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An Empirical Investigation of Judicial Decisionmaking, Statutory Interpretation, and the Chevron Doctrine in Environmental Law

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AN EMPIRICAL INVESTIGATION OF JUDICIAL DECISIONMAKING, STATUTORY INTERPRETATION, AND THE *CHEVRON* DOCTRINE IN ENVIRONMENTAL LAW

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How do courts evaluate decisions of statutory interpretation made by government agencies that deal in environmental law? While research on judicial decisionmaking in environmental law has primarily focused on the D.C. Circuit, the Environmental Protection Agency, and the influence of ideology, only recently have legal scholars begun to consider the role of legal factors in judicial decisionmaking in environmental law. With special attention paid to how courts implement the Chevron *doctrine, this Article empirically and doctrinally analyzes environmental law cases decided in the United States Courts of Appeals over a three-year period (2003–05) to investigate what factors, including ideological, legal, and institutional variables, impact judicial review of administrative agency interpretations of environmental statutes.*

INTRODUCTION

How do the United States Courts of Appeals decide environmental cases? More specifically, how do courts evaluate the

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decisions of statutory interpretation made by government agencies that deal in environmental and natural resources law, such as the United States Environmental Protection Agency ("EPA"), Army Corps of Engineers, and the Department of the Interior? While research on judicial decisionmaking in environmental law has primarily focused on the D.C. Circuit, the EPA, and the influence of ideology,[1] legal scholars have recently begun to consider the role of legal factors in judicial decisionmaking in environmental law.[2] More can be learned about environmental jurisprudence by looking outside the District of Columbia, to other environmental agencies, and to the influence of legal interpretive approaches and legal doctrine—as opposed to ideology—in environmental law cases.[3]

A number of factors influence judicial interpretation of environmental law. To lawyers and most legal scholars, law itself is the most obvious influence. In environmental cases, judges may look to any number of interpretive tools including the statute's underlying purpose, legislative history, and plain meaning of the text.[4] Of great significance, administrative law's *Chevron* doctrine has transformed judicial review of agency interpretations of federal statutes. The doctrine, laid down by the United States Supreme Court in *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*,[5] now the most cited case in all American law,[6] permits extreme deference to administrative agencies if statutory provisions are ambiguous.[7] *Chevron* is considered one of the country's most important en-

1. *See, e.g.*, Richard L. Revesz, *Environmental Regulation, Ideology, and the D.C. Circuit*, 83 VA. L. REV. 1717 (1997); Cass R. Sunstein, David Schkade & Lisa Michelle Ellman, *Ideological Voting on Federal Courts of Appeals: A Preliminary Investigation*, 90 VA. L. REV. 301, 322 (2004) (stating that their investigation was limited to the D.C. Circuit).

2. *See, e.g.*, Thomas J. Miles & Cass R. Sunstein, *Do Judges Make Regulatory Policy? An Empirical Investigation of* Chevron, 73 U. CHI. L. REV. 823, 847–65 (2006).

3. *See* Martha Anne Humphries & Donald R. Songer, *Law and Politics in Judicial Oversight of Federal Administrative Agencies*, 61 J. POL. 207, 212 (1999) ("A major impediment to empirical attempts to assess the impact of the legal model on appellate court decision making has been the difficulty of identifying objective indicators that capture the effects of law and precedent.").

4. *See infra* Part I.A.1.

5. 467 U.S. 837 (1984).

6. Miles & Sunstein, *supra* note 2, at 823 ("In the past quarter century, the Supreme Court has legitimated agency authority to interpret regulatory legislation, above all in *Chevron U.S.A., Inc. v Natural Resources Defense Council, Inc*, the most cited case in modern public law.").

7. *Chevron*, 467 U.S. at 842–43.

vironmental law cases, and it is included in most environmental law casebooks.[8]

These *legal* factors elicit a number of questions. Do invocations of certain interpretive tools or standards of review lead to pro- or anti-environmental outcomes? In environmental cases, do judges strategically use the *Chevron* doctrine, because of its potential malleability, to achieve their perceived environmental policy preferences? While no data are available to answer the first question, recent data suggest the answer to the second inquiry may be in the affirmative.[9]

Meanwhile, for political scientists and, more recently, some legal scholars, ideology plays the most salient role in judicial decisionmaking.[10] The available data suggest that ideology significantly influences judicial decisionmaking in environmental cases on the D.C. Circuit.[11] For example, the data suggest that judges appointed by Democratic administrations tend to vote against challenges to EPA regulations, whereas Republican appointees are far less likely to do so.[12]

Employing both empirical and traditional doctrinal analysis, this Article considers environmental law cases decided in the United States Courts of Appeals over a three-year period (2003–05) to describe and investigate what factors, including ideological, legal, and institutional variables, impact judicial review of administrative agency interpretations of environmental statutes. Part I of this Article discusses judicial review of agency interpretation of environmental law. Part II dis-

8. *See, e.g.*, FREDERICK R. ANDERSON ET AL., ENVIRONMENTAL PROTECTION: LAW AND POLICY 151 (3d ed. 1999); ROBIN KUNDIS CRAIG, ENVIRONMENTAL LAW IN CONTEXT 628 (2005); DANIEL A. FARBER ET AL., CASES AND MATERIALS ON ENVIRONMENTAL LAW 435 (7th ed. 2006).

9. Miles & Sunstein, *supra* note 2, at 823 (analyzing appellate court decisions from 1990 to 2004, and finding that "Republican appointees demonstrated a greater willingness to invalidate liberal agency decisions [than] those of Democratic administrations").

10. *See* JEFFREY A. SEGAL & HAROLD J. SPAETH, THE SUPREME COURT AND THE ATTITUDINAL MODEL REVISITED (2002); CASS R. SUNSTEIN, DAVID SCHKADE, LISA M. ELLMAN & ANDRES SAWICKI, ARE JUDGES POLITICAL?: AN EMPIRICAL ANALYSIS OF THE FEDERAL JUDICIARY (2006). For a brief discussion of the legal versus attitudinal model, see Jason J. Czarnezki & William K. Ford, *The Phantom Philosophy? An Empirical Investigation of Legal Interpretation*, 65 MD. L. REV. 841, 847–55 (2006).

11. Revesz, *supra* note 1, at 1719.

12. Sunstein, Schkade & Ellman, *supra* note 1, at 322–23 ("From 1970 through 2002, Democratic appointees voted against agency challenges 64% of the time, whereas Republican appointees did so 46% of the time.").

cusses in more detail the empirical scholarship on judicial decisionmaking in environmental and administrative law, focusing on the role of the legal and attitudinal models, as well as institutional constraints on the judicial process. Part III explains the data and methodology for this study, while Part IV contains findings that describe the environmental law docket in the federal courts of appeals, provides information on how the docket is divided across the circuits and agencies, and states which environmental statutes are at issue in the courts. Part IV also analyzes how the courts of appeals decide environmental cases where agencies have interpreted the underlying federal statute, considering the role of ideology and the strategic use of the *Chevron* doctrine. Part V provides a doctrinal analysis of how courts have used, sometimes with much difficulty, available standards of review in evaluating agency interpretations of environmental statutes. Part V also discusses the relationship between the need for scientific expertise in environmental cases and the level of judicial deference.

Relying on empirical analysis and descriptive data, this Article finds that environmental cases of statutory interpretation, usually litigated in the D.C., Second, and Ninth Circuits, are dominated by EPA involvement and interpretation of the Clean Air and Clean Water Acts. This Article's findings confirm earlier research that judges vote in their perceived ideological direction; the findings also show the *Chevron* doctrine, when employed in environmental cases, works as expected—courts find most statutory provisions ambiguous and then affirm agency action. There is limited evidence that judges strategically use *Chevron* step one to achieve desired policy preferences—at the ideological extremes, conservatives deferred to Bush Administration agencies under *Chevron* step two, while liberals were more likely to reverse the agency by finding the statute unambiguous under step one. Legal preferences, however, do play some role in judicial decisionmaking, although not necessarily to achieve an individual judge's policy preferences. Invoking legislative history mildly corresponds to a liberal vote, yet judicial ideology does not predict its invocation, suggesting a legal philosophy toward legislative history actually impacts voting outcomes and lending support for the legal model of judicial decisionmaking.

This Article also makes a number of qualitative findings. Doctrinally, there remains much confusion and conflation in

the circuits over how to apply the *Chevron* doctrine, manifested through poor opinion organization, befuddlement over the application of *Chevron* step zero, and multiple understandings of the difference between arbitrary and capricious review and the two *Chevron* steps. The circuits have shown, however, a strong willingness to defer, under any doctrine or framework, to agency action when environmental scientific expertise is required. Ultimately, this Article suggests the existence of a more nuanced notion of judging in environmental cases that depends upon policy preferences, interpretive philosophies, standards of review, and scientific complexity.

I. JUDICIAL REVIEW OF AGENCY INTERPRETATIONS OF ENVIRONMENTAL LAW

Strong synergies exist between environmental law and administrative law. While *Chevron* creates the standard for deference to administrative agencies, it also is an important case in environmental law. In addition, environmental cases play a major role in administrative law casebooks and in developing the processes under which courts review all agency decisions.[13] This Part describes how (and when, pursuant to *Mead*) courts review agency interpretations of environmental statutes using the *Chevron* doctrine, the Administrative Procedure Act, and other forms of deference.

A. The Chevron Doctrine in Environmental Law

In *Chevron*, Justice Stevens,[14] writing for the majority of the Court, stated:

13. There is significant case crossover between both environmental and administrative law casebooks. For example, a number of cases are included in both ROBERT V. PERCIVAL, CHRISTOPHER H. SCHROEDER, ALAN S. MILLER & JAMES P. LEAPE, ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY (5th ed. 2006), and STEPHEN G. BREYER, RICHARD B. STEWART, CASS R. SUNSTEIN & MATTHEW L. SPITZER, ADMINISTRATIVE LAW AND REGULATORY POLICY: PROBLEMS, TEXT, AND CASES (5th ed. 2002). *E.g.*, Whitman v. Am. Trucking Ass'ns, 531 U.S. 457 (2001); Babbitt v. Sweet Home Chapter of Communities for a Great Or., 515 U.S. 687 (1995); Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837 (1984); Indus. Union Dep't, AFL-CIO v. Am. Petroleum Inst. (The Benzene Case), 448 U.S. 607 (1980); Am. Water Works v. EPA, 40 F.3d 1266 (D.C. Cir. 1994); Corrosion Proof Fittings v. EPA., 947 F.2d 1201 (5th Cir. 1991).

14. For further discussion of Justice Stevens's jurisprudence in environmental law and statutory interpretation, see Diane L. Hughes, *Justice Stevens's Method*

> 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 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.[15]

This two-part test revolutionized judicial review of agency interpretations of substantive federal law, especially in the environmental context.

1. *Chevron* Step One

The *Chevron* opinion itself is the product of an environmental case dealing with an EPA interpretation of the Clean Air Act. The issue in *Chevron* was whether the EPA's "decision to allow States to treat all of the pollution-emitting devices within the same industrial grouping as though they were encased within a single 'bubble' is based on a reasonable construction of the statutory term 'stationary source'" as defined in the Clean Air Act ("CAA").[16] The Court held, in light of the ambiguity of the statutory definition of "stationary source," the lack of judicial expertise in environmental regulation,[17] and the lack of political accountability in the judicial branch, that the EPA had developed "a permissible construction of the stat-

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of Statutory Interpretation: A Well-Tailored Means for Facilitating Environmental Regulation, 19 HARV. ENVTL. L. REV. 493 (1995); Kenneth A. Manaster, *Justice Stevens, Judicial Power, and the Varieties of Environmental Litigation*, 74 FORDHAM L. REV. 1963 (2006).

