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The Evolution of Federal Water Pollution Control Policies

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The Evolution of Federal Water Pollution Control Policies

(with emphasis on agricultural and nonpoint source pollution measures)

Gregory L. Poe*

Federal water pollution control policies are increasingly affecting agricultural land-use decisions. The continuing legal battle in the *Concerned Area Residents for the Environment v. Southview Farms* has made some New York farmers painfully aware of the Clean Water Act. Surface water filtration requirements in the 1986 Safe Drinking Water Act Amendments are having a strong impact on dairy farmers in the New York City Watershed. Beginning in 1996, the 1990 Coastal Zone Act Reauthorization Amendments may require agro-environmental best management practices on more than two-thirds of New York farms.

It is important to realize that these Acts have a long historical precedent of dealing with contemporary water quality issues. Largely because of past successes in addressing specific water pollution problems, such as 'point sources' of pollution from factories and municipal water treatment plants, Federal legislation has shifted its attention to other sources and types of water quality degradation over time. Current legislation is motivated by recognition that nonpoint pollution is the largest remaining water quality problem in the United States and that agriculture is the largest source of nonpoint pollution: individual states attribute 41 percent of their nonpoint source pollution problems to agriculture; 60 percent of the nation's impaired river miles are impacted by agricultural runoff; and over 50 million people are potentially affected by agricultural contamination of groundwater. These national figures are consistent with water pollution data from

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New York State. The intended uses of over 9 percent of the river and stream miles and 56 percent of the lake acres are not supported because of water pollution or are otherwise threatened by contamination. Agricultural runoff is the leading source of contamination causing this impairment.

This bulletin presents a brief overview of past Federal water quality legislation in order to provide a background for understanding current legislative initiatives in the Clean Water, Safe Drinking Water, and Coastal Zone Acts. Three trends in the legislation are identified. First, as noted previously, there has been a legislative movement towards addressing nonpoint pollution sources including agriculture. A second trend has been a movement away from voluntary approaches in favor of more regulatory requirements. Finally, there is an increasing legislative focus on setting policies at a watershed level.

Figure 1 provides a chart of the historical development behind these water quality acts. Future bulletins and fact sheets will be provided as new legislation arises.¹

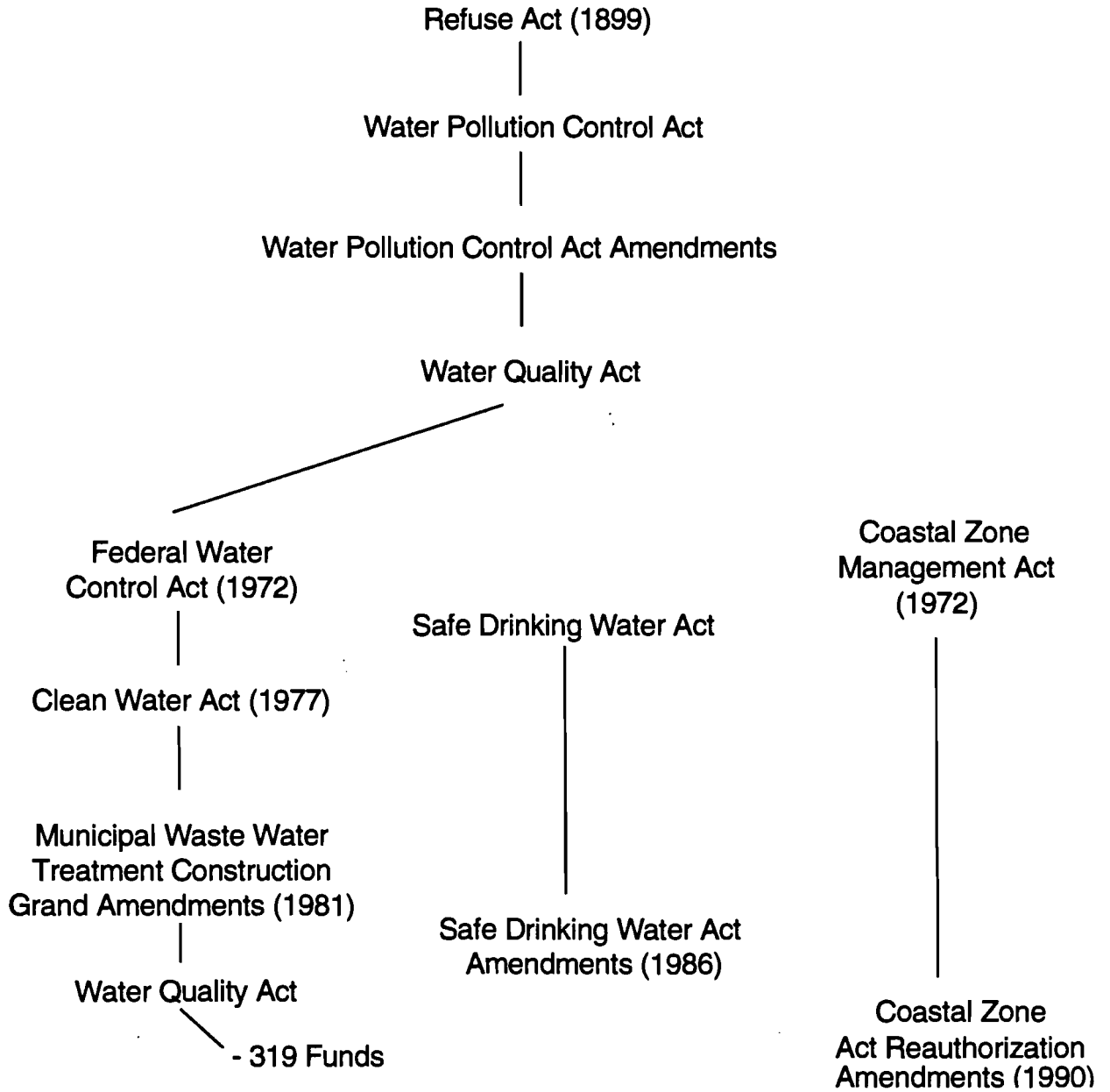
Early Legislation:

