ABSTRACT: Water quality is a critical issue in Delaware. The majority of water bodies in the State are considered “impaired” due to pollution from a variety of sources. One of these sources is agriculture; specifically nutrients from animal operations. Agriculture is also the largest industry in Delaware, contributing more than $700 million annually to the State’s economy. In June 1999, the Delaware General Assembly passed House Bill 250: commonly referred to as the Nutrient Management Act. The Act establishes a Nutrient Management Commission and contains guidelines for the development of a Nutrient Management Program to “improve water quality” while “maintaining agricultural profitability.” This program impacts all animal operations larger than eight animal units, and anyone that applies nutrients to more than ten acres of land. An important element of the Nutrient Management Program is the development of regulations for concentrated animal feeding operations (CAFOs). Delegation of the National Pollutant Discharge and Elimination System (NPDES) permitting program from the Department of Natural Resources and Environmental Control to the Nutrient Management Program is a stated objective in the Nutrient Management Act. The challenge is to develop a CAFO program that is consistent with both State and Federal guidelines. This presentation will describe the process of developing this program in Delaware.

KEY TERMS: CAFO; NPDES; Nutrient Management Act; Water Quality

INTRODUCTION

“... the needs of the many outweigh the needs of the few.” Spock (Star Trek II: The Wrath of Kahn)

The final draft of the Delaware CAFO program will not be released until at least May, 2003 so at the time of this writing (early January, 2003) it is not possible to describe the program as a final product. As a result, the following discussion (and the presentation accompanying this paper) will focus on the process of developing the Delaware CAFO program. Individuals from states that have survived this often frustrating (but never boring) process will likely find many of the issues familiar; others may get a foretaste of what they will be dealing with in the near future.

Background

Water quality is a critical environmental, social, and political issue in Delaware. The majority of water bodies in the State are considered “impaired” due to pollution, particularly nitrogen and phosphorus, from a variety of sources (DNREC, 2000). Research has show that one of the most important of these sources is agriculture: specifically nutrients from animal operations. Delaware currently operates under a consent decree resulting from Total Maximum Daily Load (TMDL) litigation (American Littoral Society et al. V. United States Environmental Protection Agency, et al: Civil Action No. 96-5920). As a result of this lawsuit the State of Delaware has agreed to reduce N and P loads to surface waters by as much as 60-85%. This is an important driving force for the development of regulations within the State.

To a non-resident it might be surprising to learn that agricultural receipts are a substantial component of Delaware’s economy, contributing more than $700,000,000 annually. Of this amount approximately 70% is directly related to poultry production, making poultry one of the dominant industries in the state. Because of this, agriculture has strong political support at both the state and local level, even among representatives from more urban settings, and Delaware legislation has historically been very “agriculture-friendly.”

Delaware annually produces nearly 270,000,000 broiler chickens, and Sussex County (one of three counties in this state) has one of the highest concentrations of poultry production in the world. Waste produced from these operations is typically applied to the state’s 225,000 ha of cropland as a nutrient source. The long-term effect of these applications has been to dramatically increase amounts of soil test phosphorus in many crop fields; often to more than 10 times the optimum level required for crop production. Research has shown that such elevated levels present an increased risk for P movement to surface waters.

Delaware Nutrient Management Act

In June 1999, the Delaware General Assembly unanimously passed House Substitute Bill 1 for House Bill 250: commonly referred to as the Nutrient Management Act (DC 3; Ch 22, 1999). This Bill amended Title 3 of the Delaware
Code by adding Chapter 22: Nutrient Management, and impacts individuals that operate any animal feeding operation in excess of eight animal units or that apply nutrients to lands in excess of 10 acres. The purposes of the legislation were 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;
- establish a certification program that encourages the implementation of best management practices in the generation, handling or land application of nutrients in Delaware;
- establish a nutrient management planning program, and
- formulate a systematic and economically viable nutrient management program, which will both maintain agricultural profitability and improve water quality in Delaware.

The Nutrient Management Act (NMA) established the Delaware Nutrient Management Commission (DNMC). The DNMC consists of 15 voting members, which includes the Director of the Division of Soil and Water in 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 from one or more community based environmental advocacy groups, one Nutrient Consultant, and one public citizen.

