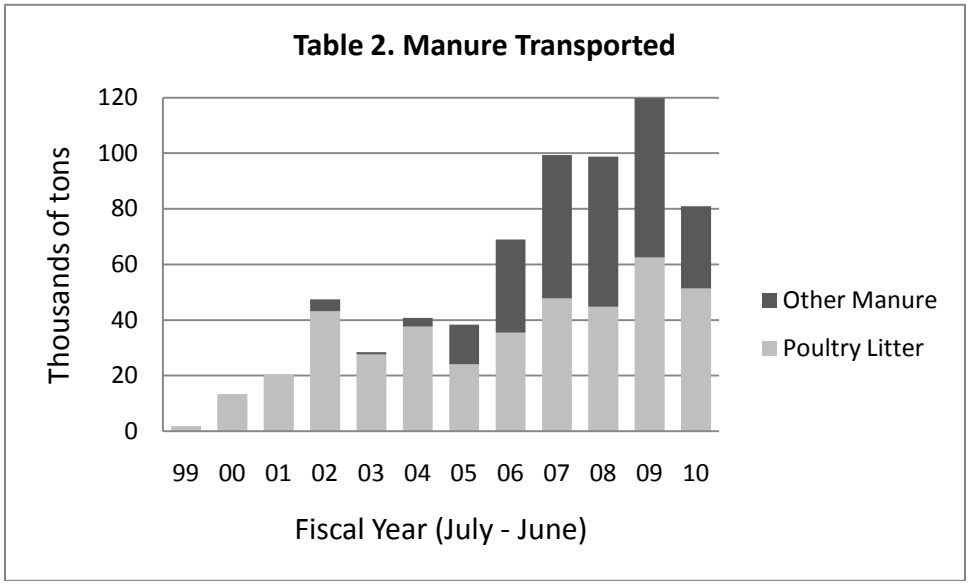
The Manure Transport Project, formerly the Poultry Litter Transportation Pilot Project, was initiated in March, 1999. Legislation in 2000 modified the program, making it available to all types of animal operations statewide that are experiencing phosphorus over-enrichment or have excess manure. Manure brokers are eligible to participate in the program and cost-share funds may also be used to transport litter out of state.

The goal of the project is to protect water quality by fostering efficient land application and alternative animal waste management and use technologies such as waste-to-energy, fertilizer manufacturing, and composting. To date, poultry litter has comprised most of the manure transported. However the last four years have seen a marked increase in participation from dairy producers.

Cost-share rates to transport poultry litter are 25 percent higher for farms located in Dorchester, Wicomico, Worchester, and Somerset counties. The higher rate supports Maryland's goal of transporting 20 percent of the litter produced from the lower Eastern Shore to other regions. Dairy waste cost-share is capped at $7,500 per operation per year due to its relatively low nutrient to weight ratio. During the first 9 months of 2010, MDA suspended support for dairy operations, in an effort to assure adequate funding was available for reaching the Chesapeake Bay Milestone goal to increase poultry litter transported out of the watershed by 10,000 tons per year.

During FY 2010, approximately 56,000 tons of poultry litter was transported utilizing incentives from the Manure Transport Project (see Table 2). Over 85 percent of this litter was removed or relocated from the four lower Eastern Shore counties. Approximately 29,500 tons of manure was transported in FY 2010 from other animals, predominantly dairy cows.

Table 2. Manure Transported



Receiving operations are required to apply the manure in accordance with a nutrient management plan prepared by a certified consultant. Enterprises receiving manure that will not be land-applied must document how the manure will be used, products created, and the intended use of any by-products.

Manure Matching Service

A Manure Matching Service, part of the Manure Transport Project, links farmers who produce excess manure with farmers who can use the manure. Since 2006 contact information and manure availability have been posted to the MDA website.

Experience with the Manure Matching Service indicates a continuing demand for poultry litter. Farmers registered with the service have requested more than 25,000 tons of litter. More farmers want manure than haulers can accommodate. Forty-four individuals are registered with the service, including 32 receiving operations and 15 sending operations. The majority of participants are interested in receiving or sending poultry litter, although other types of manures are registered. All participants are required to re-register with the service and update their information annually.

Commercial fertilizer costs have significantly increased in the last few years, making the fertilizer value of manure even more attractive. Cost-share support for excess manure transport within and between agricultural operations makes manure management and application economically feasible. Phosphorus-based planning requirements have resulted in increased participation from dairy producers. Until alternatives for using and managing excess dairy manure are economically feasible, financial assistance for manure transport provides important environmental protections. Project termination would have negative consequences for the environment, reduce management options for farmers as they implement phosphorus-based plans, and delay efforts to develop alternative uses for manure.

Project Effectiveness

The project has been operational since the spring of 1999. Participation has increased over time. The decline in 2010 is attributable to suspension of support to non-poultry producers during the first 9 months of the year. Additional interest from dairy producers has resulted in significant activity. Due to promotional efforts and the active participation of manure brokers, more farmers are planning ahead and making arrangements to link with other producers or alternative users to transport their manure.