15. *Chevron*, 467 U.S. at 842–43 (footnotes omitted).

16. *Id.* at 840.

17. To avoid overstating judicial use of the expertise rationale (at least in the Supreme Court), it should be noted that *Mead* "suggest[s] that *Chevron* rests on Congress's implicit delegation of law-interpreting authority to agencies." Jacob E. Gersen, *Overlapping and Underlapping Jurisdiction in Administrative Law*, 2006 SUP. CT. REV. 201, 217 (2007) (citing United States v. Mead Corp., 533 U.S. 218, 230 n.11 (2001).

ute [that sought] to accommodate progress in reducing air pollution with economic growth."[18]

EPA regulations permitted a plant-wide definition of the term stationary source.[19] Under section 111(a)(3) of the CAA, "stationary source" is defined as "any building, structure, facility, or installation which emits or may emit any air pollutant."[20] Had Congress unambiguously determined whether to allow this bubble concept? The Court answered in the negative after considering the statutory language, legislative history, and underlying policy of the CAA.[21]

However, the determination of whether a statutory provision is ambiguous under *Chevron* step one (and thus leading to agency deference under step two) is subject to much malleability, for what is (un)ambiguous is often in the eye of the beholder. For example, in *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, a case determining the extent to which the Department of the Interior could regulate habitat modification under the Endangered Species Act ("ESA"), both the majority and dissent firmly construed the statutory provision at issue but nevertheless reached opposite conclusions about its meaning.[22] Footnote nine of *Chevron* further elaborates *Chevron* step one:

> The judiciary is the final authority on issues of statutory construction and must reject administrative constructions which are contrary to clear congressional intent. If a court, employing traditional tools of statutory construction, ascertains that Congress had an intention on the precise question at issue, that intention is the law and must be given effect.[23]

Thus, depending on what a judge considers to be legitimate "traditional tools of statutory interpretation,"[24] he or she may

18. *Chevron*, 467 U.S. at 866.
19. *Id.* at 840.
20. *Id.* at 840 n.2.
21. *Id.* at 859–66.
22. 515 U.S. 687, 708, 730 (1995).
23. *Chevron*, 467 U.S. at 843 n.9 (citations omitted); *accord* Chem. Mfr.'s Ass'n v. Natural Res. Def. Council, 470 U.S. 116, 152 (1985) (Marshall, J., dissenting) ("*Chevron*'s deference requirement . . . was explicitly limited to cases in which congressional intent cannot be discerned through the use of the traditional techniques of statutory interpretation.").
24. *Chevron*, 467 U.S. at 843 n.9.

reach a different conclusion under *Chevron*.[25] The *Babbitt* majority relied not only on the "ordinary understanding" of the statutory text[26] but also on the ESA's legislative history[27] and on the underlying purpose of the ESA to protect animal species that are threatened or on the verge of extinction.[28] Alternatively, Justice Scalia's dissent in *Babbit* focused solely on textualism and the plain meaning of the relevant statutory provisions.[29]

While the courts have debated the legitimacy of certain tools of statutory interpretation under *Chevron* step one, the employment of any particular tool can cut in both directions. Invocations of legislative history can lead to outcomes that both permit and prohibit expansive regulation of environmental and public health,[30] and the same claim can be made regarding invocations of the plain meaning rule and a literal interpretation of the statutory text.[31]

2. *Chevron* Step Two

If an environmental statutory provision is deemed ambiguous under *Chevron* step one, a court will defer to the agency's interpretation of the provisions under *Chevron* step two so long as it is a "permissible" or "reasonable" construction of the statute.[32] While *Chevron* step two and the arbitrary and capri-

25. For a discussion of inconsistency in judicial interpretation of environmental statutes, see Jason J. Czarnezki, *Shifting Science, Considered Costs, and Static Statutes: The Interpretation of Expansive Environmental Legislation*, 24 VA. ENVTL. L. J. 395 (2006) [hereinafter Czarnezki, *Shifting Science*].

26. *Babbitt*, 515 U.S. at 697 (stating that an "ordinary understanding" of the term at issue supports the Secretary of the Interior's conclusion).

27. *Id.* at 704 (citing S. Rep. No. 93-307, at 7 (1973); H.R. Rep. No. 93-412, at 15 (1973)) (noting language in both the Senate and House Reports that the ESA was intended to have the broadest possible meaning).

28. *Id.* at 698 (referring to the "broad purpose of the ESA" and stating that the ESA is "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation" (quoting TVA v. Hill, 437 U.S. 153, 180 (1978))).

29. *Id.* at 717 (Scalia, J., dissenting).

30. *Compare id.* (majority opinion), *and* Am. Textile Mfrs. Inst., Inc. v. Donovan (The Cotton Dust Case), 452 U.S. 490 (1981), *with* FDA v. Brown & Williamson Tobacco Corp., 529 U.S. 120 (2000).

31. *Compare* Pub. Citizen v. Young, 831 F.2d 1108 (D.C. Cir. 1987), *with* Indus. Union Dep't, AFL-CIO v. Am. Petroleum Inst. (The Benzene Case), 448 U.S. 607 (1980).

32. *See, e.g.*, United States v. Labonte, 520 U.S. 751, 778 (1997) (Breyer, J., dissenting) ("Were the Commission a typical administrative agency, we would ask

cious standard used in the hard look doctrine, as discussed below, are doctrinally distinct, many courts view both as meaning reasonable on the merits.[33] The D.C. Circuit, however, has attempted to draw a distinction where *Chevron* step two focuses on the reasonableness of an agency interpretation of law, while arbitrary and capricious review focuses on the reasonableness of an agency's policy choice.[34] Due to the difficulty in defining step two, courts rarely strike down agency action under step two, and the Supreme Court has done so *arguably* only twice.[35]

Ohio v. United States Department of the Interior[36] is read in environmental law courses to discuss contingent valuation and nonuse values for natural resources, and it is read in administrative law classes to explain the difference between *Chevron* steps one and two. In *Ohio*, the D.C. Circuit held invalid a regulation, promulgated under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), limiting recovery to the lesser of restoration cost or lost use value of a natural resource.[37] CERCLA requires damages used "to restore, replace, or acquire the equivalent of such natural resources."[38] But CERCLA states that damages "shall not be limited . . . to restore or replace such resources."[39] Thus, while it is a possible interpretation of law to consider use values alone under the statutory text, it is not a reasonable interpretation of law. The statute is ambiguous under step one because Congress did not explicitly state what standard should

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whether its 'policy' choice is 'reasonable,' hence 'permissible,' given the statute." (quoting Chevron U.S.A. Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837, 843–44, 866 (1984))).

33. For a discussion of the conflation between *Chevron* step two and the hard look doctrine, see Ronald M. Levin, *The Anatomy of* Chevron*: Step Two Reconsidered*, 72 CHI.-KENT. L. REV. 1253 (1997). *See also infra* Part V.B.3.

34. BREYER, STEWART, SUNSTEIN & SPITZER, *supra* note 13, at 396 (citing Republican Nat'l Comm. v. Fed. Election Comm'n, 76 F.3d 400, 407 (D.C. Cir. 1996); Cont'l Air Lines, Inc. v. Dep't of Transp., 843 F.2d 1444 (D.C. Cir. 1988)). *But see* Levin, *supra* note 33, at 1254.

35. There are two possible candidates: *Whitman v. American Trucking Associations, Inc.*, 531 U.S. 457, 485 (2001) (though, in my view, this is a step one case), and *AT&T Corp. v. Iowa Utilities Board*, 525 U.S. 366, 392 (1999); *id.* at 397–98 (Souter, J., concurring in part, dissenting in part). *See also* Levin, *supra* note 33, at 1261 (stating that as of 1997, the Court had never struck down an interpretation of a statutory provision under step two).

36. 880 F.2d 432 (D.C. Cir. 1989).

37. *Id.* at 444.

38. Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9607(f)(1) (2000).

39. *Id.*

be used to determine damages.[40] But to limit damages to use value alone may be unreasonable under *Chevron* step two.[41]

B. Chevron Step Zero and Alternative Forms of Judicial Deference

"[T]he inquiry that must be made in deciding whether courts should turn to the *Chevron* framework at all" can be called *Chevron* "step zero."[42] If the *Chevron* framework does not apply, then courts may turn to some other lower or modified form of deference for agency interpretations of statutes (for example, *Skidmore* deference[43]). An agency might receive deference because it is interpreting something other than a statute, such as its own regulations (e.g., *Seminole Rock* deference[44]), or because deference is appropriate based on the need for scientific expertise.[45] In *United States v. Mead Corp.*, the Supreme Court held,

> [A]dministrative implementation of a particular statutory provision qualifies for *Chevron* deference when it appears that Congress delegated authority to the agency generally to make rules carrying the force of law, and that the agency interpretation claiming deference was promulgated in the exercise of that authority. Delegation of such authority may

40. *See* Jason J. Czarnezki & Adrianne K. Zahner, *The Utility of Non-Use Values in Natural Resource Damage Assessments*, 32 B.C. ENVTL. AFF. L. REV. 509, 518 (2005).

41. Ohio v. U.S. Dep't of the Interior, 880 F.2d at 462 ("While it is not irrational to look at market price as *one* factor in determining the use value of a resource, it is unreasonable to view market price as the *exclusive* factor, or even the predominant one.").

42. Thomas W. Merrill & Kristin E. Hickman, Chevron's *Domain*, 89 GEO. L.J. 833, 836 (2001).

43. Skidmore v. Swift & Co., 323 U.S. 134, 140 (1944) ("We consider that the rulings, interpretations and opinions of the Administrator under this Act, while not controlling upon the courts by reason of their authority, do constitute a body of experience and informed judgment to which courts and litigants may properly resort for guidance. The weight of such a judgment in a particular case will depend upon the thoroughness evident in its consideration, the validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control.").

44. *See* Bowles v. Seminole Rock & Sand Co., 325 U.S. 410, 414 (1945).

45. *See* Ass'n of Irritated Residents v. EPA, 423 F.3d 989, 997 (9th Cir. 2005) ("This is a determination that is scientific in nature and is entitled to the most deference on review." (citing Baltimore Gas & Elec. Co. v. NRDC, 462 U.S. 87, 103 (1983); Cent. Ariz. Water Cons. Dist. v. EPA, 990 F.2d 1531, 1539–40 (9th Cir. 1993))); *see also infra* Part V.D.

> be shown in a variety of ways, as by an agency's power to engage in adjudication or notice-and-comment rulemaking, or by some other indication of a comparable congressional intent.[46]

This *Chevron* step zero inquiry, however, has proved to be both difficult to doctrinally understand and implement in practice. Professor Lisa Schultz Bressman wrote, "When the Supreme Court decided [*Mead*] . . . Justice Scalia predicted that judicial review of agency action would devolve into chaos. . . . Justice Scalia actually understated the effect of *Mead*."[47]

In his article, appropriately titled Chevron *Step Zero*, Professor Cass Sunstein attempts to "provide an understanding of the foundations and nature of the Step Zero dilemma"[48] and offers a trilogy of cases[49] to sort out the *Chevron* framework: *Christensen v. Harris County*,[50] *Mead*,[51] and *Barnhart v. Walton*.[52]

Christensen held that agency "[i]nterpretations such as those in opinion letters—like interpretations contained in policy statements, agency manuals, and enforcement guidelines, all of which lack the force of law—do not warrant *Chevron*-style deference"[53] and are "entitled to respect" due to their persuasive authority,[54] a lower form of deference than *Chevron* known as *Skidmore* deference. *Mead*, like *Christensen*, confirmed that *Skidmore* deference survived *Chevron*,[55] and, as quoted above, clarified the "force of law" test found in *Christensen*. However, *Barnhart* indicates that the *Chevron* framework may be applicable even if an agency acts through less formal means than those suggested by *Mead*.[56] "[T]he Step Zero trilogy has pro-

46. 533 U.S. 218, 226–27 (2001).