Refuse Act (RA: 1899) Primarily to protect navigation and prohibit discharge that would interfere with rivers at transportation links, indicating the magnitude of disposal into water at the turn of the century. The program was, however, not supported by Congress, and was therefore largely ineffectual.

¹Current information on the Coastal Zone Management Act is provided in G.L. Poe, "Background on the 1990 Coastal Zone Act Reauthorization Amendments". Department of Agricultural, Resource, and Managerial Economics Fact Sheet, Cornell University, Nov. 1994.

Figure 1.

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Water Pollution Control Act (WPCA: 1948) First attempt by the Federal government to exercise some influence over previous state and local functions. The Federal role now included authority for investigations, research, and surveys. The actions primarily acted to “encourage” water pollution control, as no Federal authority was established for setting water quality standards, limiting discharges, or engaging in any form of enforcement.

Water Pollution Control Act Amendments (WPCAA: 1956) This act provided a ‘bribe’ to states and municipalities by designating 55 percent Federal cost sharing for construction of municipal waste water treatment plants. It also established some minimal enforcement of interstate pollution. From the perspective of the current focus of water quality management at a watershed level, this Act created a management mechanism called the “enforcement conference.” If a serious water quality problem was identified in waters that crossed state boundaries, either the responsible Federal agency or the affected state governors could call for a conference of the affected Federal agencies, state and local officials, identified polluters, and other interested parties to negotiate clean-up plans. The reliance of the enforcement conference mechanism on discretionary authority, consensus, and volunteerism undermined the success of this program. The focus of this program was expanded in 1961 to include all navigable waters.

Water Quality Act (WQA: 1965) Ambient water quality standards were established for interstate water courses and states were required to file implementation plans to meet these standards. Importantly, state plans were to specify reductions in pollution discharges from individual sources. Unfortunately, implementation of this Act required establishing a linkage between individual polluters and water quality levels, calling for more data than could typically be generated then (and is still prohibitively expensive now). While the provisions of this act did not have a large effect on water quality, the WQA reflected a philosophical change in the focus of Federal legislation. Whereas previous acts focused on eliminating discharges that potentially threatened human health through contamination of drinking water and food resources, the WQA and subsequent legislation demonstrated an increased concern about protecting ecological values and in-stream water uses, such as swimming and fishing.

Subsequent “Clean Water” Acts:

Federal Water Pollution Control Act (FWPCA: 1972) Sparked by a series of water quality incidents across the nation, the FWPCA optimistically established national goals of eliminating discharges of pollutants into navigable waters by 1985 and of attaining fishable and swimmable waters by 1983. Focus was on technology rather than water quality effects, and thus alleviated the burden of defining cause and effect in establishing regulations. The orientation of the Act was toward point sources. Indeed, the EPA was not given specific authority for

regulating nonpoint pollution, which was still regarded by Congress as a state responsibility. At the same time the Act encouraged controlling nonpoint pollution by providing Section 208 grants for initiation and implementation of state-based nonpoint pollution programs, many of which were designed but never implemented because of lack of supporting funds.

Section 402 of the FWPCA also marked a change in procedures under this provision. States were required to develop an Environmental Protection Agency approved permit process under the State Pollutant Discharge Elimination System (SPDES), or to be subject to a National Pollutant Discharge Elimination System (NPDES). Some farms (e.g., dairy farms with more than 700 head) and agricultural practices (confirmed irrigation return flows) are subject to such permit requirements, but the majority of agricultural practices relating to water quality are excluded from such permitting requirements.

Clean Water Act (CWA: 1977) Extended deadlines and better defined types of pollutants. Focused on toxic substances and postponed original deadlines for meeting water quality objectives.

Municipal Waste Water Treatment Construction Grand Amendments

(MWWTCGA: 1981) Involved minor changes in cost sharing of municipal waste treatment and allocation of funds. Further postponed original deadlines.

Water Quality Act (WQA: 1987) Continued Federal dedication to cost sharing of municipal wastewater treatment and again postponed deadlines for compliance with effluent standards. Established new requirements and funding (CWA 319) for states to develop and implement nonpoint source pollution control. The declarations and goals of the Clean Water Act were amended to add the following fundamental principle:

It is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this Act to be met through the control of both point and nonpoint sources of pollution.

