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1993]

WHEN DOES “NEW” SCIENTIFIC RESEARCH MANDATE
UPDATES TO EPA WATER QUALITY CRITERIA? *NATURAL
RESOURCES DEFENSE COUNCIL, INC. v. UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY*

I. INTRODUCTION

“The river must have been wonderful when he was young. The shad would run up it in the spring and there was a run of salmon also. Now it had an oily odor from the cotton mills upstream.”¹

The above quote, from 1939, was an early recognition of one cause of water pollution and its effects. As currently defined in the Clean Water Act (CWA),² “[t]he term ‘pollution’ means the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.”³ A pollutant is the man-made or man-induced element that alters the integrity of water.⁴

The opening quotation recognized the now prevalent belief that industrial facilities are the primary cause of pollution; how-

1. FREDERICK R. ANDERSON ET AL., ENVIRONMENTAL PROTECTION: LAW AND POLICY 331 (2d ed. 1990) (quoting J. P. MARQUAND, WICKFORD POINT 92-93 (1939)). This quote is used to introduce Chapter IV, “Protecting the Water Resource” in the Environmental Law casebook used by the author, and seemed a fitting introduction to this casenote. *Id.*

2. CWA §§ 101-607, 33 U.S.C. §§ 1251-1387 (1988). Hereinafter, the terminology “Clean Water Act” refers to the Federal Water Pollution Control Act (FWPCA) as that Act is currently codified in the United States Code.

3. CWA § 502(19), 33 U.S.C. § 1362(19).

4. CWA § 502(6), 33 U.S.C. § 1362(6). Specific examples of what is and what is not a “pollutant” follow:

‘[P]ollutant’ means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. [However, “pollutant”] does not mean (A) “sewage from vessels” within the meaning of section 1322 of this title; or (B) water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if such State determines that such injection or disposal will not result in the degradation of ground or surface water resources.

Id.

ever, industry is not the only cause.⁵ As currently defined in the CWA, water pollution from human biological waste affected human health in what is now North America before industrialization, and even before the birth of the United States.⁶ It is theorized that, as early as 1607, English settlers in Jamestown became sick, and probably died, because they drank water polluted with their own biological waste from the James River.⁷ These early colonists “who sickened and died may have been the first recorded victims of water pollution in the [Chesapeake] Bay.”⁸ Theoretically, the Jamestown colonists could have prevented their health problems if they knew the James River was contaminated with too much sewage and garbage. By experimenting with different tide and waste-quantity limits, the settlers could have established a low-risk level of contamination. Finally, by controlling the amount of sewage and garbage released into the James, the colonists could have maintained contamination at an acceptable risk-level and continued drinking from the James without health problems. These same steps: (1) cause determination, (2) risk assessment, and (3) pollutant control, are also the major elements of water pollution prevention in the CWA.⁹

This casenote examines how scientific research of the first

5. See *supra* note 1 and accompanying text. “[O]ily odor from the cotton mills upstream” identified cotton mills as the source of the odor. The CWA lists the following pollutants, many of which were probably present at the Jamestown settlement in 1607: “dredged spoil, solid waste, . . . , sewage, garbage, . . . , munitions, . . . , biological materials, . . . , wrecked or discarded equipment, rock, sand, [and] cellar dirt.” CWA § 502(6), 33 U.S.C. § 1362(6). For further discussion of water pollution problems in the Jamestown colony see *infra* notes 6-8 and accompanying text.

6. ANDERSON, *supra* note 1, at 348 (citing F. CAPPER ET AL., GOVERNING CHESAPEAKE WATERS: A HISTORY OF WATER QUALITY CONTROLS ON CHESAPEAKE BAY, 1607-1972 (1983); C. EARLE, ENVIRONMENT, DISEASE AND MORTALITY IN EARLY VIRGINIA, IN THE CHESAPEAKE IN THE SEVENTEENTH CENTURY 96 (T. Tate & D. Ammorman eds. 1979)). It is suggested that many of the health problems, sickness and possibly death, in Jamestown, the first English settlement in the Chesapeake Bay region, were caused by the water they drank from the James River. *Id.*

7. *Id.* The James, being a tidal river, ebbed and flowed with the tides and by drinking this water these colonists “exposed themselves to disease-carrying bacteria from their own wastes (according to a theory of a twentieth century historian) and subjected themselves to gradual salt poisoning from the brackish water.” *Id.*

8. *Id.*

9. See generally CWA § 304(a)(1), 33 U.S.C. § 1314(a)(1) (describing identification of causes and effects of water pollution); CWA § 304(a)(2), 33 U.S.C. § 1314(a)(2) (describing publication of information by EPA to prevent harmful effects of water pollution); CWA § 301(a), 33 U.S.C. § 1311(a) (outlawing “the discharge of any pollutant” beyond EPA established regulations); CWA § 303(c)(2)(B), 33 U.S.C. § 1313(c)(2)(B) (describing numerical criteria, biologi-

two steps - cause determination and risk assessment - affects CWA water quality criteria¹⁰ as presented in *Natural Resources Defense Council, Inc. v. United States Environmental Protection Agency (NRDC - 1991)*.¹¹ Two specific aspects of this opinion are analyzed. First, when does scientific research achieve a level of technical validity that facilitates - or mandates - Environmental Protection Agency (EPA) updates to existing water quality criteria? Second, given the technical validity of the data, whether the priority and resources EPA allocates to water quality criteria updates are proper.

II. FACTS

A. Procedural Posture

NRDC - 1991 arrived before the United States Federal District Court for the Eastern District of Virginia in a circuitous manner. The National Resources Defense Council (NRDC) filed a citizens suit under the CWA in a Maryland federal district court¹² alleging: (1) EPA capriciously approved Maryland's ambient water quality standard¹³ for dioxin,¹⁴ and (2) the EPA Administrator failed to comply with a mandatory duty to "fully develop and revise EPA water quality criteria to reflect the latest scientific knowledge."¹⁵ Earlier, the Environmental Defense Fund (EDF) had commenced a similar action in Virginia.¹⁶ The cases were consolidated.¹⁷ NRDC and EDF each had standing to challenge EPA dioxin criteria because their members used the Potomac River and both alleged EPA's approval of the Maryland and Virginia dioxin standards impaired their members' use and enjoy-

cal monitoring, or other appropriate "assessment methods for controlling toxic pollutants").

10. See CWA § 303(c)(2)(B), 33 U.S.C. § 1313(c)(2)(B) (describing numerical criteria, biological monitoring or other appropriate "assessment methods for controlling toxic pollutants"). For further discussion of these criteria, see *infra* note 117.

11. 770 F. Supp. 1093 (E.D. Va. 1991).

12. *Id.* at 1094 n.1. The NRDC citizens suit, Civil Action No. 3:91CV0005, alleged its members' enjoyment and use of the Potomac River was harmed by EPA's action. *Id.*

13. For the specific definition of water quality standards, see *infra* note 117 (comparing water quality standards to water quality criteria).

14. *NRDC - 1991*, 770 F. Supp. at 1094. Dioxin is the acronym given to the complex chemical, 2,3,7,8-Tetrachlorodibenzo-p-dioxin. *Id.* See *infra* notes 53-68 and accompanying text for a detailed discussion of dioxin.

15. *Id.*

16. *Id.* at 1094 n.1. The EDF filed Civil Action No. 3:91CV00165 challenging the Virginia dioxin standards. *Id.*

17. *Id.* Additionally, this court granted several motions to intervene. *Id.*

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ment of the Potomac.¹⁸

NRDC - 1991 dealt exclusively with two motions on Count 1 of the NRDC complaint.¹⁹ EPA moved to dismiss Count 1, while NRDC sought to amend it.²⁰ The EDF complaint was not addressed, although it was almost identical.²¹

B. Parties to the Action

NRDC - 1991 involved multiple plaintiffs, defendants and parties granted leave to intervene; most of these parties appeared for the district court's hearing on the Count 1 motions.²² Interestingly, *NRDC - 1991* saw two former opponents on the strictness of dioxin criteria, Westvaco Corporation and EPA, join as co-defendants to oppose the NRDC complaint.²³ Westvaco had previously challenged EPA's disapproval of both Maryland's and Virginia's "Individual Control Strategies [ICS]²⁴ for Toxic Pollutants" because EPA required Westvaco's paper mills, one in each state, to be included as point sources for dioxin.²⁵

18. *Id.* at 1094.

19. *NRDC - 1991*, 770 F. Supp. at 1094-95. For the text of Count 1 see *infra* note 113.

20. *Id.* at 1094.

21. *Id.* at 1094 n.1. ("Although the complaints are in most respects extremely similar, the motion to dismiss implicates only Count 1 of the NRDC complaint.").

22. *NRDC - 1991*, 770 F. Supp. at 1094. The court described the plaintiffs as "the Natural Resources Defense Council, Inc. (NRDC), other environmental advocacy groups and individuals who claim standing based on their use of the Potomac River and adjacent waters." *Id.* The defendants were "the Environmental Protection Agency (EPA), its administrator William Reilly ("the Administrator"), and Edwin Erickson, the EPA administrator for Region III, which includes Maryland and Virginia." *Id.* Also listed as appearing before the court were: Westvaco Corporation, The American Paper Institute, Chesapeake Corporation, Union Camp Corporation, the State of Maryland Department of Environment, the U.S. Department of Justice. *Id.* at 1093-94.

23. *Id.* See *Westvaco Corp. v. United States Env'tl. Protection Agency*, 899 F.2d 1383 (4th Cir. 1990).

24. *Westvaco*, 899 F.2d at 1385. The *Westvaco* court noted that EPA "has defined an ICS to be a draft or final NPDES permit, with supporting documentation showing that effluent limits are sufficient to meet the applicable water quality standards." *Id.* at 1386. See also CWA § 304(a)(1), 33 U.S.C. § 1314(a)(1), (*l*) (setting guidelines for ICS).

25. *Westvaco*, 899 F.2d at 1386-87. Westvaco claimed EPA's disapproval inherently required Maryland and Virginia to impose tighter controls on the Westvaco paper mills discharges of dioxin. *Id.* at 1388-89. If Maryland and Virginia did not revise their ICS to include the Westvaco point sources of dioxin, EPA threatened "to issue the ICS." *Id.* at 1388. Although it is not expressed in *Westvaco*, the standard that EPA intended to impose must have been stricter than the ICS submitted to Maryland and Virginia, or Westvaco would not have incurred the cost of this challenge. *Westvaco* was dismissed for lack of jurisdiction - the Fourth Circuit held it could not review a preliminary EPA action, only a

C. Summary of Facts

NRDC filed suit in January 1991, following EPA approval of Maryland's revised water quality standards for dioxin and other pollutants.²⁶ Prior to suing, NRDC had opposed adoption of Maryland's dioxin standard during both the Maryland state and EPA regional review processes - to no avail.²⁷ The dioxin concentration approved first by Maryland, then by EPA on review, was almost 100 times less stringent - 1.2 ppq (parts per quadrillion) - than the dioxin concentration -.013 ppq - EPA would impose if a state failed to impose one itself.²⁸ According to EPA's dioxin criteria, at the .013 ppq level, the human cancer risk is 1 in 1,000,000 persons.²⁹ The cancer risk increases to 1 in 100,000 persons at .13 ppq.³⁰ Using the above figures, Maryland's proposed 1.2 ppq dioxin criteria increases the cancer risk to 1 in 10,000 persons.

