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TESTIMONY OF
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INTRODUCTION

Good morning Mr. Chairman and members of the Subcommittee. I am Chuck Fox, Assistant Administrator for Water at the U.S. Environmental Protection Agency (EPA). I am pleased to be able to talk with you this morning about the Nation's clean water program.

This month marks the 27th anniversary of the enactment of the Clean Water Act (CWA). Twenty-seven years ago, the Potomac River was too dirty to swim in, Lake Erie was dying, and the Cuyahoga River was so polluted it burst into flames. Many rivers and beaches were little more than open sewers.

Enactment of the CWA dramatically improved the health of rivers, lakes and coastal waters. It stopped billions of pounds of pollution from fouling the water and doubled the number of waterways safe for fishing and swimming. Today, many rivers, lakes, and coasts are thriving centers of healthy communities.

In my testimony today, I want to describe the work EPA is doing to carry the clean water program forward into the next century, giving special attention to our efforts to restore impaired waters and to reduce pollution from factory farms.

I CLEAN WATER FOR THE FUTURE -- THE *CLEAN WATER ACTION PLAN*

Despite tremendous progress in reducing water pollution, almost 40 percent of the Nation's waters assessed by States still do not meet water quality goals. Pollution from factories and sewage treatment plants, soil erosion, and wetland losses have been dramatically reduced. But runoff from city streets, rural areas, and other sources continues to degrade the environment and puts drinking water at risk. Fish in many waters still contain dangerous levels of mercury, polychlorinated biphenyls (PCBs), and other toxic contaminants. Beach closings are increasingly common.

Several years ago, after taking a hard look at the serious water pollution problems around the country, the Administration concluded that implementation of the existing programs was not stopping serious new water pollution threats to public health, living resources, and the Nation's waters, particularly from polluted runoff. We concluded that clean water programs lacked the strength, resources, and framework to finish the job of restoring rivers, lakes, and coastal areas.

In response to this concern, President Clinton and Vice President Gore announced, in February of 1998, a major new effort to speed the restoration of the Nation's waterways. The *Clean Water Action Plan* builds on the solid foundation of the

Clean Water Act and describes over 100 actions -- based on existing statutory authority -- to strengthen efforts to restore and protect water resources.

The *Action Plan* is built around four key tools to achieve clean water goals.

- **A Watershed Approach** – The *Action Plan* envisions an improved collaborative effort by Federal, State, Tribal, and local governments, the public, and the private sector to restore and sustain the health of the over 2,000 watersheds in the country. The watershed approach provides a framework for water quality management and is a key to setting priorities and taking action to clean up rivers, lakes, and coastal waters.

- **Strong Federal and State Standards** – The *Action Plan* describes how Federal, State, and Tribal agencies may revise standards where needed and make programs more effective. Strong standards are key to protecting public health, preventing polluted runoff, and ensuring accountability.

- **Natural Resource Stewardship** – Most of the land in the Nation's watersheds is crop land, pasture, rangeland, or forests, and most of the water that ends up in rivers, lakes, and coastal waters falls on these lands first. Clean water depends on the conservation and stewardship of these natural resources. This *Action Plan* calls on Federal natural resource agencies to support State and local watershed restoration and protection.

- **Informed Citizens and Officials** – Clear, accurate, and timely information is the foundation of a sound water quality program. Informed citizens and officials make better decisions about their watersheds. The *Action Plan* calls on Federal agencies to improve the information available to the public, governments, and others about the health of their watersheds and the safety of their beaches, drinking water, and fish.

We are making good progress in implementing the over 100 specific actions described in the *Clean Water Action Plan*. Congress has provided vital support to this work by appropriating critical funding, including almost doubling State grants for reducing polluted runoff.

A key accomplishment under the Action Plan is completion of State assessments of watershed health and initiation of several hundred Watershed Restoration Action Strategies to restore impaired waters on a watershed basis.

Other accomplishments include a new BEACH action plan, a response plan for pollution threats to coastal waters, new efforts to support establishment of riparian buffers, and a contaminated sediment strategy. Many other critical projects are underway at EPA, the Department of Agriculture, the Department of Interior, the Army Corps of Engineers, the National Oceanic and Atmospheric Administration, and other agencies, as well as in States, local governments, and the private sector.