Specifically, Section 319 required each state to: (1) identify navigable waters that, without government action to control nonpoint sources of pollution, cannot be reasonably expected to maintain applicable water quality standards or goals; (2) identify nonpoint sources that add significant amounts of pollution to affected waters; and (3) develop a nonpoint source water pollution plan on a watershed-by-watershed basis. In New York, 319 funding supported County Water Quality Coordinating Committees and subsequent nonpoint pollution plans.

The Clean Water Act was slated for reauthorization in 1994. Various draft proposals and legislative initiatives were introduced, but did not leave committee. Because some of the debate focused on fundamental differences and goals, including property rights issues and how to address nonpoint pollution sources, it is now uncertain when the CWA will be reauthorized. There is much speculation

among the agricultural policy community whether future revisions to the CWA or the 1995 Farm Bill will take leadership in setting the agenda for agricultural water pollution policies.

Safe Drinking Water Acts:

Safe Drinking Water Act (SDWA: 1974) It was recognized that the Clean Water Act was targeted towards fishing and swimming, and that more stringent standards were needed for community water systems. The SDWA set maximum allowable concentrations for bacteria, turbidity (muddiness), and several dozen chemical-radiological contaminants for community water systems with 15 service connections or that regularly serve at least 25 individuals. To enforce these standards, the SDWA required monitoring of community systems.

Safe Drinking Water Act Amendments (SDWAA: 1986) Required EPA to establish standards for 83 more contaminants and for 25 additional contaminants every three years. Established surface water treatment rules and criteria for avoiding filtration requirements, which motivated filtration avoidance in New York City and in a few of the other watersheds in the nation that do not filter surface waters.

Versions of the SDWA were passed by the House (HR 3392) and the Senate (S 2019) in 1994, yet a final compromise package was not reached before the

close of Congress. It is now not certain whether compromise and reauthorization will be pursued in 1995. Among other issues that blocked a final resolution were property rights and the balancing of benefits and costs for water treatment, especially for small systems.

Coastal Zone Management Act:

Coastal Zone Management Act (CZMA: 1972) Provided federal funds (CZMA 306) to assist states in voluntarily developing programs to protect and manage coastal resources and the Great Lakes. The focus of the Act was on managing “important” coastal resources such as dunes, wetlands, beaches, barrier islands, coral reefs, and fish and wildlife habitats. Enforcement and management measures were limited to the practices immediately adjacent to the resources themselves.

Coastal Zone Act Reauthorization Amendments (CZARA: 1990) Recognized the linkages between water quality and coastal resources. The reauthorization amendments shifted from the immediate coastal zone to include coastal watersheds that extend inland along river systems. Additionally states were required to implement and enforce management measures defined by the EPA, or eventually lose CWA 319 and CZMA 306 funds. CZARA reflected completion of the philosophical shift towards nonpoint pollution management started with the 1987 Water Quality Act. It also signals an intent to manage pollution on a

watershed level, and to require enforceable management measures for nonpoint pollution sources.

Materials for this bulletin were taken from supporting documents for the various acts, and the following sources:

T. Tietenberg, "Water Pollution", Chapter 18 in Environmental and Resource Economics (3rd ed.), Harper Collins Publishers, NY, 1992.

A. M. Freeman, III, "Water Pollution Policy", Chapter 5 in P.R. Portney, ed. Public Policies for Environmental Protection, Resources for the Future, 1992.

New York State Department of Environmental Conservation, 1993. Summary Report: Priority Water Problem List, Dec. 1993.

OTHER A.R.M.E. EXTENSION BULLETINS

No. 94-23	Farm Income Tax Management and Reporting Reference Manual	George L. Casler Stuart F. Smith
No. 94-24	Dairy Farm Business Summary New York Large Herd Farms, 300 Cows or Larger 1993	Jason Karszes Stuart F. Smith Linda D. Putnam
No. 94-25	New York Economic Handbook 1995 Agricultural Situation and Outlook	A.R.M.E. Staff
No. 94-26	Census of Agriculture Highlights New York State, 1992	W. Knoblauch L. Putnam B. Stanton N. Merrill
No. 94-27	Fruit Farm Business Summary Lake Ontario Region New York 1993	Gerald B. White Alison DeMarree Linda D. Putnam
No. 94-28	Category Management: Current Status and Future Outlook	Edward W. McLaughlin Gerald F. Hawkes
No. 95-01	Pro-Dairy Financial Data Collection Workbook	Stuart F. Smith Linda D. Putnam
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No. 95-03	Micro DFBS A guide to Processing Dairy Farm Business Summaries in County and Regional Extension Offices for Micro DFBS Version 3.1	Linda D. Putnam Wayne A. Knoblauch Stuart F. Smith
No. 95-04	DFBS Expert System For Analyzing Dairy Farm Businesses Users' Guide for Version 5.0	Linda D. Putnam Stuart F. Smith
No. 95-05	The Evolution of Milk Pricing and Government Intervention in Dairy Markets	Eric M. Erba Andrew M. Novakovic