The objections described above were not the first disagreement between NRDC and EPA over dioxin criteria. In 1979, NRDC objected to EPA dioxin criteria in *Natural Resources Defense Council, Inc. v. Costle*.³¹ As a result of *Costle*, EPA entered into a consent decree³² and agreed to promulgate numerical water qual-

final one. *Id.* at 1389. EPA's preliminary disapproval of a state-issued permit was not a final action. *Id.* If EPA issued the actual permit requiring more stringent dioxin control, that would have been a reviewable final EPA action. *Id.*

26. *NRDC - 1991*, 770 F. Supp. at 1094. See also [1991 Pending Litigation] *Env'tl. L. Rep. (Env'tl. L. Inst.)* 66,127 (June 1991) (reporting initiation of *NRDC - 1991* action).

27. *NRDC - 1991*, 770 F. Supp. at 1095.

28. *Id.* (citing 55 Fed. Reg. 14,351 (1990)).

29. *Id.* at 1094; 49 Fed. Reg. 5831-02 (1984). For the text of applicable portions of 49 Fed. Reg. 5831-02, see *infra* notes 59-60.

30. 49 Fed. Reg. 5831-02. For the text of applicable portions of 49 Fed. Reg. 5831-02, see *infra* notes 59-60.

31. 12 *Env't Rep. Cas. (BNA)* 1833 (D.D.C. 1979), *modifying* 8 *Env't Rep. Cas. (BNA)* 2120 (D.D.C. 1976).

32. Black's Law Dictionary defines a consent decree as follows:

A judgment entered by consent of the parties whereby the defendant agrees to stop alleged illegal activity without admitting guilt or wrongdoing. . . . Also, a decree entered in an equity suit on consent of both parties; it is not properly a judicial sentence, but it is in the nature of a solemn contract or agreement of the parties, made under the sanction of the court, and in effect an admission by them that the decree is a just determination of their rights upon the real facts of the case, if such facts had been proved. It binds only the consenting parties; and is not binding on the court.

BLACKS LAW DICTIONARY 410-11 (6th ed. 1990). Black's defines solemn as "formal." *Id.* at 1392.

ity criteria for dioxin.³³ EPA subsequently published the "Gold Book" which summarized human cancer risks.³⁴ However, as part of the *Costle* consent decree, EPA also agreed to promulgate numerical dioxin criteria to limit non-cancerous human health risks and harmful effects on aquatic organisms.³⁵ EPA never promulgated substantive criteria for these latter categories.³⁶ The district court gave the *Costle* consent decree no weight because it lacked jurisdiction to enforce a decree issued in another circuit.³⁷

Nevertheless, EPA was not totally unresponsive on the dioxin criteria question. In April 1991, the EPA Administrator instructed the EPA Office of Research and Development to conduct a comprehensive review of EPA's dioxin risk assessment based on significant new scientific information.³⁸ Recognizing EPA's initiative, the district court found no reason to order EPA updates of dioxin criteria because: (1) any court-imposed orders would merely force EPA to complete its dioxin review within a judicially imposed time frame, and (2) there was no precedent requiring EPA to revise specific water quality criteria.³⁹

In the final analysis, the court merely clarified the issues in this action. The district court first granted EPA's motion to dismiss Count I, then allowed NRDC to amend that Count.⁴⁰ Next, the court ruled that NRDC's amended claims could only proceed

33. *Costle*, 12 Env't Rep. Cas. (BNA) at 1843 (requiring maximum permissible concentrations (i.e.- expressed in numerical terms)).

34. *NRDC - 1991*, 770 F. Supp. at 1094 (citing 49 Fed. Reg. 5831-02). See *infra* notes 59-60 containing the applicable text of 49 Fed. Reg. 5831-02.

35. *Costle*, 12 Env't Rep. Cas. (BNA) at 1843-44.

36. *NRDC - 1991*, 770 F. Supp. at 1094-95.

37. *Id.* at 1101. The consent decree was filed in the D.C. Circuit. *Id.* Therefore, since it was judicially imposed by the D.C. Circuit - not statutorily imposed by the CWA - the court implied this action should properly be brought in the D.C. Circuit where the decree had been entered. *Id.*

38. *Id.* at 1099, 1109. Whether EPA action would have been initiated independent of the combined NRDC and EDF suits is a matter of speculation, but, formal initiation of specific, comprehensive dioxin criteria analysis by EPA just three months after the initiation of a major challenge to the existing criteria must be viewed with some degree of cynicism. See *supra* note 26 and accompanying text. Because of the prior NRDC - EPA confrontations on the existing EPA dioxin criteria in *Costle* and NRDC's opposition during EPA regional review process of proposed state dioxin criteria, it seems EPA was slow to react to environmental group opposition, but quick to react to mitigate potential court imposed deadlines. For further discussion regarding involvement of EDF's opposition to Virginia's dioxin criteria see *supra* notes 16-18 and accompanying text.

39. *NRDC - 1991*, 770 F. Supp. at 1109.

40. *Id.* at 1110 n.14. The court granted the motion to amend subject to further consideration on a statute of limitations issue that may have barred part of the amended complaint. *Id.*

under the discretionary review provisions of section 706 of the Administrative Procedure Act (APA)⁴¹ and general federal question jurisdiction, but not as a CWA citizens suit.⁴² The court also expressed concern over how to conduct a trial on an amended Count 1 claim and solicited input from the parties.⁴³

III. BACKGROUND

A. Issues Presented

Two distinct issues were originally presented to the district court in *NRDC - 1991*. First, whether EPA capriciously executed its responsibility by approving a state plan with dioxin criteria that “fail[ed] to protect human health and environmental quality.”⁴⁴ Second, whether the CWA imposed a mandatory duty on EPA to periodically update its pollution criteria based on “the latest scientific knowledge.”⁴⁵ However, the court recast the second issue, based on the parties’ oral arguments and briefs as: whether the existing EPA dioxin criteria, which contained specific numerical guidelines only for human cancer risk, were sufficient - considering the CWA requirement to include *all* human health risks and other nonhuman effects.⁴⁶

B. Science, Technology and Water Pollution Control

Over the course of history, most scientific research concentrated on improving the immediate human condition;⁴⁷ however, one such technological advance - “sanitary sewers” - prompted

41. See generally APA §§ 551-559, 5 U.S.C. §§ 551-559 (“Internal Procedures”); APA §§ 701-706, 5 U.S.C. §§ 701-706 (“Judicial Review”) (1988).

42. *NRDC - 1991*, 770 F. Supp. at 1110 n.14. (“Count 1 of the amended complaint shall proceed, if at all, only on APA theories and general federal question jurisdiction, and not as a CWA citizens suit.”).

43. *Id.* at 1110. For further discussion of the amended complaint, see *supra* notes 40-42 and accompanying text (discussing APA claims).

44. *Id.* at 1094. The EPA standard (0.013 ppq) was much tighter than either Maryland’s or Virginia’s (1.2 ppq). *Id.* Maryland offered no data on the associated health risks from its proposed criteria. *Id.* at 1095. This was the same 0.013 ppq standard that prompted Westvaco Corp.’s challenge of EPA’s disapproval of the Virginia and Maryland ICS’s. See *supra* notes 23-25 and accompanying text.

45. *NRDC - 1991*, 770 F. Supp. at 1094.

46. *Id.* at 1095.

47. See, e.g., ANDERSON, *supra* note 1, at 349. The following account of the developments leading to modern sewer systems illustrates this concept:

The spread of water polluted with fecal matter created serious health hazards and grave concern. Putrefying fecal matter was believed to be especially objectionable and productive of “dangerous gases” and “unwholesome vapors.” Public health officials viewed overflowing cess-

public health concerns when previously clean water became polluted with human wastes.⁴⁸ Human waste was the dominant water pollution concern until after World War II.⁴⁹ It was not until the late 1950's that new and more dangerous industrial waste products from post-war technological advances prompted the current United States water pollution controls.⁵⁰ The importance of continued research into the nature and effects of pollutants is evident from the emphasis given to this topic in the CWA; Subchapter I, entitled "Research and Related Programs," is entirely dedicated to this subject.⁵¹

C. What is Dioxin?

Dioxin is the common acronym given to a complex chemical, 2,3,7,8-Tetrachlorodibenzo-p-dioxin.⁵² Dioxin has been labeled

pools with water closet connections as a dangerous threat to a healthful environment. . . .

The health and nuisance problems caused by running water and the consequent adoption of water closets and other water-using fixtures led to a search for devices to make the wastewater disposal system more efficient. These innovations were intended to modify the existing system rather than replace it entirely. Three methods were widely adopted: the pail system, the earth closet, and the odorless pit - all of which had distinct limitations.

Id. (citing Tarr et al., *The Development and Impact of Urban Wastewater Technology: Changing Concepts of Water Quality Control, 1850-1930*, in *POLLUTION REFORM IN THE AMERICAN CITIES, 1870-1930*, at 63 (M. Melosi ed. 1980)) (emphasis added).

48. See generally ANDERSON, *supra* note 1, at 348-55 (discussing United States water pollution control efforts). The replacement of "cesspool, privy vault, and scavenger systems" by "sanitary sewers" for the disposal of human wastes raised the first concerns about polluted water. *Id.* at 349 (citing Tarr, et al., *The Development and Impact of Urban Wastewater Technology: Changing Concepts of Water Quality Control, 1850-1930*, in *POLLUTION REFORM IN THE AMERICAN CITIES, 1870-1930*, at 63 (M. Melosi ed. 1980)). "[A]rguments over adoption of the [sanitary sewer systems] focused on economic considerations, health factors, and questions of competitive urban advantage.'" *Id.* The perceived health benefits were not as great as expected, and, in fact, caused "'serious repercussions for downstream or neighboring cities.'" *Id.* at 350.

49. *Id.* "Industrial waste disposal practices continued virtually unrestrained until after World War II because industrial pollution was not seen as a major threat. Initial efforts concentrated on human wastes." *Id.* at 348-49.

50. *Id.* In 1959, the United States Surgeon General noted three major public health factors that aggravated pollution problems: (1) the great increase in metropolitan industrial areas along the major American waterways, (2) the lack of wastewater treatment plant construction due to World War II, and (3) the new technologies that produced "'a whole array of [new pollutants], such as synthetic chemicals and radioactive wastes.'" *Id.* at 354 (citing Hollis, *The Water Pollution Image*, in *PROCEEDINGS OF THE NATIONAL CONFERENCE ON WATER POLLUTION* 30, 32 (1960)).

