Unified National AFO Strategy Executive Summary

Over the past quarter century, the United States has made tremendous progress in cleaning up its rivers, lakes, and coastal waters. While pollution from factories and sewage treatment plants has been dramatically reduced, runoff from city streets, agricultural activities (including animal feeding operations or AFOs), and other sources continues to degrade the environment and puts drinking water at risk.

In February 1998, President Clinton released the Clean Water Action Plan (CWAP), which provides a blueprint for restoring and protecting water quality across the Nation. The CWAP identifies polluted runoff as the most important remaining source of water pollution and provides for a coordinated effort to reduce polluted runoff from a variety of sources. As part of this effort, the CWAP calls for the U.S. Department of Agriculture (USDA) and the U.S. Environmental Protection Agency (EPA) to develop a Unified National Strategy to minimize the water quality and public health impacts of animal feeding operations (AFOs).

USDA and EPA issued a draft of this Strategy on September 16, 1998, and requested public comment during a 120-day period. In addition, 11 national "listening sessions" were held throughout the U.S. to discuss the draft Strategy and hear public feedback. The final Strategy reflects written comments received as well as issues raised during the listening sessions.

The Unified AFO Strategy discusses the relationships between AFOs and environmental and public health, is based on a national performance expectation for all AFO owners and operators, and presents a series of actions to minimize public health impacts and improve water quality while complementing the long-term sustainability of livestock production.

Background

AFOs are agricultural enterprises where animals are kept and raised in confined situations. Approximately 450,000 AFOs in the United States congregate animals, feed, manure and urine, dead animals, and production operations on a small land area. USDA data indicate that the vast majority of farms with livestock are small -- about 85 percent of these farms have fewer than 250 animal units (AUs), where an AU is equal to roughly one beef cow (therefore 1,000 AUs is equal to 1,000 beef cows or an equivalent number of

other kinds of animals). About 6,600 AFOs had more than 1,000 AUs in 1992 and are considered to be large operations.

As a result of domestic and export market forces, technological changes, and industry adaptations, the past several decades have seen substantial changes in the animal production industry. Despite USDA support for sustainable agricultural practices, these factors have promoted expansion of confined production units, with growth in both existing areas and new areas; integration and concentration of some of the industries; geographic separation of animal production and feed production operations; and the concentration of large quantities of manure and wastewater on farms and in some watersheds.

AFOs can pose a number of risks to water quality and public health, mainly because of the amount of animal manure and wastewater they generate. Manure and wastewater from AFOs have the potential to contribute pollutants such as nutrients (e.g., nitrogen, phosphorus), organic matter, sediments, pathogens, heavy metals, hormones, antibiotics, and ammonia to the environment. These pollutants can cause several types of water quality and public health impacts, such as contamination of drinking water supplies and fish kills. While there are other potential environmental impacts associated with AFOs (e.g., odor, habitat loss, ground water depletion), this Strategy focuses on addressing surface and ground water quality problems. Once implemented, however, this Strategy will indirectly benefit other resources.

USDA and EPA's National Performance Expectation

To minimize water quality and public health impacts from AFOs and land application of animal waste, this Strategy is based on a national performance expectation that all AFO owners and operators develop and implement technically sound and economically feasible site-specific Comprehensive Nutrient Management Plans (CNMPs). A CNMP identifies actions that will be implemented to meet clearly-defined nutrient management goals at an agricultural operation. The following components may be contained in a CNMP:

- **Feed Management** - Animal diets and feed may be modified to reduce the amounts of nutrients in manure.
- **Manure Handling and Storage** - Manure needs to be handled and stored properly to prevent water pollution from AFOs.
- **Land Application of Manure** - Land application is the most common, and usually most desirable method, of utilizing manure because of the value of the nutrients and organic matter. Land application in accordance with the CNMP should minimize water quality and public health risk.
- **Land Management** - Tillage, crop residue management, grazing management, and other conservation practices should be utilized to minimize movement to surface and ground water of soil, organic materials, nutrients, and pathogens from lands where manure is

applied.

- **Record Keeping** - AFO operators should keep records that indicate the quantity of manure produced and how the manure was utilized, including where, when, and amount of nutrients applied.
- **Other Utilization Options** - Where the potential for environmentally sound land application is limited, alternative uses of manure, such as the sale of manure to other farmers, composting and sale of compost to home owners, and using manure for power generation may also be appropriate.

AFO owners and operators may seek technical assistance for the development and implementation of CNMPs from qualified specialists. These specialists should assist in implementation and provide ongoing assistance through periodic reviews and revisions of CNMPs, as appropriate. USDA and EPA recommend that certified specialists be used to develop and ensure the quality of CNMPs.

Relationship of Voluntary and Regulatory Programs

Voluntary and regulatory programs serve complementary roles in providing AFO owners and operators and the animal agricultural industry with the assistance and certainty they need to achieve individual business and personal goals, and in ensuring protection of water quality and public health.

Voluntary Program for Most AFOs

Voluntary programs provide an enormous opportunity to help AFO owners and operators and communities address water quality and public health concerns surrounding AFOs. For the vast majority of AFOs, voluntary efforts will be the principal approach to assist owners and operators in developing and implementing site-specific CNMPs, and in reducing water pollution and public health risks associated with AFOs. While CNMPs are not required for AFOs participating only in voluntary programs, they are strongly encouraged as the best possible means of managing potential water quality and public health impacts from these operations.

