

STRANGE WATERSHED BEDFELLOWS? WILL THE
EPA'S WATER QUALITY TRADING POLICY
ENCOURAGE UNLIKELY CLEAN WATER ALLIANCES?

INTRODUCTION

In the Chesapeake Bay, blue crabs cling “with death grips to the inside of . . . metal cages, trying desperately to escape the oxygen-poor water,”¹ while the State of Maryland is faced with a severe budget crunch and the inability to devote substantial additional state resources to improve the Chesapeake Bay.² A report by the Chesapeake Bay Program, a watershed partnership program supported by the EPA, states that “[a]ccording to data gathered between July 7 and 9, 2003, approximately [forty] percent of the water in the mainstream of Chesapeake Bay had low dissolved oxygen levels . . . causing stressful conditions for many species of fish and shellfish.”³ A newspaper editorial declared that “oxygen levels in the water have dropped too low to sustain marine life. Fish are dying, oysters are disappearing . . .”⁴ Other dramatic observations made in 2003 include watermen watching crabs “scramble atop cork buoys to gulp air” and “crab jubilees,” where “crabs scramble onto beaches and jetties to avoid choking in oxygen-starved waters.”⁵ Above average levels of algae blooms, blue-green algae and aquatic weeds have appeared throughout the watershed, a further indication of lower water quality in 2003 than recent years, and evidencing increased nutrient and sediment loads in the bay resulting from rain runoff.⁶

What is the solution to environmental challenges such as the low water quality in the Chesapeake Bay? Does the EPA's water quality trading policy have any likelihood of helping to improve those conditions, and is the policy likely to succeed in the long run? An analysis of the parties or interest groups involved, from a public choice perspective, suggests that the policy is likely to succeed, with several caveats. The policy takes ad-

¹ Anita Huslin, *Pollution, Algae Leave Chesapeake Life Gasping*, WASH. POST, Aug. 7, 2003, at B1 [hereinafter Huslin, *Pollution*].

² Maryland was noted as one of only nine states to have declining revenues in both 2002 and 2003, according to the National Conference of State Legislatures. FISCAL AFFAIRS PROGRAM, NAT'L CONFERENCE OF STATE LEGISLATURES, STATE BUDGET & TAX ACTIONS (2003) (on file with author).

³ CHESAPEAKE BAY PROGRAM, BACKGROUND: SUMMER 2003 OXYGEN LEVELS IN CHESAPEAKE BAY (2003), available at http://www.chesapeakebay.net/pubs/low_do_background.pdf.

⁴ Editorial, *Suffocating the Bay*, WASH. POST, Aug. 10, 2003, at B6.

⁵ Huslin, *Pollution*, *supra* note 1.

⁶ *Id.*

vantage of current political and judicial trends related to federalism,⁷ and is assumed to be an efficiency improvement over the current system, but it is not yet clear whether the critical mass of involved parties will ensure the institutional long-term success of the policy.

Compared with traditional federal regulatory environmental enforcement methods, the EPA's water trading policy is potentially more effective, more easily expandable, and utilizes existing legal institutions, such as common law nuisance and contract rights, for enforcement. To ensure that the policy operates effectively, it may be necessary to market, train, and coordinate initial high profile local efforts to help demonstrate the benefits of this alternative solution to environmental improvement. A new role for the EPA is also suggested—that of a trusted third-party measurement and compliance consultant, rather than primary enforcer of environmental quality.

Section I of this comment will address the history of federal regulation of water quality, beginning with the 1948 Federal Water Pollution Control Act and continuing through the current version of the Clean Water Act, and the recent EPA Water Quality Trading Policy. Federal regulation in the context of recent federalism trends will then be discussed, with consideration of economic and political factors driving the trends toward, and away from, federal centralization of regulation.

The historical and current role of the common law in the regulation of water quality will be addressed in Section II, with discussions of pre-statutory regulation common law, public and private nuisance, riparian rights, and the possibility of statutory preemption of common law solutions.

In Section III, I will discuss theories of “public choice,” with an emphasis on theories of political interest groups. “Bootleggers & Baptists,” a theory developed by Professor Bruce Yandle, will be addressed to explain some of the ways political alliances are formed. A brief discussion of government failures, the tragedy of the commons, and alternative institutions for dealing with common pool resources will follow.

Section IV will analyze the EPA's water quality trading policy from a perspective of public choice, highlighting the political economy of interest groups, alliances, and the building of sustainable institutions. In Section V, I will recommend some specific ways to improve the chances of success for the EPA Water Quality Trading Policy to create a well-functioning, sustainable system for controlling water pollution. A new role for the EPA—that of a water quality consultant, will be discussed, as well as the role of early involvement with various interest groups to develop public

⁷ For a discussion of federalism and environmental regulation, see *infra* Part I.C.

support and awareness of the potential improvements the new institutions can provide. I will make concluding comments in the final section.

I. BACKGROUND: FEDERAL REGULATION OF WATERSHED WATER QUALITY

Water quality was generally a state responsibility prior to World War II, with several states establishing regulatory authorities in the early 1900s.⁸ This section will begin with a discussion of the evolution of the Clean Water Act, beginning with the 1948 Federal Water Pollution Control Act,⁹ continuing up through the 1987 Clean Water Act amendments,¹⁰ and the recently announced EPA Water Quality Trading Policy. Apparent successes and failures of the Clean Water Act will then be addressed, followed by a discussion of the issue of federalism and how it is relevant to federal water quality regulation.

A. *Background: The Clean Water Act*

1. 1948—The Beginning of National Water Quality Policy

The Clean Water Act (CWA) has seen a number of permutations over the years, beginning with the 1948 Federal Water Pollution Control Act.¹¹ This act created a federal role for local water pollution control, which was the exclusive domain of states and localities.¹² This first version of the CWA utilized a system of ambient water quality-based standards developed by the states.¹³ Each state determined the primary use of various bod-

⁸ For a historical discussion of water quality regulation, see Roger E. Meiners et al., *Burning Rivers, Common Law, and Institutional Choice for Water Quality*, in *THE COMMON LAW AND THE ENVIRONMENT, RETHINKING THE STATUTORY BASIS FOR MODERN ENVIRONMENTAL LAW* 54 (Roger E. Meiners & Andrew P. Morris eds., 2000).

⁹ Federal Water Pollution Control Act, Pub. L. No. 80-845, 62 Stat. 1155 (codified as amended at 33 U.S.C. §§ 1251-1387 (2000)); see also Meiners et al., *supra* note 8, at 75; Lisa E. Roberts, Note, *Is the Gun Loaded This Time? EPA's Proposed Revisions to the Total Maximum Daily Load Program*, 6 ENVTL. LAW. 635, 635 n.1 (2000).

¹⁰ Water Quality Act of 1987, Pub. L. No. 100-4, 101 Stat. 7 (codified as amended at 33 U.S.C. §§ 1251-1387 (2000)).

¹¹ Federal Water Pollution Control Act, Pub. L. No. 80-845, 62 Stat. 1155 (codified as amended at 33 U.S.C. §§ 1251-1387 (2000)); see also Roberts, *supra* note 9, at 635 n.1.

¹² Meiners et al., *supra* note 8, at 64-76; see also Roberts, *supra* note 9, at 638-39.

¹³ Federal Water Pollution Control Act, Pub. L. No. 80-845, ch. 758, § 2, 62 Stat. 1155, 1155-57

ies of water, set relevant standards for each body of water, and was responsible for meeting such standards by reducing harmful discharges.¹⁴ The program was replaced in 1972, with the recently created EPA administering a uniform system of pollution control.¹⁵

2. 1972—Congress Gets Idealism

Congress amended the original CWA in 1972, declaring the goal of eliminating all pollutant discharges by 1985, and making all waters in the U.S. safe for swimming, indigenous fish, and other wildlife by 1983. They also outlawed all pollution discharges (in toxic concentrations).¹⁶ This law signaled a move to technology-based standards, placing specific limits on the level of discharged nutrients or pollutants from specific point sources¹⁷ (e.g., a factory, sewage treatment plant)¹⁸ while nonpoint sources were unregulated.¹⁹ The 1972 CWA required discharge limits to be met using prevailing pollution-control technologies specific to the discharger's industry, indicating a change from outcome-based standards to procedural standards (the limits had to be met using the technology the EPA mandated, and the EPA had the responsibility to set the standards at a reasonable level given the existing technologies).²⁰ Point source dischargers included direct dischargers into water bodies, indirect dischargers (those releasing effluents²¹ into publicly-owned sewage treatment plants), and publicly-owned

(repealed 1972).

¹⁴ Roberts, *supra* note 9, at 638-39.

¹⁵ Meiners et al., *supra* note 8, at 76.

¹⁶ Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, sec. 2, § 101(a), 86 Stat. 816, 816 (codified as amended at 33 U.S.C. § 1251(a) (2000)); Roberts, *supra* note 9, at 640.

¹⁷ A point source is defined in the CWA as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture." 33 U.S.C. § 1362(14) (2000).

¹⁸ Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, sec. 2, § 304(b), 86 Stat. 816, 851 (codified as amended at 33 U.S.C. § 1314(b) (2000)); Roberts, *supra* note 9, at 640-41.

¹⁹ Lawrence S. Bazel, *The Clean Water Act at Thirty: A Failure After All These Years?*, 18 NAT. RESOURCES & ENV'T 46, 46 (2003).

²⁰ Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, sec. 2, § 301, 86 Stat. 816, 844 (codified as amended at 33 U.S.C. § 1311 (2000)); Meiners et al., *supra* note 8, at 76; Roberts, *supra* note 9, at 640-41.

²¹ Effluent is defined as "[l]iquid waste that is discharged into a river, lake, or other body of water." BLACK'S LAW DICTIONARY 533 (7th ed. 1999).

sewage treatment plants.²² The 1972 CWA also established a National Pollution Discharge Elimination System (NPDES) to issue permits allowing point source discharges.²³ Additionally, the act required states to develop water classification systems for each stream or water body, similar to those required by the 1948 act, though the purpose in this case was to determine how to make each body of water swimmable and fishable.²⁴

3. TMDLs and the Modern CWA

While the 1972 CWA maintained both water quality and technology-based process standards, it also required states to apply water quality standards to waters within a state that did not meet water quality standards after following the technology-based standards.²⁵ States were required to prioritize waters that did not meet water quality standards for priority attention, considering the level of non-compliance with technology standards, and planned uses. After the waters were prioritized, the state was to establish total maximum daily loads (TMDLs) that would allow water quality standards to be met regardless of seasonal changes.²⁶ A TMDL is “an engineering determination of the maximum amount of pollution that can be discharged into a water without causing a violation of the standards that apply to that water.”²⁷ The TMDL requirement was designed as a backup if the point source controls failed, and states were supposed to use this calculation to estimate the amount of pollution “each water body can assimilate without exceeding its water quality standards” and then use that to allocate the discharge allowances among point sources.²⁸

The TMDL approach proved to be ineffective, was ignored by both individual states and the EPA for a number of years, and likely resulted in the 1987 CWA amendments, which returned water quality policy to a wa-

²² Roberts, *supra* note 9, at 641.

²³ Meiners et al., *supra* note 8, at 76; *see also* M.T. Maloney & Bruce Yandle, *Building Markets for Tradable Pollution Rights*, in *WATER RIGHTS: SCARCE RESOURCE ALLOCATION, BUREAUCRACY, AND THE ENVIRONMENT 301-05* (Terry L. Anderson ed., 1983).

²⁴ Meiners et al., *supra* note 8, at 76.

²⁵ Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, sec. 2, § 303(d)(1)(A), 86 Stat. 816, 848 (codified as amended at 33 U.S.C. §1313(d)(1)(A) (2000)); Roberts, *supra* note 9, at 641 n.41.

²⁶ Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, sec. 2, § 303(d)(1)(A), 86 Stat. 816, 848 (codified as amended at 33 U.S.C. §1313(d)(1)(A) (2000)); Roberts, *supra* note 9, at 641 n.42-43.

²⁷ Bazel, *supra* note 19, at 47.

²⁸ Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, sec. 2, § 303(d)(1)(A), 86 Stat. 816, 848 (codified as amended at 33 U.S.C. §1313(d)(1)(A) (2000)); Roberts, *supra* note 9, at 642 n.49.

ter quality-based set of standards from technology-based standards.²⁹ In 1987, Congress, admitting that technology-based approaches alone were unsuccessful at cleaning up polluted waterways, amended the CWA again, and the result is the current CWA.³⁰ Some scholars and experts believe that the current version of the CWA represents a compromise position between competing interests that will be nearly impossible to amend in any significant way in the near future.³¹

In 1999, the EPA proposed substantial changes to the TMDL and NPDES (permitting) process.³² The proposed changes were an attempt to effectively incorporate TMDLs into the EPA's water quality management strategy. The proposal would require states to rank waters into specific categories, then develop an implementation plan for meeting the TMDL standards within that water body, with a fifteen-year deadline imposed.³³ The proposal also included "offsets," which allow a point source to increase its discharges if another existing source decreases its output.³⁴ The substantial regulatory proposal was later withdrawn.³⁵ Although the policy allowed offsets, thus encouraging trading, it continued to also require regulatory compliance, and was rejected by some as being too onerous and not responsive enough to local conditions.³⁶

4. EPA Water Quality Trading Policy

On January 13, 2003, the EPA issued their final statement on their Water Quality Trading Policy.³⁷ As described by the EPA, "water quality

²⁹ Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, sec. 2, § 303(d)(1)(A), 86 Stat. 816, 848 (codified as amended at 33 U.S.C. §1313(d)(1)(A) (2000)); Roberts, *supra* note 9, at 642-45.

³⁰ Water Quality Act of 1987, Pub. L. No. 100-4, 101 Stat. 7 (codified as amended at 33 U.S.C. §§ 1251-1387 (2000)); JACKSON B. BATTLE & MAXINE I. LIPELES, WATER POLLUTION 13, 21 (3d ed. 1998); Roberts, *supra* note 9, at 642-45 nn.75-77.

³¹ Interview with Bruce Yandle, Alumni Distinguished Professor of Economics, Clemson University, Arlington, Va. (Nov. 5, 2003).

³² See 64 Fed. Reg. 46,012, 46,046 (Aug. 23, 1999).