51. CWA §§ 101-120, 33 U.S.C. §§ 1251-1270 (1988).

52. NRDC - 1991, 770 F. Supp. at 1094. Other acronyms are given to varying forms of similar chemical compounds; TCDD is the acronym used to de-

a "peculiar chemical" by EPA⁵³ and "the molecule of death" by one legal commentator.⁵⁴ Public statements by an EPA official recognized that "[i]n high enough doses it flat out kills things. At lesser doses it affects the reproductive system, the immune system and it promotes tumor growth [in human and aquatic life]."⁵⁵

1. *From Agent Orange to Recent Damage Awards*

Publicity of the long-term, adverse health effects experienced by United States Vietnam veterans after exposure to Agent Orange focused the national spotlight on dioxin as a harmful pollutant. Dioxin was perceived as the contaminant in Agent Orange responsible for the veterans' health problems.⁵⁶

Courts have found dioxin's effects harmful to both human health and aquatic life.⁵⁷ The dollar amounts of verdicts and claims are staggering. Multi-million dollar damages have been awarded for unwanted exposure; claimed damages are even higher - multi-billions of dollars.⁵⁸

scribe the 2,3,7,8-Tetrachlorodibenzo-p-dioxin molecule. Victor J. Yannacone, Jr. et al., *Dioxin, Molecule of Death*, TRIAL, Dec. 1981, at 30, 34. The TCDD form is "only one of a group of related aromatic, tricyclic compounds . . . [in which,] the number of chlorine atoms in the chlorinated dioxins may vary from one to eight, and more than 221 different isomeric forms of polychlorinated dibenzo-p-dioxins (PCDDs) are possible." *Id.* Few other chlorinated dioxins have been synthesized because of their toxicity and "only the isomer with chlorines at the 2,3,7,8 positions (2,3,7,8-tetrachloro dibenzo p-dioxin, the 'dioxin' of the 'Agent Orange' case) has even begun to be examined in detail for its toxicological effects." *Id.*

53. *Water Pollution: EPA Need Not Set, Update Numerical Criteria for Dioxin Under Clean Water Act, Court Rules*, 22 Env't Rep. (BNA) 1023 (Aug. 9, 1991). This statement was made on August 7, 1991 by Bob April, from EPA's Office of Water where he held the position of "chief of the ecology risk assessment branch." *Id.* at 1024.

54. Yannacone, *supra* note 52, at 30. See also Samuel S. Epstein, *Agent Orange Diseases, Problems of Causality, Burdens of Proof and Restitution*, TRIAL, Nov. 1983, at 91, 91-95.

55. *Water Pollution: EPA Need Not Set, Update Numerical Criteria for Dioxin Under Clean Water Act, Court Rules*, *supra* note 53, at 1024.

56. Epstein, *supra* note 54, at 91. See also Yannacone, *supra* note 52, at 30.

57. See J. Joseph Kopricks, *United States v. Protex Industries, Inc.: Corporate Criminal Liability Under RCRA's "Knowing Endangerment" Provision*, 28 Hous. L. REV. 449, 467 n.132, 469 n.140, 471 n.155, 479 n.212 (1991) (citing *United States v. Northeastern Pharmaceutical & Chem. Co.*, 579 F. Supp. 823, 846 (W.D. Mo. 1984) (recognizing dioxin's high toxicity at low levels); *United States v. Vertac Chem. Corp.*, 489 F. Supp. 870, 885 (E.D. Ark. 1980) (finding escape of dioxin into waterways was suspected, but unproven, cause of teratogenic, mutagenic, fetotoxic, and carcinogenic health risks)).

58. *Litigation: State Court Approves Settlement; Two Companies to Pay \$ 9.1 Million in Claims*, 21 Env't Rep. (BNA) 1394 (Nov. 23, 1990); *Dioxins: Suit Claims Paper Firms Polluted Rivers; 1,800 Plaintiffs Seek \$2 Billion in Damages*, 14 Chem. Reg. Rep.

2. The "Latest Scientific Knowledge"

EPA promulgated human cancer risk criteria for dioxin in 1984.⁵⁹ Concrete, definitive human health risks unrelated to cancer and dioxin's effects on aquatic life - including absorption and accumulation of dioxin in fish and shellfish - have yet to be established.⁶⁰ This does not mean EPA has done nothing since it first released dioxin criteria, only that EPA is unsure of what the latest scientific criteria truly establishes. EPA was involved in numerous studies on the effects of dioxin, including: levels of dioxin in pa-

(BNA) 1514 (Jan. 18, 1991) (citing prior one million dollar verdict on similar claim as basis for pending claim).

59. 49 Fed. Reg. 5831-02 (1984). The specific findings on human health risks follow. The highlighted portions show EPA addresses only human cancer effects. *Id.* Additionally, the findings are for "information," not EPA's judgment of acceptable levels. *Id.*

For the maximum protection of human health from the *potential carcinogenic effects* due to exposure to 2,3,7,8-TCDD through ingestion of contaminated water and contaminated aquatic organisms, the ambient water concentration should be zero based on the non-threshold assumption for this chemical. However, zero level may not be attainable at the present time. Therefore, the levels that may result in *an increase of cancer risk over the lifetime* are estimated at 10-5, 10-6, and 10-7. The corresponding recommended criteria are 1.3X10-7 1/4g/l, 1.3X10-8 1/4g/l, and 1.3X10-9 1/4g/l, respectively. If the above estimates are made for consumption of aquatic organisms only, excluding consumption of water, the levels are 1.4X10-7 1/4g/l, 1.4X10-8 1/4g/l, and 1.4X10-9 1/4g/l, respectively. *Other concentrations representing different risk levels may be calculated. The risk estimate range is presented for information purposes and does not represent an Agency judgment on an "acceptable" risk level.*

Id. (emphasis added).

60. *Id.* Some data was provided by EPA for dioxin's effect on aquatic life; however, EPA was prevented from setting a national standard because of the paucity of conclusive data. *Id.* EPA's summary for effects on aquatic life states the following:

Not enough data are available concerning the effects of 2,3,7,8-TCDD on aquatic life and its uses to allow derivation of national criteria. The available information indicates that acute values for some freshwater animal species are above 1.0 1/4g/l; some chronic values are below 0.01 1/4g/l, and the chronic value for rainbow trout is below 0.001 1/4g/l. Because exposures of some species of fishes to 0.01 1/4g/l for less than six days resulted in *substantial mortality several weeks later*, derivation of aquatic life criteria for 2,3,7,8-TCDD may require special consideration. Estimated bioconcentration factors (BCFs) for 2,3,7,8-TCDD range from 3,000 to 900,000, but the available measured BCFs range from 390 to 13,000. If the BCF is 5,000, concentrations above 0.00001 1/4g/l *should result in concentrations in edible freshwater and saltwater fish and shellfish that exceed levels identified in an FDA health advisory.* If the BCF is greater than 5,000 or if uptake in a field situation is greater than that in laboratory tests, concentrations of less than 0.00001 1/4g/l *could result in exceedence of levels in the FDA health advisory.*

Id. (emphasis added).

per products,⁶¹ dioxin water pollution from pulp and paper mills,⁶² independent review of existing dioxin criteria by EPA's Science Advisory Board,⁶³ accumulation of dioxin in fish and people who ate fish,⁶⁴ and development of a new test method to detect dioxin.⁶⁵ However, EPA's dioxin efforts and results have also been criticized by industry,⁶⁶ researchers,⁶⁷ and environmental groups⁶⁸ since no updates to its initial dioxin criteria resulted.

D. Control of Water Pollution Under the CWA

Congress vested EPA with the responsibility for "restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters[:]" however, EPA does not shoulder this immense burden alone.⁶⁹ The CWA creates a complex regulatory structure which vests overall regulatory power in EPA, but delegates to each state⁷⁰ the ultimate task of actively managing its own

61. *Hazardous Waste: Low Levels of Dioxin in Paper Products Found by EPA, Paper Industry in Joint Study*, 18 Env't Rep. (BNA) 1441 (Oct. 2, 1987).

62. *Water Pollution: Excessive Discharges of Dioxin Confirmed in EPA/Industry Pulp and Paper Mill Study*, 20 Env't Rep. (BNA) 507 (July 7, 1989) (finding dioxin concentrations as high as 640 ppq); *Water Pollution: EPA, Pulp and Paper Industry Propose Dioxin Contamination Study of 105 Plants*, 18 Env't Rep. (BNA) 2189 (Feb. 19, 1988).

63. *General Policy: EPA Should Develop New Method to Calculate Risks of 2,3,7,8-TCDD, SAB Panel Head Says*, 13 Chem. Reg. Rep. (BNA) 75 (Apr. 28, 1989); *General Policy: No Scientific Basis to Lower Estimate of 2,3,7,8-TCDD Cancer Risk, SAB Panel Says*, 19 Env't Rep. (BNA) 1619 (Dec. 9, 1988).

64. *Water Pollution: Pilot Study by EPA Would Determine Risk to Subsistence Fishers from Dioxin*, 21 Env't Rep. (BNA) 481 (July 13, 1990); *Water Pollution: EPA Criticized for Not Reporting Sampling Information on Dioxin in Fish*, 20 Env't Rep. (BNA) 1430 (Dec. 22, 1989).

65. *Dioxins: EPA Proposes New Test Method for Detection of 17 Compounds*, 14 Chem. Reg. Rep. (BNA) 1621 (Feb. 22, 1991) (increasing accuracy of test method to detect smaller concentrations of dioxin).

66. *Water Pollution: Dioxin Danger in Columbia River Fish Discounted in Study Done by Paper Industry*, 20 Env't Rep. (BNA) 1446 (Dec. 29, 1989).

67. *Dioxins: NIOSH Study Shows Increased Cancer Risk, But Not as Great as in Previous Research*, 14 Chem. Reg. Rep. (BNA) 1578 (Feb. 8, 1991); *Dioxins: Scientists at Banbury Conference Agree Data Support 'Safe Dose,' Threshold Concept*, 14 Chem. Reg. Rep. (BNA) 1396 (Jan. 4, 1991); *Dioxins: EPA Scientist Criticizes Contract Study on Risks from TCDD in Kraft Paper Products*, 11 Chem. Reg. Rep. (BNA) 1120 (Oct. 16, 1987).

68. *Water Pollution: EPA Criticized for Not Reporting Sampling Information on Dioxin in Fish*, *supra* note 64, at 1430 (criticizing EPA for not releasing findings that showed higher accumulation of dioxin in fish than originally thought). Additionally, the entire NRDC - 1991 controversy, in and of itself, is an example of this criticism by both NRDC and EDF.

69. CWA § 101(a), (d), 33 U.S.C. § 1251(a), (d) (1988). For further discussion of the EPA Administrator's authority, see *infra* notes 81-98 and accompanying text.

70. See *infra* notes 81-91 for further discussion of the EPA Administrator's

individual water resources.⁷¹

Federal courts also play a part in water pollution control;⁷² however, when compared to EPA and the states, the role of the courts is secondary. Federal courts are predominately involved either in statutory interpretation or reviewing the propriety of EPA decisions.⁷³ Matters of pollution control policy and technology fall outside the judicial realm and are left to Congress, EPA or the individual states.⁷⁴

1. *The Stated Goal of the CWA*

"[T]o restore and maintain the chemical, physical, and biological integrity of the Nation's waters" is Congress's express objective in section 101(a) of the CWA.⁷⁵ After defining the CWA's objective, Congress listed seven specific goals and policies: (1) eliminating the discharge of pollutants into the nation's waters; (2) water quality which provides for the protection and propagation of fish, shellfish and wildlife; (3) prohibition of toxic discharges; (4) federal assistance for the construction of waste treatment facilities; (5) areawide waste treatment and management to control pollutants; (6) a major research and development plan to develop technology to eliminate pollutants from inland and ocean waters; and (7) programs for the control of nonpoint sources of pollution.⁷⁶

duties and authority to promulgate regulations under the auspices of the CWA. One such regulation defines states as "the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands, and the Commonwealth of the Northern Mariana Islands." 40 C.F.R. § 131.3(j) (1990).

71. See *infra* notes 86-90 and accompanying text.

72. See CWA §§ 505, 509, 33 U.S.C. §§ 1365, 1369. The CWA vests original jurisdiction in the federal district courts for citizen suits against the EPA Administrator for alleged failure to perform a *mandatory* action under the CWA. CWA § 505(a)(2), 33 U.S.C. § 1365(a)(2). See *infra* note 117 (containing applicable text of § 1365(a)(2)). See *infra* notes 118-21 for further discussion of the *NRDC - 1991* holding on CWA citizen suits. By comparison, review of the EPA Administrator's *discretionary* actions is available only in the Circuit Court of Appeals "in which [a] person resides or transacts business which is directly affected by [discretionary] action [by the EPA Administrator.]" CWA § 509(b)(1), 33 U.S.C. § 1369(b)(1).

