WATCHING THE RIVER FLOW: THE PROSPECTS FOR IMPROVED INTERSTATE WATER POLLUTION CONTROL

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Transboundary pollution creates some of the most intractable disputes in the allocation of natural resources.[1] These disputes arise in both political and legal forums. A lengthy political battle resulted, for example, from the controversy surrounding the long-range transport of the air pollutants that contribute to acid rain.[2] After more than a decade, Congress overhauled the Clean Air Act (CAA)[3] and assigned responsibility for reducing acid rain precursors such as sulfur dioxide.[4]

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1. *See generally Symposium on Transboundary Problems in Natural Resources Law*, 32 KAN. L. REV. 1 (1983) (discussing interstate air pollution litigation).

2. *See generally* J. Wallace Malley, Jr., *Acid Rain: A Decade of Footdragging May Be Coming to an End*, 91 W. VA. L. REV. 817 (1989) (discussing the future of acid rain control and its potential effect on coal producers).

3. 42 U.S.C. §§ 7401-7671q (Supp. II 1990).

4. This decade-long effort culminated in the adoption of the 1990 amendments to the Act, Pub. L. No. 101-549, 104 Stat. 2399 (1990) (codified at 42 U.S.C. §§ 7651-7661f (Supp. II 1990)). For a summary of the provisions of the 1990 amendments dealing with interstate air pollution, *see generally* Timothy Talkington, Comment, *Interstate Air Pollution Abatement and the Clean Air Act Amendments of 1990: Balancing Interests*, 62 U. COLO. L. REV. 957 (1991).

The most noteworthy battles over interstate water pollution have been waged in the legal arena. In the last twelve years, three different litigants petitioned the Supreme Court to force a polluter in one state to reduce discharges adversely affecting another state.[5] Most recently, in *Arkansas v. Oklahoma*,[6] the Court held that the Environmental Protection Agency (EPA) has authority under the Clean Water Act (CWA),[7] to condition issuance of a permit to release water pollutants on compliance with a downstream state's water quality standards.[8]

This article analyzes the impact of *Arkansas v. Oklahoma* on legal efforts to curtail interstate water pollution. Four sources of law are potentially available to a downstream state seeking protection against out-of-state water pollution: federal common law, the common law of the downstream (or affected) state, the common law of the upstream (or source) state, and the federal CWA. The Supreme Court precluded resort to the first two mechanisms, holding that enactment of the CWA preempted both bodies of law.[9] Despite its continuing availability, the third body of law is unlikely to provide effective relief to downstream states. As a practical matter, limitations of common law remedies in deterring pollution and the potential for bias inherent in the application of source state common law preclude its effective use by downstream states.[10]

Arkansas v. Oklahoma represents the first time the Supreme Court has addressed directly the fourth source of law available to downstream states, the provisions for interstate pollution control established by the CWA. This article contends that, by deferring to EPA's interpretation of those provisions, the Court has endorsed an approach that imposes an unreasonable burden on affected states to trace the cause of interstate pollution to particular upstream sources.[11] As a result, the CWA is not likely to provide a satisfactory means of stemming the flow of interstate water pollution.

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5. Arkansas v. Oklahoma, 112 S. Ct. 1046 (1992); International Paper Co. v. Ouellette, 479 U.S. 481 (1987); City of Milwaukee v. Illinois, 451 U.S. 304 (1981).

6. 112 S. Ct. 1046 (1992).

7. 33 U.S.C. §§ 1251-1387 (1988).

8. 112 S. Ct. at 1051.

9. *See infra* notes 13-43 and accompanying text (discussing applicable federal and state common law).

10. *See infra* notes 44-56 and accompanying text (discussing the application of source state common law to an interstate dispute).

11. *See infra* notes 213-27 and accompanying text (discussing the burden placed on affected states).

The final part of the article suggests administrative, judicial, and legislative means of strengthening the remedies available to downstream states.[12] It concludes that, although it is too early to assess the effectiveness of the 1990 CAA amendments, these amendments potentially provide a model for the development of more effective transboundary water pollution controls.

I. A Survey of Interstate Water Pollution Dispute Resolution Mechanisms

States seeking to curtail water pollution generated in upstream states have sought relief under both federal and state law, and have resorted to judicial as well as legislative remedies. This section traces the development of these remedies prior to *Arkansas v. Oklahoma*. In the twelve years prior to that decision, the Supreme Court barred downstream states from relying on either federal common law or their own common law. Although they theoretically remain available neither source state common law nor source state statutory regulatory remedies provide a comprehensive or equitable mechanism for addressing the concerns of affected states. The prospect of effective resolution of interstate pollution disputes through voluntarily-negotiated agreements between source and affected states is equally dim. Therefore, downstream states must rely on whatever relief federal and affected state legislation and administrative regulation afford.

A. *Federal Common Law*

Early this century, the Supreme Court held that downstream states could protect themselves against intrusions from out-of-state pollution by resorting to federal common law. In *Missouri v. Illinois*,[13] Missouri alleged that Chicago's plans to discharge its sewage into a river that flowed into the Mississippi River would convert the latter "from a pure stream into a polluted and poisoned ditch."[14] Noting the absence of an explicit constitutional bar to the defendant's conduct,[15] Justice

12. *See infra* notes 221-23 and accompanying text (discussing alternative remedies for downstream states).

13. 200 U.S. 496 (1906). Five years earlier, the Court refused to grant the city of Chicago's request for a demurrer to Missouri's bill of complaint. Missouri v. Illinois, 180 U.S. 208, 248 (1901).

14. 200 U.S. at 518. The two rivers joined at a point about 43 miles north of St. Louis. 180 U.S. at 211.

15. 200 U.S. at 519.

Holmes failed to identify the source of Missouri's legal rights. Nevertheless, it later became apparent that the Court's holding recognized the existence of a body of federal common law applicable to interstate water pollution disputes.[16] The Court indicated its willingness to afford relief when pollution generated in one state caused injury in another, but required that the case "be of serious magnitude, clearly and fully proved."[17] In the Court's view, Missouri failed to satisfy this standard.[18]

The next year, in *Georgia v. Tennessee Copper Co.*,[19] Justice Holmes elaborated on the extent of a state's right to be free of pollution generated in another state. Holmes characterized Georgia's suit against a Tennessee copper plant that discharged sulfur dioxide as one "for an injury to [Georgia] in its capacity of *quasi*-sovereign" to protect the state's interest "in all the earth and air within its domain."[20] Satisfied that the pollution threatened damage to forests, vegetation, and perhaps the health of Georgia residents,[21] the Court enjoined the company from operating, except in compliance with specified emission limitations.[22]

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16. *See generally* Robert L. Glicksman, *Federal Preemption and Private Legal Remedies for Pollution*, 134 U. PA. L. REV. 121, 152-55 (1985) (discussing the early federal common law in interstate pollution cases); Michael Collins, Comment, *The Dilemma of the Downstream State: The Untimely Demise of Federal Common Law Nuisance*, 11 B.C. ENVTL. AFF. L. REV. 295, 311-20 (1984); Maria V. Maurrasse, Comment, Oklahoma v. EPA: *Does the Clean Water Act Provide an Effective Remedy to Downstream States or Is There Room Left for Federal Common Law?*, 45 U. MIAMI L. REV. 1137, 1143-45 (1991). *See also* Calvin R. Dexter & Teresa J. Schwarzenbart, Note, City of Milwaukee v. Illinois: *The Demise of the Federal Common Law of Water Pollution*, 1982 WIS. L. REV. 627 (discussing the application of federal common law to an interstate pollution case).

17. 200 U.S. at 521.

18. *Id.* at 526.

19. 206 U.S. 230 (1907).

20. *Id.* at 237. The court added:

> When the States by their union made the forcible abatement of outside nuisances impossible to each, they did not thereby agree to submit to whatever might be done. They did not renounce the possibility of making reasonable demands on the ground of their still remaining *quasi*-sovereign interests; and the alternative to force is a suit in this court.

Id.

21. *Id.* at 238-39.

22. Georgia v. Tennessee Copper Co., 237 U.S. 474 (1915), *modified*, 240 U.S. 650 (1916). In subsequent years, the Court reaffirmed a state's right to bring suit within the Court's original jurisdiction to abate interstate pollution that threatened the health or property of its citizens. *See, e.g.*, New York v. New Jersey, 256 U.S. 296, 302 (1921).

A 1971 appellate court opinion purported to clarify any remaining questions about the source of the law applicable to interstate water pollution disputes. In *Texas v. Pankey*,[23] the Tenth Circuit interpreted *Tennessee Copper* as establishing that each state's entry into the Union guaranteed it federal protection from pollution caused by outside sources.[24] Federal common law principles established and provided remedies for this "quasi-sovereign ecological right."[25]

The next year the Supreme Court cited *Pankey* as the source of the "controlling principle" in a suit by Illinois to abate a public nuisance caused by Milwaukee's discharge of sewage into Lake Michigan. In *Illinois v. City of Milwaukee*[26] (*Milwaukee I*), the Court declared that federal common law was available to protect a state's ecological rights.[27] The Court premised these federal common law principles, which protected the state's "quasi-sovereign" ecological rights, on the need for a uniform rule of decision to govern the allocation of interstate

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The Court required states to prove "by clear and convincing evidence," the need for relief. *Id.* at 309. In *New York v. New Jersey*, the plaintiff failed to meet this burden because the addition of New Jersey sewage into the already polluted New York Bay did not make the situation sufficiently worse to justify an injunction. *Id.* at 309-10, 312-13. *But see* New Jersey v. New York, 283 U.S. 473 (1931) (finding that New York's discharge of garbage into the Atlantic Ocean constituted a public nuisance on New Jersey beaches and requiring New York to incinerate its garbage).

23. 441 F.2d 236 (10th Cir. 1971).

24. *Id.* at 240 (citing Georgia v. Tennessee Copper Co., 206 U.S. 230, 237 (1907)). Each state's entry into the Union "inherently insured or guaranteed to it a right of protection by a federal court against improper pollution or impairment by outside sources of its appropriate environment and resource conditions." *Id.*

25. At the time of *Tennessee Copper*, the need for and existence of federal common law had not yet been recognized, so "it was only natural that the court should then deal with the question before it [*i.e.*, the source of Georgia's rights] upon the indefinite basis that it did." *Id.* It subsequently became clear that "the ecological rights of a State in the improper impairment of them from sources outside the State's own territory" would be grounded in federal common law. *Id.*

> Federal common law and not the varying common law of the individual States is, we think, entitled and necessary to be recognized as a basis for dealing in uniform standard with the environmental rights of a State against improper impairment by sources outside its domain .... [O]nly a federal common law basis can provide an adequate means for dealing with such claims as alleged federal rights.

Id. at 241.

26. 406 U.S. 91 (1972).

27. *Id.* at 99-100. "When we deal with air and water in their ambient or interstate aspects, there is a federal common law." *Id.* at 103. The Court held that this federal common law of nuisance provided a proper basis for federal question jurisdiction under 28 U.S.C. § 1331(a). *Milwaukee I*, 406 U.S. at 99.

waters.[28] For the time being,[29] federal common law permitted states with high water-quality standards to impose those strict standards on other states.[30]

Five months after the decision in *Milwaukee I*, however, Congress adopted the 1972 amendments to the Federal Water Pollution Control Act (FWPCA).[31] Nine years later the Supreme Court returned to the issue in *City of Milwaukee v. Illinois (Milwaukee II)*.[32] Basing its conclusion primarily upon the "comprehensive" character of the new statute's program for eliminating water pollution,[33] the Supreme Court held that these amendments deprived the federal courts of the authority to impose more stringent limitations than those imposed by EPA or the states under the CWA.[34] As a result, unless the 1972 amendments

28. *Id.* at 105 n.6 (citing Banco Nacional de Cuba v. Sabbatino, 376 U.S. 398, 421-27 (1963)). The Court also relied on the fact that "Congress has evinced increasing concern with the quality of the aquatic environment as it affects the conservation and safeguarding of fish and wildlife resources." *Id.* at 102. For a discussion of the functions the federal common law serves in resolving interstate pollution disputes, see Kenneth M. Murchison, *Interstate Pollution: The Need for Federal Common Law*, 6 VA. J. NAT. RESOURCES L. 1 (1986).

29. The Court speculated that "[i]t may happen that new federal laws and new federal regulations may in time preempt the field of federal common law of nuisance." 406 U.S. at 107.

30. *Id.*

31. Pub. L. No. 92-500, 86 Stat. 816 (1972) (codified as amended at 33 U.S.C. §§ 1251-1387 (1988)). Although the current CWA is sometimes still referred to as the FWPCA, the term CWA has been the name used most frequently since 1977. *See infra* notes 79-98 and accompanying text (discussing the history and provisions of the CWA).

32. 451 U.S. 304 (1981). The case was a continuation of *Milwaukee I*, discussed at *supra* notes 26-30 and accompanying text. Following the Court's decision in that case, the district court found that Illinois proved the existence of a federal common law nuisance and ordered Milwaukee to eliminate sewer overflows and achieve specified effluent limitations on treated sewage. 451 U.S. at 311-12. The court of appeals reversed the effluent limitations as applied to treated sewage but upheld the rest of the district court's order. *Id.* at 321-24.

33. 405 U.S. at 317-19. The Court concluded that Congress had "occupied the field through the establishment of a comprehensive regulatory program supervised by an expert administrative agency." *Id.* at 317. For a fuller treatment of *Milwaukee II*, see Glicksman, *supra* note 16, at 159-71. Shortly thereafter, the Court expanded its holding beyond the factual parameters of *Milwaukee II* when it ruled that "the federal common law of nuisance in the area of water pollution is entirely preempted by the more comprehensive scope of the [1972 CWA]." Middlesex County Sewerage Auth. v. National Sea Clammers Ass'n, 453 U.S. 1, 22 (1981). Federal common law, as applied to ocean pollution, was preempted by the Marine Protection, Research, and Sanctuaries Act, 33 U.S.C. §§ 1401-1445 (1988). 453 U.S. at 11.

34. 451 U.S. at 320. Similarly, the Court held that the district court lacked the power to order Milwaukee to eliminate sewer overflows. *Id.* at 321-24.

left state common law remedies intact, a question the Court refused to address in *Milwaukee II*,[35] the CWA's remedies constituted the only legal weapons available to states seeking abatement of interstate water pollution.

B. *State Common Law*

The Supreme Court addressed the impact of the 1972 amendments on state common law remedies in *International Paper Co. v. Ouellette*.[36] The Court held that, in considering a state law claim concerning interstate water pollution subject to the CWA, a court must apply the law of the source state; the CWA preempted the common law of the receiving state.[37] Although the ultimate goal of both federal and state law is to eliminate water pollution,[38] application of the common law of the receiving state "circumvents the [federal] permit system, thereby upsetting the balance of public and private interests addressed by the Act."[39] Furthermore, the failure to preempt state law undermines "the important goals of efficiency and predictability in the permit system," and creates a "chaotic regulatory structure"[40] in which a point source could be subject to the multiple, varied, and often indeterminate common laws of the downstream states.[41] Congress intended to permit

35. *Id.* at 310 n.4.

36. 479 U.S. 481 (1987). Several lower federal and state courts previously addressed that issue. In a continuation of the litigation between Illinois and Milwaukee, the Seventh Circuit held that the CWA precluded the application of one state's common law against a pollution source located in another state. Illinois v. City of Milwaukee, 731 F.2d 403 (7th Cir. 1984), *cert. denied*, 469 U.S. 1196 (1985). Application of the affected state's common law interfered with the CWA's carefully devised regulatory scheme. *Id.* at 414. But the Act did not preempt suits alleging violations of the common law of the source state. *Id.* at 413-14. The Tennessee Supreme Court agreed, and reversed an appellate court decision to the contrary. Tennessee v. Champion Int'l Corp., 709 S.W.2d 569 (Tenn. 1986), *rev'g* 22 Env't Rep. Cas. (BNA) 1338, 1342 (Tenn. Ct. App. 1985), *vacated*, 479 U.S. 1061 (1987).

37. 479 U.S. at 486, 492-96.

38. *Id.* at 494.

39. *Id.* In particular, applying the receiving state's common law to an interstate dispute would disrupt the "balance of interests" struck by EPA in devising effluent limitations and by the source state in issuing a § 1342 permit. *Id.* at 495.

40. Quoting the Seventh Circuit's decision in the *Milwaukee* litigation, the Court determined that permitting the receiving state to apply its own common law "would lead to a chaotic confrontation between sovereign states." *Id.* at 497 (quoting Illinois v. City of Milwaukee, 731 F.2d at 414).

41. 479 U.S. at 497. Despite its quotation of the following portion of the legislative history, the Court appeared to ignore its import: "[I]f damages could be shown, other

source states to influence pollution regulation, while affording affected states only an advisory role in regulating pollution originating outside their borders.[42] The Court concluded that individuals harmed by interstate pollution could bring suit alleging violations of the source state's nuisance laws, and could even file such suits in the courts of the affected state.[43]

Although *Ouellette* preserved the right of affected states, as well as others injured by interstate pollution, to seek redress under the common law of the source state, resort to source state common law in this context may be problematic.[44] Litigation premised on common law causes of action historically has proven insufficient to provide an effective deterrent to pollution.[45] Even if an individual suffers sufficient injury to establish standing to sue,[46] for example, he or she often lacks a sufficient stake in the matter to finance the litigation alone, and high transaction costs may prevent agreement among potential multiple plaintiffs to pay for the suit. In addition, even if a plaintiff manages to

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remedies [in addition to a citizen suit under 33 U.S.C. § 1365 (1988)] would remain available. Compliance with requirements under this act would not be a defense to a common law action for pollution damages." S. REP. No. 414, 92d Cong., 1st Sess. 3746-47 (1971), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3746, *cited in* International Paper Co. v. Ouellette, 479 U.S. at 493 n.13. This statement indicates Congress' intent that predictability give way, at least in certain cases, to the goal of remedying the damage caused by water pollution.