³³ *Id.*; see also ROGER E. MEINERS & BRUCE YANDLE, MERCATUS CENTER, PUBLIC INTEREST COMMENT ON THE ENVIRONMENTAL PROTECTION AGENCY'S PROPOSED CHANGES TO THE TOTAL MAXIMUM DAILY LOAD (TMDL) PROGRAM AND TO THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) AND WATER QUALITY STANDARDS (WQS) REGULATIONS (2000), available at <http://www.mercatus.org/pdf/materials/104.pdf>.

³⁴ See 64 Fed. Reg. 46,012 (Aug. 23, 1999).

³⁵ See SUSAN DUDLEY, MERCATUS CENTER, WITHDRAWAL OF TMDL WATER QUALITY PLANS (2003), available at <http://www.mercatus.org/pdf/materials/59.pdf>.

³⁶ *Id.*

³⁷ Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1610-11 (Jan. 13, 2003) (issued by the EPA).

trading is a market-based approach to improve and preserve water quality."³⁸ The policy "describes ways that water quality trading programs may be aligned with the Clean Water Act and implementing regulations, and describes elements of environmentally sound trading programs."³⁹ The policy is designed to encourage point source or nonpoint source dischargers to reduce their effluents beyond the regulatory water quality standards, thus creating credits which can be traded or sold either to others subject to regulation in that watershed, or to those who may wish to retire⁴⁰ the credit.⁴¹

The EPA issued this policy under the belief that "the CWA provides authority for EPA, states and tribes to develop a variety of programs and activities to control pollution, including trading programs."⁴² The policy statement goes on to explain that "[w]ater quality trading is a voluntary, incentive-based approach that can offer greater efficiency in restoring or protecting water bodies. Trading allows a source to meet its regulatory obligations by using pollutant reductions created by another party with lower pollution control costs."⁴³ The policy is based on a watershed approach, treating each separate watershed (or "defined area for which a TMDL has been approved") as a distinct market for tradable water quality permits.⁴⁴

The EPA justifies the policy by describing gaps in effectiveness of the current regulatory structure of the Clean Water Act, explaining that "approximately 40% of the rivers, 45% of the streams, and 50% of the lakes that have been assessed [about one-third of national waters have been assessed] still do not support their designated uses."⁴⁵ Nonpoint sources, such as agriculture and storm water runoff, are recognized by the EPA as ongoing threats to water quality that are not addressed in current regulations. The agency suggests that only innovative approaches, such as water quality

³⁸ EPA, Fact Sheet on Final Water Quality Trading Policy (Jan. 13, 2003) [hereinafter EPA, Fact Sheet], at <http://www.epa.gov/owow/watershed/trading/2003factsheet.pdf>.

³⁹ Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1610-11 (Jan. 13, 2003) (issued by the EPA).

⁴⁰ Retiring a credit would consist of purchasing the credit with the intention that no party in the watershed would be allowed to discharge nutrients or pollutants into the watershed. Environmental groups would be free to purchase these credits from those holding them. *See id.*

⁴¹ *Id.*

⁴² *Id.* at 1611.

⁴³ *Id.* at 1608.

⁴⁴ The EPA claims that "[e]stablishing defined trading areas that coincide with a watershed or TMDL boundary results in trades that affect the same water body or stream segment and helps ensure that water quality standards are maintained or achieved throughout the trading area and contiguous waters." *Id.*

⁴⁵ Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1609 n.2 (Jan. 13, 2003).

trading, will be able, in a growing economy, to make the gains necessary to improve water quality.⁴⁶ The EPA estimates the annual savings from a more flexible approach to water quality at \$900 million per year, out of total compliance costs of \$48 billion. A nitrogen-trading program among dischargers into Long Island Sound was cited as a working example of the cost savings.⁴⁷ These dischargers will save over \$200 million, while achieving the required TMDL reductions.⁴⁸

B. *Successes and Failures of the CWA*

Activities directly regulated under the Clean Water Act are generally improving, though at substantial costs.⁴⁹ Over time, the activities that have been subject to regulation have generally improved, such as an 80% reduction in the rate of wetlands loss during the decade of the 1990s, compared with the 1980s.⁵⁰ Additionally, nearly two-thirds of lakes and rivers were complying with clean water standards in 1990, compared with only half that proportion in 1972.⁵¹ These figures, however, should be taken with a grain of salt, since some measures of environmental quality were already improving substantially prior to passage of significant federal environmental regulation. For example, according to a 1990 report on air pollution, air quality increased by between 22 and 50 percent during the 1960s, depending on which measures of pollution are used.⁵² These improvements

⁴⁶ *Id.* at 1609.

⁴⁷ *Id.* at 1609 n.3; *see also* EPA, A RETROSPECTIVE ASSESSMENT OF THE COSTS OF THE CLEAN WATER ACT: 1972-1977 (2000) [hereinafter, EPA, RETROSPECTIVE ASSESSMENT].

⁴⁸ Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1609 n.3 (Jan. 13, 2003) (issued by the EPA); *see also* EPA, RETROSPECTIVE ASSESSMENT, *supra* note 47.

⁴⁹ Estimates of \$20 billion in annual costs to comply with clean water regulations and over \$60 billion per year in federal subsidies to wastewater treatment plants are examples of the costs imposed by the current system. BRUCE YANDLE, COMMON SENSE AND COMMON LAW FOR THE ENVIRONMENT, CREATING WEALTH IN HUMMINGBIRD ECONOMIES 76 (1997) [hereinafter YANDLE, COMMON SENSE].

⁵⁰ RONALD BAILEY, EARTH REPORT 2000: REVISITING THE TRUE STATE OF THE PLANET (2000); *see also* TERRY L. ANDERSON & DONALD R. LEAL, FREE MARKET ENVIRONMENTALISM (2001); EPA, DRAFT REPORT ON THE ENVIRONMENT 2-7 (2003) (describing an 80% reduction in the rate of wetlands loss during the 1990s, compared to the 1980s) [hereinafter EPA, DRAFT REPORT].

⁵¹ *See* COUNCIL ON ENVTL. QUALITY, ENVIRONMENTAL QUALITY: THE 22ND ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 187 (1992); COUNCIL ON ENVTL. QUALITY, ENVIRONMENTAL QUALITY: THE 5TH ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 286 (1974); *see also* Michael P. Vandenberg, *The Social Meaning of Environmental Command and Control*, 20 VA. ENVTL. L.J. 191, 193-94 n.9 (2001).

⁵² PAUL R. PORTNEY, AIR POLLUTION POLICY: IN PUBLIC POLICIES FOR ENVIRONMENTAL PROTECTION (1990); *see also* YANDLE, COMMON SENSE, *supra* note 49, at 77; INDUR GOKLANY, CLEARING THE AIR: THE REAL STORY OF THE WAR ON AIR POLLUTION (1999); Indur Goklany, *Empirical Evidence Regarding the Role of Nationalization in Improving U.S. Air Quality*, in THE

were occurring prior to the passage, in 1970, of the Clean Air Act, which substantially expanded federal regulation of sources of air pollution.⁵³

While there remain some problems of compliance among directly regulated point sources (such as industrial sewage treatment plants),⁵⁴ many of the remaining sources of pollutants and excess nutrients are “numerous small, diffuse, nonpoint sources,” mostly urban and agricultural runoff.⁵⁵ These sources are the ones that appear to have the greatest promise for low cost efficiency gains today, as claimed by the EPA in a press release announcing the implementation of the EPA's water quality trading policy.⁵⁶ The EPA described “an independent study of three watersheds in Minnesota, Michigan and Wisconsin [which] looked at the cost of controlling phosphorous loadings.”⁵⁷ The study “found that the cost of reducing phosphorous from controlling point sources—traditional pipe-in-the-water dischargers regulated by the Clean Water Act—[were] considerably higher than those based on trading between point and nonpoint sources which are not regulated by the Clean Water Act.”⁵⁸ The new water quality trading policy⁵⁹ addresses this issue by encouraging nonpoint source nutrient dischargers to opt-into the regulatory system, though they are currently outside the scope of the regulatory regime.⁶⁰

Despite dramatic improvements in the environmental conditions of activities regulated by the federal government,⁶¹ the quality of some of the

COMMON LAW AND THE ENVIRONMENT, RETHINKING THE STATUTORY BASIS FOR MODERN ENVIRONMENTAL LAW (2000) (showing steadily improving air quality starting in the 1950s and 1960s, before the Clean Air Act was passed).

⁵³ Clean Air Amendments of 1970, 91 Pub. L. No. 604, 84 Stat. 1676 (codified as amended at 42 U.S.C. §§ 7401-7661 (2003)).

⁵⁴ The EPA has estimated a 27% non-compliance rate for water permits by point sources, while they estimate 74% of automotive service and repair shops are not complying with hazardous waste regulations. See EPA, ENFORCEMENT AND COMPLIANCE ASSURANCE: FY98 ACCOMPLISHMENTS REPORT 8-9, 39, 42 (1999); see also Vandenberg, *supra* note 51, at 195-96 n.23-27.

⁵⁵ Vandenberg, *supra* note 51, at 196.

⁵⁶ EPA, *EPA Releases Innovative Approach to Cleaner Water, 11 Pilots Receiving More than \$800,000 in Funding*, (Jan. 13, 2003) at <http://yosemite.epa.gov/opa/admpress.nsf/b0789fb70f8ff03285257029006e3880/7f1b0616de4dc2a285256cad006a60a7!OpenDocument>.

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1610-11 (Jan. 13, 2003).

⁶⁰ This is especially important regarding nutrient discharges, which are responsible for conditions such as high levels of algae, and lower oxygen levels in water. According to the EPA, “40 percent of estuarine waters—as measured by surface area—are degraded by excess nutrients.” EPA, DRAFT REPORT, *supra* note 50, at 2-6; see also EPA, NATIONAL COASTAL CONDITION REPORT (2001).

⁶¹ According to the EPA, (regarding the Chesapeake Bay) “between 1985 and 2000, nutrient loads delivered to the bay decreased significantly: annual phosphorous loads decreased by 8 million pounds per year; and annual nitrogen loads decreased by 51 million pounds per year.” EPA, DRAFT

nation's rivers, lakes, and oceans is in desperate need of improvement.⁶² Nonpoint source polluters, and those releasing nutrients into waterways,⁶³ have had few formal incentives to contribute to improved water quality.⁶⁴ The EPA's water quality trading policy⁶⁵ recognizes that fact, and encourages the development of incentives for nonpoint source polluters and point source polluters to reduce their output of nutrients and pollutants into waterways beyond the formal regulatory requirements. This approach, with its potential to improve water quality at a much lower cost than current policies, without substantial additional public funding sources is especially important during times of budget shortfalls. It has recently become clear that increased state and federal spending will not always be available, and even if they were, would likely be ineffective⁶⁶ in cleaning the waterways in need of help most.⁶⁷

REPORT, *supra* note 50, at 2-22; *see* EPA, Chesapeake Bay Program, Phase 4.3 Watershed Model, at <http://www.epa.gov/indicators/roe/html/roePDF.htm> (last updated July 2002).

⁶² For example, the EPA reports that 40% of estuaries in 1998 had high levels of eutrophic condition, described as waters with a high rate of algal production. EPA, DRAFT REPORT, *supra* note 50.

⁶³ Nonpoint sources are those, such as individual agriculture producers, and individual citizens, that are not directly regulated by EPA or other environmental regulatory bodies. Traditionally, they have been difficult to monitor. Audits in the Tar-Pimlico region have found that point sources were responsible for only 28% of nitrogen and 8% of the phosphorous discharged into the waterways. BRUCE YANDLE & BRIAN MANNIX, MERCATUS CENTER, PUBLIC INTEREST COMMENT ON THE ENVIRONMENTAL PROTECTION AGENCY'S PROPOSED WATER QUALITY TRADING POLICY 7 n.15 (2002), *available at* <http://www.mercatus.org/pdf/materials/56.pdf>. The rest were from nonpoint sources, with an estimated 44% of the two nutrients coming from agriculture and livestock sources. *Id.*; *see also* ELAINE JACOBSON ET AL., N.C. STATE UNIV., THE TAR-PAMLICO RIVER BASIN NUTRIENT TRADING PROGRAM (1994), *available at* <http://www.bae.ncsu.edu/bae/programs/extension/arep/tarpam.html>.

⁶⁴ Charles McC. Mathias, *Turning the Tide on the Chesapeake*, WASH. POST, July 6, 2003, at B8. Mr. Mathias, former U.S. Senator from Maryland, expressed the prevailing view that "governors, county executives and heads of federal agencies have the day-to-day responsibilities of protecting and restoring the Chesapeake Bay." *Id.* He also explained that "compliance with the bay program has been almost entirely voluntary. The alternative is regulation, such as the requirement that municipalities treat their sewage or that cars be equipped with catalytic converters." *Id.* He concludes that "[w]e may have to add this tool [regulation] more forcefully to our effort to save the bay." *Id.*

⁶⁵ Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1610-11 (Jan. 13, 2003).

⁶⁶ William K. Reilly, the former Environmental Protection Agency (EPA) administrator has indicated that "environmental agenda-setting by episodic panic" resulted in "misallocating large amounts of money." Keith Schneider, *New View Calls Environmental Policy Misguided*, N.Y. TIMES, Mar. 21, 1993, at A1; *see also* Roger Meiners & Bruce Yandle, *Common Law and the Conceit of Modern Environmental Policy*, 7 GEO. MASON L. REV. 923 (1999) [hereinafter Meiners & Yandle, *Conceit*]. Additionally, following a review of U.S. environmental protection, a report by Resources for the Future concluded "the pollution control regulatory system is deeply and fundamentally flawed." J. CLARENCE DAVIES & JAN MAZUREK, *REGULATING POLLUTION 2* (1997).