73. For further discussion of judicial review standards, see *infra* notes 99-107 and accompanying text.

74. For discussion of federal courts deference to EPA on technical and policy matters, see *infra* notes 99-107 and accompanying text.

75. CWA § 101(a), 33 U.S.C. § 1251(a).

76. The stated Congressional goals and policies in the CWA follow:

§ 1251. Congressional declaration of goals and policy

(a) Restoration and maintenance of chemical, physical and biological integrity of Nation's waters; national goals for achievement of objective

2. *The CWA Scope - Human Risk and Effects on Fish, Shellfish and Wildlife*

Congress intended controls on the effects of water pollution to protect both human health and the health of all other living organisms.⁷⁷ In fact, section 304(a) of the CWA seems to stress the nonhuman health risks of water pollution - effects on plankton, fish, shellfish, wildlife, plant life, shorelines, beaches, esthetics, and recreation - more than human health risks.⁷⁸ The breadth of nonhuman health controls imposed by Congress cer-

The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. In order to achieve this objective it is hereby declared that, consistent with the provisions of this chapter—

(1) it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985;

(2) it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983;

(3) it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited;

(4) it is the national policy that Federal financial assistance be provided to construct publicly owned waste treatment works;

(5) it is the national policy that areawide waste treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each State;

(6) it is the national policy that a major research and demonstration effort be made to develop technology necessary to eliminate the discharge of pollutants into the navigable waters, waters of the contiguous zone, and the oceans; and

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

CWA § 101(a), 33 U.S.C. § 1251(a).

77. Hereinafter, the term "nonhuman health" will include any nonhuman living organism (e.g., fish, plants, shellfish and other forms of wildlife). For further discussion of Congress' intent, see *supra* notes 75-76.

78. CWA § 304(a), 33 U.S.C. § 1314(a).

§ 1314. Information and guidelines

(a) Criteria development and publication

(1) The Administrator, after consultation with appropriate Federal and State agencies and other interested persons, shall develop and publish, within one year after October 18, 1972 (and from time to time thereafter revise) *criteria for water quality* accurately reflecting the latest scientific knowledge (A) on the kind and extent of *all identifiable effects on health and welfare including, but not limited to, plankton, fish, shellfish, wildlife, plant life, shorelines, beaches, esthetics, and recreation which may be expected from the presence of pollutants in any body of water*, including ground water; (B) on the concentration and dispersal of pollutants, or their byproducts, through biological, physical, and chemical processes; and (C) on the *effects of pollutants on biological community diversity, productivity, and stability*, including information on the factors affecting rates of eutrophication and

tainly implies, if not expressly requires, elimination of pollutants from the human "food chain."⁷⁹ In light of this implication, EPA estimated consumption of dioxin contaminated fish and shellfish when it established the human cancer risk criteria.⁸⁰

3. *The EPA Administrator's Duties Under the CWA*

A condensed explanation of the CWA regulatory framework - how it vests authority and allocates tasks between the Administrator, EPA staff⁸¹ and the states - is possible by analogizing the roles of EPA and the states to those of a ship's captain, officers and crew. The captain is the EPA Administrator,⁸² the captain's officers are EPA staff, and the crew members are the states. Just as

rates of organic and inorganic sedimentation for varying types of receiving waters.

(2) The Administrator, after consultation with appropriate Federal and State agencies and other interested persons, shall develop and publish, within one year after October 18, 1972 (and from time to time thereafter revise) information (A) on the factors necessary to restore and maintain the chemical, physical, and biological integrity of all navigable waters, ground waters, waters of the contiguous zone, and the oceans; (B) on the factors necessary for the protection and propagation of shellfish, fish, and wildlife for classes and categories of receiving waters and to allow recreational activities in and on the water; and (C) on the measurement and classification of water quality; and (D) for the purpose of section 1313 of this title, on and the identification of pollutants suitable for maximum daily load measurement correlated with the achievement of water quality objectives. . . .

(5)(A) The Administrator, to the extent practicable before consideration of any request under section 1311(g) of this title and within six months after December 27, 1977, shall develop and publish information on the factors necessary for the protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and to allow recreational activities, in and on the water. (B) The Administrator, to the extent practicable before consideration of any application under section 1311(h) of this title and within six months after December 27, 1977, shall develop and publish information on the factors necessary for the protection of public water supplies, and the protection and propagation of a balanced indigenous population of shellfish, fish and wildlife, and to allow recreational activities, in and on the water.

Id. (emphasis added).

79. For a further discussion of EPA "food chain" studies and the impact that consumption of contaminated organisms has on human health, see *supra* notes 59-60, 64, 66 and accompanying text. While the CWA does not specifically use the term "food chain," it would be naive to assume Congress only intended to protect the life forms themselves with no regard for the risk to persons who might consume fish or shellfish tainted by pollutants.

80. For a further discussion of human health effects stemming from the food chain, see *supra* notes 59-60, 64, 66, 79 and accompanying text.

81. See AM. JUR. DESK BOOK 2D, Item No. 25 (1992) (showing EPA organizational chart).

82. While the EPA Administrator does not have the same direct line of command and control inherent in the captain's command, the CWA framework establishes similar authority in the Administrator. See *infra* note 84.

a captain must pilot a ship by coordinating the crew's actions through the ship's officers, the EPA Administrator must direct water pollution control in the states through EPA staff.⁸³

The EPA Administrator directs the overall effort of EPA staff toward the goal of preserving or restoring national water resources.⁸⁴ Guided by CWA requirements and after consultation with federal, state, or other interested parties, the EPA Administrator and staff establish initial national policies, procedures, and regulations - EPA's command and control framework.⁸⁵ Each state must then manage their water resources within EPA's initial framework.⁸⁶ Each state must plan and propose specific actions

83. Both establish a command and control framework by promulgating specific commands, policies, or regulations. The captain directs the officers to achieve overall goals and objectives. The officers have direct responsibility for coordinating commands onboard the ship. However, they must act within the captain's existing commands, policies, and regulations, or receive the captain's approval for actions outside that framework.

84. CWA § 101(d), 33 U.S.C. § 1251(d). CWA § 1251(d) vests the EPA Administrator with this authority as follows:

(d) Administrator of Environmental Protection Agency to administer chapter

Except as otherwise expressly provided in this chapter, the Administrator of the Environmental Protection Agency (hereinafter in this chapter called "Administrator") shall administer this chapter.

Id.

85. See CWA §§ 101(e), 304(a)(1), 33 U.S.C. §§ 1251(e), 1314(a)(1). For the full text of section 1314(a) which describes the Administrator's duty to consult with "appropriate Federal and State agencies and other interested persons," see *supra* note 78. "[O]ther interested persons" includes public participation which is defined as follows:

Public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or any State under this chapter shall be provided for, encouraged, and assisted by the Administrator and the States. The Administrator, in cooperation with the States, shall develop and publish regulations specifying minimum guidelines for public participation in such processes.

CWA § 101(e), 33 U.S.C. § 1251(e) (emphasis added).

86. CWA § 101, 33 U.S.C. § 1251. Congress recognized the states' primary responsibility for the daily management, planning and control of their water resources, but realized that responsibility must be supplemented with federal technical and financial support. *Id.*

(b) Congressional recognition, preservation, and protection of primary responsibilities and rights of States

It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this chapter. It is the policy of Congress that the States manage the construction grant program under this chapter and implement the permit programs under sections 1342 and 1344 of this title. It is further the policy of the Congress to support and aid research relating to the prevention, reduction, and elimination of pollution, and to provide

and controls to meet EPA's initial framework, or, if a state wishes to deviate from that framework, propose specific actions and controls to come within the intent of EPA's initial framework.⁸⁷ EPA must review and approve each state's initial plans, modifications to plans, and permits.⁸⁸ EPA approval of the state's plan establishes a new framework within which that state must operate.⁸⁹ The state is then responsible for implementation and enforcement of the EPA approved plan.⁹⁰

4. *Mandatory and Discretionary Duties of the EPA Administrator Under the CWA*

It is irrefutable that the CWA imposes duties on the EPA Administrator, but whether these duties are mandatory or discretionary is less clear. Section 304(a)(1) of the CWA states that "[t]he Administrator . . . shall develop and publish . . . (and from time to time thereafter revise) criteria for water quality accurately reflecting the latest scientific knowledge . . ." and thus imposes on the EPA Administrator a mixture of both mandatory and discretionary duties within the same sentence.⁹¹ The duty to develop and publish water quality criteria for certain pollutants is obvious and mandatory;⁹²

Federal technical services and financial aid to State and interstate agencies and municipalities in connection with the prevention, reduction, and elimination of pollution.

CWA § 101(b), 33 U.S.C. § 1251(b).

Control over water resource management, inherent in historical state sovereignty over water within its borders, was not changed by the CWA. CWA § 101(g), 33 U.S.C. § 1251(g).

(g) Authority of States over water

It is the policy of Congress that the authority of each State to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired by this chapter. It is the further policy of Congress that nothing in this chapter shall be construed to supersede or abrogate rights to quantities of water which have been established by any State. Federal agencies shall co-operate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.

Id.

87. See generally CWA § 301, 33 U.S.C. § 1311.

88. CWA § 301(c), (g)-(k), (m), (n), (p), 33 U.S.C. § 1311(c), (g)-(k), (m), (n), (p) (describing various modifications to EPA framework of water pollution controls allowed at state or local level).

89. *Id.*

90. *Id.*

91. CWA § 304(a)(1), 33 U.S.C. § 1314(a)(1) (emphasis added). It also provided the ambiguous language that fueled the *NRDC - 1991* controversy over revision of EPA dioxin criteria. *NRDC - 1991*, 770 F. Supp. at 1095.

92. See *NRDC - 1991*, 770 F. Supp. at 1097 n.2. (construing 33 U.S.C. § 1317(a)(1) to require EPA promulgation of dioxin criteria based on legislative history).

however, the technical and temporal duties of the Administrator are much less explicit.⁹³

How to practically apply this statutory language raises the following questions.⁹⁴

- (1) What is the significance of the parentheses around the phrase "and from time to time thereafter revise?"
- (2) How often is "from time to time?"
- (3) What "accurately reflects the latest scientific knowledge?"

Generally, courts have given the EPA Administrator wide discretion when interpreting the CWA.⁹⁵ However, this deference to the Administrator's discretion is most often extended when EPA's decision advances the CWA goal of eliminating impure water.⁹⁶ Additionally, judicial review of the Administrator's discretion, when granted,⁹⁷ is usually limited to review of: (1) the sufficiency

93. In fact, these ambiguities seemed to cause NRDC's action against EPA as described in this casenote.

94. These questions are posed at this point to highlight the confusion this seemingly benign language causes when subject to interpretation by two opponents in a lawsuit. The questions will be answered throughout the remaining sections of this casenote.