42. *Ouellette*, 479 U.S. at 490. The Court stated: "[T]hus the Act makes it clear that affected States occupy a subordinate position to source States in the federal regulatory program." *Id.* at 491. The Court referred to the notice and comment opportunities afforded by 33 U.S.C. §§ 1341(a)(2), 1342(b)(5) as alternative avenues for affected states to pursue complaints against source state polluters. *Id.* at 489-90.

43. 479 U.S. at 497, 501-02.

44. *Cf.* Maurrasse, *supra* note 16, at 1180 (stating that the decisions in *Milwaukee II* and *Ouellette* "continue to leave downstream states without an effective means of protecting their environmental integrity").

45. *See* JOHN E. BONINE & THOMAS O. MCGARITY, THE LAW OF ENVIRONMENTAL PROTECTION 215 (2d ed. 1992) (discussing the inadequacies of common law enforcement); N. William Hines, *Nor Any Drop to Drink: Public Regulation of Water Quality - Part I: State Pollution Control Programs*, 52 IOWA L. REV. 186, 196-201 (1966) (discussing inadequacies of private remedies).

46. A plaintiff in a private nuisance action typically must demonstrate that the defendant's activities caused a substantial interference with the plaintiff's protected property interests. *See* Robert L. Glicksman, *A Guide to Kansas Common Law Actions Against Industrial Pollution Sources*, 33 KAN. L. REV. 621, 634-35 (1985). A plaintiff in a public nuisance action satisfies the "special injury" requirement by proving that the harm he or she suffered is distinguishable from that suffered by other members of the public. *Id.*

accumulate the resources necessary to file suit, it is difficult to link the damage suffered to any particular defendant.[47] Perhaps even more importantly, private litigation is too haphazard to provide a coordinated or comprehensive program of pollution control.[48] Because it is premised on the adversary process characteristic of the Anglo-American legal system, private litigation tends to represent inadequately the public interest in matters concerning pollution control.[49] The shortcomings of the common law as a means of combatting pollution persuaded Congress to establish legislative standards in the 1970's.

The potential for biased or inequitable applications of the law which is inherent in the interstate context exacerbates these difficulties. States involved in interstate pollution disputes obviously have conflicting interests. The upstream state wishes to resolve the dispute by imposing the fewest possible restrictions on its dischargers, so as to minimize the economic impact. It may do so by ignoring the adverse effects that its discharges into interstate waters have on affected state interests when determining appropriate levels of pollution control.[50] The downstream state is likely to wish to protect its natural resource base, as well as the public health, by setting strict controls on upstream polluters.[51]

The standards applicable to the resolution of nuisance and other potentially applicable tort causes of action are indeterminate and open-ended.[52] As a result, the courts in a common law action involving interstate pollution possess considerable freedom to manipulate doctrinal

47. *See* Hines, *supra* note 45, at 197-98.

48. *Id.* at 200-01. The author states:

> An effective program of pollution control measures requires that the control agency possess considerable expertise in the area of regulation and that it have the capacity to plan ahead for anticipated problems. Courts manifestly are not endowed with either of these features . . . . Courts are simply not equipped for the surveillance, the policing and the preventive activities required for efficient pollution abatement.

Id.

49. *Id.* at 201.

50. In other words, the source state externalizes the environmental costs of discharges into interstate waters by refusing either to limit discharges by industries operating within the source state or to impose liability upon those industries for harms caused in the affected state.

51. The affected state desires to externalize the economic costs incurred through efforts to prevent the downstream adverse effects that result from upstream pollution.

52. The tests in a majority of jurisdictions that govern both liability and remedial issues involve a balancing of interests. *See generally*, Glicksman, *supra* note 46, at 631-50.

principles to reach a result favorable to the interests of the forum state. If suit is brought in the upstream state, avoiding the appearance of bias in favor of source state dischargers is difficult. Conversely, polluters subjected to the decrees of an affected state court may cry foul.[53] Despite the fact that the courts must apply the common law of the source state no matter where suit is brought, both sides of the controversy will be inclined to seek the most favorable forum.[54] For these reasons many commentators insist that applying federal, not state law, best resolves controversies stemming from interstate spillovers.[55] In sum, resort to source state common law appears to provide neither a comprehensive nor an equitable means for the resolution of interstate water pollution disputes.[56]

C. *Source State Regulation*

Although source state statutes and administrative regulations provide an additional outlet for affected states injured by out-of-state pollution, that body of law is likely to prove just as unsatisfactory as

53. *Cf.* Murchison, *supra* note 28, at 32 (stating that if the law of either the upstream or downstream state prevails, that state gets an unjustifiable preference for its interests, while the other state is denied access to an impartial tribunal).

54. *Id.* at 39-40.

55. *See, e.g.*, William A. Butler, *The "New Federalism" — Can It Really Work in Implementing Environmental Statutes?*, 12 Envtl. L. Rep. (Envtl. L. Inst.) 15,095, 15,096 (1982) (arguing that federal statutes are required to resolve interstate environmental problems because "states are either unable or unwilling to solve the particular environmental problem"); Henry P. Monaghan, *The Supreme Court, 1974 Term — Foreword: Constitutional Common Law*, 89 HARV. L. REV. 1, 14 (1975) (concluding that an acceptable accommodation of interstate interests dictates that the Supreme Court possess the power to fashion substantive law not tied to that of any state); Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196, 1264 (1977) ("[S]pillover effects among the states create the strongest justification for federal intervention.").

56. *See also* Murchison, *supra* note 28, at 39 (arguing that common law causes of action, such as nuisance law, are vague and subject to manipulation); Maurrasse, *supra* note 16, at 1157 (stating that discharger probably complies with source state's laws, allowing issuance of permit despite noncompliance with affected state laws). The *Ouellette* Court's preservation of source state common law, however, provides some degree of protection to affected states. The common law of nuisance is similar from state to state; therefore, the level of protection provided by source state law may equal that provided by affected state law. Moreover, given the vagueness of nuisance law and the ability of courts to manipulate it, the ability of affected state plaintiffs to sue in their own courts appears to reduce the possibility that a court biased against the affected state plaintiff will twist the law to favor a source state defendant.

source state common law. The CWA preserves state authority to adopt controls more stringent than those required by federal law.[57] A source state may impose such controls on one of its own point sources, thus preventing adverse effects in a downstream state. The source state, however, is unlikely to adopt discharge restrictions that primarily benefit affected states. The source state has every incentive to secure for its own residents the economic benefits attributable to the operation of its industries, while seeking to foist upon neighboring states the environmental costs of those industrial operations.[58] As the Supreme Court recognized in some of its dormant Commerce Clause cases,[59] "to the extent that the burden of state regulation falls on interests outside the state, it is unlikely to be alleviated by the operation of those political restraints normally exerted when interests within the state are affected."[60] Any environmental burden borne only by the downstream party is likely to receive minimal consideration from the political process of the source state, in which out-of-state environmental concerns will tend to be underrepresented when compared to the source state's industrial interests. Consequently, reliance by affected states on source state regulation as a bulwark against out-of-state pollution is ill-advised.

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57. 33 U.S.C. § 1370 (1988).

58. Upstream state legislators typically ignore the interests of out-of-state victims in setting standards because, unlike polluters, who tend to be effective lobbyists, these victims lack effective representation in the legislative process of the source state. *See* Daniel A. Farber & Philip P. Frickey, *In the Shadow of the Legislature: The Common Law in the Age of the New Public Law*, 89 MICH. L. REV. 875, 891 n.74 (1991). The authors add that "[t]his risk of political favoritism towards local firms is traditionally a rationale for federal court intervention under the dormant commerce clause." *Id.* (citing Cass Sunstein, *Naked Preferences and the Constitution*, 84 COLUM. L. REV. 1689, 1705-08 (1984)). *See also* Dale D. Goble, *The Compact Clause and Transboundary Problems: "A Federal Remedy for the Disease Most Incident to A Federal Government"*, 17 ENVTL. L. 785, 787 (1987) ("Because of their geographically limited political responsibility, states are unlikely to restrict the conduct of their citizens to benefit the citizens of another state. Out-of-state individuals cannot make their preferences known through the local political market.").

59. Courts interpret the Constitution's affirmative grant to Congress of the power to regulate interstate commerce, U.S. CONST. art. I, § 8, as a limit on the authority of the states to interfere with such commerce. *See generally* LAURENCE H. TRIBE, AMERICAN CONSTITUTIONAL LAW 403-41 (2d ed. 1988) (explaining the general history of the dormant Commerce Clause).

60. Southern Pac. Co. v. Arizona, 325 U.S. 761, 767-68 n.2 (1945). *See also* South Carolina State Highway Dep't v. Barnwell Bros., Inc., 303 U.S. 177, 184-85 n.2 (1938) (state regulations that burden those out of the state for the benefit of those within conflict with the Commerce Clause).

D. *Interstate Agreements*

Voluntarily negotiated agreements among source and affected states present an alternative to the application of legal compulsion in resolving interstate pollution disputes.[61] In limited contexts, states have executed agreements to combat pollution of interstate waters.[62] However, as Richard Stewart points out, bargaining between states is unlikely to resolve disputes over interstate pollution for three reasons.[63] First, upstream states enjoy a decisive (and unfair) negotiating advantage because the status quo (continued interstate pollution) favors them.[64] Second, when spillovers are widespread and involve many parties, transaction costs may block agreements.[65] Third, in large part as a result of the first two factors, strategic bargaining may thwart agreements.[66]

Even when interstate compacts are executed successfully, implementation and enforcement is difficult. Disputes concerning the sharing of burdens often lead to dissolution of the compact.[67] For example, re-

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61. The Compact Clause authorizes compacts between states with congressional consent. U.S. CONST. art. I, § 10, cl. 3. The CWA encourages compacts among the states for the control of water pollution. 33 U.S.C. § 1253(a) (1988).

62. *See, e.g.*, 1987 Chesapeake Bay Agreement of the Chesapeake Executive Council (Dec. 15, 1987) (codified at VA. CODE ANN. § 10.1-2100 (Michie 1989)). *See generally* Paul D. Barker, Jr., Comment, *The Chesapeake Bay Preservation Act: The Problem with State Regulation of Interstate Resources*, 31 WM. & MARY L. REV. 735 (1990) (calling for the Chesapeake Bay states and EPA to begin implementing environmental protection measures). *See also* Goble, *supra* note 58.

63. *See* Richard B. Stewart, *Interstate Resource Conflicts: The Role of the Federal Courts*, 6 HARV. ENVTL. L. REV. 241, 243 n.15 (1982) (arguing that bargaining among states is a poor mechanism for resolving interstate disputes because upstream states enjoy an advantage in negotiations). *See also* Stewart, *supra* note 55, at 1216 (bargaining among states to minimize losses caused by interstate pollution is costly and "may do little to improve the lot of states in a weak position (such as those in a downwind or downstream location).").

64. Stewart, *Interstate Resource Conflicts*, *supra* note 63, at 243 n.15.

65. *Id. See also* Richard J. Pierce, Jr., *Regulation, Deregulation, Federalism, and Administrative Law: Agency Power to Preempt State Regulation*, 46 U. PITT. L. REV. 607, 649 (1985) ("[T]he transaction costs of mutually beneficial agreements between states are prohibitive in the case of most actual geographic spillovers," because in most cases the spillover occurs in several states, and the amount of the spillover effect in each state is subject to uncertainty.).

66. Stewart, *Interstate Resource Conflicts*, *supra* note 63, at 243 n.15.

67. *See generally* Dan M. Berkovitz, *Waste Wars: Did Congress "Nuke" State Sovereignty in the Low Level Radioactive Waste Policy Amendments Act of 1985?*, 11 HARV. ENVTL. L. REV. 437 (1987) (describing political attempts between states to negotiate changes in low-level radioactive waste disposal under the LLRWPAA).

cent efforts to negotiate an interstate compact to resolve the shortage of disposal capacity for low-level radioactive waste have been highly contentious and represent less than a resounding success story.[68] It appears unwise to place undue emphasis on the compact mechanism for resolving problems arising from interstate pollution.

E. *Federal and Affected State Regulation*

Given the unavailability or inadequacy of source state common law, source state regulatory remedies, and negotiated agreements between states as a means of protecting downstream state water quality, affected states must rely primarily on the application of their own statutes and administrative regulations or on the interstate dispute resolution mechanisms contained in the CWA. This section traces the development of federal water pollution legislation and describes the extent to which it authorizes the application of affected state regulation to interstate conflicts.

1. The Development of Federal Legislation

Beginning in 1948, Congress periodically supplemented the common law remedies then available to affected states. Congress enacted legislation that established and later refined an administrative structure for controlling interstate water pollution.[69] The FWPCA,[70] adopted in 1948, proved to be limited in both scope and utility.[71] Although it

68. *Id. See also*, E. William Colglazier & Mary R. English, *Low-Level Radioactive Waste: Can New Disposal Sites Be Found?*, 53 TENN. L. REV. 621 (1986) (discussing the difficulty of finding new dump sites for low-level radioactive waste).

69. As indicated above, the Supreme Court ultimately interpreted that legislation as reflecting Congress' intent to eliminate access to the federal common law remedies previously available and to affected state common law remedies. *See supra* notes 31-43 and accompanying text (discussing preemptive effect of federal legislation).

70. Pub. L. No. 80-845, 62 Stat. 1155 (1948).

71. For a description of the 1948 Act and its weaknesses, *see* William L. Andreen, *Beyond Words of Exhortation: The Congressional Prescription for Vigorous Federal Enforcement of the Clean Water Act*, 55 GEO. WASH. L. REV. 202, 210-15 (1987) (discussing specific problems with federal regulation); Jeffrey M. Gaba, *Federal Supervision of State Water Quality Standards Under the Clean Water Act*, 36 VAND. L. REV. 1167, 1177-80 (1983) (describing federal strategies for curbing water pollution); Stephen J. Bushong, Note, *Upstream Pollution and Downstream Problems:* Oklahoma v. EPA *Makes A Splash in Interstate Water Pollution Disputes*, 63 U. COLO. L. REV. 233, 236-37 (1992) (suggesting that the 1948 Act was so ineffective that no law suits were ever filed under its provisions); Maurrasse, *supra* note 16, at 1146-48 (describing federal strategies for curbing water pollution).

nominally authorized the federal regulation of interstate (but *only* interstate) waters, it restricted federal enforcement authority to those situations in which a particular pollution source endangered the health or welfare of persons in a state other than the discharging state.[72] The government found it "extraordinarily difficult"[73] to prove such an endangerment, and as a result, the legislation failed to deter water pollution.[74] Congress amended the Act in 1965,[75] requiring states to adopt water quality standards and implementation plans for all interstate waters within their jurisdiction.[76] The amended Act also authorized abatement of discharges that reduced the quality of interstate waters.[77] As a practical matter, however, the requirement that the government trace impaired water quality to a particular source precluded federal enforcement.[78]

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72. *See* Andreen, *supra* note 71, at 211; Gaba, *supra* note 71, at 1177 (citing 33 U.S.C. § 1151(2)(d) (1948)); Maurrasse, *supra* note 16, at 1146-48. In addition, the federal government could not sue the state in which the discharge took place without the latter's consent. *See also* Frank V. Barry, *The Evolution of the Enforcement Provisions of the Federal Water Pollution Control Act: A Study of the Difficulty in Developing Effective Legislation*, 68 MICH. L. REV. 1103 (1970) (noting that the FWPCA provided little incentive for local officials to consent to abatement actions). This veto power was eliminated in the 1956 amendments to the Act. Andreen, *supra* note 71, at 212 (citing Water Pollution Control Act Amendments, Pub. L. No. 84-660, 70 Stat. 498 (1956)).

73. Gaba, *supra* note 71, at 1179.

74. *See* Andreen, *supra* note 71, at 212.

75. Water Quality Act of 1965, Pub. L. No. 89-234, 79 Stat. 903 (1965) (superseded 1972).

76. *See* Andreen, *supra* note 71, at 213; Gaba, *supra* note 71, at 1178 (citing 33 U.S.C. § 466g(c) (Supp. IV 1965-1968)). These standards became applicable to interstate waters only after the federal government determined that they protected the public health and welfare and enhanced water quality. *See* Gaba, *supra* note 71, at 1178 (citing 33 U.S.C. § 466g(c)(1)-(3) (Supp. IV 1965-1968)). Although the federal government could issue water quality standards for interstate waters when the states declined to issue acceptable standards, the promulgation process was lengthy and cumbersome. *See* Andreen, *supra* note 71, at 213; Maurrasse, *supra* note 16, at 1147.

77. *See* Gaba, *supra* note 71, at 1178.

