

its Chesapeake Bay Program to assess the costs to WWTPs to implement system retrofits to achieve biological nutrient removal. This nitrogen benchmark estimate is approximately \$4 per pound of nitrogen removed, based on a range of costs of \$0.80 to \$5.90 per pound of nitrogen removed. EPA's estimated cost-effectiveness to remove nitrogen falls within the estimated range of removal costs and is less than this average benchmark value assumed for this rule. For phosphorus, EPA assumed a cost-effectiveness benchmark of roughly \$10 per pound based on a review of values reported in the agricultural research of the costs to remove phosphorus using various nonpoint source controls and management practices. EPA's estimated cost-effectiveness to remove phosphorus under this rule also falls below this \$10 per pound benchmark value, indicating that the requirements are cost-effective. This is particularly true when compared to the reported cost to remove phosphorus at other industrial point source dischargers, where reported average costs are twice that for agricultural sources and often exceed \$100 per pound of phosphorus removed. Based on these results, EPA concludes that these values are cost-effective.

EPA also examined the cost-effectiveness of removing sediments under the regulations. EPA estimates a cost of less than \$0.30 per pound of sediment removal in this rule (pre-tax, 2001 dollars). This estimated per-pound removal cost is low compared to EPA's POTW benchmark for conventional pollutants. That benchmark measures the potential costs per pound of TSS and BOD removed for an "average" POTW (see 51 FR 24982). Indexed to 2001 dollars, EPA's benchmark costs are about \$0.73 per pound of TSS and BOD removed. For information on EPA's cost-effectiveness, see the *Economic Analysis*.

## IX. Coordination With Other Federal Programs

### A. How Does Today's Rule Function in Relation to Other EPA Programs?

The relationship between animal agriculture and water quality is affected by existing programs other than the CAFO regulations. This section of the preamble presents today's action in the context of some of these other programs.

#### 1. Water Quality Trading

EPA proposed a water quality trading policy on May 15, 2002, for public review and comment. The proposed policy lays out guidelines for States and

local governments/municipalities to consider when implementing a water quality trading program to maintain or reduce pollutant loading and achieve the goals of the Clean Water Act. Water quality trading is considered by some to be a more efficient and quicker pollution reduction process to meet water quality standards than conventional Clean Water Act methods. The proposed trading policy encourages currently regulated and nonregulated sources of pollution to interact more and make mutually beneficial agreements to reduce pollutant loading they might otherwise not be motivated to make. CAFOs may find mutually beneficial opportunities for water quality pollutant trading with other point and nonpoint sources in their watershed. For CAFOs interested in more details about Water Quality Trading, please go <http://www.epa.gov/ow>. The trading policy includes a general EPA water quality trading policy statement and identifies elements that define a successful trading program and provisions that should ensure consistency with the Clean Water Act.

#### 2. Total Maximum Daily Load (TMDL)

The TMDL provisions of the Clean Water Act are intended to be the second line of defense for protecting the quality of surface water resources. When technology-based controls on point sources are inadequate for water to meet State water quality standards, section 303(d) of the Clean Water Act requires States to identify those waters and to develop TMDLs. A TMDL study must be conducted for each pollutant that causes a water body to fail to meet State water quality standards. More than 20,000 waters are identified nationally as being impaired and possibly requiring a TMDL. The top impairments in 1998 were sediment, nutrients, and pathogens. AFOs and CAFOs can be sources of all three pollutants.

A TMDL is a calculation of the greatest amount of a pollutant that a water body can receive without exceeding water quality standards. A TMDL allocates the amount of pollution that can be contributed by the pollutant sources. A TMDL study identifies both point and nonpoint sources of each pollutant that cause a water to fail to meet water quality standards. Water quality sampling, biological and habitat monitoring, and computer modeling help the TMDL writer determine how much each pollutant source must reduce its contribution to ensure that the water quality standard is met. Through the TMDL process, pollutant loads are allocated to all sources. Wasteload allocations for point sources

are enforced through NPDES discharge permits. Load allocations for nonpoint sources are not federally enforceable, but can be met through voluntary approaches. In some impaired watersheds, AFOs and CAFOs may be affected by TMDLs since improved management practices may be necessary to restore water quality. In the case of CAFOs, any necessary pollutant loading reductions would be achieved through the use of NPDES permits issued in accordance with the requirements contained in today's final rule.