⁶⁷ The State of Maryland is instructive. The mere threat to large chicken farms of "having to take responsibility for . . . manure" encouraged Perdue farms to launch Agricycle, a commercial venture that

C. *Federalism's Role in Environmental Policy*

One definition of federalism is “a division of government between centralized functions and those programs more efficiently provided locally.”⁶⁸ Reflective of a general national mood, federal environmental regulation increased dramatically from the late 1960s to the mid-1970s.⁶⁹ This trend was driven primarily by social and economic forces, since many theories of efficiency suggested environmental externalities could be best dealt with through federal regulation.⁷⁰ However, by the mid-1980s, a reversal seemed to be under way.⁷¹ There was a realization that some federal programs weakened state-level innovation, and that many programs with lofty goals were not succeeding in their stated objectives.⁷² This section will discuss these trends briefly, and will also address the issue of whether environmental groups are more likely to be effective at a local or national level.⁷³

1. The Pendulum Swings Toward Washington, D.C.

The passage of the 1972 Clean Water Amendments was reflective of the nation's tone during the late 1960s and early 1970s.⁷⁴ Jonathan Adler has described a dramatic increase in federal environmental statutes from 1969-1976.⁷⁵ The list of environmental laws passed during those years included the National Environmental Policy Act (1969),⁷⁶ the Clean Air Act (1970),⁷⁷ the Clean Water Act (1972),⁷⁸ the Endangered Species Act

collects farmers' manure for free (they receive state subsidies to do so) and resells the waste as “raw fertilizer” or “commercial-grade soil additive.” Anita Huslin, *Manure Into Money, Fertilizer Eases Farms' Burden*, WASH. POST, Aug. 3, 2003, at C1 [hereinafter Huslin, *Manure*]. The company claims to have removed 173 million pounds of manure from the Delmarva area near the bay between 2001 and 2003 (the equivalent of one-quarter of the estimated 672 million pounds of excess fertilizer believed to be produced in the region each year). *Id.*

⁶⁸ Gordon Tullock, *Federalism*, in GOVERNMENT FAILURE: A PRIMER IN PUBLIC CHOICE 71 (2002).

⁶⁹ For discussion of this issue, see *infra* Part I.C.1.

⁷⁰ See *infra* Part I.C.1.

⁷¹ See *infra* Part I.C.3.

⁷² See *infra* Part I.C.3.

⁷³ See *infra* Part I.C.4.

⁷⁴ See Jonathan H. Adler, Comment, *The Green Aspects of Printz: The Revival of Federalism and Its Implications for Environmental Law*, 6 GEO. MASON L. REV. 573, 575 (1998).

⁷⁵ *Id.* at 576.

⁷⁶ 42 U.S.C. §§ 4321-4347 (2000); Adler, *supra* note 74, at 576.

⁷⁷ 42 U.S.C. §§ 7401-7661f (2000); Adler, *supra* note 74, at 576.

⁷⁸ 33 U.S.C. §§ 1251-1385 (2000); Adler, *supra* note 74, at 576.

(1973),⁷⁹ the Safe Drinking Water Act (1974),⁸⁰ the Federal Insecticide, Fungicide, and Rodenticide Act (1975),⁸¹ the Resource Conservation and Recovery Act (1976),⁸² and the Toxic Substances Control Act (1976).⁸³ The 1960s-1970s were decades of increased federal power and accomplishment—legislative and otherwise. From passage of the federal Voting Rights Act (1965),⁸⁴ to the federal government funded successful lunar mission (1965),⁸⁵ to the first Earth Day (1970),⁸⁶ these decades were a time of increased federal and environmental activism. Other examples of centralized regulation include the transition of wildlife regulation from the state to the federal level,⁸⁷ and fish and game regulation moving from state-level regulation to federal regulations.⁸⁸

2. Economic Factors Driving Federal Regulation

Some argue that regulations should be centralized because local regulation fails to account for economic externalities, and there is a fear that “undeveloped natural resources [will] become increasingly scarce as development proceeds across numerous jurisdictions,” even while economic and market integration cause more intensive spillover effects of both costs and benefits.⁸⁹ This results in an increase in the global or national value of undeveloped natural resources due to increased scarcity overall.⁹⁰ While this pattern of an increase in the value of undeveloped natural resources would appear to eventually lead to a decreasing rate of consuming these resources since the value of the undeveloped resource increases relative to

⁷⁹ 16 U.S.C. §§ 1531-1544 (2000); Adler, *supra* note 74, at 576.

⁸⁰ 42 U.S.C. §§ 300f-300j (2000); Adler, *supra* note 74, at 576.

⁸¹ 7 U.S.C. §§ 136-136y (2000); Adler, *supra* note 74, at 576.

⁸² 42 U.S.C. §§ 6901-6992k (2000); Adler, *supra* note 74, at 576.

⁸³ 15 U.S.C. §§ 2601-2671 (2000); Adler, *supra* note 74, at 576.

⁸⁴ See Voting Rights Act, Pub. L. No. 89-110, 79 Stat. 439 (codified as amended at 42 U.S.C. § 1973b(e) (2000)).

⁸⁵ According to the National Aeronautic and Space Administration (NASA), the first lunar landing occurred July 20, 1969. Apollo 11 Information, Kennedy Space Center, at <http://www-pao.ksc.nasa.gov/kscpao/history/apollo/apollo-11/apollo-11.htm> (last visited Feb. 1, 2005).

⁸⁶ Earth Day Network, How It All Began, at <http://www.earthday.net/about/history.stm> (last visited Feb. 1, 2005); see also Meiners & Yandle, *Conceit*, *supra* note 66, at 923.

⁸⁷ Jason Scott Johnston, *The Tragedy of Centralization: The Political Economics of American Natural Resource Federalism*, 74 U. COLO. L. REV. 487, 550-51 (2003).

⁸⁸ *Id.* at 551-57.

⁸⁹ *Id.* at 495.

⁹⁰ See *id.* Also note that this follows from basic economic theory, which holds that if demand is constant, and the supply of a good (in this case undeveloped land) decreases, the value of the good will increase, even though the quantity demanded declines.

other alternative uses of the land, the complicating factor is public ownership of these natural resources, especially a national sense of ownership.⁹¹

When the national “public” manages these resources, the local residents are unlikely to enjoy the full benefits, while they may shoulder a disproportionate share of the costs of preserving the undeveloped resource.⁹² Additionally, the valuation of the resource is uneven across the nation—areas with more undeveloped local resources will value them less than a nation that fears undeveloped resources nationally are disappearing.⁹³ When the benefits derived from developing that resource are “primarily local,” but the costs may be borne in part by others, there will be a localized incentive to develop the resource.⁹⁴ This circumstance could easily lead to pressures from more developed areas to develop a uniform regime of centralized development controls to prevent less developed regions from consuming valuable undeveloped land.⁹⁵ When this occurs, bargaining will often take place to preserve publicly held resources,⁹⁶ and the exercise becomes one of competing local and national interests.⁹⁷ During the 1960s and 1970s, it became clear that the national interests won that competition over control of natural resources.⁹⁸

However, once the federal system was put in place, and the outcome on environmental quality became apparent, doubters appeared regarding the wisdom of uniform, national standards over local natural resources.⁹⁹

3. The Pendulum Swings Away

A common evaluation of the recent era of national control over environmental quality posits that “[t]he experience of thirty years of intensive federal regulation of environmental risks has demonstrated the severe drawbacks of centralized environmental policy.”¹⁰⁰ Despite lofty goals

⁹¹ See Tullock, *supra* note 68, at 78-79.

⁹² Johnston, *supra* note 87, at 495.

⁹³ See Tullock, *supra* note 68, at 75-76 (discussing the role of competition in relation to local preferences).

⁹⁴ Johnston, *supra* note 87, at 495.

⁹⁵ *Id.*

⁹⁶ *Id.* at 592-93.

⁹⁷ See *id.* at 594-97.

⁹⁸ Adler, *supra* note 74, at 576.

⁹⁹ See Jonathan R. Macey & Henry N. Butler, *Federalism and the Environment*, in *THE COMMON LAW AND THE ENVIRONMENT, RETHINKING THE STATUTORY BASIS FOR MODERN ENVIRONMENTAL LAW* 158, 161 (2000).

¹⁰⁰ *Id.*; see also Todd J. Zywicki, *Industry and Environmental Lobbyists: Enemies or Allies*, in *THE COMMON LAW AND THE ENVIRONMENT, RETHINKING THE STATUTORY BASIS FOR MODERN ENVIRONMENTAL LAW* 185 (2000); Tullock, *supra* note 68, at 71-79.

during the era of centralization, the “‘command-and-control’ regulatory strategy . . . has not set intelligent priorities, . . . has discouraged environmentally superior technologies, and it has imposed unnecessary penalties on innovation and investment.”¹⁰¹ The importance of having competition among localities, and allowing individuals to “vote with their feet,” also became apparent during this time.¹⁰²

The U.S. Supreme Court was also beginning to turn toward a theory of federalism giving more power to the states. During the period of centralization, some argued that the U.S. Supreme Court’s “blind adherence to the goal of national market integration has led it [in the past] to invalidate successful state-level natural resource protection programs entirely unrelated to interstate trade but that provided a realistic and effective alternative to federalization.”¹⁰³ On the other hand, recently the comment has been made that the U.S. Supreme Court’s “recent Commerce Clause opinions . . . suggest that general regulation of local land use may exceed Congress’s constitutional authority under that clause.”¹⁰⁴ For example, a string of Supreme Court decisions appear to be either driving or reflecting an increasing trend toward stronger state authority. Beginning in 1976 with *National League of Cities v. Usery*,¹⁰⁵ the U.S. Supreme Court declared that laws which might otherwise be constitutional on commerce clause grounds may be struck down if they are found to infringe upon the sovereignty of the states.¹⁰⁶ The Court then reversed course in 1985, overturning *National League of Cities v. Usery* in *Garcia v. San Antonio Metropolitan Transit Authority*,¹⁰⁷ holding that questions of state sovereignty are best dealt with as political rather than judicial questions.¹⁰⁸ However, in 1992, the Court seemed to go back again, outlining a bright-line rule in *New York v. United States*,¹⁰⁹ declaring that “[t]he Federal Government may not compel the States to enact or administer a federal regulatory program.”¹¹⁰ The 1995 case of *United States v. Lopez*,¹¹¹ and the 1997 case *Printz v. United*

¹⁰¹ Macey & Butler, *supra* note 99, at 161; *see also* Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333 (1985).

¹⁰² Tullock, *supra* note 68, at 75.

¹⁰³ Johnston, *supra* note 87, at 497.

¹⁰⁴ *Id.* at 498.

¹⁰⁵ *Nat’l League of Cities v. Usery*, 426 U.S. 833 (1976).

¹⁰⁶ *Id.* at 841; *see also* Adler, *supra* note 74, at 584; Christine A. Klein, *The Environmental Commerce Clause*, 27 HARV. ENVTL. L. REV. 1 (2003).

¹⁰⁷ *Garcia v. San Antonio Metro. Transit Auth.*, 469 U.S. 528, 557 (1985); *see also* Adler, *supra* note 74, at 584-85.

¹⁰⁸ *Garcia*, 469 U.S. at 556; *see also* Adler, *supra* note 74, at 584-85.

¹⁰⁹ *New York v. United States*, 505 U.S. 144 (1992); *see also* Adler, *supra* note 74, at 586-87.

¹¹⁰ *New York*, 505 U.S. at 149; *see also* Adler, *supra* note 74, at 587.

¹¹¹ *United States v. Lopez*, 514 U.S. 549, 551 (1995); *see also* Adler, *supra* note 74, at 587; Klein, *supra* note 106, at 27.

States,¹¹² placed additional legal constraints on the ability of Congress to impose regulations on the states under commerce clause grounds and has reinforced the concept of the United States' system of dual sovereignty.¹¹³

Because of the cooperative federal-state nature of environmental regulation, the legal trend toward increased federalism is relevant to water pollution regulation.¹¹⁴ With legal decisions supporting increased federalism, the political feasibility of increased state responsibilities regarding the environment may also be possible.¹¹⁵ As noted in 1999, "[f]ollowing calls for placing the focus on results instead of violations of technical rules, some amount of devolution to the states is now politically viable."¹¹⁶ Local flexibility in environmental rulemaking also seems to be leading to a situation where "protection of environmental assets seems to be headed back to its origins, to states, local governments, and local citizens who may, after all, be better equipped to develop effective approaches for managing environmental quality."¹¹⁷

4. The Conventional Wisdom Upturned—Environmental Advocates and Federalism

It has long been assumed that federal environmental regulation is preferred as a more accurate method of expressing true societal preferences toward environmental amenities, since organizationally, environmental groups are less likely to be represented at the state level, relative to business interests.¹¹⁸ That view was apparently part of the intellectual justifica-

¹¹² *Printz v. United States*, 521 U.S. 898 (1997); see Adler, *supra* note 74, at 588-92.

¹¹³ See Adler, *supra* note 74, at 588-92.

¹¹⁴ Klein, *supra* note 106, at 11-15, 44-47.

¹¹⁵ Macey & Butler, *supra* note 99, at 175-77 (political "market" problems minor compared with centralized regulation).

¹¹⁶ Meiners & Yandle, *Conceit*, *supra* note 66, at 923. The authors also quoted a National Academy of Public Administration report which suggested a "new partnership . . . based on 'accountable devolution' of national programs and on a reduction of EPA oversight when it is not needed." NAT'L ACAD. OF PUB. ADMIN., SUMMARY REPORT TO CONGRESS ON ROLE, STRUCTURE OF THE ENVIRONMENTAL PROTECTION AGENCY (1995); see also NAT'L ACAD. OF PUB. ADMIN., RESOLVING THE PARADOX OF ENVIRONMENTAL PROTECTION (1998), available at <http://www.issues.org/issues/14.4/howes.htm>.

¹¹⁷ Meiners & Yandle, *Conceit*, *supra* note 66, at 923-24; see also Richard Revesz, *Federalism and Environmental Regulation: A Normative Critique*, in THE NEW FEDERALISM 97-127 (John Ferejohn & Barry R. Weingast eds., 1997); DAVID SCHOENBROD, CTR. FOR THE STUDY OF AM. BUS. POL'Y, STUDY 144: TIME FOR THE FEDERAL ARISTOCRACY TO GIVE UP POWER (1998); Jonathan H. Adler, *A New Environmental Federalism*, 13 F. APPLIED RES. & PUB. POL'Y, Winter 1998, at 55-61; David L. Markell, *States as Innovators: It's Time for a New Look at Our "Laboratories of Democracy" in the Effort to Improve Our Approach to Environmental Regulation*, 58 ALB. L. REV. 347 (1994).