78. "It was often impossible to estimate with any degree of precision the impact of any one discharger on a body of water. Enforcement authorities lacked the scientific data on which to base sanctions against alleged violators." Steven Gaynor, Comment, *The Dilemma of the Downstream Plaintiff in an Interstate Water Pollution Case*, 37 BUFF. L. REV. 257, 264 (1988) (citing M. WARD, THE CLEAN WATER ACT: THE SECOND DECADE 19 (1982); ENVIRONMENTAL LAW INSTITUTE, AIR AND WATER POLLUTION CONTROL LAW: 1982, at 359-60 (1982)). *See also* EPA v. California *ex rel.* State Water Resources Control Bd., 426 U.S. 200, 202-03 (1976); S. REP. NO. 414, 92d Cong., 1st Sess. 5 (1971), *reprinted in* 2 LEGISLATIVE HISTORY OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972, at 1423 (1973); Andreen, *supra* note 71, at 214 (noting that the enforcement mechanism was "slow" and contained "other weak-

The 1972 amendments to the FWPCA[79] created the basic regulatory structure that exists today. These amendments introduced a series of technology-based effluent limitations,[80] made applicable to individual point sources through the National Pollutant Discharge Elimination System (NPDES) permit program.[81] The water quality standards that formed the core of the earlier legislation were relegated to the background.[82] Under the current CWA,[83] water quality standards function in effect as a safety net for bodies of water that the technology-based standards do not adequately protect.[84] The CWA requires each state to designate the desired use of each body of water within its jurisdiction, derive pollutant concentration limits necessary to protect that use, calculate a maximum daily discharge load based on the assimilative capacity of the receiving body of water, and allocate that load among all point sources discharging into that body of water.[85] Individual dischargers must comply with these load allocations to the extent they are more stringent than applicable technology-based effluent limitations.

2. The CWA's Interstate Pollution Provisions

The CWA includes several provisions relevant to the resolution of interstate pollution disputes.[86] The most important substantive provi-

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nesses"); Gaba, *supra* note 71, at 1179 (noting that the proof necessary to show a violation of the water quality standards contained in the 1965 Act was merely "very hard" to compile in comparison to the standard of proof necessary under the 1948 Act, which was "extraordinarily difficult").

79. Federal Water Pollution Control Act Amendments, Pub. L. No. 92-500, 86 Stat. 816 (1972).

80. 33 U.S.C. § 1311(b) (1988).

81. 33 U.S.C. § 1342 (establishing the permit system and specifying procedures to obtain a permit).

82. *Id.* § 1313.

83. Congress amended the FWPCA again in 1977, Pub. L. No. 95-217, 91 Stat. 1567 (1977), when the Act became known as the CWA. Congress enacted the most recent amendments in 1987. Pub. L. No. 100-4, 101 Stat. 60 (1987).

84. For example, technology-based standards may be insufficient in a situation in which numerous point sources discharging large amounts of pollutants are located along a single body of water with a relatively low assimilative capacity. In this situation, water may remain polluted even if each point source complies with the technology-based effluent limitations.

85. 33 U.S.C. § 1313(c)-(d) (1988). The amendments also imposed monitoring and reporting requirements that aid enforcement by streamlining the procedures. *See* Andreen, *supra* note 71, at 217. Enforcement of water quality standards under the Act is no longer limited to instances where public health is endangered. *Id.*

86. This section provides an overview of the interstate pollution provisions at issue

sions preserve state authority to adopt pollution controls that are more stringent than those contained in the EPA's technology-based standards.[87] The CWA conditions the grant of a permit on compliance with the more stringent state controls necessary to implement "applicable" state water quality standards.[88] *Arkansas v. Oklahoma*[89] raised the issue of whether an affected state's water quality standards are "applicable" to an upstream point source.

A similar issue arises under the provisions of the Act which afford affected states procedural opportunities to object to the issuance of permits to upstream dischargers. These mechanisms for affected state participation in the permit process differ, depending upon whether EPA or the source state is the permit-issuing authority.[90] When a point source applies to EPA for a permit, it must provide certification from the state in which the discharge originates that the discharge will comply with "applicable" provisions of the Act,[91] including those relating to state water quality standards.[92] If the discharge may affect the quality of water in another state, EPA must notify that state of the pending permit application. If that state determines that the discharge violates its water quality standards, the state may request a hearing before EPA.[93] EPA must condition the permit to insure compliance with "applicable water quality requirements."[94]

A state authorized by EPA to issue CWA permits must insure that any state whose waters may be affected by issuance of a permit has the chance to submit recommendations to the permit-issuing state.[95] If the

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in Arkansas v. Oklahoma, 112 S. Ct. 1046 (1992). *See infra* notes 156-77 and accompanying text for more detailed analysis of these provisions.

87. 33 U.S.C. § 1370 (1988).

88. *Id.* §§ 1342(a)(1), 1311(b)(1)(C).

89. 112 S. Ct. 1046 (1992).

90. Either EPA or a state that submitted an acceptable permit program to EPA administers the NPDES permit program applicable to point sources. 33 U.S.C. § 1342(a)-(b) (1988). The statute prohibits the discharge of pollutants except in compliance with a properly issued permit. *Id.* § 1311(a); Arkansas v. Oklahoma, 112 S. Ct. 1046, 1054 (1992). A state lacks the authority necessary to regulate a point source that is located in another state through issuance or denial of a permit to such a point source. *See* International Paper Co. v. Ouellette, 107 S. Ct. 805, 811 (1987).

91. 33 U.S.C. § 1341(a)(1) (1988).

92. *Id.* § 1313.

93. *Id.* § 1341(a)(2).

94. *Id.*

95. *Id.* § 1342(b)(5).

permitting state rejects those recommendations, it must notify both the affected state and EPA.[96] This provision fails to indicate, however, whether either the affected state or EPA may force the permit issuer to condition the permit on compliance with the affected state's standards.

The Act also authorizes a state to sue EPA if the agency fails to enforce an effluent limitation, the violation of which either adversely affects public health or welfare in that state or causes a violation of any water quality requirement in that state.[97] Whether an affected state may employ this remedy to force compliance with its own water quality standards or only to force compliance with source state standards is not clear.[98]

Despite a variety of substantive and procedural provisions aimed at the control of interstate pollution, then, the CWA does not indicate definitively whether a downstream state may insist that source state dischargers comply with its water quality standards. Prior to *Arkansas v. Oklahoma*, several courts determined that it may, but none of these cases was dispositive of the issue.[99] EPA took the position that the

96. 33 U.S.C. § 1342.

97. *Id.* § 1365(h).

98. *See infra* notes 173-77 and accompanying text for further discussion of this provision.

99. In Champion Int'l Corp. v. EPA, 648 F. Supp. 1390 (W.D.N.C. 1987), the district court concluded that EPA properly objected to a permit that North Carolina issued to an in-state point source. *Id.* at 1395-96. The permit failed to require compliance with Tennessee's water quality standards. The court ruled that "[a]n NPDES permit that does not contain conditions adequate to achieve state water quality standards approved under [CWA § 1313] is outside the requirements" of both the CWA and EPA regulations. *Id.* at 1394-95 (citing 40 C.F.R. § 122.44(d)(1)). When North Carolina requested withdrawal of the decision, the court refused, even after the Supreme Court's decision in *Ouellette*. Champion Int'l Corp. v. EPA, 652 F. Supp. 1387 (W.D.N.C. 1987). It reasoned that nothing in *Ouellette* indicated that EPA lacks the discretion to review state-issued permits to determine whether they will have an undue impact on interstate waters. *Id.* at 1399. The court added: "An affected state's water standards are obviously relevant to a determination that the discharge would have an undue impact on interstate waters. To hold otherwise would be to thwart the purposes of the CWA generally and the interstate dispute provisions." *Id.* at 1399-1400 (citing 33 U.S.C. § 1342(d)(2); 40 C.F.R. § 123.44(c)(2)). In the court's view, EPA's review of the North Carolina factor might have been arbitrary and capricious had the agency failed to consider this "relevant" factor. *Id.* at 1400. On appeal, the Fourth Circuit vacated the district court's judgment on procedural grounds. Champion Int'l Corp. v. EPA, 850 F.2d 182 (4th Cir. 1988). The Fourth Circuit concluded that it was premature to review the merits of the EPA's objections to the North Carolina permit. *Id.* at 187. Prior to *Champion*, another court stated in dictum that an affected state may block the issuance of a permit to an upstream point source "until conditions are imposed insuring compliance with applicable water quality requirements of the ob-

CWA requires upstream point sources to comply with downstream water quality standards. In 1973, the EPA's first regulations implementing the NPDES permit program declared that "[n]o permit shall be issued where . . . the imposition of conditions cannot insure compliance with the applicable water quality requirements of all affected States."[100] The regulations in effect at the time of *Arkansas v. Oklahoma* were substantially similar. They required that both EPA and state-issued permits include conditions that "conform to applicable water quality requirements under § 1341(a)(2) of the CWA when the discharge affects a State other than the certifying State."[101]

F. *Summary*

In *Milwaukee II* and *Ouellette*, the Supreme Court held that the CWA preempted the application to interstate water pollution disputes of both the federal common law of nuisance and the common law of the affected state. Although the Act preserves affected state access to source state common law and legislation, neither is likely to provide effective redress to affected states.[102] Due to inequality of bargaining position and the barriers attributable to transaction costs, negotiated agreements among source and affected states hold little promise as a comprehensive solution.[103] The ability of affected states to stem the flow of out-of-state contamination thus depends primarily upon the CWA's interstate pollution provisions and the statutes and administrative regulations of affected states. The manner in which those provisions apply to an interstate pollution dispute was the focus of *Arkansas v. Oklahoma*.

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jecting state." Montgomery Envtl. Coalition v. Costle, 646 F.2d 568, 594 n.21 (D.C. Cir. 1980).

100. 40 C.F.R. § 125.21(b), *quoted in* 38 Fed. Reg. 13,528, 13,533 (1973).

101. 40 C.F.R. § 122.44(d)(4) (1990). *Cf. id.* § 131.10(b) ("[I]n designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.").

102. *See supra* notes 44-60 and accompanying text for an explanation of the problems states have in employing these remedies.

103. *See supra* notes 61-68 and accompanying text (discussing the competing interests of source and affected states).

II. *ARKANSAS V. OKLAHOMA*

A. *Administrative Proceedings*

In 1985, the city of Fayetteville, Arkansas applied to EPA for an NPDES permit[104] for the city's new municipal wastewater treatment plant. The city proposed to discharge treated wastewater into Mud Creek, a tributary of the Illinois River, at a point thirty-nine miles upstream from the Arkansas-Oklahoma border. Oklahoma designated the portion of the river nearest to the Arkansas border as a state scenic river.[105] Despite Oklahoma's request to the contrary, the administrative law judge (ALJ) issued the permit.[106] He determined that the covered discharges would not have an undue impact on water quality or violate Oklahoma's water quality standards.[107] On appeal, the Chief Judicial Officer (CJO) remanded the case to the ALJ to determine whether a preponderance of the evidence demonstrated that the permitted discharge "would not cause an actual, detectable violation of Oklahoma's [water quality standards]."[108] On remand, the ALJ issued the permit because it would not result in any measurable violation of these standards.[109] This time, the CJO upheld the ALJ on appeal. The CJO repeated, however, that "an out-of-state source must meet the water quality standards of another downriver state," and that the Fayetteville plant must comply with Oklahoma's water quality standards as they exist at the border of the two states.[110]

B. *The Tenth Circuit's Decision*

Both states appealed.[111] Oklahoma argued that EPA erred in concluding that discharges under the permit would not violate its water

104. At the time of the city's application for the permit from EPA, Arkansas had not received federal approval to operate its own permit program pursuant to 42 U.S.C. § 1342(b) (1988). *See* Oklahoma v. EPA, 908 F.2d 595, 598 (10th Cir. 1990).

105. 908 F.2d at 597-98. The river also had been proposed as a potential addition to the National Wild and Scenic Rivers System. 16 U.S.C. § 1276(40) (1988). *See* 908 F.2d at 598.

106. 908 F.2d at 598.

107. *Id.* The permit contained effluent limitations on various pollutants and prohibited the discharge of incompletely treated effluents into Mud Creek. *Id.*

108. *Id.* at 597, 603.

109. *Id.*

110. *Id.* at 603 (citing 33 U.S.C. § 1341(a)(2) (1988); 40 C.F.R. §§ 122.4(d), 122.44(d)(4); *Ouellette*, 479 U.S. 481 (1987)).

111. Jurisdiction was premised on 33 U.S.C. § 1369(b)(1)(F) (1988).

quality standards.[112] Arkansas challenged EPA's authority to require compliance with Oklahoma's standards.[113] Contrary to Arkansas' position, EPA argued that the CWA requires compliance with state water quality standards, regardless of the source of a discharge.[114]

According to the Tenth Circuit, the ultimate issue was "whose water quality standards take precedence under the Clean Water Act — the upstream state's, the downstream state's, the federal government's or nobody's."[115] In other words, does the CWA require that any discharge authorized by a permit comply with "all applicable water quality standards, including the EPA-approved regulations of any affected downstream state"?[116] The court found it crucial that EPA approved of the stringent standards that accompanied Oklahoma's designation of the Illinois River as a scenic river. As a result, the case did not involve an attempt by one state to impose its standards on another. Rather, the permit that EPA issued simply reflected the Act's mandate that Fayetteville's discharges comply with federal law, Oklahoma's EPA-approved water quality standards.[117] Furthermore, the court deferred to EPA's interpretation[118] that Arkansas' construction of the Act

112. 908 F.2d at 601.

113. *Id.* According to Arkansas, the fundamental question was whether the CWA requires a point source to comply with the water quality standards of all affected downstream states. *Id.*

114. *Id.* at 604 (citing 40 C.F.R. §§ 122.4(d), 122.44(d)(4), 131.10(b)).

115. *Id.* at 602. The issues in the case arose from the fact that "an upstream state has the ability (if not the legal right) largely to control the quality of certain of the waters of a downstream state." *Id.* If the upstream state's WQS [water quality standards] are less stringent than the downstream state's, "the lowest common denominator will prevail." *Id.*

116. *Id.* The issue, as framed by the court, begs the question. The Act requires that dischargers comply with "applicable" water quality standards. The dispute surrounds whether downstream water quality standards "apply" to an upstream point source.

117. 908 F.2d at 602. The court clarified its position:

> [O]ne state may [not] directly regulate the conduct of a discharger in another state. Such exercise of jurisdiction would exceed traditional bounds of sovereignty. . . . But the question posed here is whether *federal* law embodied in the Clean Water Act requires a discharge permit to ensure compliance with the applicable WQS of all affected states.

Id. at 604 n.9.

118. *Id.* at 604. Arkansas relied on statements from the *Ouellette* decision that Congress intended affected states to play only an advisory role and that they could not block issuance of permits to out-of-state sources. *Id.* at 607 (citing *Ouellette*, 479 U.S. at 490). The court dismissed these statements as dicta. In contrast to *Ouellette*, which was an enforcement case, this case involved permitting discharges in an upstream state. In addition, *Ouellette* involved the application of affected state law, while this case in-

made the achievement of downstream water quality standards "impossible in many circumstances or . . . possible . . . only by imposing a disproportionate burden on the dischargers located in the downstream state."[119]

Having determined that EPA was correct in conditioning the city's permit on compliance with Oklahoma's water quality standards, the court addressed an issue none of the parties had raised — whether it was appropriate for EPA to authorize a new discharge into a body of water whose quality standards already were being violated.[120] The court held that, given the substantial evidence of ongoing violations of the Illinois River water quality standards, EPA acted arbitrarily and capriciously in issuing the permit.[121] Relying on the CWA's stated policies, the court concluded that the Act prohibits the issuance of a permit where applicable water quality standards already have been violated.[122]

The court also questioned the standard of proof that EPA imposed on downstream states seeking to block the issuance of a permit to an upstream point source. Once applicable water quality standards were being violated, it was inappropriate to require a demonstration of the incremental impact caused by a proposed additional discharge.[123] EPA acted arbitrarily when it issued the permit not only because it failed to consider the existing violations of Oklahoma water quality standards, but also because it misinterpreted and misapplied those standards.[124] The court found it unnecessary to remand to EPA be-

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volved the application of federally approved water quality standards. *Id.* at 607-08. The Supreme Court later relied on a similar distinction: *Ouellette* and *Milwaukee II* involved state-issued permits, while *Arkansas* dealt with a federal permit. Arkansas v. Oklahoma, 112 S. Ct. 1046, 1054 (1992).

119. *Id.* at 606 (citing EPA Brief at 21).

120. Oklahoma v. EPA, 908 F.2d 595 615-16 (10th Cir. 1990). Although the parties failed to litigate this issue, the court indicated that the administrative record contained substantial evidence of ongoing violations of Illinois River water quality standards. *Id.* at 615.

121. *Id.* at 616, 630, 634.

122. *Id.* at 616, 620, 630-31 (citing Natural Resources Defense Council v. EPA, 822 F.2d 104, 123 (D.C. Cir. 1987)). "Common sense dictates that a pollution control strategy designed to prevent, abate, and eliminate pollution would be subverted by allowing a new source of pollution on a currently polluted watercourse." *Id.* at 631.

123. *Id.* at 632.

124. *Id.* at 615-16. Section 3, the "Anti-Degradation Policy" and section 5, "Beneficial Use Limitation," demonstrated Oklahoma's intent to disallow any additional pollution of a scenic river whose water quality standards were already degraded. Any

cause even a correct interpretation and application of the Oklahoma standards could not save the permit.[125]

C. *The Supreme Court's Decision*

Justice Stevens' opinion for a unanimous Court framed the issue in *Arkansas v. Oklahoma* as whether EPA satisfied its duty to protect the interests of the downstream state by concluding that discharges from the city's treatment plant did not cause a detectable violation of Oklahoma's water quality standards.[126] The Court held that it did.[127]

The parties argued three analytically distinct questions. First, does the CWA require EPA to apply the water quality standards of downstream states when issuing a permit to a point source in another state? Second, even if the Act does not require the application of affected state standards, does EPA possess the statutory authority to mandate such compliance? Third, does the CWA prohibit the discharge of additional effluents into a body of water that already fails to meet water quality standards?