95. See *E.I. du Pont de Nemours & Co. v. Train*, 430 U.S. 112, 134-35, 135 n.1 (1977) (finding EPA construction of CWA on promulgation of effluent limitation guidelines entitled to deference); *Association of Pac. Fisheries v. EPA*, 615 F.2d 794, 805 (9th Cir. 1980) (affording EPA "substantial" discretion to implement mandate of CWA); *FMC Corp. v. Train*, 539 F.2d 973, 978-79 (4th Cir. 1976) (indicating CWA's overriding objective to eliminate pollution justified vesting EPA Administrator with broad discretion on cost of pollution abatement); *American Iron and Steel Inst. v. EPA*, 526 F.2d 1027, 1052 (3d Cir. 1975) (finding EPA Administrator has considerable discretion in weighing cost of pollution effluent guidelines), *modified on other grounds*, 560 F.2d 589 (3d Cir. 1977), *cert. denied*, 435 U.S. 914 (1978); *Natural Resources Defense Council, Inc. v. Train*, 510 F.2d 692, 711-12 (D.C. Cir. 1975) (giving EPA Administrator latitude to exercise discretion implementing CWA when there is no statutory violation). *But see* *Natural Resources Defense Council v. United States EPA*, 915 F.2d 1314, 1320-22 (9th Cir. 1990) (holding EPA not entitled to deference in interpretation of CWA section involving identification of point sources, since section as drafted was neither ambiguous nor incoherent and specifically precluded EPA's interpretation).

96. See *Association of Pac. Fisheries*, 615 F.2d at 805; *FMC Corp.*, 539 F.2d at 978-79; *American Iron & Steel*, 526 F.2d at 1052 ("[S]ome economic disruption was contemplated as a necessary price to pay in the effort to clean up the nation's waters, and the Administrator was given considerable discretion in weighing costs.").

97. See *American Frozen Food Inst. v. Train*, 539 F.2d 107, 129 (D.C. Cir. 1976) (finding EPA Administrator issuance of CWA effluent limitations subject to judicial review); *American Paper Inst. v. Train*, 381 F. Supp. 553, 554 (D.D.C. 1974) (denying jurisdiction because jurisdiction for review of water effluent limitations is properly in Circuit Court of Appeals), *aff'd*, 543 F.2d 328 (D.C. Cir.), *cert. dismissed*, 429 U.S. 967 (1976).

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of the factual basis for EPA's action, and (2) the reasonableness of EPA's action based on those facts.⁹⁸

E. Scope of Administrative Discretion Under the APA

1. General APA § 706 Criteria

Since the *NRDC - 1991* court held that proceedings on the amended Count 1 could be conducted based on the APA, and Count 2 of NRDC's complaint alleged EPA's approval of Maryland's dioxin criteria was "arbitrary, capricious, an abuse of discretion, and not in accordance with law, in violation of section 7 of the . . . APA," a discussion of APA section 706 judicial review standards follows.⁹⁹ The two preeminent opinions from the

98. See *Association of Pac. Fisheries*, 615 F.2d at 803 (holding scope of review of EPA effluent guidelines was to "insure that the agency has accumulated sufficient material upon which to make a reasoned decision, reviewed the material, and promulgated regulations that are the result of reasoned decision making"); *Kennecott Copper Corp. v. EPA*, 612 F.2d 1232, 1236 (10th Cir. 1979) (stating EPA effluent limitations are valid if facts in record of EPA action were adequate, and those facts, supplemented by policy considerations led to reasonable decision); *Hercules, Inc. v. EPA*, 598 F.2d 91, 108 (D.C. Cir. 1978) (requiring EPA regulations limiting discharge be based on substantial evidence in record as whole, not whether EPA has substantial evidence from every scientific field); *National Indep. Meat Packers Ass'n v. EPA*, 566 F.2d 41, 43-44 (8th Cir. 1977) (applying APA section 706(2)(A) arbitrary and capricious judicial review standard to EPA promulgated regulations); *American Frozen Food Inst.*, 539 F.2d at 129 (applying APA section 706(2)(A) arbitrary and capricious judicial review standard to EPA "guidelines" and "effluent limitations"). See also 5 U.S.C. § 706(2)(A); *infra* notes 99-107 and accompanying text for further discussion of the APA standards for judicial review.

99. For further discussion of the specific findings in *NRDC - 1991*, see *supra* note 42 and accompanying text. For the full text of NRDC Count 2, see *infra* note 113.

The exact wording of APA § 706 follows:

To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action. The reviewing court shall—

- (1) *compel agency action unlawfully withheld or unreasonably delayed;*
and
- (2) *hold unlawful and set aside agency action, findings, and conclusions found to be—*
 - (A) *arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;*
 - (B) *contrary to constitutional right, power, privilege, or immunity;*
 - (C) *in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;*
 - (D) *without observance of procedure required by law;*
 - (E) *unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute; or*

United States Supreme Court are *Citizens to Preserve Overton Park v. Volpe (Overton Park)*¹⁰⁰ and *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc. (Chevron)*.¹⁰¹

Overton Park held that reviewing courts must ask whether an agency considered all the relevant facts in reaching its decision, and, if all the facts were considered, whether the agency made a clear error of judgement.¹⁰² Therefore, under an *Overton Park* analysis, an agency decision must either: (1) lack sufficient factual basis for a reasoned decision, or (2) unreasonably deviate from those facts to be set aside.¹⁰³

Chevron held that reviewing courts must first ask whether a statute contains express Congressional intent, and, if express Congressional intent cannot be found, whether the agency's interpretation of the statute was reasonable.¹⁰⁴ Under a *Chevron*

(F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error.

APA § 706, 5 U.S.C. § 706 (emphasis added).

100. 401 U.S. 402 (1971).

101. 467 U.S. 837 (1984).

102. *Overton Park*, 401 U.S. at 416. If all relevant facts were not considered, the reviewing court may then set aside the agency decision. *Id.* However, if all the relevant facts were considered, the court must find a clear error in the agency logic to set aside the decision. *Id.* The United States Supreme Court stated this as follows:

Scrutiny of the facts does not end, however, with the determination that the Secretary has acted within the scope of his statutory authority. Section 706(2)(A) [of the APA] requires a finding that the actual choice made was not 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.' To make this finding the court must consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment. Although this inquiry into the facts is to be searching and careful, the ultimate standard of review is a narrow one. The court is not empowered to substitute its judgment for that of the agency.

Id. (emphasis added, citations omitted).

103. *Id.*

104. *Chevron*, 467 U.S. at 842-43. It must be noted that if the answer to the first part of the question is "yes," the second part is not asked and the case is decided based on the expressed Congressional intent. *Id.* If there is no expressed Congressional intent, the reasonableness of the agency decision is evaluated. *Id.* The United States Supreme Court stated this as follows:

When a court reviews an agency's construction of the statute which it administers, it is confronted with two questions. First, always, is the question whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress. If, however, the court determines Congress has not directly addressed the precise question at issue, the court does not simply impose its own construction

analysis, an express statutory intent to the contrary or an unreasonable statutory construction by the agency must set aside an agency's decision.¹⁰⁵

2. *APA § 706(1) - Agency Action Unlawfully Withheld or Unreasonably Delayed in Pollution Cases*

A plausible response by the EPA Administrator to the three questions posed above on the wording of CWA section 304(a)(1) is that EPA retains discretion about "when" and "how much" to revise water quality criteria.¹⁰⁶ However, case law interpreting section 706(1) of the APA holds that an agency may not unreasonably delay action; therefore, a formal EPA decision to update or not update dioxin criteria seems to be required within a reasonable time.¹⁰⁷

F. Congressional Oversight of Water Pollution in the Chesapeake Bay

The Chesapeake Bay has continued to be an important source of food, recreation and unfortunately, water pollution

on the statute, as would be necessary in the absence of an administrative interpretation. Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute.

Id. (emphasis added) (footnotes omitted).

105. *Id.*

106. *See supra* note 94 and accompanying text.

107. *See* APA § 706(1), 5 U.S.C. § 706(1) (quoted *supra* note 99); *Oil, Chem. and Atomic Workers Int'l Union v. Zegeer*, 768 F.2d 1480, 1481 (D.C. Cir. 1985) (after Mine Safety and Health Administration responded to petition for reduction in permissible exposure levels to radon for underground miners, labor organization and research group were entitled to judicial review of whether agency engaged in unjustifiable delay); *Environmental Defense Fund, Inc. v. Costle*, 657 F.2d 275, 283, 298 (D.C. Cir. 1981) (reviewing court may compel agency action unlawfully withheld or unreasonably delayed); *Environmental Defense Fund, Inc. v. Hardin*, 428 F.2d 1093, 1099 (D.C. Cir. 1970) (agency inaction has precisely same impact on party's rights as denial of relief; therefore, agency cannot preclude judicial review by deciding for inaction rather than order denying relief); *Natural Resources Defense Council, Inc. v. New York State Dep't of Env'tl. Conservation*, 700 F. Supp. 173, 181-82 (S.D.N.Y. 1988) (EPA failure to promptly provide date for revision of State Implementation Plan did not violate APA on grounds agency had unlawfully withheld and unreasonably delayed mandatory duty; delay was not in bad faith since complexity of issues and uncertainty as to possible Congressional revisions reasonably accounted for some of delay); *Natural Resources Defense Council, Inc. v. Morton*, 388 F. Supp. 829, 842 n.7 (D.D.C. 1974) (reiterating district court may compel EPA action unlawfully withheld or unreasonably delayed under section 706(1) of APA), *aff'd*, 527 F.2d 1386 (D.C. Cir.), *cert. denied*, 427 U.S. 913 (1976).

since the first English colonists settled Jamestown in 1607.¹⁰⁸ Water pollution in the Chesapeake and its tributaries continues today. The problem is so extensive that Congress has designated the Chesapeake Bay as a water pollution problem area requiring Congressional oversight.¹⁰⁹

IV. COMMENTARY

A. Narrative

1. General Discussion

In *NRDC - 1991*, the district court began its discussion by reviewing the NRDC claim.¹¹⁰ It then discussed: (1) NRDC's allegations on existing EPA dioxin criteria,¹¹¹ (2) EPA's approval of

108. For further discussion of English settlements and water pollution problems, see *supra* notes 6-8 and accompanying text.

109. See generally CWA § 117, 33 U.S.C. § 1267 (1988) (describing monitoring, control, and funding of water pollution efforts in Chesapeake Bay).

110. *NRDC - 1991*, 770 F. Supp. at 1094. For further discussion of the specific issues and claims raised and relief requested, see *infra* notes 111-14.

111. *Id.* at 1094-96. NRDC alleged EPA's dioxin criteria were insufficient in the following regards:

[T]he dioxin water quality criteria document and other EPA publications also describe identifiable non-cancer human risks of dioxin exposure, such as reproductive and developmental toxicity and liver damage. The EPA found insufficient data to develop national criteria for the effects of dioxin on aquatic toxicity.

The EPA has not proposed or published revisions to these criteria documents, despite the development of "significant new information . . . calling into question the validity of EPA's criteria." The information includes data demonstrating that: 1) EPA's assumptions regarding human consumption of fish and shellfish were far too low; 2) the rate of dioxin accumulation in aquatic life is much higher than EPA had assumed; 3) non-cancer health risks of dioxin 'may be higher' than EPA assumed for purposes of its 1984 document; and 4) the toxicity of dioxin to fish and aquatic life, and animals higher in the same food chain, is higher than reported in the 1984 document.

EPA nevertheless published regulations as recently as April 1990 indicating that it will continue to adopt a 0.013 ppq dioxin water quality standard when it is responsible for adopting state water quality criteria.

Id. (emphasis added) (citation omitted).

See *supra* note 78 and accompanying text for the CWA risk-assessment required for establishing criteria.