The *Clean Water Action Plan* is a sound blueprint that takes clean water programs into the next century. I ask, Mr. Chairman, that a copy of the first annual report of progress in implementing the *Clean Water Action Plan* be included as part of my testimony in the hearing record.

II RESTORING AMERICA'S POLLUTED WATERS

The clean water programs that EPA and the States implement -- ranging from financing assistance for sewage treatment facilities, to permits for dischargers, to technical assistance to reduce polluted runoff -- are all intended to reduce water pollution. For many years after passage of the 1972 CWA, pollution problems were so common that any reduction in pollutants made a contribution to improving the health of waters. Today, however, some of the most obvious water pollution problems have been addressed. To restore the health of those waters that remain polluted, we need to

complement existing programs with a more focused effort to identify *specific* polluted waters and define the *specific* measures needed to restore them to health.

The authors of the CWA envisioned a time when this more focused approach to restoring the remaining polluted waters would be needed and they created the "Total Maximum Daily Load" provisions of section 303(d) of the Act.

In my testimony today, I want to discuss the TMDL program, the story that it tells about the health of our waters, and regulatory revisions that EPA is proposing to strengthen the TMDL program.

A) TMDL Program Background

The TMDL program authorized in section 303 of the CWA is really two programs.

The first part of the TMDL program is the *identification* of polluted waters. States develop lists of polluted waterbodies -- waters that do not attain State water quality standards -- every two years. States consult with the public in developing lists, rank waters on their lists based on the severity of the pollution, and set schedules for the development of TMDLs for each water body over an 8 -13 year period.

The second part of the program is the development of the actual "TMDL." A TMDL is, in effect, a State's plan to restore the health of the polluted water. It includes a quantitative assessment of water quality problems and the pollutant sources that contribute to these problems. The TMDL specifies the amount of a pollutant that needs to be reduced so that the waterbody will achieve State water quality standards, allocates reductions in the pollutant or pollutants among the sources in a watershed,

and provides a guide to taking on-the-ground actions needed to restore a waterbody. TMDLs can focus on a small segment of a waterbody or on a group of waters in a larger watershed.

Where many polluted waters are clustered together in a watershed, many States have chosen to develop a more comprehensive approach to the problem -- a Watershed Restoration Action Strategy as described in the *Clean Water Action Plan.*

States develop both the lists of polluted waters and specific TMDLs, both of which must be approved or disapproved by EPA. If EPA disapproves a State list or TMDL, EPA is required to establish the list or TMDL for the State.

B) Program Status

The TMDL program was designed to provide a safety net, catching water bodies that were not protected or restored by the implementation of the range of general pollution control programs authorized in the Clean Water Act. Until the early 1990's, EPA and States gave top priority to implementing these general clean water programs and gave lower priority to the more focused restoration authorities of the TMDL program. As a result, relatively few TMDLs were developed and many State lists were limited to a few waters and were not submitted in a timely manner.

Several years ago, citizen organizations began bringing legal actions against EPA seeking the listing of waters and development of TMDLs. To date, eighteen of these cases have been resolved with agreement for State actions to identify impaired waters and establish TMDLs. Where States fail to act, EPA will step in and identify the impaired waters or establish the TMDLs.

In 1996, EPA determined that there was a need for a comprehensive evaluation of the TMDL program. The Agency convened a committee under the Federal Advisory Committee Act (FACA) to make recommendations for improving program implementation, including needed changes to the TMDL regulations and guidance. The TMDL FACA committee was composed of 20 individuals with diverse backgrounds, including agriculture, forestry, environmental advocacy, industry, and State, local, and Tribal governments.

In July of 1998, the committee submitted its final report to EPA containing more than 100 consensus recommendations, a subset of which would require regulatory changes. The TMDL FACA committee recommendations helped to guide the development of the proposed revisions to the TMDL, NPDES, and water quality standards regulations.

EPA has already taken a number of other significant steps to improve State progress in listing polluted waters and developing TMDLs. For example, in August 1997, EPA issued two policy memoranda providing guidance for State lists and requesting that States work to improve the pace of establishing TMDLs. In particular, EPA asked that States develop 8-13 year schedules for developing TMDLs for all listed waterbodies, beginning with the lists due April 1, 1998.

States have made progress developing polluted water lists. All States submitted their 1998 lists and EPA has taken action on all but two of these lists. Although EPA approved the majority of lists, in a few cases EPA disapproved the list for failure to include waters that were clearly polluted, and then EPA added these waters to the 1998 State lists.