The Court's answer to the second question made it neither necessary nor prudent to resolve the first. EPA found that the statute and its own regulations obligated it to ensure that Fayetteville's discharge did not violate Oklahoma's standards, a conclusion which the Court deemed "permissible and reasonable."[128] Because EPA had the discretion to apply Oklahoma's standards to an Arkansas discharger, it was unnecessary for the Court to determine whether the Act forced EPA to mandate compliance with downstream standards.[129] In answering the third question, the Court found no support for the appellate court's interpretation of the statute.[130]

The Court began its analysis of the second issue by citing EPA regulations that, since 1973, prohibited EPA or a state from issuing a CWA

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human-caused, detectable change in a water quality parameter of a scenic river, such as turbidity or phosphorous, violates Oklahoma's requirements for water quality. *Id.* at 618.

125. Oklahoma v. EPA, 908 F.2d at 620. The court found substantial evidence in support of the ALJ's finding that the water quality of the river had been degraded prior to issuance of the permit. In these circumstances, EPA could not issue the permit. *Id.*

126. Arkansas v. Oklahoma, 112 S. Ct. 1046, 1050-51 (1992).

127. *Id.* at 1051.

128. *Id.* at 1056.

129. *Id.*

130. *Id.* at 1057.

permit unless the permit "ensure[d] compliance with applicable water quality requirements of all affected States."[131] These regulations constituted a reasonable exercise of EPA's discretion to establish conditions for CWA permits.[132] In addition, interstate application of state water quality standards is consistent with the Act's broad purposes,[133] and achievement of these standards is one of the Act's central objectives.[134] Arkansas argued that the application of affected state standards to an upstream point source is inconsistent with *Ouellette*'s characterization of downstream states as "subordinate" players in the CWA regulatory scheme. In response, the Court distinguished *Ouellette* as a case that dealt with the appropriate limits on an affected state's direct participation in permitting decisions. *Arkansas v. Oklahoma* involved EPA's authority to require compliance with downstream water quality standards.[135] The CWA attempts to balance many competing policies and interests, and EPA's regulations are compatible with that balance.[136]

Turning to the third issue, the Court rejected the Tenth Circuit's conclusion that the CWA prohibits additional discharges into waters already in violation of water quality standards. According to the Court, the Act contains provisions designed to remedy existing water quality violations and to allocate the burden of reducing discharges between existing and new sources.[137] These provisions would be unnecessary if the Act barred new discharges into excessively polluted waters.[138]

The Court also repudiated the Tenth Circuit's conclusion that EPA

131. Arkansas v. Oklahoma, 112 S. Ct. at 1056 (citing 40 C.F.R. § 122.4(d) (1991); *id.* § 122.44(d); 38 Fed. Reg. 13,533 (1973)). *See supra* note 100-01 and accompanying text. The Court appeared to interpret the regulations to mean that the water quality standards of all affected states are, by definition, "applicable" to a source state discharger. 112 S. Ct. at 1057.

132. 112 S. Ct. at 1056-59.

133. *Id.* (citing 33 U.S.C. § 1251(a) (1988)).

134. *Id.* (citing 33 U.S.C. § 1311(b)(1)(C) (1988)).

135. *Id.* The Court found that the legislative history failed to demonstrate congressional intent to preclude EPA from requiring compliance with downstream water quality standards as a prerequisite to the issuance of a permit. *Id.*

136. *Id.* at 1057.

137. 112 S. Ct. at 1058 (citing 33 U.S.C. § 1313(d) (1988)).

138. *Id.* The Court speculated that the Tenth Circuit's ruling might be counterproductive by "frustrat[ing] the construction of new plants that would improve existing conditions." *Id.*

misinterpreted Oklahoma's water quality standards. The Tenth Circuit interpreted the state's "Anti-Degradation Policy" to contain the same categorical ban on new discharges into waters violating state standards that it found implicit in the CWA. The Court disagreed, but rejected the Tenth Circuit's conclusion on different grounds. The Court concluded that the appellate court exceeded the legitimate scope of judicial review of an agency adjudication.[139] EPA's regulations effectively incorporate into federal law those water quality standards that it determines to be "applicable." Therefore, EPA-approved state standards take effect as federal law in the interstate context.[140] Two features of water pollution law supported this conclusion. First, the Court cited the long history of federal law control of interstate water pollution.[141] Second, treating state standards as federal law in the interstate context is consistent with the Act's purpose of authorizing EPA to create and manage "a uniform system of interstate water pollution regulation."[142]

Having spent considerable effort reaching the less than startling con-

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139. *Id.*

140. *Id.* at 1059 (citing 40 C.F.R. § 122.4(d) (1991)). The Court declared that "the system of federally approved standards as applied in the interstate context constitutes federal law." *Id.* It is not clear whether the Court meant to imply that EPA-approved standards, as applied to intrastate waters, are *not* part of federal law. The Act provides no basis for such a distinction. A state's water quality standards must meet the requirements of the CWA, whether they apply to interstate or intrastate waters. *See* 33 U.S.C. § 1313(c)(3)(1988). All such standards become "applicable" only upon EPA approval. *See id.* Finally, one of the main purposes of the 1972 amendments was to extend the coverage of the CWA to intrastate waters. *See* S. CONF. REP. NO. 1236, 92d Cong., 2d Sess. 122-23 (1972), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3800; FREDERICK R. ANDERSON, ET AL., ENVIRONMENTAL PROTECTION: LAW AND POLICY 354 (2d ed. 1990) (discussing the main policy behind the 1972 amendments); ENVIRONMENTAL LAW INST., LAW OF ENVIRONMENTAL PROTECTION § 12.02 (Sheldon M. Novick ed., 1987) (same); WILLIAM H. RODGERS, ENVIRONMENTAL LAW: AIR AND WATER § 4.2, at 21 (1986) (same).

141. Arkansas v. Oklahoma, 112 S. Ct. at 1059. In International Paper Co. v. Ouellette, 479 U.S. 481, 497-500 (1987), the Court concluded that the CWA does not preempt the common law of the source state. The Court's characterization of interstate pollution law as federal law suggests the peculiar conclusion that the common law of the source state is somehow incorporated into federal law, when it is applied to an out-of-state source.

142. 112 S. Ct. at 1059. The Court failed to support this purported congressional desire for uniformity. The provisions of the Act that authorize states to impose standards more stringent than the minimum federal standards appear to conflict with a congressional desire to achieve uniformity. These provisions do not distinguish interstate from intrastate applications. *See* 33 U.S.C. §§ 1311(b)(1)(C), 1313(c), 1370 (1988). *Cf. Ouellette*, 479 U.S. at 497 (holding that the CWA by its terms allows a state

clusion that EPA-approved state water quality standards comprise federal law, the Court explained the significance of this characterization. According to Justice Stevens, because Oklahoma's standards have "a federal character," courts must accord substantial deference to EPA's interpretation of them.[143] EPA's CJO ruled that a violation of Oklahoma's anti degradation policy occurred only if Fayetteville's discharge resulted in an "actually detectable or measurable" change in water quality.[144] The Court found this ruling to be both reasonable and workable, because "if every discharge that had some theoretical impact on a downstream State were interpreted as 'degrading' the downstream waters, downstream States might wield an effective veto over upstream discharges."[145]

Given the Court's reliance on the CWA's general purposes to support characterizing EPA-approved state standards as federal law,[146] it is not clear why the prospect of such a veto power troubled the Court. The ability of an affected state to block the issuance of a permit that authorizes additional discharges into waters already in violation of EPA-approved state water quality standards appears consistent with these same purposes. In any event, the Court seemed convinced that the practicability of implementing EPA's position on control of interstate pollution was an important component of its reasonableness.

Finally, Justice Stevens ratified EPA's application of the Oklahoma water quality standards. Specifically, the majority upheld the agency's conclusion that discharges from the Fayetteville plant created no detectable effects on the quality of the Illinois River.[147] The Court agreed with EPA's CJO that substantial evidence supported this conclusion, and it took the court of appeals to task for failing to adhere to

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to impose higher standards on its own point sources). Once EPA approves such standards, a uniform system of pollution regulation becomes impossible.

143. Arkansas v. Oklahoma, 112 S. Ct. at 1059 (citing Chevron U.S.A. Inc. v. Natural Resources Defense Council, 467 U.S. 837 (1984)). The Court's "*Chevronization*" of federally approved state water quality standards appears to give the EPA's interpretation of those standards more weight than that of the implementing state. Therefore, a state should eliminate as many ambiguities as possible before submitting its water quality standards for EPA approval. The states' failure to do so jeopardizes the state's ability to provide a definitive interpretation of its own standards.

144. 112 S. Ct. at 1059.

145. *Id.*

146. *Id. See supra* notes 141-42 and accompanying text (discussing the federal character of the state standards).

147. 112 S. Ct. at 1059-60.

it.[148] The Court concluded that the Tenth Circuit made three mutually compounding errors. First, it failed to defer to EPA's reasonable interpretation of its own regulations, as they incorporated Oklahoma's standards.[149] Second, it disregarded well-established standards for reviewing agency fact findings, improperly substituting its own findings.[150] Third, it incorrectly concluded that EPA's issuance of the permit was arbitrary due to the agency's failure to consider the existing degradation of the Illinois River, a factor that was relevant only because of the Tenth Circuit's erroneous interpretation of the law.[151] According to the Court, it was not arbitrary for EPA to conclude that, given the increased flow of relatively clean water from operation of a new wastewater treatment plant, the benefits to the river from issuance of the Fayetteville permit outweighed countervailing factors.[152]

III. THE IMPLICATIONS OF *ARKANSAS V. OKLAHOMA*

The Court's latest decision concerning interstate water pollution raises the question whether the current legal framework provides downstream states with the capacity to protect their waters from out-of-state contamination. The Supreme Court's holding in *Arkansas v. Oklahoma* that EPA has the discretion to require upstream point sources to comply with downstream state water quality standards appears to provide affected states with an avenue for preserving the quality of water resources shared with other states. This promise may be illusory, however.

To begin with, the Court refused to decide whether the CWA *requires* EPA to apply affected state standards to source state point sources. Instead, the Court elected to defer to EPA's current willingness to impose such requirements.[153] Given EPA's reversals on other issues,[154] its adherence to this position is not guaranteed.[155] In antici-

148. *Id.* at 1060.

149. *Id.* Instead, the Tenth Circuit ruled that the CWA prohibits issuance of a permit when the water body involved already violates water quality standards. *Id.* at 1060.

150. *Id.*

151. *Id.* Under the EPA's interpretation, the status of the river before issuance of the permit was irrelevant. Rather, EPA considered whether issuance of the permit would eventually cause a "detectable effect" on water quality. *Id.*

152. 112 S. Ct. at 1061.

153. *Id.* at 1056.

154. *See, e.g.*, Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837 (1984) (describing the convoluted history of the "bubble" policy). *See also* 23

pation of that possibility, this part analyzes the issue that the Supreme Court left unresolved — whether the CWA requires EPA to condition permits to source state point sources on compliance with downstream state water quality standards.

Even if EPA continues to adhere to its current interpretation of the Act, there is reason to doubt whether that interpretation provides a meaningful opportunity for affected states to force source state dischargers to comply with their water quality standards. The Court found the EPA's approach to interstate water pollution control reasonable, partly because of the practicability of implementing that approach. The second section of this part questions that conclusion. In particular, EPA has strong political disincentives to impose burdensome controls on a source state discharger, merely to satisfy another state's desire to control out-of-state pollution. Furthermore, it probably will be difficult for an affected state to link its own water quality problems with the discharges of a particular upstream pollution source. For these reasons, this part concludes that, despite the Court's holding in *Arkansas v. Oklahoma*, the provisions of the current CWA fail to provide a satisfactory mechanism for abating interstate water pollution.

A. *The CWA Requires the Application of Affected State Water Quality Standards to Source State Point Sources*

1. Statutory Provisions

Section 301(b)(1)(C) is the substantive provision most relevant to whether the CWA mandates compliance by an upstream point source with downstream water quality standards. The *Arkansas* Court

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Env't Rep. (BNA) 1459 (Sept. 25, 1992) (reversing previous position that ash generated by combustion of non-hazardous municipal solid waste is not hazardous waste); 12 Env't Rep. (BNA) 1476 (Mar. 19, 1982) (reversing earlier decision to repeal regulation prohibiting landfill disposal of containerized liquid hazardous waste due to public outcry).

155. For nearly 20 years, EPA has required that upstream point sources comply with downstream standards. *See supra* note 100 and accompanying text for historical application of the EPA's position. Courts are more likely to defer to long-standing statutory interpretations than to sudden, politically motivated shifts in agency policy. *See, e.g.*, Pauley v. Bethenergy Mines, 111 S. Ct. 2524, 2535 (1991) (citing Bowen v. Georgetown Univ. Hosp., 488 U.S. 204, 212-13 (1988) (noting the hazards of accepting political policy shifts over historical statutory constructions); Exxon Corp. v. Lujan, 970 F.2d 757, 762 (10th Cir. 1992). *But cf.* Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837 (1984) (deferring to agency shift of position motivated by change in presidential administration).

deemed this provision one of the CWA's central objectives.[156] Specifically, it requires point sources to comply with any effluent limitations[157] that are necessary to facilitate compliance with state water quality standards established pursuant to state law, under authority preserved by section 510 of the CWA,[158] even if those restrictions are more stringent than EPA's technology-based effluent limitations. The Tenth Circuit interpreted this provision as requiring point sources to comply with all water quality standards, regardless of whether the source state or an affected state issues them.[159] Arkansas argued that this provision merely set time limits for states that so desired to establish more stringent water quality standards for in-state waters.[160] But section 301(b)(1)(C) is obviously more than a timing provision; the *Du Pont* case[161] disposed of any argument to the contrary long ago.[162] Section 301(b)(1)(C) imposes substantive obligations on point sources to comply with effluent limitations designed to achieve a certain level

156. Arkansas v. Oklahoma, 112 S. Ct. at 1056.

157. An effluent limitation is a restriction established by either EPA or a state "on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters. . . ." 33 U.S.C. § 1362(11) (1988).

158. 33 U.S.C. § 1311(b)(1)(C) (1988). Section 510 of the CWA indicates that the CWA should not be construed as impairing or affecting "any right or jurisdiction of the States with respect to the waters (including boundary waters) of such States." *See* 33 U.S.C. § 1370(2). Even if this "savings" provision confines its recognition of a state's *jurisdiction* to discharges originating within that state, as Arkansas argued, the clause provides separate recognition of a state's *rights* with respect to its own waters. Oklahoma v. EPA, 908 F.2d 595, 605 (10th Cir. 1990). Arguably, Congress intended to preserve a state's sovereign right to protect itself from invasion by pollution generated in other states. *See supra* notes 13-30 and accompanying text (discussing cases dealing with state sovereignty issues).

159. 908 F.2d at 606.

160. *See* Maurrasse, *supra* note 16, at 1169 n.233 (citing Arkansas' brief to the Tenth Circuit).

161. E.I. Du Pont de Nemours v. Train, 430 U.S. 112 (1977).

162. In *Du Pont*, the owners of several inorganic chemical manufacturing plants challenged the EPA's authority to issue effluent limitations in the form of industry-wide regulations. *Id.* at 120. The manufacturers claimed that EPA could impose binding effluent limitations only through an individualized permit proceeding. *Id.* EPA argued that § 301(b) authorizes it to impose effluent limitations by regulation. *Id.* The industry petitioners responded that § 301 lacked independent, substantive content, and that the section merely describes the effluent limitations, as well as the deadlines associated with them, which EPA is authorized to issue under other statutory provisions. *Id.* at 124. The Court held that § 301(b) is a substantive provision, delegating to EPA the power to issue effluent limitation regulations of industry-wide scope. *Id.* at 127-29.

of water quality.[163] It requires compliance with "any applicable" water quality standard established under authority derived from or preserved by the CWA. So the issue is whether the standards of downstream states "apply" to upstream point sources. Because this provision is not limited on its face to water quality standards promulgated by the state that issued the permit, it should be read literally — a point source must comply with "*any*" limitations necessary to meet state water quality standards, including those enacted by an affected state.[164]

The relevant "procedural"[165] provisions of the Act reinforce the conclusion that EPA must require compliance with downstream water quality standards. For instance, section 401(a)(2) requires EPA to notify any downstream states whose water quality it determines the issuance of an NPDES permit may affect.[166] If a state receiving such notification determines that the proposed discharge will cause a violation of its water quality standards, the affected state is entitled to demand that, following a hearing before EPA, EPA condition the permit upon compliance with applicable water quality standards.[167]

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163. *See* ROBERT V. PERCIVAL, ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 924 (1992).

164. The legislative history of § 301(b)(1)(C) is not illuminating. In the kind of circular reasoning typical of statutory definitions, a House Committee described "applicable" standards as those that are "pertinent and apply to the activity" and as those that are "in existence by having been promulgated or implemented." *See* Maurrasse, *supra* note 16, at 1173 (citing H.R. 414, 92d Cong., 1st Sess. § 1422 (1973), *reprinted in* 2 LEGISLATIVE HISTORY OF THE CLEAN WATER ACT AMENDMENTS OF 1972, at 404 (1973)).

165. This characterization is not meant to imply that the provisions discussed below fail to create substantive rights or obligations. Rather, they involve primarily the procedures necessary for issuance of a CWA permit.