#### 3. Watershed Permitting

Watershed-based permits are NPDES permits that are issued to point sources on a geographic or watershed basis. They focus on watershed goals and consider multiple pollutant sources and stressors, including the level of nonpoint source control needed. A watershed approach provides a framework for addressing all stressors within a hydrologically defined drainage basin instead of viewing individual pollutant sources in isolation. More than 20 States have implemented some form of the watershed approach and manage their resources on a rotating basin cycle.

Because of the recent emphasis on water quality-based permits and development of TMDLs that focus on water quality impacts, EPA is looking at ways to use watershed-based permits to achieve watershed goals. The watershed-based permit is a tool that can assist with implementation of a watershed approach. The utility of this tool relies heavily on a detailed, integrated, and inclusive watershed planning process. Many of the actions necessary for a successful TMDL are also needed for a successful watershed approach. The process and data needs for developing a watershed-based permit and for developing a TMDL are very similar. In places where TMDLs have been developed, watershed permits may be useful tools for implementing TMDLs. For example, North Carolina's nutrient management strategy for the Neuse River Basin includes a watershed-based permit approach for TMDL implementation. The strategy recognizes the need for all groups to work together and includes an approach for permitted dischargers to work collectively to meet a combined nitrogen allocation, rather than be subject to individual allocations. The implementation of the approach is being developed (NC DWQ, 1998, 2002). A watershed permit approach was also used for municipal discharges in Connecticut contributing nutrients to the Long Island Sound (CTDEP, 2001).

An approach similar to those used in North Carolina and Connecticut can be used for permitting CAFOs within a specific watershed.

#### 4. Coastal Zone Act Reauthorization Amendments of 1990 (CZARA)

In the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), Congress required States with federally approved coastal zone management programs to develop and implement coastal nonpoint pollution control programs. Thirty-three States and Territories currently have federally approved Coastal Zone Management programs. Section 6217(g) of CZARA called for EPA, in consultation with other federal agencies, to develop guidance on "management measures" for sources of nonpoint source pollution in coastal waters. In January 1993 EPA issued its *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*, which addresses five major source categories of nonpoint pollution: urban runoff, agriculture runoff, forestry runoff, marinas and recreational boating, and hydromodification. Within the agriculture runoff nonpoint source category, the EPA guidance specifically included management measures applicable to all new and existing "confined animal facilities." The guidance identifies which facilities constitute large and small confined animal facilities based solely on the number of animals confined. The manner of discharge is not considered. Under the CZARA guidance, a large beef feedlot contains 300 head or more, a small feedlot between 50 and 299 head; a large dairy contains 70 head or more, a small dairy between 20 and 69 head; a large layer or broiler contains 15,000 head or more, a small layer or broiler between 5,000 and 14,999 head; a large turkey facility contains 13,750 head or more, a small turkey facility between 5,000 and 13,749 head; and a large swine facility contains 200 head or more, a small swine facility between 100 and 199 head.

The thresholds in the CZARA guidance for identifying large and small confined animal facilities are lower than those established for defining CAFOs under today's rules. Thus, in coastal States the CZARA management measures potentially apply to a greater number of small facilities than today's CAFO definition. Despite the fact that both the CZARA management measures for confined animal facilities and the NPDES CAFO regulations address similar operations, these programs do not overlap or conflict with each other. CZARA applies to nonpoint source