It was Delaware’s intent that the NMA would also address the CAFO issue. Subsection 2248 states; “Within 6 months of the enactment of this chapter the Secretary, in consultation with the Commission and the Secretary of the Department of Natural Resources and Environmental Control, shall prepare and submit for approval a State NPDES program for confined animal feeding operations in accordance with 40 C.F.R. Part 123.21 to the Administrator of the U.S. Environmental Protection Agency.” This is an ongoing process which is discussed below.

Federal CAFO Program

The Federal Water Pollution Control Act of 1972 (33 U.S.C. § 1251(a)), more commonly referred to as the Clean Water Act (CWA), outlines the authority of the Environmental Protection Agency to regulate point sources of pollution. This regulation of point sources is accomplished through issuance of National Pollutant Discharge and Elimination System (NPDES) permits; regulation of nonpoint sources is left largely to individual States. Traditionally, point sources were limited to industrial discharges and effluent from sewage treatment plants; entities that have an easily definable conduit to water, while nonpoint sources included logging activities, septic systems, and agricultural operations. However, the CWA (and subsequent amendments) contained provisions to designate animal operations as CAFO’s based on the number of animals (or on a case-by-case basis for “bad actors”). The important effect of this designation is that CAFO’s are considered point sources and are subject to Federal regulatory authority through the NPDES program.

On January 12, 2001 the Environmental Protection Agency released draft changes to the NPDES program and to Effluent Limitation Guidelines related to the regulation of CAFO’s. This draft contained a number of important changes ranging from the definition of a CAFO to various specific permit requirements. Final comment on these draft regulations was due near the end of August, 2002 (after numerous extensions) and the final draft was released in December, 2002. One of the reasons the Delaware CAFO program has not been completed is that the DNMC, the DNREC, and the EPA were waiting for these final regulations to be released.

PROGRESS TOWARD A DELAWARE CAFO PROGRAM

At present the Delaware NPDES program and, by default, the CAFO program, are delegated to the DNREC. Until very recently CAFO’s were an invisible part of the larger NPDES effort at DNREC. However, with the new emphasis on large animal operations, and passage of the NMA, new attention has been focused on this issue. As required in the NMA, the State has been working toward transferring the CAFO portion of the NPDES program from the DNREC to the DNMC (Fig 1). The process has taken much longer than the six months initially stated in the NMA, in part because EPA was reluctant to comment too specifically on the Delaware proposal before the final Federal draft was released, and in part because communications have not always been cordial between the DNMC and EPA. 

“...when the smoke is blown away and the vapor condensed... it will be perceived that a few are riding, but the rest are run over...” Henry David Thoreau (Walden)

Delaware farmers are likely not unique in their deep mistrust of Federal regulations in general, and the EPA in particular. For their part, EPA sometimes seems suspicious of the motives of the DNMC. As a result, the dialogue between EPA representatives and agricultural members of the DNMC, particularly in the early stages, was somewhat tense. The DNMC was concerned that “…current CAFO threshold will affect 30 percent of Delaware poultry operations, although it will affect only 6 percent nationwide. Should the EPA drop the regulatory threshold to 300 animal units, federal standards would be

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levied on more than 95 percent of Delaware growers…” (DNMC, 2001). The general attitude of the DNMC toward the federal guidelines is evident in their comments on the draft guidelines:

- Delaware’s program is more comprehensive and less confusing than EPA’s…”
- CAFO definition “…is beyond common sense and sound government policy.”

Even so, progress has been made toward reconciling the State and Federal programs. Numerous drafts have been developed (most recently in May, 2002) and some important topics, such as co-permitting and permit nutrient plans, have been resolved. Some of the ongoing issues are discussed below.

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<th>Figure 1: Timeline for development of the Delaware CAFO program.</th>
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<td><strong>Ongoing Issues</strong></td>
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<td>“All warfare is based on deception” Sun Tzu: The Art of War</td>
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<td>Comprehensive Nutrient Management Plans (CNMP’s)</td>
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The type of nutrient management plan required under the Delaware law differs substantially from the CNMP described by the Federal program. Although Delaware has worked with the Natural Resources Conservation Service (NRCS) to make the required nutrient management plan consistent with Federal cost share requirements, a CNMP is much more comprehensive and difficult to prepare. The DNMC is hoping to show that the planning required under the State program is “functionally equivalent” to the CNMP in terms of the expected impact on water quality. This is complicated by the fact that the federal program does not specify measurable water quality goals; only various practices that will (hopefully) achieve improved water quality. As such it becomes a matter of arguing the relative merits of various required practices amid a great deal of scientific uncertainty about the site-specific effectiveness of these practices.

