Delaware's State Nutrient Management Program:
An Overview of the 1999 Delaware Nutrient Management Act

Background
In June of 1999 the Delaware General Assembly passed, and Governor Thomas Carper signed, House Substitute Bill 1 for House Bill 250. This bill amended Title 3 of the Delaware Code by adding Chapter 22: Nutrient Management. As stated in this bill, the four purposes of Delaware's new nutrient management act are as follows:

- To regulate those activities involving the generation and application of nutrients in order to help improve and maintain the quality of Delaware's ground and surface waters and to meet or exceed federally mandated water quality standards, in the interest of the overall public welfare.

- To establish a certification program that encourages the implementation of best management practices in the generation, handling, or land application of nutrients in Delaware.

- To establish a nutrient management planning program.

- To formulate a systematic and economically viable nutrient management program which will both maintain agricultural profitability and improve water quality in Delaware.

Why is this act needed in Delaware?
Ground and surface water quality in Delaware has been impaired by nutrients originating from agriculture, urban runoff, rural residential areas (e.g., septic systems), and point sources, such as municipal and industrial wastewater treatment plants. This act affirms the commitment of the State of Delaware to protect and restore water quality.

Several recent occurrences stimulated the passage of the Delaware Nutrient Management Act, including: (i) settlement of a lawsuit filed against the U.S. Environmental Protection Agency (USEPA) by a consortium of environmental groups for its failure to enforce the Clean Water Act in Delaware. As a result of this lawsuit Delaware must determine the total maximum daily loads (TMDLs) of nutrients (and other pollutants) above which surface waters are no longer fishable and swimmable. Pollution control strategies must then be implemented to reduce nutrient losses; (ii) Public concerns about the ecological and human health impacts of agricultural nutrient losses to water were intensified by media coverage of outbreaks of Pfiesteria spp. in rivers in Maryland and North Carolina. The role of Delaware's poultry industry in the nonpoint source pollution of ground and surface waters by nutrients was questioned extensively in the media; (iii) the Unified Strategy for Animal Feeding Operations (AFO) was approved in 1999 by the U.S. Department of Agriculture (USDA) and USEPA. The Unified AFO Strategy calls for stricter controls on nutrient management for animal manures, particularly in areas of geographically intense animal production, such as the poultry industry in Delaware.

Prepared by Dr. Tom Sims, Department of Plant and Soil Sciences, College of Agriculture and Natural Resources, University of Delaware, Newark, DE 19717-1303. First printed August 11th, 1999.
What is the State Nutrient Management Program?

The State Nutrient Management Program (SNMP) will be administered by the DNMC and consists of the following elements:

- Certification of persons directly involved with the generation or application of nutrients in Delaware.
- Development and implementation of best management practices designed to improve water quality, optimize nutrient use, and maintain a profitable agricultural industry.
- Educational programs that instruct applicants in best management practices.
- A method to evaluate an applicant's comprehension of best management practices prior to certification.

What does the SNMP require?

All individuals or businesses covered by this act shall develop and implement a comprehensive nutrient management plan (CNMP) that includes, at a minimum, the following items. All CNMPs must be updated a minimum of every three years or following significant changes in the CNMP:

- Field maps showing buildings, streams, wells, number of acres, soil types, etc.
- Soil and organic waste analyses.
- Current and planned crop rotations, with expected yields based on best 4 of 7 year data or on soil productivity charts.
- Storage practices for animal manures that conform to DNMC requirements.
- Recommended rates, timings, and methods of nutrient applications.

Note: Application of phosphorus to high phosphorus soils cannot exceed a 2 year crop removal rate. Nitrogen applications cannot exceed that needed for expected crop yields.

The SNMP also requires that records of CNMP implementation be maintained, such as:

- Soil test results and recommended nutrient application rates.
- Quantities, analyses, and rates of nutrients applied and application dates and methods.
- Crops planted, yields obtained, and crop residues removed by harvest.

For animal feeding operations where no nutrients are used for farming and animal waste is not land applied an Animal Waste Management Plan (AWMP) may substitute for a CNMP. This plan documents how animal wastes are stored prior to export from a farm, the amount exported, where and to whom the animal waste was moved, and all methods used to dispose of animal mortality.

What assistance is available for comprehensive nutrient management planning?

The State of Delaware will make nutrient consultants available at no cost through local Conservation Districts to anyone requesting assistance in developing a CNMP. Individuals using the services of a private consultant will be reimbursed at a rate established by the DNMC.

What are certified nutrient handlers?

Four classes of certified nutrient handlers are established. All must apply to the DNMC for certification, which will be awarded based on an evaluation by a method established by the DNMC.

- **Nutrient generator**: A person who operates a facility that produces organic or inorganic nutrients

- **Private nutrient handler**: A person who applies organic or inorganic nutrients to lands or waters they own, lease, or control

- **Commercial nutrient handler**: A person that applies organic or inorganic nutrients to lands or waters in return for a fee or service charge

- **Nutrient consultant**: A person who advises or consults regarding the formulation, application, or scheduling of organic or inorganic nutrients.
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How was the legislation developed?
In response to these concerns, Governor Carper appointed ten representatives of Delaware's agricultural community to the Agricultural Industry Advisory Committee on Nutrient Management (AIACNM). Beginning in the fall of 1998, the AIACNM held numerous meetings and public hearings to solicit input on nutrient management and water quality. Recommendations developed by the AIACNM led to the nutrient management legislation signed by the Governor in June of 1999.