166. 33 U.S.C. § 1341(a)(2) (1988). One commentator argues that § 401(a)(2) only provides affected states with a right to demand a hearing, and that if Congress wanted to give them the additional right to demand compliance with their standards, it would have done so. *See* Maurrasse, *supra* note 16, at 1170-71. However, as indicated above, § 301(b)(1)(C) can be interpreted to provide just such an additional right. The same commentator argued that if Congress intended that all upstream point sources would automatically abide by downstream standards, a hearing would be unnecessary, because EPA "would automatically know that the upstream state must comply" with downstream standards. *Id.* Even if affected states possess an absolute right to enforce upstream compliance with their standards, a hearing is necessary to demonstrate that the issuance of a permit would result in a violation of an affected state's water quality standards. A hearing also would be necessary to determine the conditions necessary to insure compliance with affected state standards.

167. 33 U.S.C. § 1341(a)(2) (1988). Absent assurances that the source state can comply with the affected states' standards, the permit may not be issued. *Id.*

As under section 301(b)(1)(C), the issue is whether downstream standards "apply" to an upstream point source.[168] Although Arkansas argued that they do not, the contrary conclusion of EPA and the Tenth Circuit is more convincing.[169] Section 401(a)(2) does not define the term "applicable," but Congress devoted the preceding portions of the section to a description of the water quality standards of the objecting downstream state. Furthermore, if the objective is to "insure compliance" with the affected state's water quality standards, then it is unnecessary to make the permit conditional unless those standards apply to the upstream point source. An upstream point source cannot "violate" standards that do not apply to it.

A second "procedural" provision, section 402(b)(5), gives affected states the right to submit recommendations to the permit issuer.[170] The section requires the issuing state to explain any failure to abide by those recommendations. Standing alone this provision does not dictate that a permit issuer require compliance with affected state standards.[171] As the Tenth Circuit explained, however, section 402(b)(5) is

168. The same issue is presented by § 401(d) (codified at 33 U.S.C. § 1341(d)). Section 401(a)(1) requires a permit applicant to obtain certification from the source state to the effect that the discharge authorized by the permit will comply with the "applicable" provisions of the CWA (including those relating to state water quality standards). *Id.* § 1341(a)(1). Under § 401(d), the certification required under § 401(a)(1) must specifically refer to the effluent limitations necessary to assure that the permit applicant will comply "with any applicable effluent limitations and other limitations under § 301 [of the CWA]." *Id.* § 1341(d).

169. *See* Oklahoma v. EPA, 908 F.2d 595, 610 (10th Cir. 1990) (citing Lake Erie Alliance for the Protection of the Coastal Corridor v. United States Army Corps of Engineers, 526 F. Supp. 1063, 1075 (W.D. Pa. 1981) ("[T]he purpose of the [§ 1341(a)(2)] notice requirement is to enable a state whose water qualities may be affected by the proposed federal activity an opportunity to insure that its standards will be complied with."), *aff'd without opinion*, 707 F.2d 1392 (3d Cir.), *cert. denied*, 464 U.S. 915 (1983)). Even the Supreme Court stated in *Arkansas v. Oklahoma* that § 401(a)(2) "appears to *prohibit* the issuance of any federal license or permit over the objection of an affected State unless compliance with the affected State's water quality requirements can be insured." 112 S. Ct. at 1055 (emphasis added).

170. Section 402(b)(5) applies only to permits issued by those states which possess responsibility, delegated by EPA, to issue CWA permits. 33 U.S.C. § 1342(b)(5) (1988). The Act, however, requires EPA to follow the same procedures applicable to state permit issuers. Arkansas v. Oklahoma, 112 S. Ct. at 1055 n.7 (citing 33 U.S.C. § 1342(a)(3) (1988)). EPA also must notify affected states when that agency issues a permit.

171. Oklahoma v. EPA, 908 F.2d at 612. The Tenth Circuit concluded that § 402(b)(5) specified only the procedures applicable to permit issuance, which, "[s]tanding alone, . . . says nothing about whether compliance with affected state [standards] is optional or obligatory."

"derivative of" the section 401(a)(2) certification and hearing process, which does seem to require compliance with downstream standards in all cases.[172] This second procedural provision is not illuminating except to the extent that it does not negate the conclusion derived from sections 301(b)(1)(C) and 401(a)(2).

A third "procedural" provision, section 505(h), is also not dispositive. It gives state governors the right to commence a civil action against EPA for failure to enforce certain effluent limitations. This remedy is available when a violation of effluent limitations is occurring in a state (such as a source state) other than the affected state and is causing either adverse effects on the public health in the affected state, or a violation of the latter's water quality standards.[173] Although the statute does not specify the appropriate relief, it seems clear that if the plaintiff state prevails, EPA is required to enforce the limitation whose breach is causing a violation of the affected state standards. Some commentators argue that this provision affords a remedy to an affected state only when the *source* state's standards are being violated.[174] However, proof of two separate violations triggers an affected state's right to sue under this section. First, the plaintiff must demonstrate a violation of an effluent limitation. Only EPA or the source state may impose effluent limitations.[175] Second, the plaintiff must prove that this first violation is causing a violation of a water quality standard in a state other than the state that issued the effluent limitation.[176] Only an affected state can offer such proof. Thus, the statute requires EPA to enforce affected state water quality standards against out-of-state polluters who are in violation of EPA or source state effluent limitations. The issue that section 505(h) ultimately raises, then, is whether the

172. *Id.* In addition, after receiving a § 402(b)(5) notification, EPA retains the right to veto state-issued permits. *See* 33 U.S.C. § 1342(d)(2)(A) (1988). Since all permits must insure compliance with § 301, and § 301(b)(1)(C) requires compliance with "applicable" water quality standards, the analysis again turns on the issue of whether downstream standards "apply" to upstream point sources. As indicated above, § 401(a)(2) appears to answer the question affirmatively. *See supra* notes 165-67 and accompanying text (discussing the requirements of § 401(a)(2)).

173. 33 U.S.C. § 1365(h) (1988).

174. *See, e.g.*, Maurrasse, *supra* note 16, at 1171-72.

175. *Cf.* International Paper Co. v. Ouellette, 479 U.S. 486, 490 (1987) (holding that affected states may not establish a separate permit system to regulate out-of-state point sources).

176. Alternatively, the plaintiffs are entitled to relief if they demonstrate that the violation of the effluent limitation causes an adverse effect on the public health or welfare in the affected state. 33 U.S.C. § 1365(h) (1988).

CWA requires permit issuers to devise effluent limitations in a manner that protects downstream water quality. Sections 301(b)(1)(C) and 401(a)(2) suggest that the answer is yes.[177]

The provisions of the CWA are not crystal clear. The Act indicates in several places that a point source must comply with "applicable" water quality standards, but fails to define "applicable." Although the issue is not free from doubt, the more persuasive reading of the Act is the one that the Tenth Circuit adopted — that Congress intended permit issuers to require compliance with downstream water quality standards approved by EPA.

2. Statutory Purposes

Even if the CWA's express provisions do not conclusively demonstrate Congress' intent that all permits require compliance with affected state water quality standards, any other result is inconsistent with the Act's principal purposes. The stated, if unrealistic, goal of the Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" by eliminating the discharge of pollutants.[178] The Act seeks to achieve this objective by creating a two-phased program of increasingly stringent effluent limitations,[179] supplemented by any more stringent limitations imposed by the states.[180] The Supreme Court stated in *Arkansas v. Oklahoma* that the application of state water quality standards in the interstate context is wholly consistent with the Act's broad purposes.[181] Any interpretation of the interstate pollution provisions that prevents downstream states from protecting their own, high-quality waters from out-of-state pollution

177. *See supra* notes 156-69 and accompanying text for discussion of the statutory provisions. Furthermore, the legislative history supports the conclusion that § 505(h) was intended to afford an affected state the right to demand EPA enforcement of its own water quality standards against out-of-state polluters. That history indicates that the provision gives an affected state governor the right to "initiate an action against [EPA] for an alleged failure to abate pollution in another state that affects the Governor's state." Maurasse, *supra* note 16, at 1172 (citing 2 LEGISLATIVE HISTORY OF THE CLEAN WATER ACT AMENDMENTS OF 1972, at 328 (1973)). This is precisely the situation involved in *Arkansas v. Oklahoma*: as long as the *pollution* was generated in the source state, the governor of the affected state need not show a violation of the source state's water quality standards to support a civil suit against EPA.

178. 33 U.S.C. § 1251(a)(1) (1988).

179. *Id.* § 1311(b)(1)-(2).

180. *Id.* §§ 1311(b)(1)(C), 1313(c), 1370.

181. Arkansas v. Oklahoma, 112 S. Ct. at 1056 (citing 33 U.S.C. §§ 1251(a), 1311(b)(1)(C) (1988)).

would not be.[182]

The Supreme Court determined that Congress sought to achieve an efficient and predictable system of water pollution control through the CWA's regulatory system.[183] Arkansas argued before the Tenth Circuit that upstream point sources will be unable to determine which state's water quality standards apply if the Court allows EPA to require compliance with affected state standards.[184] As that court noted, however, there are several answers to the contention that Congress' desire for a predictable permit system precludes the application of affected state standards. First, EPA determines the "applicable" standards, either in the course of issuing an NPDES permit or reviewing one issued by a state.[185] By the time a point source begins discharging, it will know exactly which standards apply. Second, it is unlikely that

182. *See, e.g.*, Tennessee v. Champion Int'l Corp., 709 S.W.2d 569, 578 (Tenn. 1986) (Drowota, J., dissenting). The dissent made the following point:

> [R]elegating a State with more stringent standards to the lower standards of a bordering State for the sake of uniformity transforms the minimum Federal standards into maximum standards for many interstate streams. I think this result is contrary to the FWPCA and effectively prevents many States from enforcing their higher standards . . . on any but their intrastate tributaries.

Id.

In *Arkansas v. Oklahoma*, the Court characterized the CWA as "a careful balance among competing policies and interests." 112 S. Ct. at 1057. Accordingly, an approach to statutory interpretation that attempts to resolve every ambiguity by selecting the interpretation that provides the maximum amount of pollution reduction is overly simplistic. *See, e.g.*, International Paper Co. v. Ouellette, 479 U.S. 481, 494-95 (1987) (noting that in enacting CWA, Congress recognized that efforts to reduce water pollution had to be tempered by competing considerations such as economic and technological feasibility). *See also* Exxon Corp. v. Hunt, 475 U.S. 355, 371 (1986) (making a similar argument concerning hazardous waste statute).

Nevertheless, Professors Farber and Frickey recently argued that the courts should pay close attention to the "strong endorsement of environmental values" reflected in legislation such as the CWA, rather than resorting solely to a careful "parsing [of] specific clauses in the statute." Farber & Frickey, *supra* note 58, at 892. They contend that such legislation reflects values and that courts should resort to those values in resolving questions of statutory interpretation. *Id.* This author endorsed such an approach elsewhere. *See* Glicksman, *supra* note 16. It provides a legitimate aid to the resolution of the interpretive issues addressed in this article. *See also* Richard E. Levy and Robert L. Glicksman, *Judicial Activism and Restraint in the Supreme Court's Environmental Law Decisions*, 42 VAND. L. REV. 343, 367-68, 374-77 (1989).

183. *See, e.g.*, International Paper Co. v. Ouellette, 479 U.S. at 495-96 (arguing that the application of affected state common laws would cause unpredictable results).

184. Oklahoma v. EPA, 908 F.2d 595, 606-07 (10th Cir. 1990). *Cf.* Illinois v. City of Milwaukee, 731 F.2d 403, 414 (7th Cir. 1984) (making a similar argument in the context of affected state common law), *cert. denied*, 469 U.S. 1196 (1985).

185. 908 F.2d at 607.

the standards of a plethora of affected states will bind a particular point source, even on a multi-state body of water such as the Mississippi River. Due to the limitations of current modeling and related technologies, the impact of an individual point source on water quality becomes so attenuated at some point as to become undetectable.[186] A point source is only responsible for violations attributable to its discharges.[187] Third, even if Congress designed the statute to avoid chaotic regulation, the CWA's preservation of common law remedies for those injured by pollution indicates its willingness to live with at least a certain modicum of unpredictability.[188]

The potential for conflict between the interests of either the federal and state governments or the source state and the affected states provides a more persuasive argument against the unilateral ability of affected states to insist that upstream sources comply with their water quality standards. It is indisputable that Congress sought to protect states' rights when it enacted the CWA.[189] This goal, however, does not dictate the conclusion that subjecting an upstream point source to affected state water quality standards constitutes an unwarranted and unacceptable infringement upon the rights of the upstream state.[190] As the Supreme Court concluded in *Arkansas v. Oklahoma*, once EPA approves a state water quality standard, it becomes incorporated into federal law.[191] From that point on, the affected state standards reflect the interests of both the promulgating state and the federal govern-

186. *Id.* *See also* Bushong, *supra* note 71, at 258-59 (discussing the diminishing impact of pollution as it travels from its source to downstream locations).

187. *See infra* notes 221-30 and accompanying text for a discussion of a suggested modified standard of causation. This standard would facilitate proof of causation, but even under that proposal, a point source would likely not be held responsible for water quality violations occurring several states downstream.

188. *See* S. REP. NO. 414, 92d Cong., 1st Sess. 81 (1971), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3746-47. *See supra* note 41 for the precise language of the Senate report.

189. *See, e.g.*, 33 U.S.C. § 1251(b) (1988) (stating Congress' intent "to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, [and] to plan the development and use . . . of land and water resources").

190. At least one commentator reached this fallacious conclusion. *See* Maurrasse, *supra* note 16, at 1174.

191. Arkansas v. Oklahoma, 112 S. Ct. 1046, 1058-59 (1992) (citing 40 C.F.R. § 122.4(d)). The Court sought to eliminate the confusion the statute causes concerning which standards to apply to a point source. It indicated that the EPA's regulations, by incorporating approved state water quality standards into federal law, effectively determine that such standards are "applicable" to a source state polluter.

ment.[192] Since the interests of the federal government and the affected state now coincide, any resulting conflict between federal and state interests corresponds to the clash between the interests of the source and affected states.[193]

Although Congress wanted to avoid one state's intrusion on a sister state's sovereignty when it enacted the CWA, such a clash is inevitable in the context of interstate pollution. The interests of the source and affected state are often diametrically opposed.[194] Critics of the Tenth Circuit's decision contend that the court's interpretation of the Act amounts to an excessive infringement on the upstream state's economic and environmental policies.[195] But a refusal to subject upstream point sources to affected state standards represents a similar intrusion on the policies of the affected state. In such a situation, downstream states would be helpless to combat the adverse effects of upstream discharges without imposing tighter limitations that impose higher costs on their own industries.[196] Given the reciprocal nature of the conflict, the issue is which of the two states' interests Congress intended to prevail in this situation.

It is possible that Congress intended that EPA resolve interstate con-

192. Accordingly, the imposition of the EPA-approved water quality standards of an affected state on a source state polluter is not the "unilateral" imposition of one state's standards on another.

193. *Cf.* Murchison, *supra* note 28, at 39 (describing the strong federal interest in the balance struck regarding the use of resources not confined within state boundaries); Maria O'Brien, Comment, *The Ultimate "Advisor": Rights of a Downstream State Under the Clean Water Act*, 31 NAT. RESOURCES J. 949, 964 (1991) (arguing that to allow an upstream state with less stringent standards to indirectly "regulate" affected state waters would be contrary to Congress' intent to use water quality standards as a supplement to technology in efforts to minimize water pollution).

194. *See supra* notes 50-68 and accompanying text for an explanation of the divergent interests.

195. *See, e.g.*, Maurrasse, *supra* note 16, at 1174, 1176 (stating that the appellate court's decision frustrates the upstream state's ability to meet the economic needs of its citizens, placing its economy "at the mercy of downstream state policies").

196. *See, e.g.*, Oklahoma v. EPA, 908 F.2d 595, 606 (10th Cir. 1990) (citing EPA brief at 21) (EPA argued that Arkansas' construction of the Act made achievement of downstream standards "impossible in many circumstances or . . . possible . . . only by imposing a disproportionate burden in the downstream state"). *See also id.* at 606 n.10 (stating that EPA has interpreted the Act as manifesting "an intent to distribute the burden of meeting water quality standards among all dischargers on and affecting a particular waterway."); Farber & Frickey, *supra* note 58, at 893 n.85 (refusing to apply affected state's standards to source state discharger means that "the receiving state is forced to rely on whatever relief the rules of the discharging state might provide," thus injuring federalism values).

flicts on a case-by-case basis rather than through the application of an across-the-board rule subjecting upstream point sources to or excusing them from the obligation to comply with affected state water quality standards. Several factors, though, support the conclusion that Congress intended in general to favor the interests of the downstream state. First, the application of affected state standards to upstream point sources is more consistent with the predominant legislative goals of the CWA than a refusal to apply those standards.[197] Second, by approving the affected state standards, EPA acknowledged the value of preserving the particular affected state resources involved in the dispute. Third, the failure to provide an effective mechanism for applying affected state standards to upstream point sources tends to promote forum-shopping among industries seeking to avoid stringent pollution controls.[198] However, in enacting most of the federal pollution control statutes, Congress sought to discourage states from vying for industry by imposing lenient pollution controls.[199] That desire is one reason for the imposition of nationally uniform controls on new pollution sources.[200]

197. *See supra* notes 178-82 and accompanying text for a description of the relevance in this situation of the legislative goals of the CWA. *See also* Glicksman, *supra* note 16, at 209 ("[T]here is no evidence to support the conclusion that Congress chose to resolve the conflicting interests of the two states by subordinating the interests of the receiving state to those of the state from which the pollution emanates."). *But cf.* International Paper Co. v. Ouellette, 479 U.S. 481, 490-91 (1987) (stating that because affected states are in a subordinate position to source states in the CWA regulatory program, an affected state may not establish a permit system to regulate an out-of-state source).