Maryland's dioxin standard,¹¹² (3) the specific counts,¹¹³ and (4)

112. *Id.* at 1095-96. NRDC challenged the Maryland dioxin standard for essentially the same reasons as it challenged the EPA dioxin criteria. *Id.*

[Maryland] submitted its water quality standards to EPA Region III for review. It did not argue for its 1.2 ppq dioxin standard with any data or information regarding noncancer human health effects or toxic effects on fish and aquatic life or animals that consume such contaminated fish and aquatic life. Maryland ignored the same new data EPA has ignored, as described above:

By using assumptions that err on the side of a weaker criterion in virtually every aspect of its cancer risk analysis, and by failing to consider significant new information that disputes these assumptions, Maryland's dioxin criterion fails to protect human health adequately against the cancer risk posed by dioxin.

NRDC opposed the Maryland actions with numerous comments to the EPA, but Region III nevertheless approved Maryland's dioxin standard. At least one bleach craft pulp and paper mill, operated by intervenor Westvaco Corporation, has obtained a discharge permit based on the 1.2 ppq dioxin criterion.

Id. at 1095.

113. *NRDC - 1991*, 770 F. Supp. at 1095-96. The substantive counts were:

Count 1 alleges the EPA administrator has failed to fulfill his nondiscretionary duties under 33 U.S.C. § 1314(a)(1) to promulgate water quality criteria accurately reflecting all identifiable effects on human health, including noncancer human health effects and toxic effects on fish and aquatic life and animals that consume such life, because the 1984 standards were based only on human health effects related to cancer. He further failed to revise the criteria as required "from time to time" to reflect "the latest scientific knowledge," as also required by the CWA.

Count 2 alleges that Maryland's dioxin standard fails generally to meet the goals and requirements of the CWA, 33 U.S.C. §§ 1311(a), 1313(c) and 1314(a). Specifically, it alleges that Maryland's failure to adopt numerical criteria to protect against *non-cancer* human health effects and adverse effects to fish, etc., is in violation of the CWA. Even if numerical criteria on such matters were impossible to create from available data, Maryland also failed to properly adopt alternatives under "criteria based on biological monitoring, or assessment methods consistent with information" published by the EPA.

The defendants thus failed to meet their CWA duties when they approved Maryland's dioxin standards: EPA's standard of review is, as a matter of law, contrary to CWA sections 101(a) and 303(c), including 303(C)(2)(B), which mandates state criteria adoption using "biological monitoring or assessment methods." EPA's refusal to [properly] review the Maryland standard for criteria to protect against fish and wildlife and noncancer human health effects is in error.

Therefore, defendants' approval of Maryland's dioxin standard "violated the Clean Water Act, and was arbitrary, capricious, an abuse of discretion and not in accordance with law, in violation of section 7 of the Administrative Procedure Act (APA)."

Finally, *Count 3* charges that defendants' approval of the Maryland dioxin standard violated 40 C.F.R. part 131, in that the Maryland standards were not based on any scientifically defensible methods and otherwise failed to meet CWA goals and requirements.

Id. (emphasis added) (change in original).

the relief sought.¹¹⁴ The goal of the CWA and the differing federal and state roles were then discussed.¹¹⁵ It was also noted that NRDC and EPA agreed dioxin was a toxic pollutant and the EPA Administrator was authorized to revise dioxin criteria "from time to time."¹¹⁶ Finally, the district court also distinguished criteria from standards, stressing that criteria: (1) define water quality standards, (2) do not have to be numerical, and (3) may be narrative descriptions of effects.¹¹⁷

2. CWA § 505(a)(2) - Citizens Suit Jurisdiction

NRDC - 1991 discussed the jurisdictional requirements found in CWA section 505(a)(2).¹¹⁸ This section allows district court jurisdiction over citizens suits only for claims that allege the EPA Administrator failed to perform CWA mandated duties.¹¹⁹ Subse-

114. *Id.* at 1096. NRDC sought the following relief:

1) a declaration that defendants [sic] approval of Maryland's dioxin standard was unlawful under the CWA, the APA, and EPA regulations; 2) a declaration that the EPA administrator has failed to perform his nondiscretionary duty of promulgating and revising complete water quality criteria for dioxin; 3) an order requiring defendants to disprove Maryland's dioxin standards and to promulgate a federal standard for dioxin there if Maryland fails to take such steps; 4) an order requiring the EPA administrator to perform the duties specified above (and retained jurisdiction by the Court to ensure compliance); and 5) an award of costs and fees.

Id.

115. *Id.* at 1096-97. The court noted that states have the primary role in controlling water pollution. *Id.*

116. *Id.* at 1097. For an excellent discussion of EPA toxic pollution regulation, see Oliver A. Houck, *The Regulation of Toxic Pollutants Under the Clean Water Act*, 21 *Env'tl. L. Rep.* (Env'tl. L. Inst.) 10,528 (Sept. 1991) (discussing dioxin regulation at 10,549-55).

117. *NRDC - 1991*, 770 F. Supp. at 1110. "Criteria" are elements of and define the state's "water quality standards" - its designated use of the water resource. Compare 40 C.F.R. § 131.3(b) (1991):

Criteria are elements of State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use.

Id. (emphasis added), with 40 C.F.R. § 131.3(i) (1991):

Water quality standards are provisions of State or Federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Act.

Id. (emphasis added).

118. *NRDC - 1991*, 770 F. Supp. at 1097-1101; CWA § 505(a)(2), 33 U.S.C § 1365(a)(2).

119. CWA § 505(a)(2), 33 U.S.C § 1365(a)(2). The text of CWA § 505(a)(2) follows:

(a) Authorization; jurisdiction

quently, the district court emphasized NRDC “must show that they allege a claim under [CWA] section [505(a)(2)], which is not frivolous.”¹²⁰ In other words, NRDC had to show that the EPA Administrator had a mandatory duty in order to maintain its CWA section 505(a)(2) citizens suit claim.

3. *The Prior EPA - NRDC Consent Decree on Dioxin*

The *NRDC - 1991* court promptly dismissed the prior *Costle* consent decree between EPA and NRDC as inapplicable to this action.¹²¹ The court reasoned that, since CWA section 505(a)(2) states “under this chapter,” the consent decree imposed no statutory duty on EPA; therefore, NRDC was in the wrong forum for enforcement of the *Costle* decree.¹²² The court also found support to disregard the *Costle* decree in the Restatement (Second) of Judgements, Section 21 which requires a judgment from litigation before a claim is conclusive in later actions between the same parties.¹²³ *NRDC - 1991* noted the consent decree judgment was not actually litigated.¹²⁴

4. *EPA's Duty to Promulgate Criteria*

a. *The basic arguments*

The bulk of the *NRDC - 1991* opinion concentrated on two NRDC allegations that the EPA Administrator failed to properly comply with mandatory CWA duties. The first NRDC argument asserted that the Administrator failed to comply with the CWA

Except as provided in subsection (b) of this section and section 1319(g)(6) of this title, any citizen may commence a civil action on his own behalf—

(2) against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not discretionary with the Administrator.

The district courts shall have jurisdiction, without regard to the amount in controversy or the citizenship of the parties, to enforce such an effluent standard or limitation, or such an order, or to order the Administrator to perform such act or duty, as the case may be, and to apply any appropriate civil penalties under section 1319(d) of this title.

Id.

120. *NRDC - 1991*, 770 F. Supp. at 1098 (citing *Burgess v. Charlottesville S & L Ass'n*, 477 F.2d 40, 43 (4th Cir. 1973)). The remainder of the *NRDC - 1991* opinion discusses the validity of NRDC's allegations.

121. *Id.* at 1101. For further discussion of the *Costle* consent decree, see *supra* notes 33-37 and accompanying text.

122. *NRDC - 1991*, 770 F. Supp. at 1101.

123. *Id.*

124. *Id.*

mandatory duty to promulgate complete dioxin criteria - including noncancer human health risks, effects on aquatic life, and other effects.¹²⁵ Second, NRDC postulated that the plain language of CWA section 304(a)(1) imposed another mandatory duty to periodically update published dioxin criteria.¹²⁶

b. The mandatory duty to promulgate complete dioxin criteria argument

In *NRDC - 1991*, the district court held that NRDC's first argument - a mandatory EPA duty to *promulgate complete dioxin criteria* - failed because the criteria do not have to be numerical and EPA non-numerical criteria existed.¹²⁷ The court also found the case cited by NRDC to support this argument¹²⁸ was distinguishable, because it concerned EPA's failure to promulgate initial criteria within a specific statutory deadline, and in *NRDC - 1991*, EPA had promulgated initial criteria.¹²⁹

c. The mandatory duty for timely updates to dioxin criteria argument

The second general NRDC argument - a mandatory EPA duty to *periodically update dioxin criteria* - was discussed by the court corresponding to the two NRDC subarguments. These subarguments maintained that the EPA Administrator's mandatory duty to update dioxin criteria was based on: (1) case law precedent or (2) the plain statutory language of the CWA.¹³⁰

125. *NRDC - 1991*, 770 F. Supp. at 1097. For further discussion of the EPA Administrator's duty to promulgate complete dioxin criteria, see *supra* notes 26-39, 44-46, 53-55, 60-68, 76-80, 91-94, 119 and accompanying text.

126. *Id.* at 1098. The language of the statute, "The Administrator . . . shall develop and publish, . . . criteria for water quality accurately reflecting the latest scientific knowledge," gave the NRDC two subarguments, one based on statutory interpretation, the other on case law. *Id.*; CWA § 304(a)(1), 33 U.S.C. § 1314(a)(1). For further discussion of the specific NRDC arguments on a mandatory duty to periodically update published dioxin criteria, see *supra* notes 15, 38-39, 44-46 and accompanying text.

127. *NRDC - 1991*, 770 F. Supp. at 1100. For further discussion of water quality criteria, see *supra* note 117.

128. *Chemical Mfrs. Ass'n v. United States Evtl. Protection Agency*, 870 F.2d 177 (5th Cir. 1988), *clarified*, 885 F.2d 253 (5th Cir. 1989), *cert. denied*, 110 S. Ct. 1936 (1990).

129. *NRDC - 1991*, 770 F. Supp. at 1102 (citing *Chemical Mfrs.*, 870 F.2d at 225-26, 266).

130. Hereinafter these arguments will be referred to as the first and second NRDC subarguments, but they each are essentially two independent reasons to find that the EPA Administrator had a mandatory duty to update water quality criteria for dioxin. For NRDC's basic argument on an implied mandatory duty to update water quality criteria, see *supra* note 126 and accompanying text.

i. *Case law precedent*

NRDC's first subargument, that case law precedent mandates timely updates, was discussed first. The court found that *National Resources Defense Council, Inc. v. Train (Train)*¹³¹ was of limited value, since in *Train*, no EPA criteria had ever been promulgated.¹³² By comparison, the district court categorized NRDC's action in *NRDC - 1991* as seeking clarification of previously published EPA criteria with updated numerical criteria.¹³³ The district court also distinguished *NRDC - 1991* from precedent in *Environmental Defense Fund v. Thomas (EDF v. Thomas)*¹³⁴ and *Natural Resources Defense Council, Inc. v. Thomas (NRDC v. Thomas)*.¹³⁵

EDF v. Thomas was distinguished for three reasons.¹³⁶ First, *EDF v. Thomas* involved a Clean Air Act (CAA) section which required review of EPA pollution criteria every five years; the CWA section challenged in *NRDC - 1991* contained no fixed review period.¹³⁷ Second, in *EDF v. Thomas*, the review process was specifically described in the CAA; in *NRDC - 1991*, the challenged CWA section only required "the [EPA] Administrator to keep up on scientific knowledge generally."¹³⁸ Finally, in *EDF v. Thomas*, EPA had published documents and criteria that admitted the harmful effects of the pollutant in question; in *NRDC - 1991*, EPA had not made any new findings that dioxin effects were more harmful than originally estimated which could trigger additional EPA action.¹³⁹

The district court used *NRDC v. Thomas* to supplement the distinctions in *Train* and *EDF v. Thomas* in two ways.¹⁴⁰ First, in *NRDC - 1991* the EPA Administrator had not conceded that additional numerical criteria were required as he had in *NRDC v. Thomas*.¹⁴¹ Second, in *NRDC v. Thomas* the CAA contained a spe-

131. 545 F.2d 320 (2d Cir. 1976).