dischargers. Any CAFO facility, as defined by 40 CFR Part 122, that has an NPDES CAFO permit, is a point source discharger and thus not subject to CZARA. Similarly, if a facility subject to CZARA management measures is later designated a CAFO by an NPDES permitting authority, the facility is no longer subject to CZARA. With respect to AFOs, some of these facilities may be subject to both NPDES and CZARA requirements, if they have both point and nonpoint source discharges. EPA's CZARA guidance provides that new confined animal facilities and existing large confined animal facilities should limit the discharge of facility wastewater and runoff to surface waters by storing such wastewater and runoff during storms up to and including discharge caused by a 25-year, 24-hour storm. Storage structures should have an earthen or plastic lining, be constructed with concrete, or constitute a tank. All existing small facilities should design and implement systems that will collect solids, reduce contaminant concentrations, and reduce runoff to minimize the discharge of contaminants in both wastewater and in runoff caused by storms up to and including a 25-year, 24-hour storm. Existing small facilities should substantially reduce pollutant loadings to ground water. Both large and small facilities should also manage accumulated solids in an appropriate waste utilization system. In addition to the confined animal facility management measures, the CZARA guidance includes a nutrient management measure intended to be applied by States to activities associated with the application of nutrients to agricultural lands (including the application of manure). The goal of this management measure is to minimize edge-of-field delivery of nutrients and minimize the leaching of nutrients from the root zone. The nutrient management measures also provide for the development, implementation, and periodic updating of a nutrient management plan.

#### 5. Clean Water Act Sec. 319 Program

Congress amended the Clean Water Act in 1987 to establish the section 319 Nonpoint Source Management Program because it recognized the need for greater federal leadership to help focus State and local nonpoint source efforts. Under section 319, States, Territories, and Indian Tribes receive grants to implement their approved management programs for controlling non-point source pollution, which may include a wide variety of activities, including technical assistance, financial assistance, education, training,

technology transfer, demonstration projects, and monitoring to assess the success of specific nonpoint source implementation projects. More than 40 percent of section 319 Clean Water Act grants have been used for activities to control and reduce agricultural nonpoint source pollution. Also, several USDA and State-funded programs provide cost-share, technical assistance, and economic incentives to implement NPS pollution management practices.

#### 6. Source Water Protection Program

Although many States, water systems, and localities have established watershed and wellhead protection programs, the 1996 Safe Drinking Water Act Amendments placed a new focus on source water quality. States have been given access to funding and required to develop Source Water Assessment Programs to assess the areas serving as public sources of drinking water in order to identify potential threats and initiate protection efforts.

The Source Water Assessment Programs created by States differ because they are tailored to each State's water resources and drinking water priorities. However, each assessment must include four major elements: delineating (or mapping) the source water assessment area, conducting an inventory of potential sources of contamination in the delineated area, determining the susceptibility of the water supply to those contamination sources, and releasing the results of the determinations to the public.

Although a number of measures are in place to protect and retain the high quality of the Nation's drinking water, drinking water sources are subject to a number of threats, including growing population, chemical use, and animal wastes. Improper disposal of chemicals, animal wastes, pesticides, and human wastes, as well as the persistence of naturally occurring minerals, can contaminate drinking water sources. Like human wastes, animal wastes contain pathogens, such as *E. coli*, that can sicken hundreds of people and kill the very young and old and people with weakened immune systems. These wastes can enter drinking water supplies in runoff from feedlots and pastures.

In addition to these State efforts, EPA is working with a broad spectrum of stakeholders to develop a national strategy to prevent source water contamination. When it is complete, the strategy will reflect what EPA's Water Program can do to further source water contamination prevention nationwide.

### 7. What Is EPA's Position Regarding Environmental Management Systems?

The Agency supports the voluntary adoption of environmental management systems (EMSs) by CAFOs. On May 15, 2002, the Administrator announced the Agency's Position Statement on Environmental Management Systems. This statement outlines the policy and principles by which the Agency will work with industry to promote the use of EMSs to improve environmental protection. EPA promotes the widespread use of EMSs across a range of organizations and settings, with particular emphasis on adoption of EMSs to achieve improved environmental performance and compliance, and pollution prevention through source reduction. The Agency encourages organizations to implement EMSs based on the plan-do-check-act framework, with the goal of continual improvement. An organization's EMS should address its entire environmental footprint (everywhere it interacts with the environment both negatively and positively), including both regulated and unregulated impacts, such as energy and water consumption, dust, noise, and odor. EPA supports EMSs that are appropriate to the needs and characteristics of specific sectors and facilities.