Confidential Business Information (CBI)

Public access to the contents of nutrient management plans via the Freedom of Information Act (FOIA) is a very contentious issue. This topic was addressed in the Delaware Nutrient Management Act (subchapter 1; subsection 2247) by stipulating that “All animal waste management plans, nutrient management plans and records of implementation shall be kept by the land owner or person responsible for the plans or records. Animal waste management plans, nutrient management plans and records of implementation shall not be considered as public records under the Freedom of Information Act and

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shall not be disclosed…” Under the NMA, nutrient management plans must be made available for inspection by the DNMC, but are otherwise protected from public scrutiny. In fact, this is the reason that plans are not collected by the DNMC but remain on the operation.

Based on discussions with EPA representatives, only the portions of nutrient management plans that are related to achieving effluent limitation guidelines are “fair game” for public access. However, it is easy to imagine that all parts of the nutrient management plan contribute in some way to protecting water quality. Federal guidelines require that much of the paperwork associated with permits be available to the public unless they can be shown to be confidential business information. Given the high level of concern over this issue in Delaware it will be difficult to resolve this to everyone’s satisfaction.

Protocol for Site Inspections by EPA

The basic issue is deceptively simple; how much notice should be given to CAFO operations before Federal (or State) employees enter their property to inspect facilities and records? Federal regulations clearly provide EPA with the authority to enter regulated premises essentially anytime they feel it necessary. It seems obvious (to people writing regulations) that unannounced inspections should provide the most authentic picture of the operation and the EPA is understandably reluctant to give ground on an issue that seems central to their enforcement mission.

However, some members of the Delaware legislature and the DNMC have rather a different take on this subject. In fact the Delaware draft CAFO regulations contain a provision for 48 hour notice to the operator (not surprisingly this was “flagged” by EPA reviewers). Feelings run very high on this particular topic, and it’s not unusual for verbal exchanges to include references to “black helicopters” and violations of basic Constitutional rights. For their part, Delaware representatives feel that inspections are necessary, but un-announced inspections are not.

In practice this issue probably has little effect; the fact that inspectors can enter without notice has not (in the past) meant that they would enter without notice; to date there have been no such inspections in Delaware. One DNMC member has suggested that this issue could be resolved by adoption of “protocol” language that acknowledges the authority to enter the premises while agreeing that notice should provide the most authentic picture of the operation and the EPA is understandably reluctant to give ground on an issue that seems central to their enforcement mission.

THE FUTURE

The ultimate content of the Delaware CAFO program is uncertain. While there certainly will be a program, who administers it and what it will contain are the topic of ongoing discussions. Delaware has scheduled meetings with EPA in January, 2003 to clarify the respective positions regarding the Delaware draft program. There are a number of possible scenarios. The first is that all the parties will eventually agree to the specific requirements for permits and plans and the delegation of the CAFO program will move to the DNMC.

The second possibility, at least in terms of program administration, is that things will stay as they are. Currently the DNREC and Delaware Department of Agriculture has a Memorandum of Agreement regarding CAFO’s that specify DNMC involvement in any actions the DNREC might take regarding enforcement or inspections. If formal delegation of the CAFO program to the DNMC is not achieved it will not mean that they will have no input into how the program is conducted. The state’s expertise in agricultural issues is concentrated in the Department of Agriculture and the DNREC is not likely to hire individuals with this expertise just to administer this portion of the NPDES program.

All of the parties involved agree that the ultimate goal of the CAFO regulations is to improve water quality in Delaware. As this process moves forward and the individuals involved develop a certain degree of trust it should be possible to develop a program that achieves this important goal while addressing the concerns of the agricultural community. The presentation in May, 2003 at the American Water Resources Association Conference will outline the most recent (possibly final) version of the Delaware CAFO program. Hopefully our experiences in Delaware will help to streamline the process in other States.

REFERENCES

Delaware Department of Natural Resources and Environmental Control (DNREC). 2000. State 303(d) list.

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