132. *NRDC - 1991*, 770 F. Supp. at 1102-03. For further discussion of EPA dioxin criteria and dioxin research, see *supra* notes 26-36, 53-54, 59-68 and accompanying text.

133. *Id.* at 1103. The court also noted a requirement for the EPA Administrator to review Clean Air Act (CAA) pollutants every five years is different than to revise "from time to time" - timeliness can rarely be inferred. *Id.* at 1103-05 (citing *Sierra Club v. Thomas*, 828 F.2d 783, 791 (D.C. Cir. 1987)).

134. 870 F.2d 892 (2d Cir.), *cert. denied*, 110 S. Ct. 537 (1989).

135. 885 F.2d 1067 (2d Cir. 1989).

136. *NRDC - 1991*, 770 F. Supp. at 1104-05.

137. *Id.* at 1104.

138. *Id.* at 1105.

139. *Id.*

140. *NRDC - 1991*, 770 F. Supp. at 1103-04.

141. *Id.* at 1103 (citing *NRDC v. Thomas*, 885 F.2d at 1069).

cific five year pollutant review requirement; the *NRDC - 1991* court found there was no fixed interval for review of criteria in the CWA.¹⁴²

ii. *The CWA's plain statutory language*

In its discussion of NRDC's second sub-argument, that the plain statutory language mandates timely updates, the *NRDC - 1991* court stated two reasons why there was no mandatory duty to update. First, the court characterized NRDC's complaint as really challenging the substance and validity of the current EPA dioxin criteria, and, second, the phrase "accurately reflecting the latest scientific data" was open to interpretation.¹⁴³ Because of this characterization, the court found no support in *Natural Resources Defense Council, Inc. v. Train (NRDC - 1975)*¹⁴⁴ or the legislative history¹⁴⁵ for the proposition that the entire CWA regulatory structure can infer a mandatory duty on the EPA Administrator.¹⁴⁶ The court found *NRDC - 1975* supported the proposition that a "mandatory duty of timeliness may arise even if a deadline is not explicitly set forth in the statute, if it is readily-ascertainable by reference to some other fixed date or event," but found no reference to another fixed date or event in the CWA.¹⁴⁷ The district court also found no support in the legislative history, because it could be read to either support or refute a mandatory duty to update EPA pollution criteria.¹⁴⁸ What the court did find, through its statutory interpretation, was support for deference to the EPA Administrator's discretion to update the dioxin criteria.¹⁴⁹

142. *Id.* at 1104. The *NRDC - 1991* court found the requirement for the Administrator to review CAA pollutants every five years different than the CWA duty to revise "from time to time." *Id.* (citing *Sierra Club*, 828 F.2d at 791 (stating timeliness can rarely be inferred) and *NRDC v. Thomas*, 885 F.2d at 1075 (interpreting *EDF v. Thomas* as based on observation of CAA stated deadlines)).

143. *Id.* at 1105.

144. 510 F.2d 692 (D.C. Cir. 1975).

145. *NRDC - 1991*, 770 F. Supp. at 1106-07.

146. *Id.*

147. *Id.* at 1106 n.9 (citing *Sierra Club*, 828 F.2d at 790 as construing *NRDC - 1975* to require a readily-ascertainable reference).

148. *Id.* at 1103 (citations omitted). The court stated:

[T]he legislative history is at best equivocal about the need for numerical criteria, or to revise any relevant criteria more frequently than EPA has to date. And EPA's decision not to issue numerical criteria, or to revise more often, does not allow the Administrator to effectively bypass otherwise rigid mandatory duties.

Id.

149. *NRDC - 1991*, 770 F. Supp. at 1107. The court stated the following:

5. *The NRDC - 1991 Outcome - Mootness of Count 1 and the Court's Recommended Solution*

The court saw no reason to act on Count 1 since any orders it imposed would only force EPA to do what it had already initiated in April 1991.¹⁵⁰ Finally, the district court proposed a solution to NRDC's complaint that EPA shirked its CWA duty to promulgate complete and current dioxin water quality criteria. The court suggested that "everyone may be better served if the EPA agreed to an expedited schedule for consideration of dioxin criteria revision This would effectively render moot any question of timeliness and the revised criteria may substantially narrow the parties disputes over the arbitrary and capricious claim."¹⁵¹

B. Critical Analysis

1. *Numerical Criteria and the Court's Recommended Solution*

The district court properly defined criteria and recognized that the CWA did not require specific numerical criteria for dioxin covering all human and nonhuman health effects.¹⁵² However, by proposing its "expedited EPA schedule for consideration of dioxin criteria revision" solution, *NRDC - 1991* implicitly recognized there was a factual issue on the need for more specific dioxin criteria.¹⁵³

Without numerical guidelines, each state is left to determine its own dioxin standard and as a result, there is an inconsistency

In short, EPA water quality criteria and state-created water quality standards are not as intertwined as plaintiffs contend. The same statutory provision requiring states to adopt EPA-produced numerical criteria also acknowledges that EPA may not have numerical criteria for all toxic pollutants. It also recognizes that states need only modify or adopt new standards, "as appropriate." This does not support the argument that EPA has a nondiscretionary duty to create numerical criteria for all known effects of dioxin, or that it must add numerical criteria in light of the 1987 amendments.

Id.

It also noted that "the latest scientific knowledge" would reflect significant differences in opinion; therefore, the EPA Administrator must be allowed discretion "to determine when 'the latest scientific knowledge' compels a revision of criteria." *Id.*

150. *Id.* at 1109 (citing *Atlantic States Legal Found., Inc. v. Tyson Foods, Inc.*, 682 F. Supp. 1186, 1190 (N.D. Ala. 1988)).

151. *Id.* The court also expressed concern over how to conduct a trial on an amended Count 1 claim and solicited input from the parties. *Id.* at 1110.

152. For further discussion of water quality criteria compared to water quality standards, see *supra* note 117 and accompanying text.

153. For further discussion of the court's proposed solution, see *supra* note 151 and accompanying text.

among current state dioxin standards.¹⁵⁴ The problems inherent in differing state dioxin standards include cost and efficiency concerns, varying health and other risk-levels, and genuine technical questions on how states derive their standards.¹⁵⁵

2. Jurisdiction Based on CWA Section 505(a)(2)

The court rejected jurisdiction under CWA section 505(a)(2) because it found no mandatory duty for the EPA Administrator to update the dioxin criteria.¹⁵⁶ However, another analysis should be considered.

If the CWA language - "shall . . . from time to time revise . . . to reflect the latest scientific knowledge" - imposes a mandatory duty on the EPA Administrator to update criteria, but leaves the timeliness and risk assessment of updates to the EPA Administrator's discretion,¹⁵⁷ then the more appropriate analysis should be whether EPA established an internal periodic review process to evaluate the need for updates based on the latest scientific knowledge.¹⁵⁸ It does not appear NRDC argued that the CWA man-

154. See Houck, *supra* note 116, at 10,549-51 (detailing variations in dioxin standards between states). "By late March 1991, 36 states had adopted dioxin criteria, 16 of them at EPA's level, 5 below, and 14 above." *Id.* at 10,551. The dioxin levels adopted, and in the process of being adopted, "are being regionalized, generally along the lines of the Civil War [the former Confederate states allow higher levels of dioxin], with obvious implications for industrial inducement and growth." *Id.*

155. See E. Donald Elliott, *Keynote Address, in 20TH ANNUAL CONFERENCE ON THE ENVIRONMENT 1* (A.B.A. 1990) (advocating that more efficient pollution control system would result from better cooperation between EPA and states, because cooperation would allow EPA more time to meet policy goals of CWA and eliminate EPA delays and second-guessing of state actions); James R. Elder et al., *Regulation of Water Quality: Is EPA Meeting Its Obligations or Can the States Better Meet Water Quality Challenges? Recent Controversies Over Toxics That Originally Were Not Regulated Lead to Questions About EPA's Ability to Regulate Effectively, in 20TH ANNUAL CONFERENCE ON THE ENVIRONMENT 20* (A.B.A. 1990) (advocating that changing public sentiment against pollution at state level should allow EPA to delegate routine actions to states, thereby allowing EPA to take leadership role in general policy and criteria decisions as intended by CWA; more efficient and effective pollution control efforts would follow greater state authority in routine matters); Rick Sutherland, *Advice to the Department of Justice, IN BRIEF* (Sierra Club Legal Defense Fund, San Francisco, Cal.), Summer 1991, at 3-5 (advocating more attention to basic policy goals of pollution statutes by EPA). For a general discussion of the varying scientific data and interpretations, see *supra* notes 52-68 and accompanying text.

156. For further discussion of the reasoning employed by the court to deny jurisdiction as a CWA citizens suit, see *supra* notes 118-24 and accompanying text.

157. For further discussion of EPA Administrator's alleged mandatory and discretionary duties and the confusion inherent in CWA § 304(a)(1), see *supra* notes 91-94 and accompanying text.

158. For further discussion of EPA Administrator's alleged mandatory and

dated an EPA internal review process.

3. *APA Jurisdictional Arguments*

NRDC made a strategic decision not to rely solely on a CWA section 505(a)(2) citizens suit to establish jurisdiction, since, in Count 2, they alleged independent APA jurisdictional grounds for their action. Since the district court allowed NRDC's action to proceed on APA grounds, NRDC could argue in later proceedings: (1) whether, based on APA section 706(1), EPA's dioxin criteria review process was unreasonably withheld or delayed;¹⁵⁹ (2) whether, based on *Overton Park*, EPA considered all relevant factors on the need to update dioxin criteria, and whether EPA reached a reasonable decision;¹⁶⁰ and (3) whether, based on *Chevron*, Congress's express intent in the CWA - to protect human health and the health of all living organisms from harmful effects of water pollution - was met.¹⁶¹

NRDC's claims should establish jurisdiction based on APA section 706(1) because EPA action on dioxin was unreasonably withheld or delayed, considering: (1) the extent of EPA's efforts studying dioxin's effects; and (2) the prior consent decree between the parties, which, after twelve years, had not resulted in the complete dioxin criteria agreed to by EPA.¹⁶² *Chevron* arguments must be based on Congress's general intent to prevent water pollution and protect the health of all living things - not just the specific requirements of CWA section 304(a)(1). *Overton Park* arguments would require NRDC to show either: (1) additional relevant facts, or (2) why EPA's decision was unreasonable, to overcome an EPA decision to update criteria.

4. *Alternative Forums for NRDC - 1991*

NRDC could have brought *NRDC - 1991* in the Federal Discretionary duties, and the confusion inherent in CWA § 304(a)(1), see *supra* notes 91-94 and accompanying text.