47. Lisa Schultz Bressman, *How* Mead *Has Muddled Judicial Review of Agency Action*, 58 VAND. L. REV. 1443, 1443–44 (2005).

48. Cass R. Sunstein, Chevron *Step Zero*, 92 VA. L. REV. 187, 191 (2006).

49. *See id.* at 211–19.

50. 529 U.S. 576, 587 (2000) (giving *Skidmore* deference for opinion letter about overtime pay to sheriff department under the FLSA).

51. 533 U.S. 218, 231 (2001) (holding U.S. Customs rule fails to qualify for *Chevron* deference, but preserving the possibility of *Skidmore* deference).

52. 535 U.S. 212, 215 (2002) (upholding agency interpretation of a Social Security Administration regulation).

53. *Christensen*, 529 U.S. at 587.

54. *Id.* (citing Skidmore v. Swift & Co., 323 U.S. 134, 140 (1944)).

55. *See* Sunstein, *supra* note 48, at 213–15.

56. *Id.* at 216–19. Said the *Barnhart* Court:

duced a great deal of complexity in lower court rulings"[57]—the chaos continues.[58]

C. *Arbitrary and Capricious Review—The Hard Look Doctrine*

Under section 706 of the Administrative Procedure Act ("APA"), agency decisions will be overturned if they are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."[59] The doctrine was originally described in *Citizens to Preserve Overton Park, Inc. v. Volpe*.[60] In *Overton Park*, private citizens and environmental groups challenged the use of federal funds to construct a highway through a public park in Memphis, Tennessee.[61] "The growing public concern about the quality of our natural environment has prompted Congress in recent years to enact legislation designed to curb the accelerating destruction of our country's natural beauty,"[62] and thus plaintiffs challenged the proposed highway location under a federal statute that prohibited funding of highway construction through public parks if "feasible and prudent" alternative routes existed.[63]

The Court held that the APA's arbitrary and capricious standard requires agencies to engage in careful consideration of relevant factors in the decision-making process, and in this case the agency provided no explanation for the absence of consideration of alternative routes.[64] The Supreme Court clarified *Overton Park* in *Kleppe v. Sierra Club*, in which it explicitly held that courts are required to take a "hard look" at the envi-

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> [T]he interstitial nature of the legal question, the related expertise of the Agency, the importance of the question to administration of the statute, the complexity of that administration, and the careful consideration the Agency has given the question over a long period of time all indicate that *Chevron* provides the appropriate legal lens through which to view the legality of the Agency interpretation here at issue.

535 U.S. at 222.

57. Sunstein, *supra* note 48, at 219 (citations omitted).
58. *See infra* Part V.B.
59. 5 U.S.C. § 706(2)(A) (2000).
60. 401 U.S. 402 (1971).
61. *See id.* at 406.
62. *Id.* at 404.
63. *Id.* at 405.
64. *See id.* at 416–17.

ronmental effects of their proposed action.[65] This hard look doctrine provides for searching judicial review, requiring agencies to clearly explain what factors they considered in the decisionmaking process and the weight given to those factors.[66]

II. JUDICIAL DECISIONMAKING IN ENVIRONMENTAL AND ADMINISTRATIVE LAW

"[E]mpirical legal scholarship on judicial decisionmaking [has] emerged from obscurity to become the subject of disputation in a larger societal or academic arena."[67] This Part discusses the empirical scholarship on judicial decisionmaking in environmental and administrative law, focusing on the role of the legal and attitudinal models. The legal model refers to traditional interpretive approaches familiar to lawyers, such as the language of legal texts, standards of review, and legislative history. The attitudinal model is legal realism, where judges "decide[] disputes in light of the facts of the case vis-à-vis [their] ideological attitudes and values."[68] The existing scholarship informs us that ideology impacts judicial decisionmaking in environmental cases and, furthermore, begins to address whether political preferences may influence how judges use *Chevron* in reviewing agency interpretations of environmental law. This Article expands on this research.

The current focus of empirical legal studies, including in the environmental law context, is explaining decisionmaking as a function of political ideology. Political scientists have long argued that judicial decisionmaking is a function of policy preferences. Professors Jeffrey Segal and Harold Spaeth stated, "Rehnquist votes the way he does because he is extremely conservative; Marshall voted the way he did because he was ex-

65. Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976) (citing NRDC v. Morton, 458 F.2d 827, 838 (D.C. Cir. 1972)).

66. Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983). For more discussion of the hard look doctrine in the environmental law context, see Jason J. Czarnezki, *Revisiting the Tense Relationship Between the U.S. Supreme Court, Administrative Procedure, and the National Environmental Policy Act*, 25 STAN. ENVTL. L.J. 3 (2006).

67. Gregory C. Sisk & Michael Heise, *Judges and Ideology: Public and Academic Debates About Statistical Measures*, 99 NW. U. L. REV. 743, 745 (2005); *see also* Michael Heise, *The Importance of Being Empirical*, 26 PEPP. L. REV. 807 (1999).

68. SEGAL & SPAETH, *supra* note 10, at 86.

tremely liberal."[69] Legal scholarship has confirmed at least some role for the attitudinal model in the environmental law field,[70] though only recently have scholars begun to empirically consider the role legal procedures and doctrine play in case outcomes, whether in environmental law[71] or other areas of law.[72]

Now ten years old, Professor Richard Revesz' influential empirical study of judicial decisionmaking in cases involving the EPA before the D.C. Circuit concluded, consistent with later findings,[73] that judges' perceived opinions about environmental policy determined their votes.[74] Considering 250 challenges to EPA decisions before the D.C. Circuit between 1970 and 1994,[75] Revesz found that in industry challenges to EPA decisions, Republican court appointees had higher reversal rates than did Democratic appointees.[76] For challenges of EPA decisions brought by environmental groups, Democratic appointees had higher reversal rates than Republican appointees.[77]

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69. *Id.*

70. *See* SUNSTEIN, SCHKADE, ELLMAN & SAWICKI, *supra* note 10; Revesz, *supra* note 1; Sunstein, Schkade & Ellman, *supra* note 1.

71. *See* Miles & Sunstein, *supra* note 2.

72. *See* Czarnezki & Ford, *supra* note 10, at 843 n.5 (citing DANIEL R. PINELLO, GAY RIGHTS AND AMERICAN LAW 131–43 (2003); HAROLD J. SPAETH & JEFFREY A. SEGAL, MAJORITY RULE OR MINORITY WILL: ADHERENCE TO PRECEDENT ON THE U.S. SUPREME COURT (1999); Sara C. Benesh & Jason J. Czarnezki, *The Ideology of Legal Interpretation,* 29 WASH. U. J.L. & POL'Y ___ (forthcoming 2009); Robert M. Howard & Jeffrey A. Segal, *An Original Look at Originalism*, 36 LAW & SOC'Y REV. 113 (2002); William M. Landes & Richard A. Posner, *Legal Precedent: A Theoretical and Empirical Analysis*, 19 J.L. & ECON. 249 (1976)); *see also* Stefanie A. Lindquist & Frank B. Cross, *Empirically Testing Dworkin's Chain Novel Theory: Studying the Path of Precedent*, 80 N.Y.U. L. REV. 1156 (2005); Stefanie A. Lindquist & David E. Klein, *The Influence of Jurisprudential Considerations on Supreme Court Decisionmaking: A Study of Conflict Cases*, 40 LAW & SOC'Y REV. 135 (2006); Sara C. Benesh & Harold J. Spaeth, *What Explains Dissensus? A Test of the Legal and Attitudinal Models* (unpublished manuscript, on file with the authors).

73. *See, e.g.*, JAY E. AUSTIN ET AL., ENVIRONMENTAL LAW INSTITUTE, JUDGING NEPA: A "HARD LOOK" AT JUDICIAL DECISION MAKING UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT, *available at* http://www.elistore.org/reports_detail.asp?ID=11071 (last visited Jan. 19, 2007) (finding that NEPA claims are 30 percentage points more successful in front of Democratically appointed judges).

74. *See* Revesz, *supra* note 1, at 1739. For a response to the Revesz study, see Harry T. Edwards, *Collegiality and Decision Making on the D.C. Circuit*, 84 VA. L. REV. 1335 (1998).

75. *See* Revesz, *supra* note 1, at 1721.

76. *Id.* at 1738.

77. *Id.*

Nearly a decade after the Revesz article, Sunstein, Schkade, and Ellman (and now Sawicki) further analyzed judicial decisionmaking in environmental cases before the D.C. Circuit. Building upon the Revesz dataset in their book *Are Judges Political?: An Empirical Analysis of the Federal Judiciary*[78] and in their earlier *Virginia Law Review* article,[79] the authors found that judges more often than not voted in stereotypically ideological directions[80] and that Democratic appointees were far more likely to vote against challenges to EPA than Republicans.[81]

Scholars recently have begun to empirically evaluate how methods of legal interpretation and legal frameworks impact judging in the environmental law context. More specifically, significant research has focused on how administrative law standards of deference impact case outcomes,[82] including environmental cases.

Professors Miles and Sunstein analyzed 183 federal appellate cases from all circuits where panels reviewed interpreta-

78. SUNSTEIN, SCHKADE, ELLMAN & SAWICKI, *supra* note 10, at 34, 161–62 n.20 ("We assembled the sample of EPA cases by shepardizing *Chevron U.S.A. Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984), and searching for challenges to EPA decisions. . . . The sample includes 181 cases from June 25, 1984, through August 1, 2005.").

79. Again, they explored a larger version of what was initially explored by Revesz's analysis of challenges to EPA regulations in the D.C. Circuit. *See* Sunstein, Schkade & Ellman, *supra* note 1, at 322; *see also id.* at 313 n.33 ("We assembled the sample of EPA cases by searching http://www.ll.georgetown.edu/federal/judicial/cadc.cfm for cases with 'EPA' or the EPA administrator's name in the case title. We crosschecked this set of cases with results from a Lexis search of 'EPA' and 'Environmental Protection Agency.' If a judge voted to afford the industry challenger any relief, then the vote was coded as a pro-industry vote. The sample includes cases from 09/19/94-12/31/02. For cases before 1994, we relied on Revesz . . . . We identified a total of 142 cases.")

80. SUNSTEIN, SCHKADE, ELLMAN & SAWICKI, *supra* note 10, at 34 (finding that Democratic appointees voted in a stereotypically liberal direction 61% of the time, in comparison to Republican appointees who voted stereotypically 51% of the time).

81. Sunstein, Schkade & Ellman, *supra* note 1, at 322–23 (showing that Democratic appointees voted against agency challenges 64% of the time, compared to Republican appointees voting against agency challenges 46% of the time).