In addition, the number of TMDLs developed by States and approved by EPA has been steadily increasing over the past several years. Between 1972, when Congress passed section 303(d) as part of the Clean Water Act, and 1998, States and EPA had established approximately 1000 TMDLs. Since 1998, States have established, and EPA has approved, over 250 TMDLs for a variety of pollutants, including sediments and nutrients which are predominately caused by polluted runoff. Across the country, over 2000 TMDLs are under development.

C) What Do the 1998 Polluted Waters Lists Tell Us?

The 1998 State polluted waters lists tell us that the overwhelming majority of Americans -- 218 million -- live within 10 miles of a polluted waterbody. Over 20,000 waterbodies across the country are identified as not meeting water quality standards. These waterbodies include over 300,000 river and shore miles and 5 million lake acres.

Direct pollution discharges from sewage treatment plants and factories are the sole cause in only about 10 percent of polluted waters. Approximately 43 percent are impaired by polluted runoff from sources including agricultural lands and highway construction. Another 47 percent are impaired by a combination of point source discharges and polluted runoff (see Attachment I -- Sources of Impairment by Category).

The size of impaired waterbodies range from short sections of headwater streams to long sections of major rivers like the Mississippi and Colorado.

The pollutants most frequently identified as causing water quality impairment include sediments, excess nutrients and harmful microorganisms. Metals, including toxics, are also a contributor.

Some of the impairments are the result of ongoing discharges while others stem from historic or "legacy" problems resulting from past activities.

On average, there are about two pollutants identified for each of the impaired waters. This means that as many as 40,000 TMDLs will need to be done, although watershed approaches can be used to address many of these individual segments for greater efficiency.

To better illustrate the story that the 1998 polluted waters lists tell, I have several maps and graphs, including a national map depicting the percent of impaired waters by watershed (see Attachment 2), and a bar graph indicating the leading reasons that waters do not meet their clean water goals (see Attachment 3).

D) Proposed Regulatory Revisions

The lessons we have learned from the litigation and the FACA process provide clear guidance on constructive changes to the TMDL program.

On August 23, EPA proposed revisions to the regulations which will significantly strengthen the Nation's ability to achieve clean water goals, to ensure that the public has more and better information about the health of waters, and to provide States, Territories, and authorized Tribes clearer direction for identifying and restoring impaired waters. In addition, EPA proposed changes to the CWA discharge permit program and

the water quality standards program that complement the proposed TMDL regulation revisions.

I want to briefly describe several of the key changes we have proposed to the TMDL program. More information about the rule is available on EPA's web site at www.epa.gov/owow/tmdl.

- **Schedules for TMDLs** -- The proposed rule calls for States to develop schedules for establishing TMDLs within a 15 year timeframe. By proposing this 15 year period, EPA is recognizing that many States need to develop many TMDLs and that it takes time to develop a useful and effective TMDL. In addition, the regulation does not set a time period for implementing the TMDL, thereby giving States discretion to develop appropriate schedules for implementation.

- **Priorities for TMDLS** -- The proposed regulations also give States considerable flexibility in setting priorities for the development of TMDLs over the 15 year period. The only priority setting requirement in the proposed rule is that States would have to assign a high priority to waterbodies designated as a public drinking water supply and where the pollutant causing an impairment causes a violation of the maximum contaminant level, and/or for pollutants causing an impairment or threat for species listed as endangered or threatened under the Endangered Species Act.

- **Implementation of TMDLs** -- Current regulations call for TMDLs to include an allocation of pollutant reductions among sources. EPA's current guidance asks that there be a "reasonable assurance" that the source will actually attain its pollution reduction allocation. Without such assurance, the TMDL may not result in attainment of the water quality standard and would not be approved by EPA.

  The proposed regulations more explicitly define "reasonable assurance". In effect, "reasonable assurance" would mean a high degree of confidence that allocations in the TMDL will be implemented. For point sources, reasonable assurance would mean that NPDES permits will be consistent with any applicable pollution reduction allocation contained in the TMDL.

  For nonpoint sources, reasonable assurance would mean that nonpoint source controls are specific to the pollutant causing the impairment, implemented according to an expeditious schedule, and supported by reliable delivery mechanisms and adequate funding. Some examples include regulations or local ordinances, performance bonds, memoranda of understanding, contracts or

similar agreements. Voluntary and incentive-based actions may also be acceptable measures of reasonable assurance.