198. 908 F.2d at 606 n.11. In *Arkansas v. Oklahoma*, EPA argued that exempting source state polluters from affected state water quality standards "would encourage sources to locate in states with less stringent water quality requirements. A source located immediately above a state boundary would not be required to meet the more stringent requirements, if any, of the downstream state, even though that state may be most affected by the discharge." *Id.* The ALJ raised the same point earlier in the proceedings. *See id.* at 604. *See also* O'Brien, *supra* note 193, at 965 (noting that the Tenth Circuit's decision "aids in the elimination of 'pollution shopping,' something the 1972 amendments to the CWA clearly were designed to prevent").

199. *See, e.g.*, United States Steel Corp. v. Train, 556 F.2d 822, 847 (7th Cir. 1977); S. REP. No. 370, 95th Cong., 1st Sess. 73 (1977), *reprinted in* 1977 U.S.C.C.A.N. 4326, 4398.

200. *See, e.g.*, 33 U.S.C. § 1316 (1988); Clean Air Act, 42 U.S.C. § 7411 (1988). *See also* Carie Goodman McKinney, *Statute of Limitations for Citizen Suits Under the Clean Water Act*, 72 CORNELL L. REV. 195, 198 n.20 (1986) (citing 118 CONG. REC. 10,661 (1972) (remarks of Rep. Podell)).

3. Constitutional Concerns

To the extent it remains unclear whether Congress intended EPA to resolve interstate conflicts on a case-by-case basis or to require all point sources to comply with downstream water quality standards, constitutional principles suggest that any doubts be resolved in favor of the mandatory application of affected state standards. The failure to apply these standards to out-of-state dischargers raises serious constitutional concerns that requiring such sources to comply with downstream standards does not raise.

If upstream polluters are not subjected to affected state water quality standards, they may infringe upon the affected state's "quasi-sovereign" interest in protecting the integrity of its environment,[201] recog-

201. *See supra* notes 13-30 and accompanying text for a description of cases recognizing that interest. *See also Milwaukee I*, 406 U.S. 91, 107 (1972) (noting that "[a] state with high water-quality standards may well ask that its strict standards be honored and that it not be compelled to lower itself to the more degrading standards of a neighbor."); Missouri v. Illinois, 180 U.S. 208, 241 (1901) (holding that the federal government has a duty to provide a remedy for the affected state); Farber & Frickey, *supra* note 58, at 893 (criticizing the result in *Milwaukee II* for failing to provide adequate protection to the sovereign interests of the affected state); Glicksman, *supra* note 16, at 204 (analyzing state sovereignty rights vis-à-vis interstate pollution). Although *Milwaukee II* held that the CWA preempted federal common law in the context of interstate water pollution, that Court did not find that Congress intended to revoke the "quasi-sovereign" rights of affected states, which were recognized in cases such as *Tennessee Copper* and *Milwaukee I*. In fact, the Act explicitly preserves "any right . . . of the states with respect to the waters (including boundary waters) of such states." 33 U.S.C. § 1370(2) (1988). That savings clause arguably preserves the quasi-sovereign rights recognized in the cases preceding *Milwaukee II*. *See supra* note 158 for an explanation of § 1370(2). Moreover, it is unclear whether Congress has the authority to usurp such rights. The Supreme Court's analysis of whether the Tenth Amendment imposes limits on Congress' powers under Article I of the Constitution appears unsettled. *Compare* Garcia v. San Antonio Metropolitan Transit Auth., 469 U.S. 528, 549 (1985) (quoting 2 ANNALS OF CONG. 1897 (1791)) ("Interference with the powers of the States was no constitutional criterion of the power of Congress . . . if [a power was] given, [Congress] might exercise it, although it should interfere with the laws, or even the Constitution of the States.") *with* New York v. United States, 112 S. Ct. 2408, 2418 (1992) ("[T]he Tenth Amendment confirms that the power of the Federal Government is subject to limits that may, in a given instance, reserve power to the States."). *New York v. United States* may represent a movement back toward the view that the Tenth Amendment imposes affirmative limits on delegated powers such as Congress' Commerce Clause authority. *See, e.g.*, National League of Cities v. Usury, 426 U.S. 833 (1976). A return to the constitutional limits imposed in *National League of Cities* would raise doubts on whether the Congress which enacted the 1972 CWA amendments possessed sufficient authority to revoke the states' sovereign rights to protect their environment, which were recognized in *Tennessee Copper* and *Milwaukee I*.

nized as long ago as *Georgia v. Tennessee Copper Co.*[202] Although the application of these standards intrudes upon the source state's sovereignty, this intrusion is constitutionally less troublesome than the intrusion on affected state rights that would otherwise result. A state that permits its industries to impose externalities on neighboring states arguably forfeits the right to invoke the principles of self-determination[203] inherent in the concept of state sovereignty.[204]

In addition, allowing the upstream state to decide whether to permit the spillover effects of its industries to reach downstream states raises dormant Commerce Clause concerns that are unlikely to arise if the downstream state controls such spillovers.[205] Source state interests are more likely to receive adequate representation in the political processes of the affected state than vice-versa. As long as affected state water quality standards apply equally to affected and source state dischargers,[206] the affected state's political processes, by affording representation to in-state industry, also take into account the analogous interests of source state polluters.[207] If source state dischargers are located near

202. 206 U.S. 230 (1907). *See supra* notes 19-22 for a discussion of *Georgia v. Tennessee Copper Co.*

203. *See* New York v. United States, 112 S. Ct. at 2431 (quoting Coleman v. Thompson, 115 L. Ed. 640, 675 (1991) (Blackmun, J., dissenting)) ("State sovereignty is not just an end in itself: 'Rather, federalism secures to citizens the liberties that derive from the diffusion of sovereign power.' ").

204. *See* Stewart, *supra* note 55, at 1227:

> [W]ithin the context of a federal system with co-equal states, a state's claim to autonomy is entitled to respect only insofar as it allows a like autonomy for sister states. Accordingly, a state should not be entitled to invoke the principle of local self-determination against federal controls where that state generates significant spillovers which impair the corresponding ability of sister states to determine the environmental quality they shall enjoy.

Id.

205. *See* Pierce, *supra* note 65, at 653 ("States should not be allowed to make regulatory decisions when those decisions have the potential to impose negative spillovers on other states."). *See supra* notes 58-60 and accompanying text for a description of the dormant Commerce Clause limitations imposed on the states.

206. *See infra* notes 210-12 and accompanying text for a discussion of the application of affected state water quality standards in a manner that would raise constitutional concern.

207. Affected states have a legitimate desire to protect their resource base and their residents against harms attributable to out-of-state pollution. Therefore, the governing Commerce Clause test in this situation should be whether the burden imposed on interstate commerce by application of affected state standards would be excessive in relation to the benefits provided to the downstream state. *See, e.g.*, Brown-Forman Distillers Corp. v. New York State Liquor Auth., 476 U.S. 573, 579 (1986) (holding that while a state may seek to lower prices for its consumers, the resulting burden imposed on other

the border of the source and affected states, as in *Arkansas v. Oklahoma*, the converse proposition is unlikely to be true. The source state receives a disproportionate share of the economic benefits attributable to the industrial operations responsible for the pollution, while the adverse environmental impacts are imposed disproportionately upon the affected state. The Supreme Court's dormant Commerce Clause cases recognize the inability of the source state's political processes to provide adequate representation to the affected state's interests in precisely this situation.[208] Federal intervention, in the form of EPA's application of affected state water quality standards to source state dischargers, may redress this imbalance and maximize the possibility that all relevant interests receive an adequate opportunity to protect themselves.[209]

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states to surrender any competitive advantages violated the Commerce Clause); Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970) (holding that evenhanded application of a state statute will be upheld absent excessive burden on interstate commerce). This test applies "where other legislative objectives are credibly advanced and there is no patent discrimination against interstate trade." *See* Chemical Waste Management, Inc. v. Hunt, 112 S. Ct. 2009, 2014 n.5 (quoting Philadelphia v. New Jersey, 437 U.S. 617, 624 (1978)) (holding that a statute requiring out-of-state waste producers to pay additional fees for in-state dumping violated the Commerce Clause). It is unlikely that a court would find an affected state standard unconstitutional under this test. *See* H.P. Hood & Sons v. Du Mond, 336 U.S. 525, 531-32 (1949) (recognizing a "broad power in the State to protect its inhabitants against perils to health or safety, . . . even by use of measures which bear adversely upon interstate commerce," so long as the state does not "promote its own economic advantages by curtailment or burdening of interstate commerce"); Pierce, *supra* note 65, at 623 ("[T]his balancing test is tilted heavily toward the state's interest. . . . The Court defers to the state's balance of its health and safety goals against the nation's economic goals unless the resulting burden on national economic goals is 'clearly excessive.' "); Stewart, *Interstate Resource Conflicts*, *supra* note 63, at 243 ("A state has an exceptionally strong interest in controlling . . . its land and natural resources; such measures should be substantially immune from federal judicial scrutiny as long as they affect those in other states only through markets and by their terms do not discriminate against them."). *See also* Glicksman, *supra* note 16, at 211-12.

Choice-of-law principles dictate the same result. In interstate tort cases, for the purpose of determining liability and assessing damages, there is no constitutional difficulty in applying the law of the state where an injury occurred. Gaynor, *supra* note 78, at 258. An affected state has a legitimate interest in protecting its residents against injury and in providing compensation for those who have been injured. *Id.* (citing International Paper Co. v. Ouellette, 479 U.S. 481, 502 n.1 (1987) (Brennan, J., concurring in part and dissenting in part)). Because the interstate tort conflict presents no constitutional difficulties, the application of a downstream state's water quality standards to upstream point sources should similarly be permissible.

208. *See supra* notes 58-60 and accompanying text for a description of the limitations placed on states by the dormant Commerce Clause.

209. The dormant Commerce Clause does not prohibit an affected state from apply-

In at least one situation, however, an affected state's attempt to apply its water quality standards to upstream point sources may violate the Commerce Clause.[210] Suppose that an affected state imposes less stringent water quality standards on wholly intrastate waters than on interstate waters. If affected state standards apply to upstream point sources, the affected state might effectively provide its own industries with a competitive advantage over those in the source state, because source state dischargers would likely be subject to more stringent controls than the affected state's own polluters.[211] Attempts by an affected

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ing its standards to upstream dischargers for another reason. Congress has the authority to waive the limitations otherwise imposed on state regulatory authority by the negative implications of the Commerce Clause. *See, e.g.*, Stewart, *Interstate Resource Conflicts*, *supra* note 63, at 256 (citing Prudential Ins. Co. v. Benjamin, 328 U.S. 408 (1946)) (finding valid a South Carolina statute which taxed all out-of-state insurance companies even though it would have been invalid absent a federal statute authorizing such taxation); *In re* Rahrer, 140 U.S. 545 (1891) (upholding congressional power to allow a state to regulate the flow of alcohol across its borders). By authorizing EPA to approve the affected state's water quality standards, even as applied to interstate waters, Congress may have waived any such limitations.

210. Source state dischargers may seek judicial application of the more stringent level of scrutiny that applies to the "economic protectionism" cases in a broader range of cases than the one described here. For example, they might argue that the application of affected state standards to source state dischargers constitutes an effort by the affected state to erect a blockade against waste. *See infra* note 212 for a discussion of economic protectionism. *See also* Fort Gratiot Sanitary Landfill, Inc. v. Michigan Dep't of Natural Resources, 112 S. Ct. 2019 (1992) (holding that state's waste import restrictions unambiguously discriminated against interstate commerce); City of Philadelphia v. New Jersey, 437 U.S. 617, 621-23 (1978) (invalidating New Jersey law which prohibited importation of waste). In similar situations, the Court has applied strict scrutiny. *See, e.g.*, Baldwin v. G.A.F. Seelig, Inc., 294 U.S. 511 (1935) (invalidating state statute that required out-of-state milk to be sold at minimum price established for milk produced within the state). Unless the affected state seeks to provide its own industries with a competitive advantage by exempting them from the standards applicable to out-of-state polluters, however, cases such as *Baldwin* would be distinguishable. The application of affected state water quality standards to out-of-state and in-state dischargers alike reflects neither an "avowed purpose" nor a "necessary tendency" to "suppress or mitigate the consequences of competition between the states." *Id.* at 522. Rather than seeking to erect barriers as a form of economic retaliation, the even-handed application of affected state standards to all dischargers accomplishes the affected state's objective of protecting its resource base from environmental harm, regardless of the source of those threats. *Id.* In such cases, the courts apply the *Pike* balancing test rather than the strict scrutiny test, which is reserved for economic protectionism cases. *See also* Chemical Waste Management, Inc. v. Hunt, 112 S. Ct. at 2014 n.5 (1992) (quoting City of Philadelphia v. New Jersey, 437 U.S. 617, 624 (1978)) (holding lenient balancing test is available where there is "no patent discrimination against interstate trade.").

211. A recent Senate bill to reauthorize the CWA addresses the possibility that an

state to retain for its own citizens the value of water resources may appear as economic protectionism, and give rise to a successful Commerce Clause challenge.[212]

In the event that congressional intent is unclear on resolving the conflict between affected and source state interests, constitutional concerns support the conclusion that the courts should resolve the ambiguity in favor of the downstream state. Congress probably would not have endorsed any approach to the application of the CWA's interstate pollution provisions that would usurp the ability of an affected state to protect its resource base from external as well as internal threats.

B. *EPA's Current Approach to Interstate Water Pollution Control Is Impractical*

EPA's continued adherence to the position that affected state water quality standards apply to upstream point sources will not necessarily afford affected states adequate protection against interstate water pollution. Both political and practical barriers may hinder affected state efforts to stem the flow of out-of-state pollution.

1. Political Barriers to Effective Interstate Water Pollution Control

Even if EPA conforms in theory to its current interpretation of the CWA's interstate pollution provisions, the agency may be wary of ap-

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affected state might attempt to exempt in-state dischargers from more stringent water quality standards applicable to upstream point sources. The bill authorizes EPA to veto a state issued permit on the basis of the adverse impact caused by the source state discharger on downstream water quality standards. This veto power would be conditioned on an EPA finding that sources in the affected state "are subject to the same requirements and policies" as those applicable to dischargers in the source state. *See* S. REP. NO. 1081, 102d Cong., 1st Sess., § 19(b) (1991). *See also id.* § 19(c) (authorizing EPA to grant relief to petitioning affected states under similar conditions).

212. *See* Stewart, *Interstate Resource Conflicts*, *supra* note 63, at 254 (arguing that state measures nominally directed at environmental values but in reality aimed at protecting in-state firms are constitutionally suspect). In a class of cases known as the "economic protectionism" cases, in which the Supreme Court found that state regulation discriminates against interstate commerce either in purpose or effect, the Court applies a "virtually per se rule of invalidity." *See, e.g.*, Chemical Waste Management, Inc. v. Hunt, 112 S. Ct. at 2015 n.6 (invalidating an Alabama law which charged higher fees on out-of-state users of Alabama landfills); Fort Gratiot Sanitary Landfill, Inc. v. Michigan Dep't of Nat. Resources, 112 S. Ct. 2019 (1992); City of Philadelphia v. New Jersey, 437 U.S. 617 (1978) (holding invalid a New Jersey law that banned out-of-state waste). There is no clear delineation between the situations in which the Court applies the balancing test and the circumstances meriting the per se rule of invalidity. *See Chemical Waste Management*, 112 S. Ct. at 2014 n.5.

plying those provisions in a way that imposes significant constraints on source state industries. Before assuming a position in the Justice Department, Richard Stewart expressed the view that EPA tends to shrink from resolving "heated interstate controversies" through the application of stringent state standards, because the use of uniform national standards "reduces decision-making costs and political controversy."[213] Prior to the 1990 CAA amendments, the agency consistently refused to afford relief to states complaining about acid rain emanating from emissions in other states.[214] This agency position supports Professor Stewart's suspicions. EPA's reluctance to take a position on the constitutionality of state efforts to exclude out-of-state solid and hazardous waste provides another example of the agency's tendency to steer clear of contentious interstate disputes.

2. Practical Barriers to Effective Interstate Water Pollution Control

If EPA puts aside such disinclinations and provides affected states with the opportunity to force source state permittees to comply with affected state water quality standards, its current test for triggering this obligation is still likely to present affected states with considerable difficulties. The test that the CJO applied and the Court approved in *Arkansas* requires an affected state to demonstrate, by a preponderance of the evidence, that a source state discharge "*cause[s]* an *actual*, detectable violation" of the affected state's water quality standards.[215] The history of interstate water pollution control is replete with evidence documenting the difficulty of tracing adverse effects on water quality in one state to a particular source located in another state.[216] The abys-

213. Stewart, *Interstate Resource Conflicts*, *supra* note 63, at 260-61. Professor Stewart also indicated that norms of reciprocity discourage Congress from delegating broad discretion to impose measures that afford economic advantages to certain states or regions. *Id.* at 261.

214. EPA denied petitioning states relief from the interstate transport of acid rain and its precursors in the following cases: New York v. EPA, 852 F.2d 574 (D.C. Cir. 1988); Air Pollution Control Dist. v. EPA, 739 F.2d 1071 (6th Cir. 1984); New York v. EPA, 716 F.2d 440 (7th Cir. 1983); New York v. EPA, 710 F.2d 1200 (6th Cir. 1983); Connecticut v. EPA, 696 F.2d 147 (2d Cir. 1982); Connecticut v. EPA, 656 F.2d 902 (2d Cir. 1981).