82. *See generally* Frank B. Cross & Emerson H. Tiller, *Judicial Partisanship and Obedience to Legal Doctrine: Whistleblowing on the Federal Courts of Appeals*, 107 YALE L.J. 2155 (1998); Orin S. Kerr, *Shedding Light on* Chevron*: An Empirical Study of the* Chevron *Doctrine in the U.S. Courts of Appeals*, 15 YALE J. ON REG. 1 (1998); Richard L. Revesz, *Congressional Influence on Judicial Behavior? An Empirical Examination of Challenges to Agency Action in the D.C. Circuit*, 76 N.Y.U. L. REV. 1100 (2001).

tions of law by the EPA.[83] They found the overall validation rate (i.e., deference rate to the EPA under *Chevron*) was 61.7%.[84] The rates broken down between Republican and Democratic appointees differed only slightly—62.5% for Republican appointees and 60.7% for Democratic appointees.[85]

Consistent with the findings in Sunstein's earlier co-authored works,[86] these rates showed a wider disparity along ideological lines when taking into account panel compositions (i.e., panel effects).[87] "Collegial concurrences" were common, where Republican appointees displayed "relatively liberal voting patterns when sitting with two Democratic appointees," and vice versa.[88] This held true for Democratic appointees sitting on EPA cases, but not for Republicans sitting on EPA cases.[89] "Republican appointees show the same rate of liberal voting regardless of whether they are sitting with one or two Democratic appointees."[90]

These findings built upon the existing empirical literature about how courts, using *Chevron*, review agency interpretations of statutes.[91] Based on existing research, at least some generalizations can be made. First, *Chevron* has increased the likelihood of affirmance of agency interpretations of law, with

83. Miles & Sunstein, *supra* note 2, at 825.

84. *Id.* at 853.

85. *Id.* at 852, Figure 1.

86. SUNSTEIN, SCHKADE, ELLMAN & SAWICKI, *supra* note 10, at 34 (considering panel effects and finding that both Republican and Democratic appointees showed "ideological amplification and ideological dampening"). *But see id.* at 62-63 (finding that in the D.C. Circuit environmental regulation challenges, Democratics appointees, unlike Republican judges, are impacted solely by party and not panel effects).

87. Miles & Sunstein, *supra* note 2, at 852 (finding that Democratic and Republican appointees showed far more political voting patterns when they were sitting on panels when all the judges were either Democratic or Republican appointed).

88. *Id.* at 863.

89. *Id.*

90. *Id.*

91. *See, e.g.*, Linda R. Cohen & Matthew L. Spitzer, *Solving the* Chevron *Puzzle*, 57 LAW & CONTEMP. PROBS. 65 (1994); Kerr, *supra* note 82; Peter H. Schuck & E. Donald Elliott, *To the* Chevron *Station: An Empirical Study of Federal Administrative Law*, 1990 DUKE L.J. 984; *see also* Thomas W. Merrill, *Judicial Deference to Executive Precedent*, 101 YALE L.J. 969 (1992); Herbert M. Kritzer et al., Deciding the Supreme Court's Administrative Law Cases: Does *Chevron* Matter? (August 2002), http://www.polisci.wisc.edu/~kritzer/research/supcourt/apsa2002.pdf (last visited May 26, 2007).

deference rates above 60% or higher.[92] (The data in this study show the rate at 69.2%.) Second, while both Democratic and Republican judges are likely to uphold agency interpretations, judges are more likely to support interpretations consistent with their perceived policy preferences.[93] And finally, voting outcomes are influenced by panel effects (i.e., homogenous ideological panels are more likely to reverse agency action inconsistent with their ideological views,[94] including in the environmental law context).[95]

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92. Kerr, *supra* note 82, at 30 (examining applications of the *Chevron* doctrine in published federal circuit court cases for the years 1995 and 1996, which consisted of 253 applications in 223 published cases, and finding that agency interpretations were accepted in 73% of the applications); Miles & Sunstein, *supra* note 2, at 849 (finding that the overall average validation rate of the circuit judges in *Chevron* cases, at about 64%, is roughly similar to that of the Supreme Court justices, which averaged 67%); Schuck & Elliott, *supra* note 91, at 1057 (stating that the most important finding in the study was that circuit courts were affirming agency decisions at a steadily increasing rate from 76% in 1984–85, and over 81% in 1985 after *Chevron*); *see also* Humphries & Songer, *supra* note 3, at 215 (finding across all cases, agencies had a success rate of 58.0%). *But see* Kritzer et al., *supra* note 91, at 15, 22 (finding no evidence of increased deference on the Supreme Court).

93. Cross & Tiller, *supra* note 82, at 2169 (finding "fairly profound" partisan effects as panels consisting of a Republican majority rendered conservative decisions 54% of the time, and panels of a majority of Democrats rendered liberal decisions 68% of the time); Humphries & Songer, *supra* note 3, at 216 ("Panels of liberal judges are much more likely to uphold liberal than conservative agency decisions and conservative judges favor conservative decisions."); Kerr, *supra* note 82, at 36, 39 (finding that judges of both parties upheld Democratic interpretations at 71% rates and Republican interpretations at similar rates of 78% and 73%, with statistically insignificant differences between the rates, and that was a tendency for Republican and Democratic judges to reach results consistent with their assumed political ideologies); *see also* Kritzer et al., *supra* note 91, at 17.

94. LEE EPSTEIN & JEFFREY A. SEGAL, ADVICE AND CONSENT: THE POLITICS OF JUDICIAL APPOINTMENTS 117 (2005) (In implementing *Chevron*, "Republican circuit court judges sitting on panels with two other Republicans frequently voted to reverse liberal agency decisions but were less likely to vote to overturn them if a single Democrat served on the panel. Similarly, Democratic judges on panels with other Democrats frequently voted against conservative agency decisions but were less likely to reverse them if a Republican sat along with them."); Cross & Tiller, *supra* note 82, at 2171–72 (finding that case outcomes were impacted dramatically by panel composition).

95. EPSTEIN & SEGAL, *supra* note 94, at 129 (using data in environmental cases from Sunstein, Schkade & Ellman, *supra* note 1) ("When Republicans sit with all other Republicans, they support industry challenges to environmental regulations in about seven out of every ten cases. That figure, however, declines to five out of ten if even one Democratic whistleblower is on the panel. And should a judge find herself the lone Republican, odds are that she will rule *against* industry: in only four out of every ten cases do Republicans support challenges to environment[al] regulations when they sit with two Democrats.").

III. EMPIRICAL RESEARCH DESIGN

A. Data and Coding Methodology

This Article analyzes environmental law cases decided in the U.S. Courts of Appeals over a three-year period to investigate what factors—including ideological, legal, and institutional variables—impact judicial review of administrative agency interpretations of environmental statutes. A search of environmental cases from 2003 to 2005 that cite to *Chevron* created an over-inclusive dataset of ninety-three cases.[96]

Deleted from this list were cases decided en banc,[97] opinions amended later that year,[98] and cases not involving an environmental statute or statutory interpretation. What remains are cases, some dealing with multiple issues of statutory interpretation,[99] that were decided by three-judge federal appellate panels[100] that reviewed agency interpretations of environmental statutes. Judicial votes, however, are the unit of analysis. Thus, the final dataset consists of 347 total judicial votes covering 116 instances of statutory interpretation in 70 environmental law cases.

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96. The actual search, in Westlaw's FENV-CTA (Federal Environmental Law Cases – Court of Appeals) Database, was as follows: DA(AFT 12/31/2002 & BEF 1/1/2006) & ("467 U.S. 837" OR "104 S.CT. 2778").

97. United States v. E.I. DuPont de Nemours & Co., 432 F.3d 161 (3d Cir. 2005); Wilderness Soc'y v. U.S. Fish & Wildlife Serv., 353 F.3d 1051 (9th Cir. 2003).

98. Vigil v. Leavitt, 366 F.3d 1025 (9th Cir. 2004); High Sierra Hikers Ass'n v. Blackwell, 381 F.3d 886 (9th Cir. 2004); BCCA Appeal Group v. EPA., 348 F.3d 93 (5th Cir. 2003); Envtl. Def. Ctr., Inc. v. EPA., 319 F.3d 398 (9th Cir. 2003); Davis v. EPA, 336 F.3d 965 (9th Cir. 2003).

99. Each separate issue of statutory interpretation was coded separately. An issue was defined as the interpretation of a single statutory provision that applied, in any fashion, the *Chevron* doctrine. Thus, while one statutory provision could be struck down under *Chevron* step one, step two, or the APA, and all three legal mechanisms discussed, this would count as one issue. *See, e.g.*, New York. v. EPA, 413 F.3d 3, 21-31 (D.C. Cir. 2005) (Part III). Yet, a single case can also contain multiple issues of statutory interpretation. *See, e.g., id.* at 36–42 (Parts V, VI, VII). Issues were ignored if they did not deal with statutory interpretation or issues of deference to agencies based on their interpretation of an environmental or natural resources statute.

100. The sole exception is the case of *Natural Resources Def. Council v. Abraham*, which was decided by only a two-judge panel. 355 F.3d 179, 183 n.1 (2d Cir. 2004) ("Judge Calabresi, originally a member of the panel, recused himself subsequent to oral argument. The appeal is being disposed of by the remaining members of the panel, who are in agreement." (citing 2d Cir. R. 0.14)).

Analyzing these votes and cases, this Article builds on existing research to further consider the role of legal, as well as ideological, factors in judicial decisionmaking in environmental law. It also seeks more descriptive information about environmental jurisprudence outside the D.C. Circuit and the EPA. To expand upon and supplement earlier empirical inquiries into statutory interpretation in environmental law, this Article also considers the other courts of appeals and other administrative agencies such as the U.S. Forest Service, Army Corps of Engineers, and the Department of the Interior.

To operationalize judges' ideological or policy preferences (and attempt to improve upon the Democrat versus Republican dichotomy[101]), the best available option is to rely primarily on Giles, Hettinger, and Pepper's ("GHP") adaptation[102] of Keith Poole's "common space scores,"[103] which are measures of ideology of members of the House and Senate.[104] This measure is more refined than using the political party of the appointing president. For each appellate judge, GHP assign him or her one of two common space scores. For judges nominated to sit in a state represented by a senator (or senators) of the president's party, the senator's common space score is used (or an average if both senators are of the president's party), reflecting the tradition of senatorial courtesy.[105] If neither senator in office at the time of appointment is of the same party as the appointing president, then GHP assign the judge the appointing presi-

101. *See* Jonathan R. Nash, Book Review, 4 PERSP. ON POL. 397, 397 (2006) (reviewing NANCY SCHERER, SCORING POINTS: POLITICIANS, ACTIVISTS, AND THE LOWER FEDERAL COURTS APPOINTMENT PROCESS (2005)).

102. *See* Micheal W. Giles, Virginia A. Hettinger & Todd Peppers, *Picking Federal Judges: A Note on Policy and Partisan Selection Agendas*, 54 POL. RES. QUARTERLY 623 (2001). The GHP scores have been validated as a measure of ideology. Virginia A. Hettinger, Stefanie A. Lindquist & Wendy L. Martinek, *Comparing Attitudinal and Strategic Accounts of Dissenting Behavior on the U.S. Courts of Appeals*, 48 AM. J. POL. SCI. 123, 123–37 (2004). The GHP scores used were from the 2000 update. For judges appointed after 2000, Poole's senatorial and presidential GHP scores updated thru the 108th Congress of 2004 were used. Judges appointed in 2005 were assigned the President's GHP score.

103. *See generally* Keith T. Poole, *Recovering a Basic Space from a Set of Issue Scales*, 42 AM. J. POL. SCI. 954 (1998). Poole's common space scores are available online at www.voteview.com.

104. *See id.* at 982.

105. Senatorial courtesy is the custom whereby the President and Senate Judiciary Committee consult home state senators on a judicial nomination. Historically, the Senate has been reluctant to confirm a presidential judicial appointment if the nominee's home state senators do not approve of the nomination.

dent's score.[106] Scores for both senators and presidents are on the same scale as those used for judges, ranging from most liberal at -1.0 to most conservative at +1.0. The GHP score of each participating judge as well as the average GHP score of each panel were calculated.[107]

In addition to considering ideology, through intensive content analysis, the cases were coded for descriptive information, variables concerning the use of the *Chevron* doctrine, and legal interpretive tools. The cases were coded for a variety of basic descriptive items: year of decision; circuit; agency at issue; environmental statute at issue; names of participating judges; whether the judge signed a majority, concurring (all types) or dissenting opinion; and whether the judge penned the majority opinion.