The proposed regulations also call for development of an implementation plan as part of the TMDL. An implementation plan would provide a framework for organizing pollutant reduction allocations and reasonable assurances of implementation into a coordinated package. States would be able to develop implementation plans for groups of TMDLs on a watershed scale as long as the scale of the implementation plan is consistent with the geographic scale for which the TMDL is being established.

- **Permit Program Revisions** -- We are also proposing that EPA have the same authority that a State has when establishing a TMDL to designate certain sources, such as large Animal Feeding Operations and large fish farms, as point sources and require them to have CWA permits where such permits would be needed to assure implementation of measures called for in a TMDL. EPA would use this authority only where a State had not developed an approvable TMDL and where such action would be needed to assure implementation of the TMDL.

  In addition, States and EPA would have new authority to require that certain silviculture sources obtain a permit where the source contributes to the water quality impairment and a permit is needed to assure implementation of the TMDL.

  The new regulations would also provide EPA the authority to object to, and ultimately reissue, expired permits for discharges to impaired waterbodies in NPDES-authorized states where (1) reissuance is necessary to ensure reasonable further progress towards meeting water quality standards while a TMDL is being established, or (2) where it is necessary to ensure that a completed TMDL is adequately implemented.

- **Achieving Progress Before a TMDL is Established** -- The proposed regulations outline a new approach to achieving progress toward attainment of water quality standards in impaired waterbodies after listing and pending TMDL establishment. A large new or significantly expanding discharger to a polluted water would be required to obtain an offset of one-and- a-half times their proposed new or expanded discharge. The permit authority, however, would be able to reduce the amount of the offset under specified conditions.
  EPA has extended the comment period on both proposed rules to January 20 of

2000 and is actively seeking public comments and input from all interested parties. We are holding a series of public meetings around the country on this proposal to respond to questions and listen to alternatives. We are open to hearing any and all suggestions

that will improve the proposal and help the Nation better achieve the goal of restoring polluted waters.

III USDA-EPA STRATEGY FOR ANIMAL FEEDING OPERATIONS

The U.S. Department of Agriculture (USDA)-EPA Unified National Strategy for Animal Feeding Operations (AFO Strategy), announced on March 9, 1999, outlines a flexible, common-sense approach to minimize the water quality and public health impacts of animal feeding operations (AFOs), while ensuring the long-term sustainability of livestock production in the United States. This unified, cooperative, USDA-EPA approach to AFOs was one of the many constructive agreements reached in development and implementation of the *Clean Water Act Plan*.

Farmers were among the first stewards of our Nation's natural resources and farmers consistently recognize the value of protecting water quality and the environment. By working with the farm community and others, I am confident that USDA and EPA can jointly implement this common sense approach to reducing the environmental and public health threats posed by large animal feeding operations.

The Strategy establishes a national performance expectation that all AFO owners and operators should develop and implement technically sound, economically feasible, and site-specific comprehensive nutrient management plans (CNMPs) for properly managing the animal wastes produced at their facilities. The Strategy reflects extensive public comment, including eleven public listening sessions around the country, and relies heavily on the stewardship ethic of producers.

While the vast majority of the estimated 450,000 AFOs nationwide are encouraged to develop CNMPs on a voluntary basis, between 15,000 to 20,000 large AFOs (generally those with 1,000 or more "animal units") will be required to implement CNMPs via the enforceable conditions of a CWA permit. EPA estimates that several thousand CAFOs now have CWA permits.

In my testimony today, I will concentrate on these large AFOs, called "Concentrated Animal Feeding Operations" or "CAFOs".

A) AFO Industry Trends

As a result of domestic and export market forces, technological changes, and industry adaptations, the past several decades have seen substantial changes in America's animal production industries.

These factors have promoted expansion of large "factory farms" with 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. In terms of production, the total number of animal units in the U.S. increased by about 4.5 million (approximately three percent) between 1987 and 1992. During this same period, however, the number of AFOs decreased, indicating greater production from fewer, larger facilities and an overall consolidation within the industry.

B) Water Quality and Public Health Impacts of CAFOs

Despite significant progress in reducing water pollution, States report that up to 40% of the waters they assess do not meet water quality goals.

While many diverse sources contribute to water pollution, States report that agriculture is the most widespread source of pollution in the Nation's surveyed rivers. In the 22 States that categorize impacts from specific types of agriculture, animal operations impact about 35,000 river miles of those miles assessed.