¹¹⁸ Richard L. Revesz, *Federalism and Environmental Regulation: A Public Choice Analysis*, 115

tion for nationalizing previously local or regional regulatory regimes.¹¹⁹ On the other hand, it has recently been suggested that environmental groups may enjoy advantages by organizing at the state level, rather than being disadvantaged due to a lack of economies of scale by focusing lobbying only in Washington.¹²⁰ For example, state-based regulation may allow some groups to avoid the dilemma of strict state standards being preempted by relaxed federal regulation, and local environmental groups are not forced to adjudicate their claims in the D.C. circuit (the circuit generally applying federal environmental law), which has appeared to some as being unsympathetic to the claims of environmental interest groups.¹²¹

Others have argued that, while the nationalization of environmental issues has resulted in tremendous increases in financial and lobbying resources for environmental organizations, it has resulted in similar growth for groups representing industries often accused of contributing to pollution.¹²² Other policy arguments in favor of centralized regulation have included suggestions that states would engage in a “race to the bottom” of environmental quality by using lenient environmental regulation to attract new businesses, and that states would under-regulate due to interstate externalities that central regulation would correct.¹²³ The record does not appear to support these arguments.

Recent authors have suggested that environmental groups were never under-represented at the national level.¹²⁴ Additionally, some argue that the states, rather than the federal government, have taken the lead in innovative environmental solutions, and that organizing at the state level would allow environmental groups to be included more effectively as stakeholders in those innovations.¹²⁵

HARV. L. REV. 553, 555-56 (2001) [hereinafter Revesz, *Public Choice Analysis*].

¹¹⁹ *Id.*

¹²⁰ *Id.* at 557.

¹²¹ *Id.*

¹²² Interview with Bruce Yandle, Alumni Distinguished Professor of Economics, Clemson University, Arlington, Va. (Nov. 5, 2003); see also Revesz, *Public Choice Analysis*, *supra* note 118, at 571. Professor Revesz points out that, of the 100 largest grants made by foundations to environmental groups, the share of funds to national groups fell from 57% in 1989 to 24% in 1996 relative to regional, state, and local groups. Revesz, *Public Choice Analysis*, *supra* note 118, at 571.

¹²³ Revesz, *Public Choice Analysis*, *supra* note 118, at 571.

¹²⁴ See *id.*

¹²⁵ *Id.* at 558.

II. THE COMMON LAW AND ENVIRONMENTAL REGULATION

Before local, state, or federal statutory environmental regulation existed, the common law was protecting water quality.¹²⁶ This section will address the courts' use of nuisance law and riparian rights as a method of protecting common property, such as water quality. The trend of judicially limiting the protections of the common law, and the possibility of statutory preemption of those common law methods of pollution control will also be briefly addressed.

A. *Pre-Regulation Common Law*

Prior to the enactment of the first comprehensive regulation of water pollution, localities were responsible for water quality, and nuisance law and riparian rights were the dominant tools used to ensure that individuals were not harmed by others' water pollution.¹²⁷ Scholars of environmental common law jurisprudence have made the claim that "[t]he common law, combined with various state level controls, was doing a better job addressing most environmental problems than the current federal monopoly" and that the current system of central environmental planning is "incompatible with personal freedom, with human progress, and, for those who place saving the environment above those concerns, with environmental protection itself."¹²⁸ While this statement represents a strong indictment of the current system, others suggest that the common law has weaknesses of its own.¹²⁹ The common law alternatives to statutory pollution control, however, will be outlined below.

B. *Public and Private Nuisance*

The American Law Institute has defined "public nuisances" as: "(1) a criminal interference with, (2) a right common to all members of the pub-

¹²⁶ For a discussion of common law traditions of early settlers in the U.S., see Meiners et al., *supra* note 8, at 64.

¹²⁷ Meiners & Yandle, *Conceit*, *supra* note 66, at 926.

¹²⁸ *Id.* at 925; see also Roger Meiners & Bruce Yandle, *Common Law Environmentalism*, 94 PUB. CHOICE 99 (1998) [hereinafter Meiners & Yandle, *Environmentalism*]; ELIZABETH BRUBAKER, PROPERTY RIGHTS IN THE DEFENSE OF NATURE (1995); YANDLE, COMMON SENSE, *supra* note 49; Richard B. Stewart, *Controlling Environmental Risks Through Economic Incentives*, 13 COLUM. J. ENVT. L. 153, 153-54 (1988).

¹²⁹ See Frank B. Cross, *Common Law Conceits: A Comment on Meiners & Yandle*, 7 GEO. MASON L. REV. 965, 971-74 (1999).

lic; resulting in liability only to, (3) those who have suffered a harm different from that suffered by the public in general.”¹³⁰ For equity actions such as injunctions, however, the rule is one of “normal standing”¹³¹ instead of a “harm different” from the public in general mentioned above.¹³² Specifically, according to the Restatement (Second) of Torts Section 821C(2)(c), to have standing to sue to abate a public nuisance, one must “have standing to sue as a representative of the general public, as a citizen in a citizen’s action or as a member of a class in a class action.”¹³³ If a person is harmed as a result of an alleged nuisance, they are entitled to sue for both equitable relief, such as injunctions, and for monetary damages. Courts will often separate the monetary damages question and treat it as a “private” nuisance.¹³⁴

Private nuisance involves interference with the private use and enjoyment of another’s land; it may be either intentional or negligent, and the interference must be substantial and unreasonable.¹³⁵ Modern private nuisance cases have involved protecting “all comforts normally associated with occupancy of land” and case law has interpreted the rights to enjoyment broadly, allowing for “consequential damages to the ‘possessor of land interest’ to recover for injuries to his own health and for the loss of family members’ services.”¹³⁶

Courts use a balancing test to determine the degree of harm inflicted by a nuisance activity. The test for substantial interference could be met by interfering with the broad definition of comfortable enjoyment of land described above, while the test for unreasonability involves weighing the harm and benefit of the activity involved in the nuisance.¹³⁷ The balancing

¹³⁰ RESTATEMENT (SECOND) OF TORTS §§ 821B, 821C (1979); see Meiners & Yandle, *Conceit*, *supra* note 66, at 927.

¹³¹ Meiners & Yandle, *Conceit*, *supra* note 66, at 927-28; see also Meiners et al., *supra* note 8, at 68-71.

¹³² RESTATEMENT (SECOND) OF TORTS § 821C(2), cmt. i (1979); see Meiners & Yandle, *Conceit*, *supra* note 66, at 928.

¹³³ RESTATEMENT (SECOND) OF TORTS § 821C(2)(c); see Meiners et al., *supra* note 8, at 68; Meiners & Yandle, *Conceit*, *supra* note 66, at 927-28.

¹³⁴ Meiners & Yandle, *Conceit*, *supra* note 66, at 928.

¹³⁵ RESTATEMENT (SECOND) OF TORTS § 821D (1979); see *Vermillion v. Pioneer Gun Club*, 918 S.W.2d 827 (Mo. Ct. App. 1996); *Madison v. Ducktown Sulfur, Copper & Iron Co.*, 83 S.W. 658 (Tenn. 1904); *Vann v. Bowie Sewerage Co.*, 90 S.W.2d 561 (Tex. 1936); *Aldred’s Case*, 77 Eng. Rep. 816 (K.B. 1611); Meiners & Yandle, *Conceit*, *supra* note 66, at 928-29.

¹³⁶ Meiners & Yandle, *Conceit*, *supra* note 66, at 928-29; see also *Vann*, 90 S.W.2d at 563; *Vermillion*, 918 S.W.2d at 831-32; *Steel Cities Chem. Co. v. Jenkins*, 84 So. 408, 409 (Ala. Ct. App. 1919).

¹³⁷ RESTATEMENT (SECOND) OF TORTS § 826(a) (1979); see YANDLE, COMMON SENSE, *supra* note 49, at 90-93; Klein, *supra* note 106, at 15-17; Meiners & Yandle, *Conceit*, *supra* note 66, at 928-29.

test is used for both public and private nuisance cases, and in evaluating the harm inflicted, courts generally look at the type and extent of the alleged harm, the social value of the enjoyment interfered with, and how burdensome avoiding harm would be to the injured party.¹³⁸ The beneficial value of the behavior resulting in the nuisance suit (the harm alleged) is evaluated based on “(1) the social value of the conduct; (2) the suitability of the activity to the locality; and (3) the impracticality of avoiding the invasion.”¹³⁹ Because of the number of factors involved in this balancing test, there is a low level of predictability for any given case, despite a clear enunciation of the factors involved in the test.

An example of a case that illustrates a court-evaluated nuisance is the famous case of *Ballenger v. City of Grand Saline*,¹⁴⁰ which framed clearly the issue of public nuisance. The case involved residents living near a chicken farm, who alleged that the farm was a public nuisance because of excessive noise and odors.¹⁴¹ The court held the chicken operation to be a public nuisance and granted a permanent injunction against the farm, allowing the city to permanently prohibit the “nuisance” activity.¹⁴² Other cases in which nuisances have been found include the release of acid from an inactive coal mine,¹⁴³ water pollution which damaged the interests of commercial fishermen on a freshwater river,¹⁴⁴ septic release into a waterway,¹⁴⁵ and bullets which strayed from a gun club onto another’s property.¹⁴⁶

¹³⁸ RESTATEMENT (SECOND) OF TORTS § 827 (1979); see YANDLE, COMMON SENSE, *supra* note 49, at 91; Meiners et al., *supra* note 8, at 68-71; Meiners & Yandle, *Conceit*, *supra* note 66, at 928-29.

¹³⁹ RESTATEMENT (SECOND) OF TORTS § 828 (1979); see YANDLE, COMMON SENSE, *supra* note 49, at 90-93; Meiners & Yandle, *Conceit*, *supra* note 66, at 929.

¹⁴⁰ *Ballenger v. City of Grand Saline*, 276 S.W.2d 874 (Tex. Civ. App. 1955); see also *Middlesex County Sewerage Auth. v. Nat'l Sea Clammers Ass'n*, 453 U.S. 1 (1981); *New York v. Shore Realty Corp.*, 759 F.2d 1032 (2d Cir. 1985); *Philadelphia Elec. Co. v. Hercules, Inc.*, 762 F.2d 303, 315 (3d Cir. 1985); *Nat'l Sea Clammers Ass'n v. City of New York*, 616 F.2d 1222 (3d Cir. 1980), *vacated sub nom. Middlesex County Sewerage Auth.*, 453 U.S. 1; *United States v. Solvents Recovery Serv. of New England*, 496 F. Supp. 1127, 1142 (D. Conn. 1980); Meiners & Yandle, *Conceit*, *supra* note 66, at 927-28.

¹⁴¹ *Ballenger*, 276 S.W.2d at 874-75; see also Meiners & Yandle, *Conceit*, *supra* note 66, at 927.

¹⁴² *Ballenger*, 276 S.W.2d at 875; see also Meiners & Yandle, *Conceit*, *supra* note 66, at 927; Roberts, *supra* note 9, at 638 n.20.

¹⁴³ *Commonwealth v. Barnes & Tucker Co.*, 319 A.2d 871 (Pa. 1974); see also Meiners & Yandle, *Conceit*, *supra* note 66, at 928.

¹⁴⁴ *Columbia River Fishermen's Protective Union v. City of St. Helens*, 87 P.2d 195 (Or. 1939); see also Meiners & Yandle, *Conceit*, *supra* note 66, at 928.

¹⁴⁵ *Vann v. Bowie Sewerage Co.*, 90 S.W.2d 561 (Tex. 1936); see also Meiners & Yandle, *Conceit*, *supra* note 66, at 929.

¹⁴⁶ *Vermillion v. Pioneer Gun Club*, 918 S.W.2d 827 (Mo. Ct. App. 1996); see also Meiners & Yandle, *Conceit*, *supra* note 66, at 929.

The Restatement discusses water pollution specifically, indicating that “the right to use water is an interest in real property,”¹⁴⁷ and that “the most common tort arising from an interference with the use of water by an act or conduct not itself a use of water is the commission of a nuisance by polluting the water.”¹⁴⁸ In addition to nuisance law, there are specific rights respecting water quality available to owners of riparian rights.¹⁴⁹

C. *Riparian Rights*

Riparian owners are entities that possess, or have a legal interest in, “land which includes a part of a bed of a water course or lake, or which borders upon a public water course or lake.”¹⁵⁰ Under the common law, riparian rights include “the rights of riparian water owners with respect to their use of water in water bodies, such as lakes and streams.”¹⁵¹ Under the common law, there is no right to pollute water, either through riparian rights or landowners’ rights.¹⁵² Indeed, in the Restatement (Second) of Torts, the authors note that “pollution is a tort and is not the exercise of a property right.”¹⁵³ Water pollution which has resulted in harm to an owner of riparian rights can be remedied through either nuisance law or riparian rights law.¹⁵⁴ The authors of the Restatement are careful to point out that “riparian law does not encompass the entire problem” of pollution issues since “[s]ome pollution of water can injure nonriparians and much pollution caused by riparians is the result of acts and activities that cannot be described as exercises of riparian rights even though the acts take place on riparian land. In these cases the law of nuisance is appropriate.”¹⁵⁵

Under riparian rights nuisance law, the courts are likely to consider questions such as “who was there first, the state-of-the-art of technology,

¹⁴⁷ RESTATEMENT (SECOND) OF TORTS § 849 cmt. a (1979).

¹⁴⁸ *Id.* at § 849 cmt. b; *see also* Meiners & Yandle, *Conceit*, *supra* note 66, at 923.

¹⁴⁹ Riparian Rights are defined as “[t]he right of a landowner whose property borders on a body of water or watercourse Such a landowner traditionally has the right to make reasonable use of the water.” BLACK’S LAW DICTIONARY 1328 (7th ed. 1999).

¹⁵⁰ Meiners & Yandle, *Conceit*, *supra* note 66, at 938.

¹⁵¹ *Id.*

¹⁵² RESTATEMENT (SECOND) OF TORTS § 849 cmt. e (1979); *see also* Klein, *supra* note 106, at 15-17; Meiners & Yandle, *Conceit*, *supra* note 66, at 939-40.

¹⁵³ RESTATEMENT (SECOND) OF TORTS § 849 cmt. e (1979); *see also* YANDLE, COMMON SENSE, *supra* note 49, at 90-93; Meiners & Yandle, *Conceit*, *supra* note 66, at 939-40.