215. *See* Oklahoma v. EPA, 908 F.2d 595, 603 (10th Cir. 1990) (emphasis added). *See also* Arkansas v. Oklahoma, 112 S. Ct. 1046, 1059 (1992) (noting that the CJO ruled that an Oklahoma standard would be violated if the Fayetteville discharge "effected an 'actually detectable or measurable' change in water quality.").

216. Most of the early efforts to abate interstate pollution were based on the federal common law and founded on the affected state's inability to prove causation. *See, e.g.*,

mal failure of the pre-1972 FWPCA enforcement efforts, for example, was attributable largely to the inability of the federal government to identify the particular sources of the dangers to health and safety.[217] Despite advances in pollution detection technology since the adoption of the current statutory structure, a considerable body of scholarship supports the view that current scientific and statistical methodologies lack the capability to provide causal proof that a particular discharge increases water quality degradation.[218]

The decision in *Arkansas v. Oklahoma* endorses a statutory mechanism that is unlikely to constitute a reliable resource for affected states seeking to combat interstate pollution. The next part of this article describes several possible methods of remedying the deficiencies of the current scheme.

IV. SUGGESTIONS FOR IMPROVED MECHANISMS FOR COMBATTING INTERSTATE WATER POLLUTION CONTROL

If existing legal mechanisms provide insufficient opportunities for affected states to protect themselves against out-of-state pollution, these states must find more effective solutions. This part suggests administrative, judicial, and legislative alternatives to the current system. It concludes that the best hope for more effective control of interstate

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New York v. New Jersey, 256 U.S. 296, 309-13 (1921) (holding that New Jersey was unable to prove that New York's sewage disposal scheme polluted New Jersey waters); Missouri v. Illinois, 200 U.S. 496, 526 (1906) (holding that Missouri failed to prove the deleterious effects of Lake Michigan run-off). *But see* New Jersey v. New York, 283 U.S. 473, 483 (1931) (holding that New York's floating garbage was a nuisance to New Jersey); Georgia v. Tennessee Copper Co., 206 U.S. 230, 238-39 (1907) (holding Tennessee plant's release of sulfur dioxide threatened damage to forests, vegetation, and health of Georgia residents).

217. *See, e.g.*, Andreen, *supra* note 71, at 214; Gaba, *supra* note 71, at 1179; Gaynor, *supra* note 78, at 264; EPA v. California *ex rel.* State Water Resources Control Bd., 426 U.S. 200, 202-03 (1976) (explaining difficulty of enforcing FWPCA).

218. Bushong, *supra* note 71, at 262-63. Natural fluctuations in stream quality, which occur on both a daily basis, as a result of biological processes within the stream, and on a periodic basis, as a result of random events such as rain storms, hamper efforts to trace a given harm back to its source. "Such naturally occurring variability could often statistically mask small increases in the frequency of [water quality standard] violations." *Id. See also* O'Brien, *supra* note 193, at 965 (stating that "the 'detectability' of the impact of a discharge with or without computer modeling can be an evidentiary nightmare in an administrative hearing"). *Cf.* Bruce M. Kramer, *Transboundary Air Pollution and the Clean Air Act: An Historical Perspective*, 32 KAN. L. REV. 181, 182 (1983) (discussing "the inability of science to come up with the 'smoking gun' " in most transboundary air pollution cases).

water pollution lies in CWA amendments patterned after the interstate pollution provisions of the 1990 CAA amendments.

A. *Administrative Solutions*

The principal difficulty with EPA's current interpretation of the CWA's interstate pollution provisions lies in the requirement that an affected state prove, by a preponderance of the evidence, that source state pollution is causing an actual, detectable violation of affected state water quality standards. Based on EPA's denial of all the petitions filed under the CAA's interstate pollution provisions,[219] and the similarity of the burdens of proof imposed on affected states by the interstate pollution provisions of the two statutes,[220] it seems that satisfaction of the standard lies beyond many affected states.

Affected states have several means of eliminating this obstacle at the agency level. First, it is not clear from *Arkansas v. Oklahoma* whether the "actual, detectable" violation standard is derived from federal or state law.[221] The Tenth Circuit held that EPA's decision to issue the permit to Fayetteville was arbitrary because it would authorize additional discharges into a river that was already in violation of state water quality standards.[222] The Supreme Court disagreed, concluding that the appellate court misinterpreted both the CWA and Oklahoma's water quality standards. If an affected state wanted to avoid the obligation to prove that issuance of a permit to an upstream point source would cause an "actual, detectable" violation of its standards, it could argue to EPA that the *Arkansas* Court's decision was based only to a limited extent on the provisions of the CWA. Under this interpretation of the decision, the Court held first that the CWA does not necessarily

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219. Before the adoption of the 1990 amendments, the CAA authorized a state to petition EPA for a finding that emissions generated in another state are responsible for air quality problems in the petitioning state. If EPA issued such a finding, the source state was required to revise its implementation plan to control the offending emissions. 42 U.S.C. § 7426(b)-(c) (1988). *See infra* at notes 239-47 and accompanying text for a more complete description of these provisions.

220. The EPA's interpretation of the CAA required the affected state to demonstrate a violation of its air quality standards as a result of a discharge from the source state. Further, EPA required an affected state to trace the violation to a specific source within the source state. *See infra* notes 242-47 and accompanying text for a discussion on the implications of these standards.

221. *See supra* notes 137-52 and accompanying text for a discussion of this aspect of the Supreme Court's decision in *Arkansas v. Oklahoma*.

222. *See supra* notes 120-22 and accompanying text.

prohibit the issuance of a permit to a new point source that will discharge into a body of water that already violates state water quality standards.[223] The Court's second holding was that EPA's issuance of the permit was not arbitrary because Oklahoma failed to demonstrate that the treatment plant's discharge would itself cause an actual, detectable violation of its water quality standards.[224] The standard of proof the Court endorsed in this second holding was arguably derived from Oklahoma's water quality standards, rather than from the CWA. Accordingly, if, in a subsequent interstate pollution dispute, the affected state's law requires a less rigorous showing to link a particular discharger to a violation of its water quality standards, EPA should apply that standard of proof rather than the "actual, detectable" violation standard derived from Oklahoma law.

Second, if EPA insists that the "actual, detectable" violation standard endorsed in the *Arkansas* decision was based on federal rather than state law, affected states nevertheless could try to convince EPA that this burden of proof is too difficult to satisfy and thus inconsistent with statutory purposes.[225] The Court in the *Arkansas* case held not that the manner in which EPA interpreted and applied the statute was the only permissible one, but only that it was reasonable. The agency is therefore free to exercise its discretion to adopt other reasonable approaches to statutory implementation. EPA might concur in the denial of a permit to an upstream source if, for example, an affected state demonstrated that the upstream source, either alone or in combination with other upstream sources, may reasonably be anticipated to cause or contribute to violations of affected state water quality standards.[226] Congress made similar amendments to other pollution abatement provisions.[227]

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223. *See supra* notes 137-38 and accompanying text.

224. *See supra* notes 143-52 and accompanying text.

225. *A priori*, arguments that support imposition of a lighter burden of proof on affected states provide ammunition to counter any attempt by EPA to reverse its long-standing position that upstream point source permits must require compliance with downstream state standards.

226. If at any time several new point source permit applications were pending, EPA might hold a consolidated evidentiary hearing to consider the aggregate impact of granting the permits at various discharge levels. If affected state water quality standards were already being violated at the time of a permit application for a new upstream point source, EPA might provide an opportunity for the pollution control agency of the upstream state to reduce effluent limitations in outstanding permits as necessary to eliminate the violations, despite the issuance of the requested permit.

227. *See, e.g.*, 42 U.S.C. § 7545(c)(1) (1988) (authorizing EPA to regulate a motor

The agency might even consider the adoption of a presumption that issuance of a permit to a new upstream point source[228] causes or contributes to violations of affected state water quality standards existing at the time of the permit application. Such a presumption would shift the burden to the permit applicant to prove through the submission of computer models or other evidence that permit issuance would not result in further deterioration of water quality. Common sense supports the application of such a presumption in this narrow situation.[229] The existence of water quality standard violations in the vicinity of the proposed new source or downstream from that source suggests that discharges by prior polluters already have exceeded the assimilative capacity of the receiving water. If the receiving water is unable to assimilate current levels of pollution, then the discharge of additional pollutants into that water worsens the situation.

Compared to the one endorsed in *Arkansas v. Oklahoma*, this approach provides affected states with a more realistic opportunity to block permits to source state polluters that contribute to downstream water quality standard violations. It is also more consistent with relevant statutory objectives than the approach endorsed in that case. The CWA reflects Congress' intent that NPDES permits prohibit upstream point sources from violating affected state water quality standards.[230] It is unlikely that Congress imposed this requirement without an expectation that EPA would apply it in a manner that provided a meaningful opportunity for affected states to protect themselves against water quality degradation attributable to out-of-state sources.

B. *Judicial Solutions*

An affected state should take advantage of all available opportunities

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vehicle fuel additive if, in the agency's judgment, its emission product "causes, or contributes to air pollution which may reasonably be anticipated to endanger the public health or welfare"). The current version of this provision dates back to the 1977 CAA amendments, which codified the precautionary interpretation of the previous version in Ethyl Corp. v. EPA, 541 F.2d 1 (D.C. Cir. 1976).

228. The same presumption also might apply to applications to increase discharge levels at currently permitted upstream point sources.

229. The adoption of this presumption would amount to an administrative version of the Tenth Circuit's holding in *Arkansas v. Oklahoma* that the CWA and Oklahoma's water quality standards prohibit the issuance of a permit to a new point source seeking to discharge into water which already violates state standards. *See supra* notes 137-38 and accompanying text for a discussion of this aspect of the Tenth Circuit's decision.

230. *See supra* notes 156-212 and accompanying text.

that arise during the permit issuance process to convince EPA of the need to limit source state discharges to avoid violations of affected state standards.[231] The agency could create a more effective interstate pollution abatement mechanism than the agency's current regime is likely to supply, either in the context of an individual permit proceeding or through amendments to the NPDES permit regulations. If relief is not forthcoming in either forum, an affected state may attempt to seek a reversal of that result in court.

An affected state may raise two kinds of arguments. First, it may convince a court to answer the question left open in *Arkansas v. Oklahoma*. Based on the analysis above,[232] the affected state could argue that the Act requires EPA to apply affected state standards to upstream point sources, and that, because it hinges on an unworkable causation standard, EPA's current approach is inconsistent with that requirement. Given the courts' inclination to defer to agency factual findings and policy choices,[233] it is unlikely that a court would issue an across-the-board ruling invalidating EPA's current approach to implementation of the CWA's interstate pollution provisions.

Second, even if a court is unwilling to overturn the entire policy, an affected state may be able to convince a court that, in applying that policy to the facts of a particular case, EPA has abused the discretion the Supreme Court recognized in *Arkansas v. Oklahoma*.[234] For example, the Court held there that EPA had not abused its discretion, in part because the agency concluded that the benefits to the Illinois River provided by the new Fayetteville plant outweighed the costs of issuing a permit to a new discharger.[235] Would the same result be appropriate,

231. *See* 33 U.S.C. §§ 1341(a)(2), 1342(b)(5) (1988).

232. *See supra* notes 156-212 and accompanying text for a discussion of why the CWA requires upstream point sources to comply with water quality standards of affected states.

233. *See, e.g.*, Chemical Mfrs. Ass'n v. EPA, 470 U.S. 116, 131 (1985) (deferring to the EPA's decision to make variances available to indirect dischargers of toxic pollutants); Chevron U.S.A. Inc. v. NRDC, 467 U.S. 837, 862 (1984) (granting broad discretion in implementing the policies of the 1977 amendments to the CAA).

234. *See* Arkansas v. Oklahoma, 112 S. Ct. 595, 1056-58 (10th Cir. 1990). *Cf.* International Paper Co. v. Ouellette, 479 U.S. 481, 491 (1987) ("[A]n affected state does not have the authority to block the issuance of the permit [to an upstream, out-of-state point source] if it is dissatisfied with the proposed standards. An affected State's only recourse is to apply to the EPA Administrator, who then has the discretion to disapprove the permit if he concludes that the discharges will have an undue impact on interstate waters.").

235. 112 S. Ct. at 1060.

however, if, instead of a publicly owned treatment plant, a new industrial point source applied for permission to discharge into an interstate water body already in violation of affected state standards? It is far less likely that issuance of a permit in this situation would provide any environmental benefits.[236] Perhaps a court would be willing to second-guess EPA's cost-benefit assessment in such a situation. Similarly, EPA's failure to consider the cumulative impact of multiple upstream permits might provide grounds for concluding that in issuing a permit over an affected state's objection, the agency abused its discretion.

C. *Legislative Solutions*

If affected states are unable to solicit an acceptable response from EPA or the courts, legislative solutions may present a viable alternative. One obvious possibility is an amendment that overrules the *Milwaukee II* decision and restores federal common law remedies in interstate pollution disputes. Several commentators describe the benefits that such an amendment would provide.[237] As indicated above, however, defects inherent in a case-by-case approach to pollution control render this solution alone incapable of providing an effective solution to interstate water pollution.[238]

A second legislative alternative would be to adopt amendments patterned after the 1990 CAA provisions that deal with interstate pollution. Before 1990, the Act required that all state implementation plans (SIPs) contain adequate provisions designed to abate interstate air pollution.[239] It also established a mechanism through which one state could petition EPA for a finding that any major source in another state would emit air pollution in violation of those required plan provi-

236. If the new plant replaced an older plant which had outdated pollution control technology, issuance of a permit to the new plant might represent a net benefit to the environment, similar to the potential benefit created by the issuance of a permit to the waste treatment plant in *Arkansas v. Oklahoma*. *See generally* Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law: The Democratic Case for Market Incentives*, 13 COLUM. J. ENVTL. L. 171, 173-75 (1988).

237. *See, e.g.*, Farber & Frickey, *supra* note 58, at 889-95; Murchison, *supra* note 28, at 29, 45-47; Collins, *supra* note 16, at 407; Dexter & Schwarzenbart, *supra* note 16, at 690.

238. *See supra* notes 44-49 and accompanying text for a discussion on the shortcomings of common law litigation.

239. The Act required that SIPs prohibit a stationary source from emitting air pollutants in amounts sufficient to hamper any other state's effort to promote the national ambient air quality standards. 42 U.S.C. § 7410(a)(2)(E)(i) (1988).

sions.[240] If EPA issued such a finding, any major source identified in the finding would be in violation of the source state's SIP (and therefore subject to federal sanctions), despite the source's compliance with any permit issued by the source state.[241]

Most regarded the provisions designed to minimize interstate air pollution as generally ineffective.[242] EPA failed to act against any sources of interstate pollution under either of the two relevant statutory provisions.[243] The most formidable obstacle for affected states seeking the agency's assistance against out-of-state air pollution was similar to the one that has plagued affected state efforts to control interstate water pollution for nearly a century — the need to prove that source state polluters caused air quality violations in an affected state.[244] EPA interpreted the statute to require the affected state petitioner to prove that source state pollution was "significantly contributing" to air quality standard violations in the petitioning state, and the courts deferred to that interpretation.[245] In addition, the statute required affected states to trace the violation to a specific source.[246] EPA exacerbated these difficulties when it refused to accept the mathematical and mete-

240. *Id.* § 7426(b).

241. *Id.*

242. For descriptions of the ineffectiveness of the pre-1990 CAA in dealing with interstate pollution, see generally Kramer, *supra* note 218; Kay M. Crider, *Interstate Air Pollution: Over A Decade of Ineffective Regulation*, 64 CHI.-KENT L. REV. 619 (1988).

243. New York v. EPA, 852 F.2d 575, 581 (D.C. Cir. 1988) (Ginsburg, Ruth B., J., concurring). The agency declined to grant relief under any of the petitions filed under § 126(b), 42 U.S.C. § 7426 (1988). *Id.* According to one commentator, "it is difficult to imagine a scenario where section 126 could be successfully invoked." Talkington, *supra* note 4, at 966.

244. *See* Talkington, *supra* note 4, at 967.

245. *Id.* (citing Air Pollution Control Dist. v. EPA, 739 F.2d 1071, 1088-93 (6th Cir. 1984)). Another court rejected the position that one state could not emit any air pollution into another state, as long as the downwind state had not yet attained the national ambient air quality standards. Acceptance of this position,

> would be to hold one state hostage to another's failure to enact the pollution control strategies necessary to conform to the requirements of the Clean Air Act . . . . Section 7410(a)(2)(E)(i)(I) seems to contemplate a standard which would prohibit SIP revisions only if the emissions they would permit would *in and of themselves* prevent a nearby state from attaining the NAAQSs.

Connecticut v. EPA, 696 F.2d 147, 164 (2d Cir. 1982) (emphasis added). *Accord* Air Pollution Control Dist. v. EPA, 739 F.2d 1071, 1093 (6th Cir. 1984) (applying the Second Circuit's reasoning to a case with greater interstate emissions).

246. *See* Talkington, *supra* note 4, at 967 (citing Connecticut v. EPA, 656 F.2d 902, 909 (2d Cir. 1981) (noting the burden of proof required of affected states); New York v.

orological computer models that affected states employed for ranges longer than fifty kilometers, despite the fact that long-range transport of pollution is the basis for a large share of interstate pollution.[247]

The 1990 CAA amendments[248] sought to redress some of these difficulties. They therefore provide a model for similar amendments to the CWA's interstate pollution provisions. First, the amendments sought to lessen the burden of proof with respect to causation for affected states seeking to force abatement of pollution generated elsewhere. Although the amendments endorse the "significant contribution" test,[249] they address the "tracing" problem by authorizing an affected state to petition EPA for a finding that a particular source "or group of major stationary sources emits or would emit" air pollutants that con-

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EPA, 710 F.2d 1200, 1203-04 (6th Cir. 1983) (same); New York v. EPA, 852 F.2d 574, 578 (D.C. Cir. 1988) (same)). According to Talkington:

> [t]he main problem [was] that while a single source's emissions may not satisfy the threshold standard, the cumulative emissions from several sources can have a significant effect. Because SIP revisions are directed to individual plants or sources, section 110 does not allow for review of cumulative impacts. Thus, as is commonly the case, when cumulative impacts from aggregate sources significantly contribute to a downwind state's pollution problems, the downwind state is without any remedy because the cause (or significant contribution) cannot be traced to any single or specific source.