Who will be affected by this act?
Delaware's Nutrient Management Act is far-reaching and will affect many citizens and businesses. Specifically, the act states that all persons who "operate an animal feeding operation in excess of eight animal units" or "apply nutrients to lands in excess of 10 acres or waters as components of a commercial venture or lands that he or she owns, leases, or otherwise controls" or "advise or consult with persons required by this chapter to be certified by the DNMC" shall be certified by the DNMC or shall use a certified person or firm to manage nutrients.

Do other states have similar legislation?
Yes. Pennsylvania passed the Nutrient Management Act in 1993 and promulgated the final regulations for this act in 1997. Maryland passed the Water Quality Improvement Act in April of 1998 and developed final draft regulations in June of 1999. Virginia passed the Poultry Waste Management Bill in 1999. Similar legislation has been adopted in other states (e.g., Kansas, North Carolina, Maine).

What is the Delaware Nutrient Management Commission?
The Delaware Nutrient Management Act establishes a 15-member Delaware Nutrient Management Commission (DNMC) that must "develop, review, approve, and enforce regulations governing the certification of individuals engaged in the business of land application of nutrients and the development of nutrient management plans."

The DNMC consists of the Director of the Division of Soil and Water Conservation of the Department of Natural Resources and Environmental Control (DNREC), seven full-time farmers, one commercial/agricultural nutrient applicator, one member of the commercial nursery industry, one golf course/lawn care industry representative, two members of community-based environmental advocacy groups, one nutrient consultant, and one public citizen. Four members of the DNMC are appointed by the Governor, five by the Delaware House of Representatives, and five by the Delaware Senate. The DNMC Chairman is appointed by the Governor from one of the seven full-time farmers. Ex-officio members of the DNMC include the Secretary of Agriculture, the Secretary of DNREC, the Secretary of Health and Social Services, and the State Nutrient Management Program Administrator, a permanent employee of the state Department of Agriculture.

What are the DNMC's responsibilities?
The DNMC has several responsibilities:

- Consider establishing critical areas for targeting of other voluntary and regulatory programs
- Establish best management practices to reduce nutrient losses to the environment
- Develop educational and awareness programs to voluntarily curtail nutrient use by persons not covered by this chapter
- Consider a transportation and alternative use incentive program to move nutrients from areas with overabundance to areas needing nutrients
- Establish the elements and general directions of the State Nutrient Management Program
- Develop nutrient management regulations. As stated in the act, by July 1, 2000, the Secretary of Agriculture, with the "advice, guidance, and consent of the DNMC," shall develop and adopt regulations to implement the Delaware Nutrient Management Act of 1999.
What is required of commercial processors?

Commercial processors are defined as "an individual, partnership, corporation, association or other business unit that controls through contracts, vertical integration, or other means, several stages of production and marketing of any agricultural commodity". Commercial processors must, directly or by contract with a third party:

- Provide technical assistance to the growers with whom it contracts on the proper management and storage of wastes in accordance with best management practices approved by the DNMC.

- Provide continuing education programs on proper waste management practices that are protective of Delaware's environment for the growers with whom it contracts as well as others who handle such waste.

- Conduct or fund research and demonstration programs that contribute to improved waste management practices.

- Formulate and implement nutrient reduction strategies that minimize nutrient additions to the environment without having adverse health impacts on animals or reducing animal growth.

How are CAFOs affected?

Confined Animal Feeding Operations (CAFOs) are large animal producing facilities (e.g., farms with >1000 animal units). Section 402 of the Clean Water Act requires that all CAFOs have National Pollutant Discharge Elimination System (NPDES) permits. These permits require CNMPs and many site-specific actions related to the proper storage, handling, and use of animal wastes.

The Delaware Nutrient Management Act requires that the Secretary of Agriculture, in consultation with the Secretary of DNREC, submit a State NPDES program for CAFOs to USEPA for approval by December 31st, 1999. In preparing the NPDES program the Secretary is asked "...to rely to the maximum extent practicable on the authorities, requirements, and procedures" of Delaware's Nutrient Management Act.

How will regulations be enforced?

The Delaware Nutrient Management Act establishes a detailed process for "Complaints, Hearings, and Appeals" for violations of the act. Civil penalties of not less than $25 nor more than $1,000 per violation can be imposed by a Justice of the Peace. Each day of continued violation will be considered a separate violation up to a limit of $10,000. The Secretary of Agriculture, upon advice of the DNMC, may also impose an administrative penalty of up to $1,000 for each violation.

How will the DNMC document progress?

The DNMC must submit an annual report of its activities and the environmental results that have accrued each year to the Governor and to the General Assembly. The annual report shall include: (i) recommendations for incentives to promote best management practices; (ii) a list of critical areas targeted for action and the reasons for targeting each area; (iii) a list of nutrient management training and education opportunities available in the state or nearby and a record of participation in these activities; (iv) best management practices implemented and the amount of acres under CNMPs by watershed.

What deadlines are set by the act?

July 1, 2000: All commercial processors shall file a plan with the DNMC indicating how they will meet the requirements of the act.

January 1, 2003: The DNMC shall begin official review of nutrient management plans. One-fifth of the plans will be reviewed each year between 2003 and 2007.

January 1, 2004: Certification of all nutrient handlers must be completed.

2007: The DNMC shall ensure that the SNMP is fully implemented by 2007.

Where can I obtain more information?

Contact the Delaware Department of Agriculture for more information on the Delaware Nutrient Management Act. The toll free number in Delaware is 1-800-282-8685.