Cases also were coded for the following items: ideological direction of the lower court decision;[108] whether it was a pre-enforcement challenge or an enforcement challenge;[109] whether the issue was decided under *Chevron* step one (where a judge determined that the statute was unambiguous or clear, or that Congress had in fact spoken to the precise question at issue) or decided under *Chevron* step two (where an agency received *Chevron* deference under step two, or the judge determined the agency interpretation was a reasonable or permissible construction of the statute following a determination that the statutory provision at issue was ambiguous);[110] whether the

106. Giles, Hettinger & Peppers, *supra* note 102, at 631.

107. *Accord* Humphries & Songer, *supra* note 3, at 212 (measuring panel ideology by computing the mean judge ideology of all the judges who participated in the panel decision).

108. The operational definition of directional vote was as follows: A conservative vote is a vote against an environmental group or a vote for industry over agency. A liberal vote is a pro-environment vote for an agency versus industry, or a vote for an environmental group. In some cases there was no lower court decision due to direct appeal, or the lower court decision had more than one outcome in more than one ideological direction.

109. An enforcement challenge is, for example, a challenge to an agency action seeking to sanction a broken rule, permit, or law, a challenge to an EPA decision that attainment was reached, or a challenge to a permitting decision. Pre-enforcement challenges are, for example, facial challenges to rule, permit, plan, or petition as inconsistent with the statutory language.

110. Where a court exhibited conflation of *Chevron* steps one and two, the case was coded as having been solely decided under step one, unless the court explicitly invoked "step two," resulting in the cases being coded as considering both steps. Where a court addressed step two only in arguendo, both steps were included in the dataset, unless the agency action was reversed in which case the decision was coded as being decided solely under step one. To know how to best code these

agency decision violated the arbitrary and capricious standard of the APA; whether the agency action was upheld under another type of deference framework and (if so) under what type; and whether the opinion signed by the judge invoked the use of legislative history.[111]

Finally, the cases were coded for the judicial directional vote (where a conservative vote is a vote against an environmental group or a vote for industry over an agency, and a liberal vote is a pro-environment vote for an agency versus industry or a vote for an environmental group), and whether the judge voted to reverse or affirm the government agency's decision. Each of the judge-specific variables and the outcome variables were coded for each judge. If one judge joined the opinion of another, without writing separately, all data would be identical save for his or her name and GHP score.

It is necessary to elaborate on the coding of the chosen standards for review of agency action, the implementation of those standards, and the legal tools employed by the judge. As described doctrinally in Part I above, courts may employ the *Chevron* framework, some lesser form of deference (e.g., *Skidmore*) as permitted by *Mead*, or the APA's arbitrariness standard, as well as alternative forms of deference. As also noted, courts can uphold or strike down agency action under *Chevron* step one or two. While courts likely will not strike down agency decisions as unreasonable under step two, step one allows for greater flexibility, depending on the interpretive tools employed, to strike down or uphold the agency action. Breaking down each judicial vote, in each issue, into each *Chevron* step, permits a more refined measure than simply determining whether the court deferred to the agency under either step as was done in the studies discussed in Part II, and allows for measurement and analysis of whether the doctrine

"mixed" cases as step one or two, it would be helpful to learn, post-*National Cable & Telecommunications Ass'n v. Brand X Internet Services*, 545 U.S. 967 (2005), what words in prior decisions might suffice to permit agency reinterpretation. In other words, are these step one cases or step two cases for *Brand X* purposes?

111. I also sought to code the cases for invocations of the plain meaning rule and underlying purpose of the statute. However, like my previous work, I had reservations about coding for the plain meaning rule. Czarnezki & Ford, *supra* note 10, at 865. I also found that coding for the underlying purpose of the statute is not particularly informative from a quantitative standpoint as many opinions, early in the decision, point out the general purpose of the statute, not making it clear how or why it is relevant to the legal analysis. *See infra* Part V.C.

works as expected and analysis of the possible strategic use of the *Chevron* steps in environmental jurisprudence.

Due to the malleable nature of *Chevron* step one as to what interpretive tools are used, cases also were coded for the invocation of legislative history. To count as a use, "a judge must have used the interpretive tool in support of his or her legal analysis"[112] in interpreting the environmental statute at issue, so long as "the reference was not clearly dicta and the reference was not a rejection of the interpretive tool's value generally."[113]

B. Research Questions and Hypotheses

By coding the above cases and corresponding judicial votes, we can learn valuable descriptive and analytical information about how, what, and where cases dealing with agency interpretations of environmental statutes are reviewed in the federal appellate courts. These findings have both doctrinal and pedagogical value. Legal scholars are beginning to research and students frequently ask whether the appellate courts consistently review agency actions and how the legal framework chosen actually impacts case outcomes. This type of research also answers a more foundational question—what are the real-world consequences of existing and available legal doctrine in environmental law (or administrative law in the environmental law context)?

This Article attempts to address a number of questions concerning judicial review of agency interpretations of environmental law. What is the distribution of decisions involving judicial review of agency interpretations of environmental law among the circuits? Are most of these decisions made in the D.C. Circuit?[114] Are these pre-enforcement or post-enforcement challenges to agency actions? What number of judicial votes in each of the circuits reach liberal or conservative outcomes, and affirm or reverse the agency action? What agen-

112. Czarnezki & Ford, *supra* note 10, at 864.

113. *Id.* at 864 n.102.

114. Does the D.C. Circuit really hear the majority of environmental cases or only a plurality? *See* Sunstein, Schkade & Ellman, *supra* note 1, at 322 ("[W]e limit our investigation to the D.C. Circuit, which hears the vast majority of environmental cases."). Often federal law, like the Clean Air Act, requires certain claims to be brought before the D.C. Circuit. *See, e.g.*, Clean Air Act § 307(b), 42 U.S.C. § 7607(b) (2000).

cies were involved, and did their involvement influence judicial votes for affirmance or reversal of their decisions?

In addition to this information about the relationship between circuit, agency, statute at issue, and outcome variables, this Article addresses whether agency actions are being reviewed consistently by the appellate courts and whether the legal framework chosen impacts the case outcome. For example, does the *Chevron* doctrine work as expected? One would expect that invocations of step two should usually lead to agency affirmance, while agency deference is less predictable under step one. In addition, what judicial review frameworks (e.g., *Chevron* steps one and two) are associated with liberal or conservative judicial votes, or affirming or reversing the agency action? Finally, in environmental cases, is the *Chevron* doctrine used strategically by judges, due to its potential malleability (e.g., gaming the use of step one), to achieve their perceived environmental policy preferences? And might invocations of certain interpretive tools under *Chevron* step one lead to pro- or anti-environmental outcomes (i.e., a correlation between judicial invocation of legislative history and a pro-environment vote)?

A number of hypotheses can be tested. First, consistent with earlier findings supporting the correlation between ideology and directional vote, one would hypothesize that as GHP increases so does the likelihood of a conservative vote. Second, consistent with findings that conservatives are less likely to support the action of environmental agencies, one would expect that as GHP increases the likelihood of an agency affirmance would decrease.

Third, in asking whether the *Chevron* doctrine is used strategically, the hypothesized strategic action would be as follows: When invoked, *Chevron* step one is used strategically by both conservative and liberal judges to reverse agency actions and achieve their desired directional vote.

Fourth, invocations of legislative history will lead to liberal outcomes due to the pro-environmental concerns surrounding the passage of any environmental statute. Fifth, as found in earlier studies, the ideological composition of the panel should impact directional vote.

IV. ENVIRONMENTAL LAW IN THE COURTS OF APPEALS: EMPIRICAL FINDINGS AND OBSERVATIONS

This Part describes analyses designed to address the questions and test the hypotheses found in Part III. Of the 347 judicial votes in the dataset, 86.2% were in response to preenforcement challenges. Liberal votes were cast 45.5% of the time, and agency decisions were affirmed at a rate of 69.2%. These findings and what follows describe the environmental law statutory interpretation docket in the federal courts of appeals from 2003 to 2005, providing information on how the docket is divided across the circuits, what is the nature of the docket, and which environmental statutes are at issue in the courts. This Part also analyzes how the courts of appeals decide environmental cases where agencies have interpreted the underlying federal statute, considering the role of ideology and the strategic use of the *Chevron* doctrine.

A. Descriptive Information

The data show that cases involving environmental statute interpretation tend to occur in the D.C. Circuit, involve the EPA as a party, and focus on the Clean Air and Clean Water Acts. As seen in Figure 1, more judicial votes in the dataset took place in the D.C. Circuit than in any other circuit.[115] However, only a plurality of votes was made in the D.C. Circuit—31.1% of the *Chevron*-environmental judicial votes were cast in the circuit—a finding consistent with other empirical research.[116]

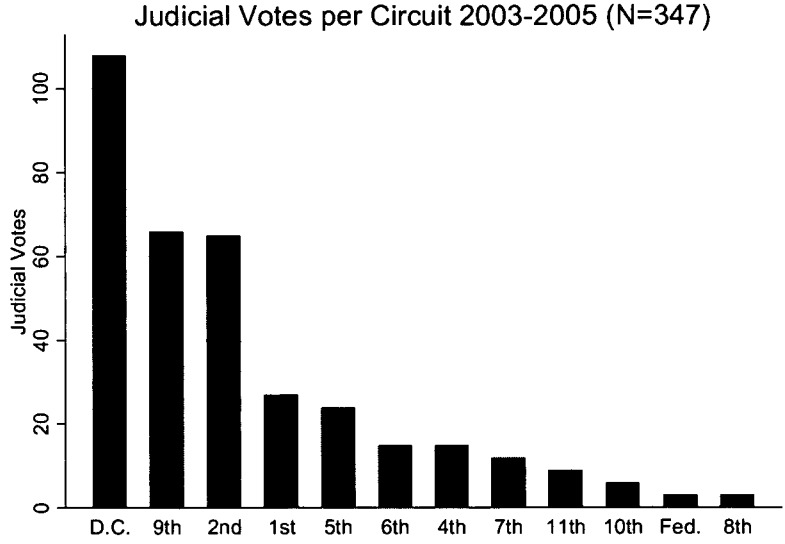
The D.C. Circuit's lack of majority is due to the large percentage of judicial votes (~19%) found in both the Ninth and Second Circuits. The Ninth's Circuit's size may explain its many votes. The Ninth Circuit is the largest of the courts of appeals with 28 active judgeships covering thirteen districts in nine states plus two territorial courts. Of the most active circuits in deciding environmental law cases, only the judges of the Ninth were more likely to vote in a liberal direction

115. Perhaps this should be of no surprise since many Clean Air Act suits must be filed in the D.C. Circuit. *See supra* note 114.

116. Kerr, *supra* note 82, at 30 ("Fully 30% percent of the applications of the *Chevron* doctrine originated in the D.C. Circuit.").

(53.03% of the time), while D.C. Circuit judges cast conservative votes 51.85% of the time.