Talkington, *supra* note 4, at 968. *See also* Kramer, *supra* note 218 ("The section 126 mechanism has been reduced to the long-range transport, multiple source problems for which modeling and science have yet to come up with the answers.").

247. *See* Crider, *supra* note 242, at 634; Kramer, *supra* note 218, at 198. The courts again deferred to EPA's exclusive reliance on short-range models. *See, e.g.*, New York v. EPA, 852 F.2d 574, 580 (D.C. Cir. 1988) (requiring judicial deference to an agency's prediction when matter lies within the agency's area of expertise; Air Pollution Control Dist. v. EPA, 739 F.2d 1071, 1084 (7th Cir. 1984) (finding a rational basis for the agency's use of specific factors in its modeling study); New York v. EPA, 716 F.2d 440, 444 (7th Cir. 1983) (deferring to agency's choice of models as long as agency follows its own rules and guidelines); New York v. EPA, 710 F.2d 1200, 1204 (6th Cir. 1983) (same); Connecticut v. EPA, 696 F.2d 147, 157-59 (2d Cir. 1982) (noting that a court may not substitute its own mathematical modeling techniques for those of the EPA). Because the courts adopted a "significant contribution" test to trigger relief under the § 126 petition process,

> the use of long-range models under the current state of the law will probably not solve the causation problem. . . . [E]ven if a long-range model can pinpoint a particular source, this source, in and of itself, may not 'significantly contribute' to interstate pollution. The problem that several 'insignificant' sources can combine to create a 'significant' effect in another state still remains.

Crider, *supra* note 242, at 637.

248. Pub. L. No. 101-549, 104 Stat. 2468 (1990).

249. 42 U.S.C. § 7410(a)(2)(D)(i) (Supp. II 1990).

tribute to air quality violations in the affected state.[250] Similarly, Congress could amend the CWA to prohibit a particular source or group of sources[251] in an upstream state from significantly contributing to a violation of EPA-approved state water quality standards or EPA's nondegradation policy in a downstream state. To further minimize the difficulty of proving causation, instead of requiring proof of a "significant contribution" to a violation of relevant standards, the amended Act could include a more lenient standard. That new standard might require an affected state to prove only that a source or group of sources "may reasonably be anticipated to cause or contribute to" violations in the affected state.[252]

Because the burden of proving causation is only one of the difficulties that contributes to the ineffectiveness of the CWA's interstate pollution provisions, Congress must go further. As indicated above,[253] in addition to the difficulty of proving causation, EPA's desire to avoid involvement in interstate controversies is likely to thwart affected state efforts under the current statutory framework to protect their resources from out-of-state invasions. The 1990 CAA amendments also provide a model for remedying this problem. The amendments authorize the creation of interstate transport commissions to address transboundary air pollution. If EPA believes that the interstate transport of air pollutants contributes significantly to a violation of air quality standards in other states,[254] it may establish a "transport region" for the relevant

250. *Id.* §§ 7426(b), 7410(a)(2)(D).

251. This prohibition could apply not only to point sources subject to the NPDES permit program, but also to non-point sources regulated under state water quality management plans. *See* 33 U.S.C. §§ 1288, 1313(e) (1988). *See also infra* note 267 for a discussion on the CWA's failure to impose significant pollution control measures on non-point sources.

252. *See supra* notes 223-27 and accompanying text for discussion of a similar standard in the administrative context. If Congress wanted to further facilitate affected state efforts to halt source state pollution, it could shift the burden of proof of causation. For example, the Act could presume that existing violations of affected state standards would be exacerbated by authorization for a new source to discharge (or authorization for an existing source to increase the level of its discharges) into a body of water that already violates affected state water quality standards. The result would be similar to the interpretation of the Act adopted in Arkansas v. Oklahoma, 908 F.2d at 615-35. *See also supra* notes 228-29 and accompanying text for a recommendation on similar revisions to EPA's current application of the CWA.

253. *See supra* notes 213-14 and accompanying text.

254. The CWA amendments could substitute a less burdensome trigger for the "significant contribution" test. *See supra* notes 248-50 and accompanying text for a discussion on the CAA amendments.

pollutant.[255] Concurrently, EPA must establish a "transport commission," whose membership includes the governors of all states involved, EPA's Administrator and Regional Administrators for all affected regions, and state air pollution control officials.[256] Each transport commission must assess strategies for mitigating interstate air pollution and recommend such measures to EPA. The objective is to ensure that the SIPs of all states included in the transport region satisfy the general requirement that SIPs prohibit sources from contributing to air quality standard violations elsewhere.[257] A transport commission may request an EPA declaration that a state's SIP is inadequate to meet this mandate. If EPA makes such a finding, the state involved must revise its SIP.[258]

Congress could amend the CWA to establish similar mechanisms for the creation and operation of interstate watersheds and commissions. It could empower these commissions to request that EPA find that a state permit program for point sources[259] is inadequate to prevent sources in upstream states from contributing to violations of downstream state water quality standards or the nondegradation policy. To the extent that geographical, meteorological, and related factors make it rational, Congress could combine air and water-related responsibilities in a single administrative body. This approach might reduce the opportunities for strategic bargaining that often hamper the negotiation of interstate pollution compacts,[260] because the same state might be a source state with respect to air pollution but an affected state for water.[261]

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255. 42 U.S.C. § 7506a(a) (Supp. II 1990).

256. *Id.* § 7506a(b)(1).

257. *Id.* § 7506a(b)(2).

258. *Id.* § 7506a(c).

259. The program could be expanded to cover state water quality management programs for non-point sources as well. *See infra* note 267.

260. High transaction costs present another obstacle to the successful negotiation and implementation of interstate agreements. *See* Stewart, *Interstate Resource Conflicts*, *supra* note 63, at 243 n.15. The creation of interstate transport commissions might minimize these costs. For example, a commission with established membership and rules might reduce transaction costs.

261. Efforts to resolve interstate controversies through interstate compacts suggest that a compact has a significant chance of working only where a transboundary problem is symmetrical in nature. If the problem is asymmetrical (e.g., state A is polluting State B, but not vice versa), the source state typically lacks the incentive to constrain its industries. *See* Goble, *supra* note 58, at 789 n.14. Most transboundary pollution problems are asymmetrical. Accordingly, downstream state members of an interstate

These provisions may still fail to remove the barriers to the implementation of an effective interstate pollution control mechanism. The CAA provisions described above, as would any CWA mechanism patterned after them, depend on EPA's willingness to resolve interstate disputes. The CAA interstate transport commissions described above may recommend remedial measures to EPA, but may not compel EPA to implement them. EPA might be as unwilling to accept the recommendations of transport commissions as it has been to issue the findings requested in CAA section 126 petition proceedings.[262] If so, the commission mechanism cannot effectively force intransigent states to reduce discharges that contribute to interstate pollution.

To minimize the danger of a recalcitrant EPA, Congress could buttress the interstate commission mechanism in one of two ways. First, Congress could authorize the initiation of citizen suits in which the plaintiff (either an affected state or an individual who can demonstrate standing) could request that the court declare a violation of affected state standards despite EPA's refusal to make such a finding. The issuance of the finding would trigger an obligation on the part of implicated upstream states to revise their point source permit programs or water quality management programs to eliminate the discharges that are contributing to violations of downstream state standards.

Second, the statute could impose mandatory constraints on upstream states whose dischargers are responsible for downstream water quality problems. EPA would have the authority to enforce those provisions, just as it has the authority to remedy violations of the CWA's other substantive provisions.[263] Alternatively, Congress could vest in the interstate commissions the authority to oversee the necessary remedial measures without EPA's participation. In the 1990 CAA amendments, Congress followed a similar approach. The statute itself created a transport region for ozone pollution that covers most of the states in the Northeast.[264] The Act requires that each state included in the region submit to EPA, within a fixed time period, revisions to its imple-

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commission would tend to push for the imposition of limitations on upstream polluters, while upstream states would resist such measures. However, if the asymmetries for air and water pollution are reversed with respect to two or more states, one state's negotiating advantage with respect to one resource might be offset by a similar disadvantage with respect to the other.

262. *See supra* notes 242-43 and accompanying text for a discussion on the ineffectiveness of the provisions under the CAA.

263. 33 U.S.C. § 1319 (1988).

264. 42 U.S.C. § 7511c(b)(2) (Supp. II 1990).

mentation plan. These revisions must require reductions in emissions that are contributing to the ozone pollution. They include compliance with vehicle inspection and maintenance programs, application of control measures similar to vehicle refueling, and implementation of reasonably available control technology for sources of volatile organic compounds.[265] Analogous CWA provisions could designate interstate watersheds and require the states within the watershed to adopt, without the need for further EPA action, specified control measures.[266] These measures might include compliance by point sources[267] with a

265. *Id.* § 7511c(b)(1). In addition, a broad definition of the term "stationary source" applies to all states within the region, thereby expanding the scope of the permit program for new sources. *Id.* § 7511c(b)(2). Upon the petition of any state within the region, and based upon a majority vote of governors within the region, the commission may recommend that EPA adopt additional control measures. *Id.* § 7511c(c)(1). If EPA adopts such a recommendation, it must issue a finding that the SIPs of the source states are inadequate and require revision. *Id.* § 7511c(c)(5).

266. Nearly 20 years ago, one commentator concluded that "[r]egional control of water pollution undoubtedly represents the technical ideal. . . . [S]tandard-setting and enforcement authorities [should] be set up on a regional basis conforming to the hydrological characteristics, [and] . . . at least some geographic diversity in water quality and effluent standards [should] be allowed." Richard O. Zerbe, *Optimal Environmental Jurisdictions*, 4 ECOLOGY L.Q. 193, 238 (1974).

267. The solutions suggested in this article still might fail to mitigate interstate water pollution to any considerable extent. According to EPA, the largest remaining source of water quality impairment is nonpoint source pollution that entities involved in farming, construction sites, forestry, and mining generate. Nonpoint sources are responsible for about 60% of water quality standard violations. *See* Claudia Copeland, *Comprehensive Clean Air and Clean Water Permits: Is the Glass Still Just Half Full?*, 21 ENVTL. L. 2135, 2169 (1991). The current CWA does little to address nonpoint source pollution. *See* PERCIVAL, ET AL., *supra* note 163, at 945-51. If changes in the implementation of the Act's interstate pollution provisions fail to address this significant aspect of water pollution, such changes will not provide an adequate response to interstate water quality problems. A discussion of the contributions of nonpoint sources to transboundary water pollution is beyond the scope of this article, which focuses on the inadequacies of the CWA's interstate dispute resolution provisions.

Nevertheless, the article's proposed solutions easily could incorporate controls on nonpoint source pollution. For example, the mandatory measures discussed in the text could dictate that nonpoint sources comply with best management practices. In addition, Congress could adopt an emissions trading system for nonpoint sources patterned after the acid rain provisions of the 1990 CAA amendments. 42 U.S.C. §§ 7651-7651o (Supp. II 1990). *See generally* James T.B. Tripp & Daniel J. Dudek, *Institutional Guidelines for Designing Successful Transferable Rights Programs*, 6 YALE J. ON REG. 369 (1989). These provisions authorize electric utilities, among others, to buy and sell "allowances" to emit prescribed amounts of sulfur dioxide, a precursor to acid rain. 42 U.S.C. § 7651b(b) (Supp. II 1990). Undue reliance on such a system is unwise at this time, however, because it is too early to assess the practicability of the acid rain trading program, and a similar program for nonpoint sources of water pollution might prove

third level of technology-based effluent limitations more stringent than those based on the best available technology.[268]

If Congress is reluctant to impose on upstream states the economic burdens associated with more effective interstate pollution controls of the type suggested here, it might consider combining such controls with a scheme for compensating source states for those economic burdens.[269] This third legislative solution would entitle source states to compensation only to the extent that a downstream state establishes water quality requirements more stringent than the mandatory federal minimum standards.[270]

Congress could allocate the obligation to compensate in a variety of ways. For instance, it could place the obligation on the affected state in the amount of the economic harm it imposes on the upstream state as a result of the need to comply with its water quality standards.[271] Alternatively, Congress could choose to distribute the burden of compensa-

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even more difficult to implement. Identifying participants in the program would be more difficult because nonpoint source pollution, unlike many of the emissions that contribute to acid rain, does not emanate from a small group of facilities. Large electric utilities are responsible for the bulk of the sulfur dioxide emissions that contribute to acid rain. A second potential problem relates to the creation of pollution "hot spots" if many polluters along the same water body purchase allowances from sellers located elsewhere. Congress could mitigate this difficulty by prohibiting the purchase of more than a certain percentage of the allowances initially available in a particular river basin or watershed.

268. 33 U.S.C. § 1311(b)(2)(A), (C), (F) (1988). The statute could further authorize the commission, upon a majority vote of the member states, to recommend additional actions to EPA. EPA could be authorized to require revisions of state permit programs or water quality management programs or to require compliance with stringent controls by individual sources. Congress could provide EPA with the authority to withdraw all or part of a state's permit-issuing authority under 33 U.S.C. § 1342(b) (1988) if the agency determines that a state is not taking all necessary and reasonable steps to mitigate any discharges that contribute to violations of EPA-approved water quality standards or the non-degradation policy in another state.

269. *Cf.* Stewart, *Interstate Resource Conflicts*, *supra* note 63, at 263 (suggesting that Congress compensate states for foregoing development of scenic areas or agreeing to accept hazardous wastes).

270. The acid rain provisions of the 1990 CAA amendments essentially amount to a similar form of inter-regional transfer payment system. Congress might want to provide affected states with a "free ride" for part of any state efforts to exceed minimum federal standards. It could do so by permitting an affected state to exceed federal standards by a certain percentage without subjecting itself to the statutory compensation requirements. Beyond the specified percentages, the affected state would have to pay compensation.

271. Congress could assign to EPA or an independent body of economic experts the responsibility for determining the appropriate amount of compensation.

tion more broadly. Interstate waters represent national assets, whose preservation benefits the nation as a whole, therefore justifying a broad cost allocation mechanism. Compensation could be extracted from the general public in many ways, including affording tax breaks to industries that comply with the more stringent affected state standards, or establishing a special fund to compensate those injured by a violation of the affected state's standards. Revenues for the fund could be collected through mechanisms similar to those used to finance the hazardous waste Superfund.[272]

In my opinion, Congress should place the economic burden of interstate water pollution on those responsible for contributing to that pollution — dischargers in the upstream state (or the people in the state that benefit, through employment opportunities and otherwise, from the activities of those dischargers). But compensation mechanisms like those suggested here may make control mechanisms patterned after the 1990 CAA amendments politically palatable to legislators (particularly those representing states whose industrial effluents wind up affecting other states) who otherwise would not vote for such a program.

There is, of course, no guarantee that CWA amendments patterned after the CAA would eliminate all of the deficiencies of the existing statutory and regulatory program. It is far too early to assess the consequences of the 1990 provisions.[273] Only time will tell whether they represent a significant step forward in legislative efforts to control interstate air pollution. It might make sense, therefore, to delay adoption of amendments to the CWA's interstate dispute resolution mechanisms until the CAA amendments have been in place for several years. Nevertheless, the 1990 CAA amendments provide fertile ground for the development of new interstate water pollution control mechanisms. They provide a basis for addressing each of the major stumbling blocks that plague current efforts to control transboundary water pollution. Thus, the amendments suggested above could eliminate the requirements that an affected state attribute downstream pollution to a particular source state discharger. They also might avoid the deadlock that results from EPA's reluctance to take sides in interstate disputes.

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272. 26 U.S.C. § 9507 (1988).

273. The 1990 CAA revisions have been criticized as "disappointingly shallow. There remain formidable obstacles to effective regulation and enforcement, particularly for downwind states. . . . Ultimately, downwind states remain at the mercy of EPA discretion and political climate." Talkington, *supra* note 4, at 979-80.

V. CONCLUSION

Affected states continue to search for an effective means to protect their waters against pollution generated in other states. The Supreme Court's decision in *Arkansas v. Oklahoma* upholds EPA's decision to require upstream point sources to comply with affected state water quality standards. The Court's decision, however, is unlikely to provide a satisfactory solution for affected states. Past interstate water pollution controversies and efforts to implement the pre-1990 CAA's interstate pollution provisions indicate that the approach that the Court endorsed in the *Arkansas* case imposes an unrealistic burden on affected states by requiring them to trace adverse water quality conditions to particular upstream point sources.

EPA is authorized to devise a more efficacious approach by easing affected states' burden of proving that water quality standard violations are attributable to source state discharges. In the absence of such an administrative transformation, affected states must direct their efforts to procure greater protection for their waters to the other two branches of government. They may be able to convince the courts that EPA's implementation of the CWA's interstate pollution provisions constitutes an abuse of discretion. Ultimately, however, their best hope for relief probably rests with Congress. The most promising avenue for bolstering the ability of downstream states to protect their water resources is to pattern amendments to the CWA after the 1990 CAA interstate pollution provisions.