¹⁵⁴ RESTATEMENT (SECOND) OF TORTS § 849 cmt. e (1979); *see also* Klein, *supra* note 106, at 16; Meiners & Yandle, *Conceit*, *supra* note 66, at 939-40.

¹⁵⁵ RESTATEMENT (SECOND) OF TORTS § 849 cmt. e (1979); *see also* Meiners & Yandle, *Conceit*, at 939-40.

and extent of harm.”¹⁵⁶ Jurisdictions generally approach riparian rights from one of two philosophical theories—the “natural flow theory” or the “reasonable use theory.”¹⁵⁷ In a “natural flow theory” jurisdiction, a riparian land owner is entitled to have a stream flow by their land in the same condition as it would if the stream were in its natural condition.¹⁵⁸ The “reasonable use theory” jurisdiction protects riparian landowners from unreasonable uses of the water by others.¹⁵⁹ In either case, because there is no riparian “right to pollute” under common law, any riparian owner who pollutes the water of another is not exercising a riparian right, but is engaging in the tort of nuisance, which is actionable at law.¹⁶⁰

D. *Statutory Preemption*

While the tools of nuisance and enforcement of riparian rights are still available, a number of circumstances have reduced their use. First, it is possible for individuals to “contract around” nuisance liability by specifying the range of acceptable behaviors from one another.¹⁶¹ In such a contractual arrangement, actions which might normally be considered a nuisance may be exempted as part of the agreement, and the party who could claim harm under normal common law rules, would have waived their right to do so. Variations from such agreements are compensable through liquidated damages in contract or through a damages suit in a court of law.¹⁶² The obvious question, then, is why the common law solutions to environmental problems are not more widely used? The short answer is that federal statutes created an alternative to common law suits that are generally “easier to bring (and win).”¹⁶³ If a defendant demonstrates com-

¹⁵⁶ See Meiners & Yandle, *Conceit*, *supra* note 66, at 940.

¹⁵⁷ See *Tyler v. Wilkinson*, 24 F. Cas. 472 (D.R.I. 1827) (No. 14312); Arthur Maas & Hiller B. Zobel, *Anglo-American Water Law: Who Appropriated the Riparian Doctrine?*, 10 PUB. POL. 109 (1960); see also *Cooper v. Hall*, 5 Ohio 320, 324 (1832); Meiners & Yandle, *Conceit*, *supra* note 66, at 939-40; cf. Samuel C. Wiel, *Waters: American Law and French Authority*, 33 HARV. L. REV. 133 (1919).

¹⁵⁸ See Meiners & Yandle, *Conceit*, *supra* note 66, at 938-40.

¹⁵⁹ *Id.*

¹⁶⁰ RESTATEMENT (SECOND) OF TORTS § 849 (1979); see also Meiners & Yandle, *Conceit*, *supra* note 66, at 939.

¹⁶¹ Meiners & Yandle, *Conceit*, *supra* note 66, at 946-47.

¹⁶² See RESTATEMENT (SECOND) OF CONTRACTS § 344-45 (1981). An example of contracting around liability might include a point source increasing their discharge to a level that might inhibit another's reasonable use of their property, but if the increase is within the guidelines of the agreement, and the “harmed” party is also a party to the agreement, there would be no cause of action at common law.

¹⁶³ See Meiners & Yandle, *Conceit*, *supra* note 66, at 952.

pliance with statutory standards, they can claim they are following the law and should be immune from liability.¹⁶⁴ Courts have held, for example, that federal water discharge effluent standards preempted common law standards for water pollution, making it difficult for common law liability to override statutory compliance.¹⁶⁵

Thus, while not making common law solutions impossible, a preeminent reliance on statutory authority makes it more difficult for parties to pursue traditional common law solutions, such as nuisance suits. A consideration of the public choice factors involved in implementing the EPA Water Quality Policy may shed some light on whether common law solutions will become more or less likely to be used in the future.

III. PUBLIC CHOICE ANALYSIS OF ENVIRONMENTAL REGULATION

This Section will address the relevance of Public Choice Economics to federal environmental regulation. A discussion of the political influences on related interest groups will follow. The EPA will also be evaluated from a perspective of government failure, questioning whether that agency has failed in its stated mission, and whether it has been “captured” by the industries it is supposed to regulate. Finally, the tragedy of the commons will be addressed, and suggested institutional characteristics for successful alternative institutional arrangements for avoiding that tragedy outlined.

A. *Background: Public Choice*

Public Choice is the study of political institutions, pressures, and outcomes from a perspective that treats political markets much like economic markets.¹⁶⁶ As George Mason University Professors James Buchanan and Gordon Tullock stated in their seminal book, *The Calculus of Consent*, collective action is the relevant dynamic, and is defined simply as “the

¹⁶⁴ See *Atlas Chem. Indus., Inc. v. Anderson*, 514 S.W.2d 309, 320 (Tex. Civ. App. 1974); see also Meiners & Yandle, *Conceit*, *supra* note 66, at 952.

¹⁶⁵ Meiners & Yandle, *Conceit*, *supra* note 66, at 952.

¹⁶⁶ George Mason University Economist James Buchanan received the Nobel Prize in Economics in 1986 for his work in developing the field of public choice economics. The main theorem of public choice economics is that, because of the tendencies of human collective action, policies are likely to be enacted and perpetuated when there are concentrated benefits to a specific group, with costs being dispersed over a large number of people. See MARK PENNINGTON, *PLANNING AND THE POLITICAL MARKET, PUBLIC CHOICE AND THE POLITICS OF GOVERNMENT FAILURE* 3 (2000); see also JAMES M. BUCHANAN & GORDON TULLOCK, *THE CALCULUS OF CONSENT* (1962); MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION* (1965) [hereinafter OLSON, *COLLECTIVE ACTION*]; Revesz, *Public Choice Analysis*, *supra* note 118, at 571.

action of individuals when they choose to accomplish purposes collectively rather than individually.¹⁶⁷ In this perspective, government institutions “are nothing more than the set of processes, the machine, which allows such collective action to take place.”¹⁶⁸

The modern development of public choice theory is far too expansive a topic to cover in this paper, but with respect to government regulation, the theory suggests that everything else being equal, individuals and society are better off when institutions do three things: (1) allow individuals to receive the rewards of their actions, (2) force individuals to bear the costs of their actions, and (3) broadcast enough information about those individual decisions for others to make relevant informed choices in response.¹⁶⁹ On the other hand, inefficient resource allocation is likely to occur when, due to institutional design flaws, individual costs can be passed on to others, there are no financial consequences for bad decisions, and there is a dearth of relevant information for others to act upon.¹⁷⁰

An example of public choice group interactions can be found in federal environmental regulation. Groups representing polluting industries, and groups representing environmental lobbies, may actually have very similar interests in the type of regime they prefer, which may help explain the existence of the current regulatory system in place in the United States.¹⁷¹ This may seem counterintuitive. For example, some have argued that using the logic of collective action, industrial polluters who have a great deal of concentrated benefits to gain (or lose) would outweigh the dispersed interests of the larger number of environmentally concerned individuals who would each have a small amount to lose (or gain).¹⁷² Under this standard view of collective action, it is difficult to explain why any environmental regulation would occur, since the concentrated industrial interests would seem likely to prevail at both local and national levels, which is clearly contrary to the experience of the last three decades in the U.S.¹⁷³

¹⁶⁷ BUCHANAN & TULLOCK, *supra* note 166, at 13; *see also* PENNINGTON, *supra* note 166, at 3.

¹⁶⁸ BUCHANAN & TULLOCK, *supra* note 166, at 13; *see also* PENNINGTON, *supra* note 166, at 3.

¹⁶⁹ PENNINGTON, *supra* note 166, at 4; *see also* BUCHANAN & TULLOCK, *supra* note 166, at 13; THRAINN EGGERTSON, *ECONOMIC BEHAVIOR AND INSTITUTIONS* (1990); WOLFGANG KASPER & MANFRED E. STREIT, *INSTITUTIONAL ECONOMICS: SOCIAL ORDER AND PUBLIC POLICY* (1998); GARY D. LIBECAP, *CONTRACTING FOR PROPERTY RIGHTS* (1989); DOUGLASS C. NORTH, *INSTITUTIONS, INSTITUTIONAL CHANGE AND ECONOMIC PERFORMANCE* (1990).

¹⁷⁰ PENNINGTON, *supra* note 166, at 4; *see also* BUCHANAN & TULLOCK, *supra* note 166, at 13; EGGERTSON, *supra* note 169; KASPER & STREIT, *supra* note 169; LIBECAP, *supra* note 169; NORTH, *supra* note 169.

¹⁷¹ Zywicki, *supra* note 100, at 186-88; Interview with Bruce Yandle, Alumni Distinguished Professor of Economics, Clemson University, Arlington, Va. (Nov. 5, 2003).

¹⁷² Revesz, *Public Choice Analysis*, *supra* note 118, at 571.

¹⁷³ *Id.*; *see also* JERRY L. MASHAW, GREED, CHAOS AND GOVERNANCE: USING PUBLIC CHOICE

However, upon closer inspection, there are powerful strategic incentives in play for many industries. For example, an industry, or a firm within an industry, may be in favor of regulations which, in their implementation, provide them with a competitive advantage. Such conditions may include regulations which: (1) provide barriers to entry into the field, reducing competition, (2) apply to industries with strong economies of scale, since they would benefit from a consistent set of regulations across the country, or (3) are less expensive for them to comply with than their competitors, giving them a cost advantage.¹⁷⁴ Other circumstances could be imagined, but the key issue is that industries or their representatives may be strongly in favor of regulations which appear to add burdens and costs to their operations, and which environmental groups would also support, since it gives the group an obvious accomplishment upon passage, even though the potential effectiveness of the regulations may be irrelevant to the industry groups.

B. *Bootleggers and Baptists*

Once these environmental regulations are established or proposed, the political theory known as the “Bootleggers and Baptists”¹⁷⁵ becomes relevant in driving sustainable political alliances to support the policy. The phrase “Bootleggers and Baptists” refers to the forces that joined together to create and maintain the U.S. policy on prohibition in the early 20th Century. The theory suggests that when there is a confluence of interests between one party who will gain financially from a policy, but does not present a positive public image (the bootleggers, who were in favor of prohibition, which increased demand for their *illegal* alcohol), and a group that supports or opposes a policy for moral reasons (the Baptists, who were in favor of prohibition because they consider drinking to be morally wrong), a policy is more likely to win popular support.¹⁷⁶ The industrial polluters and environmental groups would be one example of bootleggers (the polluters) and Baptists (environmentalists) having common interests in applying

TO IMPROVE PUBLIC LAW 32-33 (1997); Daniel A. Farber, *Politics and Procedure in Environmental Law*, 8 J.L. ECON. & ORG. 59, 60 (1992); Richard L. Revesz, *The Race to the Bottom and Federal Environmental Regulation: A Response to Critics*, 82 MINN. L. REV. 535, 542 (1997).

¹⁷⁴ Revesz, *Public Choice Analysis*, *supra* note 118, at 572-74; *see also* Zywicki, *supra* note 100, at 186-87.

¹⁷⁵ BRUCE YANDLE, *THE POLITICAL LIMITS OF ENVIRONMENTAL REGULATION* 19 (1989) [hereinafter YANDLE, *POLITICAL LIMITS*]; Bruce Yandle, *Bootleggers and Baptists—The Education of a Regulatory Economist*, AEI J. ON GOV'T & SOC'Y REG. GOV'T & SOC'Y: REG., May-June 1983, at 12 [hereinafter Yandle, *Bootleggers and Baptists*].

¹⁷⁶ YANDLE, *POLITICAL LIMITS*, *supra* note 175, at 23-25.

regulations to industrial polluters, for the reasons discussed in the previous Section. This point was highlighted recently when 14 states sued the federal government for changing the regulations on new source review,¹⁷⁷ with the New York Attorney General claiming that “the EPA is standing with polluters instead of with the people it is supposed to protect.”¹⁷⁸ While there were no “Bootleggers” (such as entrenched industrial polluters who benefit from existing policy) quoted in the article, the “Baptists” (environmental groups and an aggressive district attorney) were front and center.¹⁷⁹

C. *Government Failure?*

As one of the founders of the Public Choice school of economics stated, “[t]he conventional wisdom holds that the market is made up of private citizens trying to benefit themselves but that government is concerned with something called the public interest.”¹⁸⁰ Just as it is possible for there to be market failures,¹⁸¹ it is also possible for there to be institutional government failures in which institutions do not reflect public preferences for public goods, such as environmental quality.¹⁸² These failures can result from the incentives given to actors within an institution, from

¹⁷⁷ New Source Review is a process in which, any time a substantial upgrade/replacement in equipment is made, a facility becomes subject to stricter regulation than they were as an existing entity. The change would have allowed plants to improve their equipment without triggering the change in standards. For a discussion of recent changes to the new source review requirement, see DANA GATTUSO, MERCATUS CENTER, PUBLIC INTEREST COMMENT: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) AND NON-ATTAINMENT NEW SOURCE REVIEW (NSR): ROUTINE MAINTENANCE, REPAIR, AND REPLACEMENT (2003), available at <http://www.mercatus.org/regulatorystudies/article.php/310.html> (last visited Feb. 1, 2005).

¹⁷⁸ Terence Neilan, *14 States File Suit in Attempt to Block New E.P.A. Rules*, N.Y. TIMES, Nov. 17, 2003.

¹⁷⁹ *Id.* Another example of this phenomenon occurred during the 1970s, shortly after the Clean Air Act was passed. A coalition formed to require the “scrubbing” of coal emissions to remove 97% of the sulfur content, regardless of the amount of sulfur in the coal being burned. Since scrubbers were still required for coal with very low sulfur content, the high-sulfur coal providers gained a competitive advantage over low-sulfur coal providers, even though the low-sulfur coal would be cleaner burning in the first place. See Gordon L. Brady, *Applying Public Choice to Environmental Policy*, in GOVERNMENT FAILURE: A PRIMER IN PUBLIC CHOICE, *supra* note 68, at 117, 119; see also BRUCE ACKERMAN & WILLIAM T. HASSLER, CLEAN COAL / DIRTY AIR: OR HOW THE CLEAN AIR ACT BECAME A MULTIBILLION-DOLLAR BAIL-OUT FOR HIGH-SULFUR COAL PRODUCERS AND WHAT SHOULD BE DONE ABOUT IT (1981).