There are three types of voluntary programs to assist AFO owners and operators. USDA and EPA are both committed to promoting **locally led conservation** as one of the most effective ways to help AFO owners and operators achieve their conservation goals. **Environmental education** can bring an awareness of possible water quality problems and inform AFO owners and operators about practices that will address such problems. A variety of **financial and technical assistance** programs exist to provide AFO owners and operators advice in developing CNMPs and implementing solutions and to help

defray the costs of approved/needed structures (e.g., waste storage facilities for small operations) or to implement other practices, such as installation of conservation buffers to protect water quality.

Regulatory Program for Some AFOs

Impacts from certain higher risk AFOs are addressed through National Pollutant Discharge Elimination System (NPDES) permits under the authority of the Clean Water Act. AFOs that meet certain specified criteria in the NPDES regulations are referred to as concentrated animal feeding operations or CAFOs.

NPDES permits will require CAFOs to develop CNMPs and to meet other conditions that minimize the threat to water quality and public health and otherwise ensure compliance with the requirements of the Clean Water Act. NPDES permits will also ensure that the animal manure from CAFOs will be utilized properly and require reporting on whether the permittee has a CNMP including land application of animal manure and whether it is being implemented properly. The Strategy identifies three categories of CAFOs that are priorities for the regulatory program:

- **Significant Manure Production** - Large facilities (those with greater than 1000 animal units) produce quantities of manure that can be a risk to water quality and public health.
- **Unacceptable Conditions** - Facilities that have man-made conveyances that discharge animal waste to waters or have a direct discharge to waters that pass through the facility or come into direct contact with animals represent a significant risk to water quality and and public health.
- **Significant Contributors to Water Quality Impairment** - A facility that is significantly contributing to impairment of a waterbody or a watershed and nonattainment of a designated use is also a priority for the NPDES permitting program.

The Strategy supplements these regulatory program priorities with three types of incentives for some AFOs. Smaller CAFOs that meet certain conditions may exit the regulatory program at the end of their permit term if they correct the problem(s) that caused them to be covered by the regulatory program. The Strategy also describes a "good faith incentive" for some AFOs to avoid being covered by the regulatory program if they have and are implementing a CNMP. Finally, there are tax incentives that may be available to encourage AFOs owners and operators to develop and implement a CNMP.

Coordination with State and Tribal Programs

States and Tribes play a critical role in the development and implementation of national and State and Tribal resource protection programs. USDA and EPA expect to work with States and Tribes to implement effective programs to achieve the national goal and performance expectation of this Strategy. The Strategy includes actions to address a range of State and Tribal issues.

Strategic Issues

The Unified AFO Strategy addresses seven strategic issues. The discussion of each strategic issue identifies several action items.

- **Building Capacity for CNMP Development and Implementation** - The successful implementation of this Strategy depends on the availability of qualified specialists from either the private or public sectors to assist in the development and implementation of CNMPs. The Strategy describes actions to substantially increase AFO owners and operators' access to technical assistance for developing and implementing CNMPs.
- **Accelerating Voluntary, Incentive-Based Programs** - The Strategy sets out a desired outcome that all AFOs will have CNMPs by 2009. Several actions, including review and revision of USDA's practice standards, development of CNMP guidance, fair and equitable program delivery, and options for financial assistance, are directed toward achieving this objective.

- **Implementing and Improving the Existing Regulatory Program** - The Strategy describes the applicability and the requirements of the existing regulatory program, identifies permitting and enforcement priorities, recognizes State and Tribal CAFO permit programs, and describes EPA's plans to strengthen and improve existing regulations.
- **Coordinated Research, Technical Innovation, Compliance Assistance, and Technology Transfer** - USDA and EPA will establish coordinated research, technical innovation, and technology transfer activities, provide compliance assistance, and establish a single point information center. The two agencies are also committed to promoting sustainable agriculture and will support development of a livestock environmental issues curriculum for producers.
- **Encouraging Industry Leadership** - The animal agriculture industry can play a key role in helping to encourage adoption of CNMPs and in addressing water quality problems on individual AFOs. The Strategy includes possible actions that USDA and EPA may take to promote industry involvement.
- **Data Coordination** - Several kinds of data are useful in assessing and managing the water quality impacts of AFOs. USDA and EPA's efforts to coordinate on data sharing will both protect the relationship of trust between USDA and farmers and provide regulatory authorities with information that is useful in protecting water quality and public health.
- **Performance Measures and Accountability** - USDA and EPA believe that it is critical to establish performance measures to gauge our success in implementing the Strategy and meeting relevant goals in each agency's strategic plan established under the Government Performance and Results Act. USDA, EPA, States, Tribes, and other Federal agencies will work with other stakeholders to develop an approach for measuring the effectiveness of efforts to minimize the water quality and public health impacts of AFOs.

Printed copies of the Unified National Strategy for Animal Feeding Operations may be obtained by calling USDA on (202) 720-3210 or EPA on (202) 260-7786. Click here to view the full AFO Strategy.