159. For further discussion of APA § 706(1), see *supra* notes 106-07 and accompanying text.

160. For further discussion of *Overton Park*, see *supra* notes 100-03 and accompanying text.

161. For further discussion of *Chevron*, see *supra* notes 101, 104-05 and accompanying text. For further discussion of Congress's intent to protect all living organisms from harmful effects of water pollution, see *supra* notes 77-80 and accompanying text.

162. For further discussion of APA § 706(1) judicial review based on agency delays, see *supra* notes 106-07 and accompanying text. For further discussion of EPA studies of dioxin, see *supra* notes 38-39, 59-68 and accompanying text.

trict Court for the District of Columbia to enforce the *Costle* consent decree, but there is no indication of whether NRDC considered this option.¹⁶³ The district court was completely sound in its reasoning to decline jurisdiction based on the consent decree since the decree imposed no mandatory duty on EPA under the CWA.¹⁶⁴

5. EPA's Duty to Promulgate Criteria

The most distressing part of the *NRDC - 1991* opinion was its treatment of the EPA Administrator's duty to promulgate revisions to the dioxin criteria in accordance with the stated goals of the CWA.¹⁶⁵ Even though CWA section 304(a)(1) does not require numerical criteria or specific deadlines for updates to criteria, EPA never promulgated usable criteria for anything other than human cancer risks.¹⁶⁶ This EPA inaction conflicts with the CWA's express language to include effects on *all* human and non-human risks in water quality criteria.¹⁶⁷

The court's analysis of the case law also conflicts with the express goals of the CWA. The district court improperly distinguished *Train* solely because, in *Train*, EPA had not published any criteria.¹⁶⁸ In *NRDC - 1991*, EPA's published criteria were virtually useless for anything other than human cancer risks.¹⁶⁹ EPA still did not comply with an implied mandatory CWA duty to publish *meaningful* dioxin criteria on noncancerous human health risks and nonhuman effects.¹⁷⁰

*EDF v. Thomas*¹⁷¹ relied on the *NRDC - 1991* court to find there were no requirements for timely EPA updates to dioxin cri-

163. For further discussion of the court's reasoning that jurisdiction lay with the D.C. Circuit, see *supra* note 37 and accompanying text.

164. For further discussion on why the court concluded this was the wrong forum, see *supra* notes 33-37 and accompanying text.

165. For further discussion of the CWA's goals, see *supra* note 75-76 and accompanying text.

166. For further discussion of EPA promulgated dioxin criteria, see *supra* notes 34, 59-60 and accompanying text.

167. For further discussion of the actual CWA requirement, see *supra* notes 77-80 and accompanying text.

168. 545 F.2d 320 (2d Cir. 1976). For a complete discussion of *Train*, see *supra* notes 131-33 and accompanying text.

169. For discussion of the actual EPA dioxin criteria, see *supra* notes 27-29, 58-59 and accompanying text.

170. For further discussion of this implied mandatory duty to publish meaningful dioxin criteria, see *supra* notes 77-80 and accompanying text.

171. 870 F.2d 892 (2d Cir.), *cert. denied*, 110 S. Ct. 537 (1989). For a complete discussion of *EDF v. Thomas*, see *supra* notes 136-42 and accompanying text.

teria. Although insufficient for establishing jurisdiction under CWA section 505(a)(2), the *Costle* consent decree was entered in 1979 and compliance within twelve years seems realistic and reasonable. Theoretically, this was a factor in the court's proposed solution for an out-of-court agreement on a timetable for EPA's dioxin criteria review.¹⁷² The court's distinction drawn between a statutorily mandated review period and the CWA's requirement for updates "from time to time" was also questionable.¹⁷³ CWA section 304(a)(1) should properly be read to require the EPA Administrator to establish an internal EPA criteria review and decision process to comply with the CWA mandatory duty to promulgate criteria in accord with the latest scientific knowledge. Again, the district court's proposed out-of-court agreement minimized problems in analysis.

The court seemed to apply circular reasoning to distinguish *NRDC v. Thomas*. The district court found *NRDC v. Thomas* inapplicable because EPA had not published documents on the harmful effects of dioxin.¹⁷⁴ These "missing" EPA documents on harmful dioxin effects were exactly what NRDC was seeking in *NRDC - 1991* - updated criteria stating dioxin's harmful effects based on the latest scientific knowledge.

Finally, when NRDC structured its arguments as attacking the originally published dioxin criteria, the *NRDC - 1991* court necessarily found support for administrative discretion, as opposed to a mandatory duty to update EPA dioxin criteria.¹⁷⁵

6. Mootness of Complaint - EPA Initiated Action

The court's final conclusion, the mootness of the complaint based on the EPA initiated action, cited an Alabama district court case - *Atlantic States Legal Foundation, Inc. v. Tyson Foods, Inc. (ASLF v. Tyson)* - as authority.¹⁷⁶ The Eleventh Circuit Court of Appeals

172. For further discussion of the consent decree, see *supra* notes 31-36, 121-24 and accompanying text. For further discussion on the timeliness arguments under APA section 706(1), see *supra* notes 106-07 and accompanying text. For further discussion of the court's proposed solution, see *supra* notes 150-51 and accompanying text.

173. For further discussion of the court's distinctions, see *supra* notes 143-49 and accompanying text.

174. For further discussion of the distinction based on *NRDC v. Thomas*, 885 F.2d 1067 (2d Cir. 1989), see *supra* notes 140-42 and accompanying text.

175. For further discussion of the court's reasoning that NRDC's claim was actually challenging existing EPA dioxin criteria, see *supra* note 46 and accompanying text.

176. 682 F. Supp. 1186 (N.D. Ala. 1988). See also *supra* note 150 and accompanying text.

modified the district court's ruling (*ASLF II*), holding that subsequent remedial actions by a polluter who corrected its prior violations of CWA pollutant discharge limits did not moot the illegality of its prior violations.¹⁷⁷ Although *ASLF II* is factually distinguishable, its logic could also be applied to EPA violations of CWA mandatory duties - the illegality. Arguably, *ASLF II* requires courts to find that subsequent remedial actions - the initiation of a formal dioxin criteria investigation - would not save EPA from court-imposed timetables, if EPA violated mandatory CWA duties.¹⁷⁸

C. Impact

Ultimately, EPA will be forced to review and promulgate new dioxin criteria, as a result of *NRDC - 1991*, a consent decree challenge in the District Court for the District of Columbia, or numerous other pressures - including their own commitment to review dioxin criteria.¹⁷⁹ Due to the current high visibility of the dioxin issue, NRDC will most likely challenge EPA footdragging in the District Court for the District of Columbia using the *Costle* consent decree to establish subject matter jurisdiction.¹⁸⁰

Regarding its duty to update water quality criteria in general, EPA has essentially two options: (1) try to establish more concrete authority for its discretionary power - either through additional court decisions or Congressional statutory revision, or (2) revise its internal procedures to ensure more timely study and if required, updated criteria based on the latest scientific knowledge. The second option seems to be EPA's most appropriate choice for both cost and statutory compliance reasons. However, EPA

177. Atlantic States Legal Found., Inc. v. Tyson Foods, Inc., 897 F.2d 1128 (11th Cir. 1990). For a complete discussion of *ASLF II*, see Ellen Pulver Flatt, Note, *Citizen Suits Under the Clean Water Act: Post-Complaint Compliance Does Not Moot Requests for Penalties*, 2 VILL. ENVTL. L.J. 207 (1990).

178. For further discussion of EPA's commitment to investigate dioxin criteria, see *supra* note 38 and accompanying text.

179. *Dioxins: EPA Position on Toxicity to Be Reassessed*, Reilly Says, 15 Chem. Reg. Rep. (BNA) 32 (Apr. 12, 1991); 21 Env't Rep. (BNA) 2219 (Apr. 12, 1991) (citing Banbury Conference criticism, industry criticism and new scientific data as reasons); *Dioxins: Lax Regulatory Action by EPA Cited by Group in Call for National Standard*, 15 Chem. Reg. Rep. (BNA) 452 (July 5, 1991); 52 Env't Rep. (BNA) 527 (July 5, 1991) (advocating "Congress should force EPA to heed the evidence instead of shunning it;" and noting H.R. 2084 proposed to impose nationwide standards); *General Policy: Agency Advisors Call for Prevention 'Czar,' Criticize EPA Pollution Prevention Strategy*, 15 Chem. Reg. Rep. (BNA) 449 (July 5, 1991) (advocating stronger coordination within EPA).

180. For further discussion of the *Costle* consent decree, see *supra* notes 31-37, 121-24 and accompanying text.

staffing increases, justified by the need to meet the CWA's goal of "restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters" should be approved only if EPA can demonstrate a true need for additional staff - not just incorrect prioritization or procrastination.¹⁸¹

Based solely on the *NRDC - 1991* recommended solution that NRDC and EPA agree to a timetable for dioxin updates outside of the court's jurisdiction, more litigation on EPA's water quality criteria is probable for two reasons.¹⁸² First, the court's recommended solution undermines its decision that there is no mandatory EPA duty to update CWA criteria based on the latest scientific knowledge. The recommended solution also seems favorable to environmental groups because NRDC was given other avenues to pursue its claim - the APA appeal route.¹⁸³ The court's proposed solution could even be read to suggest that it felt updated dioxin criteria were required, and did not hold so solely because EPA committed to a detailed investigation and analysis of the dioxin criteria. A different attitude by EPA to solving the dioxin criteria problem may have resulted in an entirely different holding. Second, the latest scientific knowledge constantly changes. Therefore, by using *NRDC - 1991* as precedent, environmental or industry groups could initiate litigation solely in the attempt to force an EPA commitment to review either group's particular view of what the latest scientific knowledge establishes.

Long-term benefits for the states and industry are likely, but only if EPA is required to exert more of a leadership role in the establishment of updated, usable criteria.¹⁸⁴ If EPA assumes its proper leadership role, states will save the tax dollars they are currently spending establishing their own water quality criteria. Industry will benefit from nationally consistent criteria. Because it will no longer have to consider varying state criteria when planning new plants or plant expansions, industry will be able to plan future expansions more efficiently.

However, short-term reaction to any new EPA criteria will be traumatic as both states and industry try to react to new EPA cri-

181. CWA § 101, 33 U.S.C. § 1251. For further discussion of the CWA's goals, see *supra* notes 75-76 and accompanying text.

182. For further discussion of the court's recommended solution, see *supra* note 151 and accompanying text.

183. For further discussion of NRDC's options, see *supra* notes 157-64 and accompanying text.

184. This role is established for EPA in the CWA. For a final overview of EPA's framework, see *supra* notes 81-90 and accompanying text.

teria. If either the dioxin, or the general EPA discretionary standard to update water quality criteria, are tightened, industry and the states will be on a shorter fuse for complying with constantly changing standards based on the latest scientific knowledge.

Finally, lobbying efforts by states, industry and environmental groups should become more pronounced. Hopefully, they will culminate in realistic, nationwide dioxin criteria, and other appropriate water quality criteria. If not, these lobbying efforts should at least result in further judicial clarification of the language in CWA section 304(a)(1) - “[t]he Administrator . . . *shall develop and publish . . . (and from time to time thereafter revise) criteria for water quality accurately reflecting the latest scientific knowledge . . .*”¹⁸⁵

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185. CWA § 304(a)(1), 33 U.S.C. § 1314(a)(1) (emphasis added).