Figure 1



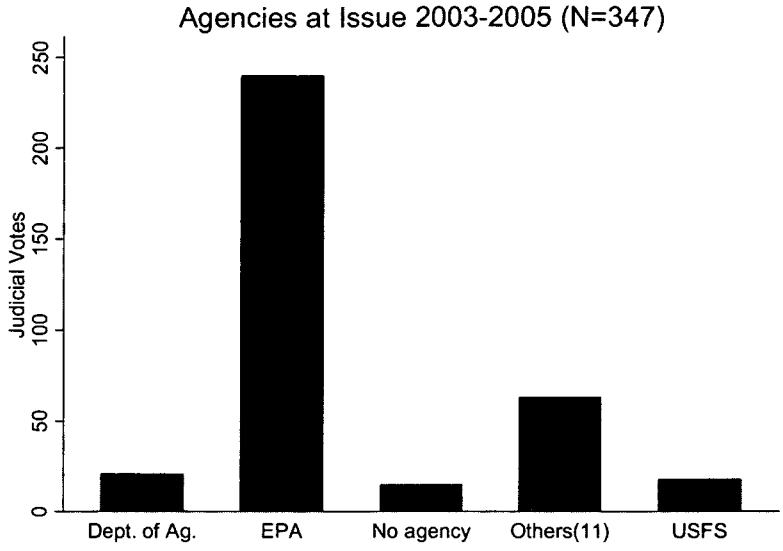
More difficult to explain, the Second Circuit accounts for 18.7% of the votes in the dataset. One possible explanation[117] is that the U.S. Attorney's Office for the Southern District of New York litigates environmental cases in a manner different than would the U.S. Department of Justice. While in other circuits the Department of Justice itself litigates environmental disputes,[118] the U.S. Attorney's Office for the Southern District of New York represents the United States and its agencies in such civil and criminal litigation before the United States District Court for the Southern District of New York, and is re-

117. Further research could investigate forum shopping, which is another possible explanation.

118. *See, e.g.*, Neal Devins & Michael Herz, *The Uneasy Case for Department of Justice Control of Federal Litigation*, 5 U. PA. J. CONST. L. 558, 562 (2003). The authors point out that in civil cases, DOJ lawyers are the lead litigators with EPA agency lawyers as part of the team, but in criminal cases agency lawyers are often the "odd man out."

sponsible for cases from inception through trial and appeal to the United States Court of Appeals for the Second Circuit.[119]

Figure 2

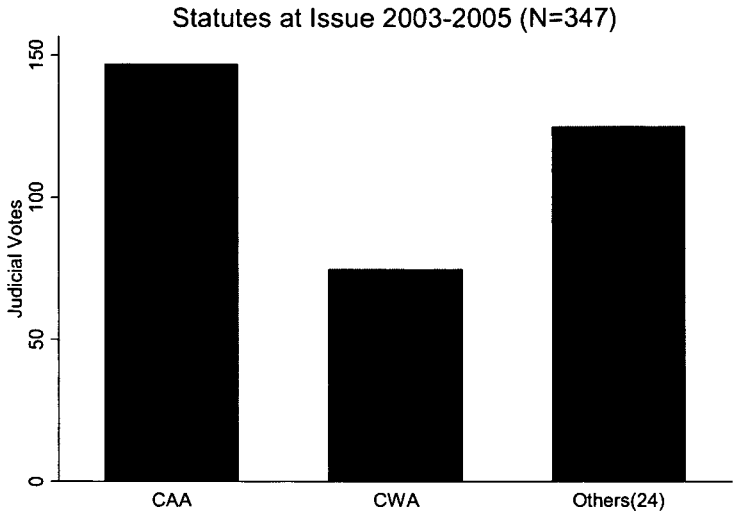


While *most* research on these *Chevron*-environmental law cases focuses on the D.C. Circuit, *all* of the research focuses on the EPA. Thus, the data suggest that it may be appropriate to focus a study of agency interpretation of environmental law solely on the EPA. As Figure 2 shows, nearly 70% (n = 240) of the judicial votes counted in this study involved cases where the EPA was a primary litigant. In addition, the action of the EPA was affirmed by the courts of appeals 72.9% of the time (175 affirmances of 240 judicial votes).

The data show that environmental issues in this dataset are decided in a number of circuits and dominated by EPA litigation. Interestingly, while the dataset includes judicial votes regarding nearly thirty environmental statutes, the cases are dominated by two major federal environmental statutes—the Clean Air Act and Clean Water Act.

119. The United States Department of Justice, Southern District of New York, Organization and Operation, http://www.usdoj.gov/usao/nys/divisions.html (last visited Jan. 23, 2006).

Figure 3



As Figure 3 indicates, 64% (222 of 347) of the judicial votes focus on the Clean Water Act and Clean Air Act. The Clean Air Act docket is dominated by, generally speaking, attainment issues including compliance concerns, state implementation plans, and setting of emissions standards, while Clean Water Act cases are nearly always devoted to permitting.

B. The Role of Ideology

The data show that judges tend to vote in their perceived ideological direction. Using judicial GHP scores as discussed above, all judges were divided into three categories of ideological distance along the GHP scale of -1 (most liberal) to 1 (most conservative). Similarly, the average GHP scores of all judges on each panel were divided into two categories. Tables 1A and 1B provide two-way comparisons of how judicial votes in these categories were divided in terms of the directional vote.

Confirming earlier findings that judges vote in their perceived ideological direction, the data show that ideology correlates with directional vote in the predicted direction—the higher the GHP score (i.e., closer to 1), the higher the rate of conservative voting.

Table 1A: ***Relationship Between Judicial GHP Score Category and Directional Vote***

	Directional Vote		
Scale	Conservative	Liberal	Total
-1 to -0.33	65	72	137
	47.45%	52.55%	100.00%
-0.33 to 0.33	46	42	88
	52.27%	47.73%	100.00%
0.33 to 1	78	44	122
	63.93%	36.07%	100.00%
Total	189	158	347
	54.47%	45.53%	100.00%
Fisher's exact = 0.026**			

Note: The GHP scale runs from -1 (most liberal) to 1 (most conservative).

Table 1B: ***Relationship Between Panel GHP Score Category and Directional Vote***

	Directional Vote		
Scale	Conservative	Liberal	Total
-1 to 0	95	108	203
	46.80%	53.20%	100.00%
0 to 1	94	50	144
	65.28%	34.72%	100.00%
Total	189	158	347
	54.47%	45.53%	100.00%
Fisher's exact = 0.001***			

Note: The GHP scale runs from -1 (most liberal) to 1 (most conservative).

As seen in Table 1A, as individual judges fall into higher GHP categories, the rate of conservative votes increase from 47.45% to 52.27% to 63.93%. Similarly, judicial votes on liberal panels, with an average GHP score below zero, are liberal

53.20% of the time. Votes on conservative panels, however, are liberal only 34.72% of the time. The data suggest that liberals do not vote as liberal as they would like compared with their conservative colleagues who are more effective in voting conservatively. This is likely a product of the years included for this study, 2003–05, when most of the regulations or enforcements at issue were products, in some fashion, of the Bush Administration. Because agency deference is functionally the default rule, one would expect more conservative votes, making conservatives (65.28%) more successful in pursuing their ideological agenda compared with liberals (53.20%). Liberal preferences, during a conservative executive branch, are mitigated by strong principals of deference in administrative law doctrine.

C. *Does* Chevron *Work as Expected?*

Chevron works as expected (at least during the years of this study). As seen in Table 2A, most environmental statutory provisions (68.86%) are found to be ambiguous.[120] Not surprisingly, declarations that the statutory provisions at issue were ambiguous typically led to affirmances (usually under step two, but sometimes under another form of deference).

In addition, and possibly to the dismay of textualists,[121] when judges invoked the *Chevron* doctrine generally (i.e., using

120. Admittedly, it may be problematic that over two-thirds of federal legislation is determined to be unclear. One must question whether judges are abdicating their Marburyian responsibility to say what the law is, or whether Congress does a poor job of drafting legislation.

121. *See* Bradford C. Mank, *Is a Textualist Approach to Statutory Interpretation Pro-Environmentalist?: Why Pragmatic Agency Decisionmaking Is Better than Judicial Literalism*, 53 WASH. & LEE L. REV. 1231, 1233–34 (1996) ("Even if textualist statutory interpretation resulted in more victories for environmental advocacy groups, the tendency of textualists to place so little value on the interpretations of the environmental agencies that have greater practical experience with the underlying issues raises serious questions about whether textualism is the best way to decide environmental policies."); Antonin Scalia, *Judicial Deference to Administrative Interpretations of Law*, 1989 DUKE L.J. 511, 521 ("In my experience, there is a fairly close correlation between the degree to which a person is (for want of a better word) a 'strict constructionist' of statutes, and the degree to which that person favors *Chevron* and is willing to give it broad scope. The reason is obvious. One who finds *more* often (as I do) that the meaning of a statute is apparent from its text and from its relationship with other laws, thereby finds *less* often that the triggering requirement for *Chevron* deference exists. It is thus relatively rare that *Chevron* will require me to accept an interpretation which, though reasonable, I would not personally adopt.").

either step), they likely affirmed agency action (69.55%). Yet, Table 2A provides an indication that *Chevron* results in strategic elements whereby judges have available a host of options for achieving their desired outcome. On the one hand, perhaps

Table 2A: *Relationship Between* Chevron *Step One and Reverse/Affirm Agency Action*

	Vote		
Step One	Reverse	Affirm	Total
Ambiguous	29	170	199
	14.57%	85.43%	100.00%
	32.95%	84.58%	68.86%
Unambiguous	59	31	90
	65.56%	34.44%	100.00%
	67.05%	15.42%	31.14%
Total	88	201	289
	30.45%	69.55%	100.00%
	100.00%	100.00%	100.00%
Fisher's exact = 0.000***			

Note: Includes only those judicial votes where opinion invoked *Chevron* step one.

judges only invoke *Chevron* step one to declare a statute unambiguous when they want to reverse an agency interpretation. Hence, when judges found a statutory provision unambiguous, they reversed agency action at a rate of 65.56%. On the other hand, perhaps even when a statute is clear in favor of an agency's interpretation, it is simply easier to declare the statute ambiguous and invoke deference under step two. Or, going further, perhaps clear statutes in favor of an environmental agency are not litigated, or judges, for pragmatic reasons, are reluctant to say that a statute has a clear fixed meaning, even in favor of an agency, because it may have foreclosed and now will foreclose future agency interpretations pursuant to the Supreme Court's decision in *National Cable & Telecommunications Ass'n v. Brand X Internet Services.*[122]

122. Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 982 (2005) ("A court's prior judicial construction of a statute trumps an agency construction otherwise entitled to *Chevron* deference only if the prior court decision holds that its construction follows from the unambiguous terms of the statute

Table 2B: *Relationship Between* Chevron *Step Two and Reverse/Affirm Agency Action*

	Vote		
Step Two	Reverse	Affirm	Total
No Deference	24	3	27
	88.89%	11.11%	100.00%
	82.76%	1.73%	13.37%
Deference	5	170	175
	2.86%	97.14%	100.00%
	17.24%	98.27%	86.63%
Total	29	173	202
	14.36%	85.64%	100.00%
	100.00%	100.00%	100.00%
Fisher's exact = 0.000***			

Note: Includes only those judicial votes where opinion invoked *Chevron* step two.

Table 2B indicates that *Chevron* step two also works as anticipated. In the few cases where a court found an agency was not entitled deference under step two (13.37%), nearly all agency action was reversed (88.89%). In fact, where step two was invoked (i.e., no deference under step two), affirmance occurred in only one case, a unanimous, yet opaque, decision (three judicial votes) of the Fifth Circuit, which, after engaging the threshold ambiguity query of step one and discussing step two, affirmed agency action under the *Skidmore* grounds of persuasive deference.[123]

As one would anticipate, most judges affirmed agency interpretations when invoking step two (85.64%). However, in some situations, despite the fact that the interpretation was a permissible construction of statute, judges nevertheless did not defer to the agency on other grounds (e.g., the agency did not follow its own interpretation[124]). In other cases, not included

and thus leaves no room for agency discretion."); *see also* E. Donald Elliott, Chevron *Matters: How the* Chevron *Doctrine Redefined the Roles of Congress, Courts and Agencies in Environmental Law*, 16 VILL. ENVTL. L.J. 1, 11–12 (2005) (recognizing that post-Chevron agencies were given more "policy space" to work within).