¹⁸⁰ GORDON TULLOCK, THE VOTE MOTIVE 3 (1976).

¹⁸¹ The concept of a market failure is often described as a situation where, due to some obstacle such as high transaction costs or imperfect information, true market preferences are not demonstrated, and optimal efficiencies are not achieved. See R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960); Harold Demsetz, *Towards a Theory of Property Rights*, 57 AM. ECON. R. 347 (1967).

¹⁸² PENNINGTON, *supra* note 166, at 12.

collective action problems such as “free riders,”¹⁸³ or from the fact that bureaucratic institutions are often unable to ensure future conditions, resulting in a high emphasis on immediate results, extremely discounting the value of future actions.¹⁸⁴ The result is that when a government institution deals with policies likely to impose concentrated costs or benefits on a few parties at the expense of many parties, the institution is more likely to be “captured”¹⁸⁵ by those interests with a concentrated interest, often at the expense of a larger number of people with more diffuse interests.¹⁸⁶

To determine whether the EPA shows signs of being thus “captured,” it may be helpful to review the agency’s formal mission, which is “to protect human health and to safeguard the natural environment—air, water, and land—upon which life depends.”¹⁸⁷ The mission statement describes specific means of accomplishing this objective, including ensuring that “national efforts to reduce environmental risk are based on the best available scientific information” and that “[e]nvironmental protection contributes to making our communities and ecosystems diverse, sustainable and economically productive.”¹⁸⁸

Given the agency’s stated mission, and their actual behavior, some claim that the EPA’s enforcement actions have been driven by the types of pressures resulting from a government failure described above.¹⁸⁹ A lack of zeal in enforcing the Clean Water Act against nonpoint source polluters is cited as evidence of such a “capture” or government failure.¹⁹⁰ Several cases can be cited which seem to indicate that the EPA has not been as aggressive as their mission would suggest, with the courts justifying the

¹⁸³ A free rider is one who realizes that it is impossible to be excluded from a good (such as a beneficial political result) and determines not to help pay the costs of achieving that result. See OLSON, COLLECTIVE ACTION, *supra* note 166.

¹⁸⁴ See PAUL W. MACAVOY, THE ECONOMIC EFFECTS OF REGULATION (1965); MANCUR OLSON, THE RISE AND DECLINE OF NATIONS (1982) [hereinafter OLSON, NATIONS]; GEORGE J. STIGLER, THE CITIZEN AND THE STATE (1975); TOWARDS A THEORY OF THE RENT-SEEKING SOCIETY (James M. Buchanan et al. eds., 1982).

¹⁸⁵ Under the capture theory, “regulators will do their best to improve the well-being of all people taken together, but . . . they lack information on how to do this . . . [T]he politicians seek advice and information, which logically puts them into contact with the sector to be regulated . . . As the process unfolds, the regulated capture the regulators . . .” YANDLE, COMMON SENSE, *supra* note 49, at 64-65.

¹⁸⁶ See MACAVOY, *supra* note 184; OLSON, NATIONS, *supra* note 184; STIGLER, *supra* note 184; TOWARDS A THEORY OF THE RENT SEEKING SOCIETY, *supra* note 184.

¹⁸⁷ About the EPA, at www.epa.gov/history/org/origins/mission.htm (last visited Feb. 1, 2005).

¹⁸⁸ *Id.*

¹⁸⁹ See Andrew P. Morriss et al., *The Failure of EPA’s Water Quality Reforms: From Environment-Enhancing Competition to Uniformity and Polluter Profits*, 20 UCLA J. ENVTL. L. & POL’Y 25, 26 (2001/2002) (arguing that the national, top down approach lowers cost of “capturing” the EPA and increases the benefits of doing so due to centralized authority) [hereinafter Morriss et al., *Failure*].

¹⁹⁰ Michael C. Blumm & William Warnock, *Roads Not Taken: EPA vs. Clean Water*, 33 ENVTL. L. 79, 81 (2003).

EPA in exempting dams and farmers from permit requirements and enforcement of water quality standards, for example.¹⁹¹

The criticism of the agency as being focused on issues other than overall environmental improvement is also supported by a recent study comparing media coverage of pesticide risks and subsequent EPA actions.¹⁹² The study found that there was a statistically significant relationship between the amount of media coverage of a particular environmental concern and EPA decisions regarding that issue.¹⁹³ The study examined the reaction of the EPA to substantial press coverage about regulated pesticides, and found that the agency was more responsive to those issues receiving press coverage than those that did not.¹⁹⁴ While responding to public concerns may reflect a well-functioning representative government, such decisions demonstrate the pressures for immediate action rather than long-term strategies, discussed above.

A more dramatic indictment of the EPA in its current role came in 1987, when an EPA report on thirty-one programs compared the relationship between possible risks associated with regulatory programs, and the priorities given to those programs.¹⁹⁵ The report concluded, "these rankings by risk do not correspond closely with EPA's statutory authorities" and "do not correspond well with EPA's current program priorities."¹⁹⁶ There appears to be a serious case for the conclusion that many of the EPA's activities represent a government failure.

Regarding environmental progress previous to federal regulatory "solutions," recent authors have suggested that regulatory approaches to environmental quality tend to be ineffective, and that "[t]he common law, combined with various state level controls, was doing a better job addressing most environmental problems than the federal monopoly."¹⁹⁷ These authors, and others, suggest that despite the best of intentions, the maze of command and control regulations surrounding environmental issues in the

¹⁹¹ See *Or. Natural Desert Ass'n v. Dombeck*, 172 F.3d 1092 (9th Cir. 1998), *Nat'l Wildlife Fed'n v. Gorsuch*, 530 F. Supp. 1291 (D.D.C. 1982), *rev'd*, 693 F.2d 156 (D.C. Cir. 1982); see also Blumm & Warnock, *supra* note 190.

¹⁹² Andrew J. Yates & Richard L. Stroup, *Media Coverage and EPA Pesticide Decisions*, 102 PUBLIC CHOICE 297, 297 (2000).

¹⁹³ *Id.*

¹⁹⁴ *Id.*

¹⁹⁵ The study compared the magnitude of: cancer risk, noncancer health risks, ecological effects, and welfare effects with the regulatory effort required by the statutory mandates. EPA, UNFINISHED BUSINESS: A COMPARATIVE ASSESSMENT OF ENVIRONMENTAL PROBLEMS, OVERVIEW REPORT xiii (1987) [hereinafter EPA, UNFINISHED BUSINESS]; see YANDLE, COMMON SENSE, *supra* note 49, at 80.

¹⁹⁶ EPA, UNFINISHED BUSINESS, *supra* note 195, at xv; see YANDLE, COMMON SENSE, *supra* note 49, at 80.

¹⁹⁷ Meiners & Yandle, *Conceit*, *supra* note 66, at 925.

U.S. are ineffective, and that there are more functional, effective alternatives available.¹⁹⁸

D. *The Tragedy of the Commons and Institutions*

The key to a well functioning environmental goods market is to avoid the “Tragedy of the Commons” where ill-defined property rights of environmental amenities lead either to a complete depletion of valuable resources, or the destruction of resources through unrestrained pollution and over consumption.¹⁹⁹ Public Choice proponents would argue that if the conditions described in the initial discussion of public choice were present—individuals bearing the costs for their decisions, receiving the benefits of their choices, and having sufficient information, there would be no tragedy. Some alternative institutional arrangements may also avoid such a tragedy, as we will discuss below. The costs and benefits of environmental protection or degradation would incur to the proper parties, and information on the condition of the environmental amenity would be freely available.²⁰⁰ One method of achieving these conditions is by defining “who has what rights and what are the costs associated with defining and enforcing those rights?”²⁰¹ The question of transaction costs also arises, and as Ronald Coase suggested in his seminal work, if there were no transaction costs, and producers and consumers in either commercial or political markets had perfect information, efficient allocations of resources and resource protection would occur.²⁰² However, the tragedy of the commons does occur, because “organizing to restrict entry [to the commons] is costly.”²⁰³

Common goods, or common pool resources as described by some,²⁰⁴ are not public goods in the sense generally discussed. Public goods are

¹⁹⁸ See YANDLE, COMMON SENSE, *supra* note 49; YANDLE & MANNIX, *supra* note 63; Lisa Bernstein, *Opting Out of the Legal System: Extralegal Contractual Relations in the Diamond Industry*, 21 J. LEGAL STUD. 115, 140 (1992); Meiners & Yandle, *Conceit*, *supra* note 66, at 923; Meiners & Yandle, *Environmentalism*, *supra* note 128, at 49; Andrew P. Morriss, *Lessons from the Development of Western Water Law for Emerging Water Markets: Common Law vs. Central Planning*, 80 OR. L. REV. 861 (2001); Andrew P. Morriss et al., *Principles for Water*, 15 TUL. ENVTL. L.J., 335 (2002).

¹⁹⁹ Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243 (1968), available at <http://www.sciencemag.org/sciext/sotp/pdfs/162-3859-1243.pdf>.

²⁰⁰ PENNINGTON, *supra* note 166, at 3; see also BUCHANAN & TULLOCK, *supra* note 166, at 13; THRAINN. EGGERTSSON, ECONOMIC BEHAVIOR AND INSTITUTIONS (1990); KASPER & STREIT, *supra* note 169; LIBECAP, *supra* note 169; NORTH, *supra* note 169.

²⁰¹ ANDERSON, *supra* note 50, at 13.

²⁰² See Coase, *supra* note 181, at 1.

²⁰³ ANDERSON, *supra* note 50, at 13.

²⁰⁴ See ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION (1990).

usually defined as nonexclusive and nonrivalous in their consumption.²⁰⁵ In other words, people can't be kept from consuming them, and one person's consumption of the good does not prevent another from doing so. The market for water pollution rights is not a true public good, since it is possible to exclude people from enjoyment of the waterways and one person's enjoyment of a particular level of water quality does diminish the consumption by another. We will refer to this type of good as a common pool resource.²⁰⁶

The common observation for governing either public goods or common pool resources has been that "common property resources require public control if economic efficiency is to result from their development."²⁰⁷ On the other hand, some have called for private property rights as a solution to common pool resource problems, suggesting that "the only way to avoid the tragedy of the commons in natural resources and wildlife is to end the common property system by creating a system of private property rights."²⁰⁸ A third alternative is to allow institutions to develop among cooperating parties wherein those parties establish rules governing their agreements and agree to be bound to those agreements by allowing a third party to enforce the agreement or arbitrate disagreements.²⁰⁹ The solutions that result may be a hybrid between a system of central regulation and one of private property.²¹⁰

After studying enduring voluntary institutions for managing common pool resources in countries as diverse as Switzerland, Japan, Spain, and the Philippines, Elinor Ostrom, in her book *Governing the Commons*, suggested seven characteristics these systems had in common: (1) clearly defined boundaries and participants, (2) congruence between allocations of goods and local conditions, (3) most individuals affected are able to modify the rules, (4) the monitors, who audit the condition of the commons, have power to allocate resources, (5) those who violate the rules of the agreement receive gradually higher sanctions, (6) there is fast access to dispute resolution mechanisms, and (7) external governmental authorities do not challenge the right of the parties to devise their own institutional

²⁰⁵ William A. Fischel, *Public Goods and Property Rights: Of Coase, Tiebout, and Just Compensation*, in PROPERTY RIGHTS: COOPERATION, CONFLICT, AND LAW 343, 344 (Terry L. Anderson & Fred S. McChesney eds., 2003).

²⁰⁶ See OSTROM, *supra* note 204.

²⁰⁷ IAN CARRUTHERS & ROY STONER, WORLD BANK, WORKING PAPER NO. 469: ECONOMIC ASPECTS AND POLICY ISSUES IN GROUNDWATER DEVELOPMENT 29 (1981); see also OSTROM, *supra* note 204, at 9.

²⁰⁸ Robert J. Smith, *Resolving the Tragedy of the Commons by Creating Private Property Rights in Wildlife*, 1 CATO J. 439, 467 (1981); see also OSTROM, *supra* note 204, at 12.

²⁰⁹ See OSTROM, *supra* note 204, at 15-21.

²¹⁰ *Id.*

rules.²¹¹ All enduring, well functioning institutions for cooperatively managing common pool resources she studied shared these criteria. Any proposed policy dealing with a common pool resource such as clean water would therefore be more likely to succeed if it establishes institutions with those characteristics. The EPA's Water Quality Trading Policy will be evaluated based on these criteria.

IV. ANALYSIS

The EPA Water Quality Trading Policy aims to encourage regions to establish institutions that help entities meet their individual obligations while also helping to assure regional watershed quality meets relevant quality standards.²¹² To accomplish this task, a number of individuals, each a member of an interest group, will have to cooperate. There is little debate about the costs currently imposed on point source water dischargers and the potential cost savings and efficiency gains to be had from a water trading policy.²¹³ The EPA, in announcing the policy, detailed dramatic projected cost savings from implementation of the policy based on pilot projects and forecasts.²¹⁴ The larger question is whether individuals in distinct political interest groups are likely to cooperate over time, and continue to participate in the program.

To answer that question, it is necessary to evaluate the public choice issues described earlier. The incentives for each group will first be discussed based on whether the individual parties are likely to receive the rewards of their actions, whether they are forced to bear the costs of their actions (or alternatively, whether costs are imposed on others by their actions), and whether sufficient information is broadcast to others.²¹⁵ Next, the parties involved in the EPA Water Quality Trading Policy will be evaluated based on an analysis of the Bootleggers and Baptists theory.²¹⁶ Whether the watershed trading institutions are likely to be enduring will also be evaluated based on the Ostrom criteria outlined earlier.²¹⁷ Finally, recommendations will be made for increasing the probability of successful implementation of watershed agreements.

²¹¹ *Id.* at 88-102.

²¹² *See supra* Part I.A.4.

²¹³ Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1610-11 (Jan. 13, 2003).

²¹⁴ EPA, Fact Sheet, *supra* note 38.

²¹⁵ For discussion of criteria, see *supra* Part III.A.