During the first three years of the project, most of the participants used poultry litter as a fertilizer for land application; however, in the last three years, more poultry litter has been transported for alternative uses—in FY 2010, 84 percent of the litter transported went to alternative uses such as mushroom production, composting, and processing into fertilizer products. Perdue AgriRecycle began participating in the program in August 2001, and has since transported approximately 196,167 tons of poultry litter using program assistance. Although Maryland does not offer direct subsidies or tax benefits for alternatives such as energy production, assistance with transport costs has been favorably considered. The majority of the transported manure is not land applied in the Chesapeake Bay watershed.

MDA has modified project regulations to allow the transport of manure within a dairy operation to qualify for assistance if the distance is greater than a mile. As dairy farmers made management changes to implement phosphorus-based plans, their participation had markedly increased prior to limits imposed on cost-share to dairy operations in FY2010.

A significant number of manure brokers, nutrient management consultants and soil conservation district staff use the Internet to download application forms. Increased demand continues for the Manure Transport project, driven in part by full implementation of phosphorus-based plans since 2005. State funding for 2010 was $469,400; poultry company matching funds totaled$403,000 for a program total of $872,400.

PART IV. RESOURCES NEEDED TO MEET THE REQUIREMENTS OF THE LAW

The Nutrient Management Advisory Committee supports continuation of the current available resources and has identified and recommends additional resources needed to meet the requirements of the Nutrient Management Law § 8-803.1 as specified below:

1. **MDA should continue to work with University of Maryland Extension to provide farmers with continuing education programs** that are useful, timely and that enhance knowledge and understanding of nutrient management concepts and technologies. Flexibility in allowing related seminars, workshops or field days sponsored by other entities and approved by MDA to meet continuing education requirements remains key to the success of the program.
2. **Improvements to MDA's computer capability for managing nutrient management database information are critical.** The capacity to handle the multiple layers of information required to track and respond individually to operator compliance queries and to capture changing patterns of agricultural land rental and management is needed. Critical information is not currently being entered into the database due to lack of personnel. A top priority of the program must be to update the system to provide online AIR submission. The Committee encourages further development of nutrient management implementation assessment metrics and procedures to ensure that regulatory enforcement, corrective measures and sanctions are administered effectively and fairly.
3. **MDA staffing remains at a minimal level** to verify plan implementation. Currently, six full-time Nutrient Management Specialists conduct inspection and enforcement activities for the over 5700 farmers who are required to have nutrient management plans. **One statewide implementation supervisory position remains vacant.** One Nutrient Management Specialist is charged with inspecting an estimated 700 non-agricultural operations (e.g., lawn care companies and golf courses) that manage 10 or more acres of grounds. As program direction focuses more heavily on implementation and accountability, **more personnel will be needed** to reach farmers and other land managers.
4. Continued and expanded research is need in both traditional and specialty agricultural areas, including:
   - **the ability to quantify the effectiveness of the program from a water quality improvement perspective;**
   - **new technologies and information related to improving nutrient management for field crops and implementation for the plant diversity inherent in many greenhouse and nursery operations;**
   - **Maryland-specific Phosphorous-Site Index studies, evaluations, and recommendations, and;**
   - **the impact of irrigation on nutrient use efficiency**.
5. **Resources are needed for programs to assist farmers in maintaining and implementing current nutrient management plans. MDA, in consultation with the NMAC, should**

develop a long term strategy to address nutrient management plan development needs. These measures are necessary to assure responsiveness of the program to meet farmers' needs and agricultural nutrient management goals.

6. **Farmers and consultants need more information on soil amendments, food processing wastes and other off-farm materials that may be applied to agricultural land.** Information on these materials should include nutrient analyses, mineralization rates and sources of material. Generators and distributors of these materials, and the receiving farm operators need to understand that such information must be included in the farm nutrient management plan, and that application rates must be limited to the plan recommendations for the nutrients contained therein.
7. **MDA and the Maryland Department of the Environment must continue to coordinate their regulatory programs** to assure that the use of biosolids and all other organic nutrient sources are addressed simultaneously for the entire farm operation.
8. The Committee continues to support the following legislative recommendations:
    - **increasing penalties for failure to have and implement a nutrient management plan and for major violations found during implementation reviews;**
    - **increasing penalties for non-certified or -licensed establishments and individuals who write nutrient management plans;**
    - **establishing penalties for violations in plan development by certified nutrient management consultants;**
    - **establishing penalties for violations applicable to commercial applicators; and**
    - **eliminating the nutrient applicator continuing education requirement for voucher renewal.**

CONCLUSION

Maryland farmers have risen to the challenge of managing nutrients on their operations in accordance with State laws and regulations. Their efforts need to be supported with ongoing technical and financial assistance as they work for improved environmental outcomes for all citizens of Maryland. Research, education and outreach must continue to keep nutrient management at the forefront. Enforcement continues to bring the stragglers on board. Operators need continuing support in understanding the process, keeping records and adapting nutrient management to their operation-specific conditions and changing needs.

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