123. La. Envtl. Action Network v. EPA, 382 F.3d 575, 582–84 (5th Cir. 2004).

124. *See, e.g.*, Skranak v. Castenada, 425 F.3d 1213, 1221 (9th Cir. 2005).

in Table 2B, judges engaged in the *Chevron* step one ambiguity query but refused to proceed to step two in light of a violation of administrative law (e.g., a violation of APA's arbitrary and capricious standard[125]). These findings are consistent with research noting that agencies more likely lost under step one than two and nearly always won under step two, and issues were resolved around one-third of the time under step one.[126]

D. Using Chevron Strategically in Environmental Cases

Judges vote to achieve their preferred policy preferences,[127] and the data provide limited evidence that judges strategically use *Chevron* step one to do so. As seen in Tables 3A through 3C, judges in each GHP category invoke ambiguity in *Chevron* step one at rates between about 64% and 74%. These rates increase as GHP scores increase. Conservatives (i.e., higher GHP scores) more often find statutes ambiguous, leading to conservative votes at a greater rate. On the other hand, the most liberal GHP group invoked step one to declare statutes unambi-

125. *See, e.g.*, Ne. Md. Waste Disposal Auth. v. EPA, 358 F.3d 936, 947–50 (D.C. Cir. 2004) ("Because the term 'class' is ambiguous, we would now ordinarily take *Chevron*'s second step and ask whether it was reasonable for the Agency to construe that term as permitting subcategorization based on aggregate plant capacity. But because Industry Petitioners regard this case as governed by step one of *Chevron*, their briefs do not dispute that, assuming subcategorization is permitted at all, aggregate capacity is a reasonable criterion. Instead, they contend that EPA failed to provide any explanation at all for subcategorizing on that basis. Because we ultimately find that argument dispositive, we pretermit our discussion of *Chevron* and proceed directly to that challenge. . . . Nor can such a reference satisfy the fundamental requirement of nonarbitrary administrative decisionmaking: that an agency set forth the reasons for its actions. Without a readily accessible statement of the agency's rationale, interested parties cannot comment meaningfully during the rulemaking process. Nor can they, or the courts, determine whether the agency has acted capriciously or whether its statutory interpretation is reasonable under *Chevron*'s second step." (citations omitted)).

126. William R. Andersen, Chevron *in the States: An Assessment and a Proposal*, 58 ADMIN. L. REV. 1017, 1020 (2006) (analyzing *Chevron*-like deference in the state courts and finding that "[i]n terms of *Chevron's* so-called 'step analysis,' deference usually was expressed as a 'Step Two' matter, the court finding that the agency's interpretation was reasonable or permissible," and that "where the agency lost, it was usually on 'Step One'—the court finding that the statute was unambiguous and contrary to the agency interpretation."); Kerr, *supra* note 82, at 30–31 (finding that when the full two-step test was applied, the *Chevron* issue was resolved at step one 38% of the time and at step two 62% of the time, and that the interpretation was resolved at step one, agency views were upheld almost 42% of the time and when resolved under step two, agency views were deemed reasonable 89% of the time).

127. *See supra* Part II.

guous to arrive at liberal outcomes. Since the dataset is derived from years during the Bush Administration, these findings are unsurprising. If liberals do not want to defer to a Republican administrative agency, they must find the statute unambiguous under *Chevron* step one. Similarly, conservative judges simply find statutes ambiguous more often under step one, leading to likely affirmance under step two. However, these findings are statistically significant only at the ideological extremes with the p-value less than 0.05 only in the most liberal category.

Table 3A: *Relationship Between* Chevron *Step One and Directional Vote for GHP Range -1 to -.033*

	Directional Vote		
Step One	Conservative	Liberal	Total
Ambiguous	42	33	75
	56.00%	44.00%	100.00%
	76.36%	53.23%	64.10%
Unambiguous	13	29	42
	30.95%	69.05%	100.00%
	23.64%	46.77%	35.90%
Total	55	62	117
	47.01%	52.99%	100.00%
	100.00%	100.00%	100.00%
Fisher's exact = 0.012**			

Table 3B: *Relationship Between* Chevron *Step One and Directional Vote for GHP Range -.033 to .033*

	Directional Vote		
Step One	Conservative	Liberal	Total
Ambiguous	25	23	48
	52.08%	47.92%	100.00%
	67.57%	67.65%	67.61%
Unambiguous	12	11	23
	52.17%	47.83%	100.00%
	32.43%	32.35%	32.39%
Total	37	34	71
	52.11%	47.89%	100.00%
	100.00%	100.00%	100.00%
Fisher's exact = 1.000			

Table 3C: *Relationship Between* Chevron *Step One and Directional Vote for GHP Range .033 to 1*

	Directional Vote		
Step One	Conservative	Liberal	Total
Ambiguous	51	25	76
	67.11%	32.89%	100.00%
	80.95%	65.50%	73.79%
Unambiguous	12	15	27
	44.44%	55.56%	100.00%
	19.05%	37.50%	26.21%
Total	63	40	103
	61.17%	38.83%	100.00%
	100.00%	100.00%	100.00%
Fisher's exact = 0.065*			

Not surprisingly, more liberal judges find environmental statutes textually clear because the statutes intrinsically contain pro-environmental language (a type of environmental textualism[128]), and because environmental groups bring the vast majority of these challenges. However, the data only mildly suggest that conservatives use textualism under step one to limit pro-environmental outcomes, or that liberals use step one to encourage such results. This confirms a caveat to the findings of Revesz, discussed in Part II. Revesz argued that ideological voting is dampened in environmental cases involving a statutory challenge because methods and rules of statutory interpretation are less malleable than procedural standards (e.g., "lack of adequate response to comments, lack of adequate explanation in the rule's statement of basis and purpose, lack of adequate notice or opportunity to comment, and improper ex parte communication").[129]

128. Czarnezki, *Shifting Science*, *supra* note 25, at 421–22; *see generally* Richard J. Lazarus & Claudia M. Newman, City of Chicago v. Environmental Defense Fund: *Searching for Plain Meaning in Unambiguous Ambiguity*, 4 N.Y.U. ENVTL. L.J. 1 (1995); Mank, *supra* note 121.

129. Revesz, *supra* note 1, at 1729–31, 1729 n.33.

Table 4: *Relationship Between Judicial GHP Score Category and Reverse/Affirm Agency Action*

	Vote		
Scale	Reverse	Affirm	Total
-1 to -0.33	51	83	134
	38.06%	61.94%	100.00%
	48.57%	35.17%	39.30%
-0.33 to 0.33	23	64	87
	26.44%	73.56%	100.00%
	21.90%	27.12%	25.51%
0.33 to 1	31	89	120
	25.83%	74.17%	100.00%
	29.52%	37.71%	35.19%
Total	105	236	341
	30.79%	69.21%	100.00%
	100.00%	100.00%	100.00%
Fisher's exact = 0.068*			

Note: There are only 341 judicial votes here, rather than 347, as two CERCLA enforcement cases did not involve the affimance or reversal of agency action.[130]

This raises any number of unanswered queries: Why is textualism not as helpful as conservatives might hope, for it would allow statutory meaning to be locked in and prevent future shifts in administrative policy? Is *Chevron* harder to manipulate than we might think? Might *Chevron* instead be used strategically at step zero, or do judges use a diverse set of legal tools (e.g., all the *Chevron* steps) to achieve their preferred policy outcomes? Or do judges, for the reasons stated by Revesz or otherwise, simply not engage in strong strategic behavior when dealing with principles of statutory interpretation (a conclusion supported by the legislative history findings presented in the next section)?

130. *See* Sierra Club v. Seaboard Farms, Inc., 387 F.3d 1167 (10th Cir. 2004); Colorado v. Sunoco, Inc., 337 F.3d 1233 (10th Cir. 2003).

Conservative judges do use *Chevron* deference to uphold agency action challenged by environmental and public interest groups, though the findings are statistically significant at only 90% ($p \leq 0.1$). Confirmed in Table 4, the data indicate that judges with lower GHP scores (i.e., more liberal) are less likely to affirm agency action (regardless of *Chevron* step used).

Consistent with all research, the data show that affirmance is more common than reversal of agency action. However, unlike the findings of Miles and Sunstein that show Democratic judges were more likely than Republican judges to defer to EPA action, these data find that affirmance of agency action actually increases as GHP increases (i.e., more conservative judges are less likely to reverse the agency). On its face, this finding may seem counterintuitive. Even though this dataset includes many environmental agencies rather than just the EPA, EPA action dominates the dataset. But again, perhaps this is a product of the dataset used as one might expect affirmance as GHP increases because the cases involve the Bush Administration's EPA. During the time period of the dataset, one might then expect that more liberal judges are less likely to affirm agency action.

E. The Use of Legislative History

This section considers the interpretive tool of legislative history.[131] The data show, as seen in Table 5, that invocations of legislative history were made at a rate of 33.73%.

Judges that sign on to opinions that invoke legislative history are more likely to vote in a liberal direction by a small, but statistically significant, margin (52.63% to 47.37%). Where legislative history is not invoked, the outcome of the judicial vote is more likely to be conservative (57.94%), at a slightly higher rate than the overall rate of conservative vote (54.47%).

131. In addition to reading each individual opinion, to ensure that no citations to legislative history were missed, cases in the database were searched for key legislative history terms. *See* Czarnezki & Ford, *supra* note 10, at 862 n.95. The search was as follows: DA(AFT 12/31/2002 & BEF 1/1/2006) & ("467 U.S. 837" "104 S.CT. 2778") & ("LEGISLATIVE HISTORY" "COMMITTEE REPORT" "U.S.C.C.A.N." "FLOOR DEBATE" "COMMITTEE STATEMENT" "COMMITTEE HEARING" "LEGISLATIVE COUNSEL" "H.R." "S.J. RES." "CONG. REC." "S. RES." "H.R.J. RES." "S. DOC. NO." "S. REP.").

Table 5: *Relationship Between Invocation of Legislative History and Directional Vote*

	Directional Vote		
Invoked Legislative History	Conservative	Liberal	Total
No	135	98	233
	57.94%	42.06%	100.00%
	71.43%	62.03%	67.15%
Yes	54	60	114
	47.37%	52.63%	100.00%
	28.57%	37.97%	33.73%
Total	189	158	347
	54.47%	45.53%	100.00%
	100.00%	100.00%	100.00%
Fisher's exact = 0.067*			

Interestingly, ideology as measured by the scaled GHP score does not predict whether a judge will turn to legislative history.[132] This mildly suggests that any judicial philosophy toward legislative history may impact voting outcomes and lends support for the legal model of judicial decisionmaking. It also may mean that where good legislative history is available, courts will use it, and it supports a pro-environmental position. Taking these legislative history findings in context with reoccurring findings about the role policy preference plays in judicial decisionmaking, it would appear that judges respond both to the legal and attitudinal models.[133]

132. An important caveat must be made here: This finding may be a result of collegiality norms and the coding mechanism used. For example, a conservative who signs on to a majority opinion written by a liberal invoking legislative history will be counted as having invoked legislative history, even though he or she would not have invoked the tool if he or she had written the opinion.

