

Innovations in Nonpoint Source Pollution Policy: Introduction

John B. Braden and Kevin J. Boyle

JEL Classifications: K32, Q15, Q53

Keywords: Agriculture, Clean Water Act, Nonpoint Source Pollution, Stormwater Water Quality, Water Quality Trading

The recent 40th anniversary of the U.S. Clean Water Act (CWA) of 1972 was cause for celebration. Significant water quality improvements have been achieved as a direct result of that legislation. However, vexing water quality challenges remain, particularly those due to the management of land. This issue of *Choices* reflects on innovative approaches to addressing these “nonpoint sources” of pollution.

This issue was organized by the Natural Resources and Environmental Issues Blue Ribbon Panel of the Council on Food, Agriculture, and Resource Economics (<http://www.cfare.org/>). Affiliated with the Agricultural and Applied Economics Association, C-FARE supports public and private decision making on agricultural, rural, environmental, food safety and related societal issues.

The CWA nationalized the regulation of surface water quality, establishing the legal framework governing water pollution control in the United States to this day. Unlike pollution from industry, autos, and municipalities, contaminants from nonpoint sources were and remain largely exempted from federal and state regulation. These pollutants can concentrate in surface waters, diminishing aesthetic and recreational values, raising costs of treating water for drinking and industrial uses, diminishing stream and reservoir ecosystems, and creating nutrient-induced dead zones like those in the Gulf of Mexico, the Chesapeake Bay, and elsewhere along the Atlantic and Pacific coasts. Many of the remaining water quality problems in the United States are due to pollution from nonpoint sources. Federal and state authorities have tried to reduce pollution from nonpoint sources through voluntary programs offering incentives and assistance, but these programs have been

Articles in this Theme:

Addressing Death by a Thousand Cuts: Legal and Policy Innovations to Address Nonpoint Source Runoff

State Level Efforts to Regulate Agricultural Sources of Water Quality Impairment

Local Innovations in Water Protection: Experiments with Economic Incentives

Integrated Modeling for Conservation Policy Support

A Tale of Many Cities: Using Low-Impact Development to Reduce Urban Water Pollution

U.S. Coastal and Estuarine Stormwater Management Approaches

Innovations in Nonpoint Source Pollution Policy—European Perspectives

no match for the scope of the problem and, in some cases, may have exacerbated it.

The 40th anniversary of the CWA is also an occasion for sober anticipation. Congress seems unlikely to enact new measures to address nonpoint source pollution. At the same time, market pressures are high for land use intensification to produce more food, fiber, biofuels, and urban growth. Progress in containing the environmental effects of intensive land uses is likely to depend on innovative new programs and strategies, many originating at state, tribal,

and local levels, in other countries, or even within private supply chains.

This issue of *Choices* helps advance policy discussions on reducing harmful effects of nonpoint source pollution. The contributors describe and assess emerging innovations in its management and control.

Lara Fowler, Jamison Colburn, and Matthew Royer show how regulations under the CWA are being adapted to focus on basin-wide objectives, allow flexibility and state leadership in addressing individual dischargers, and extending authorities over stormwater and animal waste management. Cathy Kling reviews state-level initiatives surrounding nutrient pollution and, in particular, highlights Florida's successful regulatory efforts directed at nonpoint sources affecting the Everglades. Lisa Wainger and James Shortle report that a regulatory innovation—shifting from discharge

limits to group caps on loading within a river basin—has enabled significant trading and cost-savings between point sources but few successes involving nonpoint sources. They view administered trading and pay-for-performance systems as the most promising approaches to control nonpoint source pollution. Sylvia Secchi discusses the application and contributions of a new-generation of integrated analytical tools to support policy innovations. Amy Ando and Noelwah Netusil report on new approaches to urban stormwater management emphasizing decentralized green infrastructure. Sara Aminzadeh, Linwood Pendleton, Sean Bothwell, Amy Pickle, and Ali Boehm discuss product bans, land acquisition, and financial incentives being used by states and local governments to reduce pollution to coastal waters. Finally, Jussi Lankoski and Markku Ollikainen review environmental conditionality

within Europe's agricultural policy framework, required actions under the European Community's environmental directives, and Europe's mixed experience with financial incentives to manage nutrients.

Together, these papers present the state-of-the-art-in nonpoint source pollution policy and analysis. While the practical and political challenges are great, the experimentation described in these papers is encouraging.

John B. Braden (jbb@illinois.edu) is Professor Emeritus, Department of Agricultural & Consumer Economics, University of Illinois at Urbana-Champaign. Kevin J. Boyle (kjboyle@vt.edu) is Professor and Director, Program in Real Estate, Virginia Tech, and Chair, C-FARE Blue Ribbon Panel on Natural Resources and Environmental Issues. This contribution is supported in part by USDA-NIFA Hatch projects #ILLU-470-316 and #ILLU-470-323.