An operation could choose to implement an EMS that could include a CNMP, but would also include policies and practices designed to address other significant environmental problems. EPA, as part of its overall policy on EMSs, supports adoption of these systems in a variety of sectors, including agriculture. EPA has worked with specific agricultural producer groups like the United Egg Producers to develop a voluntary EMS program. USDA is also funding a major effort through the University of Wisconsin called *Partnerships for Livestock Environmental Assessment Management Systems*. This project is designed to provide information and other guidance on ways to use EMSs effectively in a variety of agricultural settings. EPA serves on the Advisory Committee for this effort, along with USDA and other federal agencies.

In the 2001 Notice, EPA outlined options for how an EMS program may be incorporated into the rule. These options were based on ISO 14000 criteria, an international standard. EPA received a number of comments on these options. Industry was split in support of EMS: some groups thought that use of EMSs in the proposal exceeded authorities provided under the Clean Water Act, whereas others

welcomed EMSs as an alternative to co-permitting. Environmental groups were concerned that reliance on EMS constituted a roll-back of rule requirements.

EPA is not including an EMS as an option in this final rule. EPA recognizes, based on comments, that offering an EMS alternative made the rule more complex and was not entirely consistent with the Agency's goal to keep the rule simple, easy to understand and easy to implement. However, EPA supports the use of EMS by States, as appropriate. In today's rule, EPA is requiring that CAFOs develop and implement nutrient management plans that can help CAFOs manage manure and protect water quality. CAFOs may want to consider implementation of nutrient management plans as part of a broader EMS to manage the specific impacts of excess nutrients. The CAFO's EMS would be broader than just a nutrient management plan, however, and would cover all media and both regulated and unregulated aspects.

More information on EPA's EMS policy, along with sector-specific EMS templates and guidance is provided at [www.epa.gov/ems](http://www.epa.gov/ems).

#### *B. How Is EPA Coordinating With Other Federal Agencies?*

EPA and USDA are committed to working together to provide coordinated assistance to animal agriculture for the betterment of animal agriculture and the environment. The agencies are working together to educate farmers, suppliers, USDA field representatives, consultants, and others on these new regulations. Both EPA and USDA believe in the importance of providing education, training and technical assistance to all involved in animal agriculture that can play a role in helping farmers understand the new requirements and how they can meet them. EPA and USDA have different roles and different constituencies. EPA sets the requirements, works toward compliance by industry, and enforces against noncompliance. USDA provides technical assistance, education, and training to farmers, growers, and allied industries. This education, training, and technical assistance will be vitally important to CAFO operators as they work to come into compliance with the new regulations. The Natural Resource Conservation Service and the Cooperative State Research, Education, and Extension Service are the key USDA agencies that will work with farmers to educate them on the requirements of the EPA CAFO rule. USDA will continue to educate EPA personnel on the intricacies of animal agriculture so that

the Agency can improve its communication with this vital sector.

There was significant comment on the proposed rule on how EPA and USDA should work together with farmers to implement this rule. Some thought the implementation should be left to USDA NRCS and CSREES. Others thought EPA and USDA should work together in the field in a coordinated effort to educate, regulate and assist AFOs and CAFOs. One commenter suggested that EPA monitor water quality and NRCS provide technical assistance. A few comments asked that EPA join other federal agencies and conduct a comprehensive examination of the problems generated by CAFOs.

EPA and USDA believe that only by working in close partnership will the federal government provide the best service to farmers and the rest of the American public. It is EPA's intent and commitment to communicate and coordinate effectively across Agencies and Departments. Animal agriculture is important to this country, as is a sound, healthy environment. EPA and USDA believe these two goals can be jointly achieved.

### **X. Statutory and Executive Order Reviews**

#### *A. Executive Order 12866: Regulatory Planning and Review*

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the Agency must determine whether a regulatory action is "significant" and therefore subject to OMB review and the requirements of the Executive Order. The Order defines a "significant regulatory action" as one that is likely to result in a rule that may:

1. Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or Tribal governments or communities;
2. Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
3. Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
4. Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

It has been determined that this rule is a "significant regulatory action" under the terms of Executive Order 12866. As such, this action was submitted to OMB for review. Changes