²¹⁶ *See* YANDLE, POLITICAL LIMITS, *supra* note 175.

²¹⁷ *See supra* Part III.D.

A. *Political Economy—The Public Choice Interest Group Pressures*

There are several relevant parties involved in the EPA Water Quality Trading Policy. The first group includes existing point source dischargers of pollutants or nutrients who are currently regulated under the CWA and have been under a legal obligation to comply with TMDL and permitting requirements.²¹⁸ These include sewage treatment plants, among others.²¹⁹ The second group is the non-point source dischargers, which includes farmers (whose fertilizer often runs into waterways) and municipalities (whose nutrient-rich rainwater runoff often flows into rivers and streams). A third group includes environmental interest groups at the local, regional, and national level. The last relevant group is made up of the current EPA regulators, as well as local attorneys, and judges, each of whom may have a role to play in the enforcement of these agreements.

Each group has several options. The first option is to maintain the existing arrangement, meaning that point source dischargers are subject to regulation under the CWA,²²⁰ states are required to develop plans to meet water quality standards,²²¹ and nonpoint source polluters are generally subject to little or no regulation.²²² The second option is that individual parties within each group can choose to actively oppose the arrangements, launching legal opposition,²²³ or engaging in public relations campaigns attacking the change (e.g., characterizing the change as a gift to industrial polluters rather than a solution to intractable water quality challenges). The third option is that each group can participate in the new system, or at least not actively oppose its implementation. The option each group selects will depend on the perceived costs and benefits of each course of action to members of that group.

The impact on each group will involve an evaluation of whether the arrangement is likely to allow individual parties to receive the rewards of their actions, force individuals to bear the costs of their actions, and broadcast sufficient information about those actions to other relevant parties.²²⁴

²¹⁸ See *supra* Part I.A.3.

²¹⁹ See CWA § 502 (11), 33 U.S.C. § 1362 (14) (2000). For a discussion of point and nonpoint sources, see *supra* Part I.A.3.

²²⁰ See *supra* Part I.A.3.

²²¹ See *supra* Part I.A.3.

²²² See *supra* Part I.A.3.

²²³ For example, an industry group who feels they benefit from the existing arrangement may feel threatened by the new system, and file a suit claiming that the policy does not carry out the intent of the CWA. Likewise, non-regulated municipalities or agricultural groups, who are currently unregulated, may not want the pressure of joining the regulatory regime, and may also fight the new organization.

²²⁴ See *supra* Part III.A.

1. Point Source Groups

Point source groups include individual industrial polluters or dischargers of nutrients into waterways. They may have a single point source or they may have multiple facilities and effluent streams. They may also be organized into industry groups represented by a formal or informal association. The key identifier is that they represent the parties subject to regulation under current CWA regulations.

a. Receiving Rewards for Their Actions—Point Sources

The potential benefits to existing point source dischargers if they participate in the Water Quality Trading Program include the potential for lower compliance costs to meet existing standards.²²⁵ In addition to reduced costs for existing facilities, this system could also allow point source dischargers the flexibility to more easily meet their obligations if they expand their facilities in the future.²²⁶ Additionally, firms or industries that are able to easily reduce their nutrient or pollutant discharges can receive direct financial benefits from those unable to reduce their effluent levels through trading the right to discharge by the amount reduced, or a proportion of that amount. These benefits will even accrue to those industries that have previously been motivated to increase regulation. For example, industries with strong economies of scale²²⁷ would benefit under the new EPA water quality trading policy by being compensated for any improvements they make in any regional watershed participating in an agreement.²²⁸ The greater the number of regional organizations established, the greater the potential benefit to these firms.

Firms who have favored regulation in the past because they have lower pollution abatement costs than their competitors²²⁹ will receive direct financial benefits from the new Water Quality Trading Policy as well.²³⁰

²²⁵ Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1610-11 (Jan. 13, 2003); *see also* EPA, RETROSPECTIVE ASSESSMENT, *supra* note 47.

²²⁶ Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1610-11 (Jan. 13, 2003).

²²⁷ *See supra* Part III.A.

²²⁸ This assumes that the allotted discharge levels would be similar in the initial case, which seems reasonable, since these firms would already be operating under a relatively uniform baseline across their operations.

²²⁹ *See supra* Part III.A.

²³⁰ Under the EPA Water Quality Trading Policy, firms who exceed their discharge allotment can be compensated by direct payments of those credits by others who are exceeding theirs. *See* Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608 (Jan. 13, 2003).

Those firms who favor regulation as a barrier to entry into their industry will not receive the same benefits from this new policy, since the policy does not necessarily foreclose additional parties from entering these watershed agreements, though it does still require point source dischargers to obtain discharge permits.²³¹ Another benefit that may accrue to point source polluters is that, if they engage in purchasing abatement credits from nonpoint sources such as municipalities or local farmers, they can promote their payments as investments in the community, thus receiving community goodwill as a result.²³²

If point sources do not participate in the system, the benefit they receive is the initial cost savings they would otherwise incur if they had to take part in establishing an initial agreement with the program. If they openly oppose the system, they may be able to benefit from a positive “spin” on their efforts to meet clean water standards without “paying off” other parties, but if they take this route they will also incur additional expenses to do so, and may face a backlash if others engage in similar public relations campaigns highlighting the reluctance of established industries to help farmers or others reduce pollution.

b. Bearing the Costs of Actions—Point Sources

Potential costs to point source dischargers include the legal and organizational costs of entering into a new arrangement with a number of additional parties. While it might appear that another cost would be increased legal liability due to a relaxation of the statutory preemption doctrine discussed earlier,²³³ by engaging in a contractual relationship with other members of the watershed agreement, the point source polluter limits their liability substantially. Compliance with the terms of the contract translates into a presumption against an actionable nuisance or breach of contract claim.²³⁴ There are very few other anticipated costs for point sources to participate in this program.²³⁵

²³¹ See *supra* Part I.A.3.

²³² Public relations campaigns highlighting the successful cooperative efforts between industry and farmers to lower pollution could be extremely valuable to organizations that have had low public esteem in the past.

²³³ See Meiners & Yandle, *Conceit*, *supra* note 66.

²³⁴ *Id.*

²³⁵ See Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608 (Jan. 13, 2003).

c. Information Broadcasting

Because the EPA Water Quality Trading Policy allows trading the rights from excess pollution abatement,²³⁶ signals are sent to participants in that market through the price of each unit of discharge abatement. While the prices may not be published if the trades are conducted privately, pricing information would generally be available to the parties needing the information, thus fulfilling one of the criteria for a well-functioning political market under a Public Choice approach.²³⁷ It may also be the case that, in some circumstances, the point source polluters/dischargers may want to advertise the amount of money they have spent “supporting” the nonpoint source polluters or others from whom they have purchased the credits.²³⁸

d. Point Source Decisions

Given these costs and benefits, the firms likely to be in favor of participating in the new regime would be those firms with some combination of the following factors: (1) lower abatement costs than their competitors (they can sell their excess abatement to others), (2) higher abatement costs than their competitors (they can purchase cheaper abatement costs from others), (3) high legal liability despite meeting effluent standards (complying with the agreement gives them a rebuttable presumption against an action), (4) firms with substantial ties to the communities in which they operate, who wish to strengthen their reputation through public participation in the program.²³⁹ Those firms who might be against participating would include those who: (1) seek to use regulation to discourage competitors from entering the market, or (2) have few ties to the local communities in which they operate, or do not desire to strengthen those ties, and are therefore indifferent to whether their local reputation improves.

²³⁶ *Id.*

²³⁷ *See supra* Part III.A.

²³⁸ This is another example of obtaining community goodwill through a repositioning of the market behavior to demonstrate the positive benefits of the action rather than allowing the action to be characterized as a polluter payoff.

²³⁹ Community ties may decrease the initial costs of joining the watershed organization due to stronger initial bonds of trust with other members of the agreement.

2. Nonpoint Sources

Nonpoint sources include dischargers of effluents that are essentially unregulated in practice under the current CWA.²⁴⁰ Key identifiable groups include farmers, municipalities, small businesses, and individuals.²⁴¹ However, since many municipalities also operate sewage treatment plants, presenting a conflict of interest and clouding the analysis, municipalities will not be considered as a relevant interest group for this evaluation.²⁴² Further, due to the impracticality of considering every person or household as an individual entity eligible for participating in a voluntary regime with point source and nonpoint source polluters under the EPA's Water Quality Trading Policy, they will also not be considered in this analysis.

a. Receiving Rewards for Their Actions—Nonpoint Sources

Nonpoint sources such as farmers and municipalities are likely to see several benefits from this policy if they participate, though the benefits are likely to be strongest for farmers. Currently, some farmers are threatened with minimal regulation regarding the discharge of nutrients or pollutants resulting in runoff, though they are generally exempted from CWA regulations. For example, the state of Maryland has required farmers to document their use of fertilizer and minimize its application,²⁴³ though the law appears to be relatively unenforced.²⁴⁴ Farmers have sought incentives from the state rather than penalties as a preferred regulatory approach to water quality.²⁴⁵

In contrast, Maryland's governor recently proposed taxing consumers who are connected to city sewers to pay a monthly tax to support improving the quality of effluents created by point source producers, but does not propose regulating the municipalities themselves.²⁴⁶ Therefore, one benefit

²⁴⁰ See *supra* Part I.A.

²⁴¹ See *supra* Part I.A.

²⁴² Practically speaking, there are also difficulties in private groups imposing restrictions on municipalities, and challenging political hurdles to be overcome.

²⁴³ MD CODE ANN., [AGRIC.] § 8-702, §§ 8-803 to 807 (2003).

²⁴⁴ For example, it is estimated that fully one-fourth of Maryland farmers have yet to file their plans with the state of Maryland to comply with a law that was passed in 1998. See MD CODE ANN. [AGRIC.] § 8-702, §§ 8-803 to 807 (2003); Michael Amon, *Agency Offers to Ease Rules on Farm Runoff*, WASH. POST, Dec. 9, 2003, at B1.

²⁴⁵ Anita Huslin, *At Md. Fertilizer Summit, Farmers Push Incentives*, WASH. POST, Aug. 6, 2003, at B1; Huslin, *Pollution*, *supra* note 1.

²⁴⁶ Matthew Mosk, *Ehrlich Backs Md. Sewage Fee: Surcharge Would Fund Upgrades to Protect the Bay*, WASH. POST, Jan. 9, 2004, at A1.

farmers may receive is to decrease the pressure for additional formal regulation of their activities, if they appear to be taking actions to reduce the flow of fertilizer and other nutrients into watersheds. An additional benefit would be the direct payments the farmers could receive for reducing the amount of nutrients they allow into watersheds, as well as reduced fertilizer costs. There are some indications that farmers would be able to substantially reduce the amount of nutrients released into waterways at fairly low costs, enabling them to be paid for those reductions, rather than merely avoiding fines as is currently the case.²⁴⁷ Finally, farmers benefit from general goodwill in their local communities.²⁴⁸

b. Bearing the Costs of Actions—Nonpoint Sources

If farmers were to participate in a watershed agreement, each farmer would have to pay the transactions costs of negotiating the agreement, though this cost could be lessened if the farmers organized as a group to negotiate terms of an umbrella agreement, which seems likely.²⁴⁹ Each farmer would also bear the costs of maintaining or reducing the level of nutrient or pollutant runoff from their operations. If they simply maintain their current levels, they would bear no new costs, and if they reduce their runoff levels, they would be eligible to sell that reduction to others for compensation, reducing those costs. The major cost to the farmers would be the commitment of bringing themselves under a regulatory regime they are currently exempt from. For example, nonpoint sources are generally not regulated under the CWA,²⁵⁰ and current local regulations tend to be

²⁴⁷ For example, recent reports have suggested that farmers could dramatically reduce the discharge of fertilizer by planting buffer crops near waterways, and using technology to convert poultry manure into usable fertilizer to sell to other farmers. See Anita Huslin, *Hope Seen for Poultry Industry; Study Says Companies Can Address Pollution*, WASH. POST, July 25, 2003, at B1; see also Lilz Arzua, *Lean Times Crimp Funding to Save Farms; Ehrlich Administration Intends to Concentrate on Protecting Chesapeake Bay*, WASH. POST, Nov. 16, 2003, at C4.

²⁴⁸ A recent national survey concluded that approximately 63% of Americans are concerned that pesticides or manure could contaminate drinking water, though only 59% were in favor of spending more money to reduce that risk. 75% of respondents were in favor of conditioning future aid to farmers on the adoption of conservation practices. CTR. FOR AGRIC. IN THE ENV'T & PUB. OPINION LAB, N. ILL. UNIV., *PROTECTING OUR MOST VALUABLE RESOURCES* (2001), available at http://www.aftresearch.org/farbill/docs/National_Public_Opinion.pdf.

²⁴⁹ Performing a Google search using the search term "farmer association" on January 21, 2004, the author found that Farmers' associations are abundant in the U.S. Groups as diverse as deer farmers, trout farmers, Christmas tree farmers, and organic farmers in Hawaii have all organized, according to a recent search of the Internet.

²⁵⁰ Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1610-11 (Jan. 13, 2003).

fairly lax.²⁵¹ As described previously, compliance with regulatory requirements, however lax, presents rebuttable evidence against some common law liabilities,²⁵² and that compliance generally fulfills the farmers' legal obligations. If they voluntarily joined a watershed agreement, farmers might be subject to substantial controls on their behavior, which they are not subject to presently.

Once an audit of the watershed is conducted, nonpoint source dischargers such as farmers would likely face increased nuisance liability regardless of whether they join a watershed agreement since it would be less costly for those harmed by increased pollution to pinpoint the source of the decrease in water quality. Thus, the costs of inaction may be increased liability without any offsetting benefit. The costs of openly opposing such an agreement might be diminished public esteem if the farmers are perceived as being unwilling to do their part in cleaning up the environment.²⁵³

c. Information Broadcast for Nonpoint Sources

The information flow from and to nonpoint sources is vitally important. The nonpoint source dischargers, such as farmers, will need to know the prices paid to abate pollution. As long as that information is freely available or easily obtainable, the farmers will receive the information they need to make decisions. Moreover, if the information is public or if price indexes are created, point sources will also be able to make more informed decisions about how to minimize compliance costs.

d. Decision for Nonpoint Sources

Since farmers are likely to incur additional liabilities if a watershed organization is created and they do not join, and they are likely to see offsetting benefits to those increased liabilities if they join, they will either

²⁵¹ For example, the Maryland statute governing fertilizer runoff control plans simply requires farmers to file a plan with the state and commit to using as little least fertilizer as is necessary. *See* MD CODE ANN. [AGRIC.] § 8-702, §§ 8-803 to 807 (2003); *see also Suffocating the Bay*, WASH. POST, Aug. 10, 2003, at B6.