Large volumes of animal waste are produced in this country. More than five tons of animal manure are produced each year for every person in the United states, compared to about eighty pounds of solid human waste. The chickens on the Delmarva Peninsula generate 48 million pounds of nitrogen a year, as much as a city of about 500,000 people.

Concentrated animal feeding operations 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 these operations have the potential to contribute pollutants such as nutrients (e.g., nitrogen, phosphorus), sediment, pathogens, heavy metals, antibiotics, and ammonia to the environment.

Excess nutrients in water can result in or contribute to eutrophication, anoxia (i.e., low levels of dissolved oxygen), and, in combination with other circumstances, have been associated with outbreaks of microbes such as *Pfiesteria piscicida* and toxic algal blooms which may be harmful to human health. Nitrogen, in the form of nitrate, can contaminate drinking water supplies from ground water.

Pathogens, such as *Cryptosporidium*, have been linked to impairments in drinking water supplies and threats to human health. Pathogens in manure can create a food safety concern if manure is applied directly to crops at inappropriate times. In addition, pathogens are responsible for some shellfish bed closures.

AFOs can also cause catastrophic effects locally. In June 1995, animal waste contained in an eight-acre lagoon in North Carolina which did not meet acceptable standards, nor was maintained properly, burst through its dike, spilling some 22 million gallons of waste into the Neuse River. The spill was twice the size of the Exxon Valdez oil spill and killed fish along a 19-mile area.

C) Improving the Existing CWA Permit Program for CAFOs

The AFO Strategy describes short- and long-term activities to implement and improve the existing CWA permit program using a two-phased approach to permitting CAFOs.

During a first round of permits (i.e. Round I) beginning in FY 2000, EPA and States will issue permits to CAFOs under the existing CWA regulations. During Round II, beginning in about 2005, EPA and States will reissue CWA permits to CAFOs based on revised "effluent guidelines," as well as revised regulations for CWA permitting and any other new information (e.g., new nutrient water quality criteria and standards).

To assist States in developing CWA permits for Round I, EPA is developing a permit guidance and an example permit. The guidance provides information on:

- which facilities need to apply for a CWA permit;
- the key elements of a CWA permit for CAFOs;

- the relationship between CWA permits and CNMPs;
- the types of CWA permits that may be issued to CAFOs;
- public notice requirements;
- co-permitting of corporate entities that exercise substantial operational control over CAFOs;
- land application of manure and wastewater; and
- monitoring and reporting requirements.

EPA is currently providing the draft guidance and example permit for public review during a comment period that ends on November 24th. EPA is committed to working closely with all interested parties to improve this guidance document.

EPA and authorized States will issue Statewide "general permits" to cover the majority of CAFOs in FY 2000. General permits allow a covered facility to submit a simple notice of intent to be covered and then to work with the permit agency to develop a CNMP or other appropriate conditions.

Because of the concentration of CAFOs in specific parts of the country, EPA expects that not all States will have enough CAFOs to warrant development of a general permit and that States that do not issue general permits will issue individual permits as needed.

Individual CWA permits should generally be issued to exceptionally large CAFOs, new CAFOs, and CAFOs that meet other criteria described in the draft guidance.

D) New Regulations for CAFOs

EPA is currently in the process of reviewing and revising existing regulations related to CAFOs.

First, EPA will propose revisions to the "effluent guidelines" that describe the "best technology" available to control water pollution from large animal feeding operations. EPA has consulted USDA on the best available technology. The new regulations will be specifically tailored to the poultry, swine, and beef/dairy industries.

Just recently, EPA and USDA agreed on procedures for the use of selected summarized regional and national USDA data, including clear guidelines to assure the proper management of the data.

EPA is also revising CWA permit program regulations relating to CAFOs. These regulations include definitions of CAFOs and other permit program requirements that are specific to the CAFO industry.

Any new CWA CAFO permits issued after these revised regulations are promulgated will need to reflect the revised regulations. Permits issued under existing regulations will remain in effect for the five year permit term.

CONCLUSION

Thank you, Mr. Chairman and members of the Subcommittee for this opportunity to testify on EPA's work to restore the Nation's polluted waters and to work with USDA and the agricultural community to reduce the water quality impacts of large "factory farms."

I will be happy to answer any questions.