²⁵² *See* Meiners & Yandle, *Conceit*, *supra* note 66.

²⁵³ Maryland's state agricultural secretary recently declared "I know farmers—I've been one all my life. They want to do the right thing." Huslin, *Manure*, *supra* note 67. Another farmer indicated a willingness to incur the costs of more carefully monitoring his own fertilizer use, but is resentful that suburban homeowners, developers, and others are not required to do so. *See id.* He stated "It does cost something, but if that's the price we have to pay to save the bay for our children, then that's what should be done." *Id.*

oppose them entirely, or participate. Since there is an overriding threat of increased local regulation, and it would be difficult to oppose the organization of the watershed organization, they are likely to participate in the agreements. Furthermore, farmers may be especially susceptible to moral suasion arguments suggesting they owe a commitment to cleaning up nearby waterways, since many of them are second or third-generation farmers, and they have an interest in maximizing the long-term value of their land, which is dependent on the quality of nearby waterways.²⁵⁴

3. Other Parties: “Public Interest” Groups and the Courts

The parties helping to bring awareness to the broader community about the existence of the new watershed trading agreements and those helping facilitate the legal enforcement of the agreements constitute the third group discussed. This group includes “public interest” advocacy groups, such as environmental organizations, transactional and litigation attorneys, and local judges likely to enforce the agreements or hear common law suits related to the new arrangements.

a. Receiving Rewards for Their Actions—Other Parties

This group of other parties²⁵⁵ is likely to see an increase in their organizations’ relevance to the quality of local watersheds. Environmental advocacy groups can claim increased responsibility as an institutional watchdog helping to maintain environmental quality by ensuring the parties are upholding their agreements, publicizing failures and highlighting successes. Some environmental groups may even have expertise in measurement issues to help ensure periodic audits are performed properly, though the audits would likely be performed by a neutral third party.²⁵⁶ If these groups appeal to a broad public audience to raise awareness of new institutional arrangements, functioning as public “watchdogs,” they will raise their public profile and gain opportunities to recruit new members, increase their public reputation, and seek new funding. They are also likely

²⁵⁴ See generally Huslin, *Manure*, *supra* note 67.

²⁵⁵ Other parties include those who are not parties to the watershed agreement directly.

²⁵⁶ Professor Richard Epstein has argued that command-and-control environmental regulations fail to improve the environment, and can lead to excessive lawsuits over how the government decides regulatory matters. See RICHARD A. EPSTEIN, *SIMPLE RULES FOR A COMPLEX WORLD* 280-86 (1995); Brady, *supra* note 179, at 119-21; John H. Fund, *Common-Law Common Sense*, WALL ST. J., May 30, 1995, at A12.

to see improvements in the environmental quality of watersheds in their local areas.²⁵⁷

Local lawyers focused on transactional and common law suits under a new regime would likely see increases in their business from advising individual clients on new watershed agreements. Local courts would also see an increase in their relevance to local environmental quality through common law suits of nuisance, riparian rights, and contract enforcement.

b. Bearing the Costs of Actions—Other Groups

National environmental groups may see a decline in their relevance to watershed quality issues if they do not have a local emphasis, since local organizations would be able to more quickly assess actual conditions of the watershed and compliance with the agreements to provide public commentary and monitoring. Local groups would likely see an increase in their relevance and importance to the local communities, with the chance of becoming a more significant stakeholder in improving local water quality.

Local administrative law attorneys may see a decline in their business, and national administrative and environmental trial lawyers are likely to see a decrease in their business as a result of enforcement suits shifting from national suits either against the EPA or against defendants accused of violating EPA standards to local common law suits.²⁵⁸

Local courts may see an increase in suits related to environmentalism, so if they already have a full docket, the suits may overwhelm their immediate capabilities, imposing direct costs on them administratively.

c. Information Broadcast for Other Parties

The other parties' actions will probably result in increased information flow and transparency in a new watershed-trading regime. For example, environmental organizations will have an incentive to demonstrate the level of compliance by parties to the agreements, and the level of success in improving water quality. Those in the legal system will want to highlight, in public courtrooms, the level of non-compliance with agreements. Additionally, periodic audits will be necessary to measure the performance of various parties to the agreement. As a result, the public is likely to hear

²⁵⁷ See Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1610-11 (Jan. 13, 2003); EPA, Fact Sheet, *supra* note 38.

²⁵⁸ Brady, *supra* note 179, at 119. Brady indicates that "The administrative-law bar and trial lawyers in the United States have much to gain from regulations that subject individuals and firms to complex legal procedures." *Id.*

more information about the quality of local waters, and the other parties are likely to obtain the information they need under a watershed-based water quality trading regime.

d. Decision for Other Parties

The chance to expand their budgets through increased relevance and exposure would be a valuable incentive for environmental non-profits.²⁵⁹ As noted in recent studies, “environmental groups do derive utility from discretionary [not directly service-related] spending.” In this respect, environmental groups, like other non-profit organizations focused on health, research, and social charities, are interested in expanding their operations, even if their services do not expand.²⁶⁰ As a result, the chance for increased exposure and public esteem through a productive role in monitoring and helping enforce watershed agreements would be enticing to environmental public interest groups and they would be likely to promote them.

Local lawyers, especially transactional lawyers likely to work on watershed agreements, or those likely to be involved in common law enforcement, nuisance, or riparian rights suits, are likely to support the new water quality policy, while some national attorneys benefiting from current administrative suits would likely oppose the policy and specific watershed agreements likely to result. Local judges would likely see their influence over environmental issues increase, and would be likely to support both the policy in general, and the establishment of specific watershed agreements. One caveat to the role of judges should be noted. Courts, and the litigation process in general, can share many of the same problems elected officials face from a public choice perspective.²⁶¹ In many states, judges are elected, for example, and are subject to very similar pressures as other elected officials.²⁶² Like regulatory agencies, it may be possible to “capture” local judges, or local judges may have other conflicts of interests or particular biases.²⁶³ Additionally, litigation is expensive, and deep-pocketed parties often have an advantage both in court, and in settlement proceedings.²⁶⁴

²⁵⁹ Julie A. Hewitt & Daniel K. Brown, *Agency Costs in Environmental Not-for-Profits*, 103 PUB. CHOICE 163, 177 (2000).

²⁶⁰ Richard Steinberg, *The Revealed Objective Functions of Nonprofit Firms*, 17 RAND J. ECON. 508, 508 (1986); J. Khanna et al., *Charity Donations in the UK: New Evidence Based on Panel Data*, 56 J. PUB. ECON. 257, 258 (1995).

²⁶¹ Cross, *supra* note 129.

²⁶² See Orrin W. Johnson & Laura Johnson Urbis, *Judicial Selection in Texas: A Gathering Storm?*, 23 TEX. TECH L. REV. 525, 545-46 (1992).

²⁶³ *Id.* at 549-50; see also *supra* Part III.C.

²⁶⁴ Cross, *supra* note 129, at 973-74; see also Einer R. Elhauge, *Does Interest Group Theory*

Thus, the courts may not be disinterested neutral parties in the decisions they make regarding individual parties in watershed agreements, but they are still likely to support the policy and specific agreements.

B. *Bootleggers and Baptists*²⁶⁵

Several possible alliances of “Bootleggers” and “Baptists” are conceivable. The “Baptists” are likely those groups, such as the Chesapeake Bay Foundation in the Chesapeake Bay Watershed, who have as their mission to “Save the Bay.”²⁶⁶ “Bootleggers” could include local attorneys or point source dischargers. Both groups would benefit under the new system, but would have less credibility on pollution issues than an environmental non-profit organization. Support from attorneys or industry could come through direct support to the new organization, through spending on public messaging, or through donations to a “Baptist” organization. If either of the “Bootlegger” groups and a “Baptist” group like the Chesapeake Bay Foundation supported the new policy and the establishment of a watershed agreement, it would be more likely to gain support, according to the “Bootleggers and Baptists” theory espoused by Bruce Yandle.²⁶⁷

C. *Institutional Requirements for Success*

Using the criteria discussed earlier in this paper,²⁶⁸ the institutions likely to result from the EPA Water Quality Trading Policy appear to be poised for permanence if the political interest groups continue to support them. Under the first condition of clearly defined boundaries and participants, it is clear from the policy who is able to participate—those currently regulated under the CWA, and those willing to bargain with the regulated. Once an agreement is established, participants may freely enter and exit within the agreement guidelines.²⁶⁹ Because the agreements are based on geographically localized watersheds, the second condition of congruence between allocations of goods and local conditions is also met. It is not clear

Justify More Intrusive Judicial Review?, 101 YALE L.J. 31, 78-79 (1991).

²⁶⁵ For a discussion of the theory of Bootleggers and Baptists, see *supra* Part III.B.

²⁶⁶ The Chesapeake Bay Foundation claims over 115,000 members. See generally Chesapeake Bay Foundation, The Chesapeake Bay Foundation at a Glance, at http://www.cbf.org/site/PageServer?pagename=about_index (last visited Feb. 1, 2005).

²⁶⁷ See *supra* Part III.B.

²⁶⁸ See *supra* Part III.D. See generally OSTROM, *supra* note 204.

²⁶⁹ See Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1610-11 (Jan. 13, 2003); EPA, Fact Sheet, *supra* note 38; see also *supra* Part I.A.4.

(since the agreements themselves will specify how they are to be modified to some extent), whether the third condition of participants being able to modify the rules will necessarily be met. It is unlikely that third parties who are not parties to the agreement would be able to modify the terms, and it could be argued that individuals along the watershed who are not parties to the agreement might be affected, but those individuals might also have an incentive to join the agreement as a result.

The fourth condition, that of the monitor or auditor being able to allocate resources, is met only indirectly. The auditor determines whether parties are meeting their obligations under the agreement, and whether they are able to trade their right to discharge into the waterways, or must purchase that right from another. It is also not clear whether the fifth condition, receiving increasingly higher sanctions for violating the rules, is met either. Purchasing credits to discharge is an option under the rules, and judicial enforcement options such as breach of contract, nuisance, or riparian rights cases are likely to be the sanctions. Those sanctions generally treat each violation as an independent breach of a duty, so habitual rule breakers will be subject to sanction for each violation, but the sanctions may not increase. Because the agreement can specify whether disputes are resolved in the courts or through other means, the sixth condition is satisfied. Finally, the EPA Water Quality Trading Policy allows the parties to the watershed agreements to devise their own institutional rules, satisfying the seventh requirement for institutional longevity.

While many of these issues are subject to change, if the policy remains as it currently stands, four of the seven criteria are firmly met, and three are met with conditions or caveats. This suggests that, institutionally, the policy is sound and likely to last, assuming the relevant political interest groups continue to see benefits from the program and remain committed to it.

V. RECOMMENDATIONS

Several specific actions by the EPA or other groups interested in moving watershed-based water quality trading agreements forward are suggested from the analysis of political interest group interactions. First, given the government failures noted earlier regarding the EPA, one role the agency could play in a watershed trading regime would be that of an auditor of water quality.²⁷⁰ It has been noted that the EPA “is positioned to be a key consultant to the states in reporting water quality data, analyzing con-

²⁷⁰ Interview with Bruce Yandle, Alumni Distinguished Professor of Economics, Clemson University, Arlington, Va. (Nov. 5, 2003); Morriss et al., *Failure*, *supra* note 189, at 65.

ditions, and providing technical support in the development of water quality management approaches.²⁷¹ Second, obtaining the support of several key groups within a watershed region will be important to ensure a successful, sustainable implementation.

Providing information and evidence of effectiveness to environmental non-profit organizations is an important first step, so that the organizations will see watershed water quality trading, at the least, as not taking a step backwards, so they do not initially mobilize opposition. If environmental organizations see their potentially constructive role in shaping the agreement and highlighting the level of public compliance, they will be more likely to support it.

The second important group to “sell” the policy to is farmers—both individually and collectively. The EPA or another organizing group should meet early and often with local farmers to reassure them of the benefits and low costs of involvement, as well as the positive public relations that could result. Finally, meeting with local bar associations or other groups representing attorneys and judges would help assure this group of the potential benefits of the policy. Those meetings should occur early enough to have them help shape the agreement, since they will help enforce it.

If representatives of each of these three main groups are brought into the process, they will be much more likely to support it and the watershed regime will be more likely to succeed.

CONCLUSION

Despite decades of onerous regulation of water quality throughout the U.S., economically and intrinsically valuable natural resources such as the Chesapeake Bay continue to see poor water quality. While legal and political trends have moved away from command-and-control top-down regulation, and toward decentralization, the EPA's policies, until recently, have not. The EPA's Water Quality Trading Policy²⁷² recognizes the importance of state and regional cooperation in watershed quality management. It also recognizes that economic markets can dramatically increase the efficiency of pollution reduction, and create incentives for innovation and greater involvement in improving the quality of waters throughout the U.S. The policy incorporates enough flexibility to allow new parties, such as farmers, to enter into agreements with existing regulated point sources, creating a new dynamic. Based on the incentives apparent from a political economy

²⁷¹ Morriss et al., *Failure*, *supra* note 189, at 65.

²⁷² Water Quality Trading Policy; Issuance of Final Policy, 68 Fed. Reg. 1608, 1610-11 (Jan. 13, 2003)

interest group analysis, the policy is likely to encourage participation from key groups. If enough flexibility and stability is created, and if the farmers, environmental groups, and local attorneys and judges are brought into the process of creating watershed agreements early, this new institution will have a strong chance of succeeding. In the Chesapeake, the bay may begin to rejuvenate, the fish may stop dying, and the crabs may again be plentiful. If the policy succeeds, the natural inhabitants of the bay, those who depend on it for livelihood, and those who enjoy visiting will all be better off.

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