133. Humphries & Songer, *supra* note 3, at 217–18 ("The judges do not appear to simply substitute their own policy preferences for those of the administrators without regard for law. Variables that captured elements of the legal model were also related to judicial decisions to a statistically significant degree. Taken together, the evidence suggests that the appeals courts appear to respond to both legal concerns and political preferences. Thus, while it would be naïve to believe that politics is irrelevant in judicial review of agencies, it appears that the courts do fulfill, at least in part, the normative expectations that they will constrain the worst abuses of discretion by administrators by imposing the rule of law.").

V. DOCTRINAL ANALYSIS

Doctrinal scholarship often makes sweeping claims about the state of the law with few data points. Similarly, quantitative empirical studies frequently provide analyses in the aggregate absent any detailed analysis of the judicial opinions' actual written content. This Article seeks to do both, and this Part complements the empirical findings above by providing a doctrinal analysis of the judicial opinions that are part of the quantitative dataset—the "data capture votes rather than opinions. For the actual development of the law, the opinion matters a great deal."[134]

This Part discusses how judicial opinions are crafted when deciding issues of statutory interpretation in environmental law. Specifically, this Part addresses the diverse organizational structure of judicial opinions and the confusion surrounding *Chevron*—when does the doctrine apply and what do its steps actually mean in practice? In addition, it considers the relationship between administrative deference and the need for expertise in areas of scientific complexity.

A. Opinion Organization

Most judicial opinions in the dataset, prior to their discussion and analysis sections, systematically lay out (in some cases in rote fashion) the standards of review a federal appellate court uses to review an agency interpretation of environmental law.[135] As discussed in Part I, the D.C. Circuit has a more nuanced view of these standards, and the court's decision in *New York v. EPA* clearly lays out in substantial detail how to analyze such cases under *Chevron* steps one and two and arbitrary and capricious review.[136]

134. SUNSTEIN, SCHKADE, ELLMAN & SAWICKI, *supra* note 10, at 65.

135. *See, e.g.*, Rhinelander Paper Co. v. FERC, 405 F.3d 1, 6 (D.C. Cir. 2005); Harvey v. Veneman, 396 F.3d 28, 33–34 (1st Cir. 2005), *superseded by statute*, Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, Pub. L. No. 109–197, § 796, 119 Stat. 2120, 2165 (2005), *as recognized in* Harvey v. Johanns, 494 F.3d 237, 239 (1st Cir. 2007); Wilderness Watch v. Mainella, 375 F.3d 1085, 1091 (11th Cir. 2004); Am. Chemistry Council v. EPA, 337 F.3d 1060, 1063 (D.C. Cir. 2003); Defenders of Wildlife v. Hogarth, 330 F.3d 1358, 1366 (Fed. Cir. 2003).

136. 413 F.3d 3, 17–18 (D.C. Cir. 2005).

In considering these challenges, we apply a highly deferential standard of review. We may set aside a regulation only if it exceeds EPA's "statutory jurisdiction, authority, or limitations" or is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 42 U.S.C. § 7607(d)(9).

As to EPA's interpretation of the CAA, we proceed under *Chevron*'s familiar two-step process. *See* 467 U.S. at 842–43, 104 S. Ct. 2778. In the first step ("*Chevron* Step 1"), we determine whether, based on the Act's language, legislative history, structure, and purpose, "Congress has directly spoken to the precise question at issue." *Id.* at 842, 104 S. Ct. 2778. If so, EPA must obey. But if Congress's intent is ambiguous, we proceed to the second step ("*Chevron* Step 2") and consider "whether the agency's [interpretation] is based on a permissible construction of the statute." *Id.* at 843, 104 S. Ct. 2778. If so, we will give that interpretation "controlling weight unless [it is] arbitrary, capricious, or manifestly contrary to the statute." *Id.* at 844, 104 S. Ct. 2778.

Aside from statutory interpretation, we evaluate EPA's actions based on traditional administrative law principles. *See Ethyl Corp. v. EPA*, 51 F.3d 1053, 1064 (D.C. Cir. 1995) (noting that the CAA's review provisions are identical to those in the Administrative Procedure Act). "Where, as here, the issue before us requires a high level of technical expertise, we must defer to the informed discretion of the responsible federal agencies." *Transmission Access Policy Study Group v. FERC*, 225 F.3d 667, 714 (D.C. Cir. 2000) (internal quotation marks and citation omitted). After a "searching and careful inquiry" into the facts, *Am. Trucking Ass'n v. EPA*, 283 F.3d 355, 362 (D.C. Cir. 2002), we will find EPA's actions arbitrary and capricious if the agency has failed to "examine the relevant data and articulate a satisfactory explanation for its action, including a rational connection between the facts found and the choice made," *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43, 103 S. Ct. 2856, 77 L. Ed. 2d 443 (1983) (internal quotation marks and citation omitted), or has reached a conclusion unsupported by substantial evidence, *Ass'n of Data Processing Serv. Orgs., Inc. v. Bd. of Governors of the Fed. Reserve Sys.*, 745 F.2d 677, 683–84 (D.C. Cir. 1984). The standard of review "does not," however, "permit us to substitute our policy judgment for that of the Agency."

Bluewater Network v. EPA, 370 F.3d 1, 11 (D.C. Cir. 2004).[137]

With some exceptions,[138] this is how most cases proceed—the analysis section follows this pattern of moving through the *Chevron* steps and onto the arbitrariness inquiry. As a result of this step-by-step process, most courts maintain a judicial finding of ambiguous statutory language and then a conclusion of reasonableness under step two.[139] Other times, the statute is unambiguous under step one. In *Nat'l Mining Ass'n v. Fowler*, the court stated, "In this case, our analysis begins and ends at *Chevron* step one. [National Historic Preservation Act] section 211 unambiguously limits the Council to promulgating regulations that 'govern the implementation of [section 106].'"[140] In *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Service*, the court stated, "To answer that question, there is no need to go beyond *Chevron*'s first step in analyzing the permissibility of the regulation; the regulatory definition of 'adverse modification' contradicts Congress's express command."[141] And sometimes the unambiguous text of the statute itself confers broad discretion to the agency.[142]

It is the rare case that finds the agency action to violate step two.[143] If found to violate the arbitrary and capricious standard of the APA, courts nearly always remand the case for further consideration so the agency can further explain and justify its decision.[144]

137. *Id.*

138. *See infra* Part V.B.

139. *See Am. Chemistry Council*, 337 F.3d at 1063–66.

140. 324 F.3d 752, 758 (D.C. Cir. 2003) (internal citations omitted).

141. 378 F.3d 1059, 1069 (9th Cir. 2004).

142. City of Abilene v. EPA, 325 F.3d 657, 661 (5th Cir. 2003) ("The plain language of § 1342(p) clearly confers broad discretion on the EPA to impose pollution control requirements when issuing NPDES permits. . . . Thus, even if *Chevron* deference is not warranted, the challenged permit conditions are within the EPA's discretion.") (internal citations omitted).

143. *See, e.g.*, Natural Res. Def. Council, Inc. v. Nat'l Marine Fisheries Serv., 421 F.3d 872 (9th Cir. 2005); Nuclear Energy Inst., Inc. v. EPA, 373 F.3d 1251 (D.C. Cir. 2004).

144. *See, e.g.*, Bluewater Network v. EPA, 370 F.3d 1, 21 (D.C. Cir. 2004) (stating "that the Agency has not adequately explained its exercise of that discretion in this case"); Ne. Md. Waste Disposal Auth., 358 F.3d 936, 950 (D.C. Cir. 2004); Vigil v. Leavitt, 366 F.3d 1025, 1039–44 (9th Cir. 2004), *amended by* 381 F.3d 826 (9th Cir. 2004); Davis v. EPA, 336 F.3d 965, 978 (9th Cir. 2003).

Despite the norm of a step-by-step process in the analysis section, significant inconsistency in opinion organization exists. The D.C. Circuit, in *Northeast Maryland Waste Disposal Authority v. EPA*, engaged in the *Chevron* step one ambiguity query but refused to proceed to step two in light of a violation of administrative law (i.e., violation of APA's arbitrary and capricious standard).[145] And, quite frequently, courts address the step two inquiry, but only in arguendo.[146] Consider also these two quotes describing the *Chevron* inquiry.

> "Pure" legal errors require no deference to agency expertise, and are reviewed de novo. Questions involving an interpretation of the FPA involve a de novo determination by the court of congressional intent; if that intent is ambiguous, FERC's conclusion will only be rejected if it is unreasonable.[147]

> If agencies and legislators read ambiguous language differently, the agency wins under *Chevron*.[148]

These are intriguing explanations of the *Chevron* doctrine that raise difficult questions: Is statutory interpretation a distinct inquiry from determining congressional intent?[149] Is this distinction lawful? Why should the resolution of agency confusion trump the resolution of congressional confusion? What is the role of plain meaning in determining congressional intent?

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145. *Ne. Md. Waste Disposal Auth.*, 358 F.3d at 947–50. Since *Chevron* Step 2, was not invoked, this case was not included in Table 2B.

146. *See* City of Arcadia v. EPA, 411 F.3d 1103, 1106–07 (9th Cir. 2005) ("Even if the language of the statute were not clear, we would uphold as reasonable the EPA's interpretation of the Clean Water Act to require approval or disapproval of California's TMDL.") (internal citations omitted); Natural Res. Def. Council, Inc. v. Abraham, 355 F.3d 179, 199 (2d Cir. 2004) ("Even assuming *arguendo* that the plain language of the statute was ambiguous as to Congress's intent, which it is not, the outcome here would be unchanged, as DOE's interpretation is not based on any permissible construction of section 325(o)(1).").

147. Knott v. FERC, 386 F.3d 368, 372 (1st Cir. 2004) (internal citations omitted).

148. Horn Farms, Inc. v. Johanns, 397 F.3d 472, 476 (7th Cir. 2005).

149. For a discussion of textualism versus intentionalism, see Andrew S. Gold, *Absurd Results, Scrivener's Errors, and Statutory Interpretation*, 75 U. CIN. L. REV. 25, 41–46 (2006). *See also* Linda Jellum, Chevron*'s Demise: A Survey of* Chevron *from Infancy to Senescence*, 59 ADMIN. L. REV. 725 (2007).

B. Doctrinal Confusions and Contradictions

When interpreting environmental statutes, courts run into a number of doctrinal confusions, or at least contradictions among the circuits, in determining the appropriate standards of review for agency statutory interpretations.

1. Does *Chevron* Apply?

The issue of whether *Chevron* applies at all is "muddled" at best,[150] though even if the doctrine does not apply the agency action may be entitled to some modified form of deference. In *United States v. W.R. Grace & Co.*, the Ninth Circuit stated, "Following *Mead*, the continuum of agency deference has been fraught with ambiguity. Our decisions understandably have been conflicted as to whether *Chevron* deference only applies upon formal rulemaking and whether lesser deference applies in other situations."[151] Due to this intrinsic confusion in the doctrine, the *Grace* court, like many other courts, considered the statutory question under both a modified form of deference and full *Chevron* deference, finding that either analysis would elicit the same result.[152]

Following *Mead*, courts typically employ the traditional *Chevron* analysis when the agency interpretation arises from formal procedures.[153] Yet, the Ninth Circuit in *Wilderness So-*

150. *See* Schultz Bressman, *supra* note 47.

151. 429 F.3d 1224, 1235 (9th Cir. 2005) (internal citations omitted).

152. *Id.* at 1236–37; Bullcreek v. Nuclear Regulatory Comm'n, 359 F.3d 536, 541 (D.C. Cir. 2004) (internal citations omitted) (questioning whether *Chevron* applies where more than one agency implements the same statute, but states this issue is moot "because the result is the same whether the court applies *de novo* review, deference under *Skidmore v. Swift & Co.*, or *Chevron* deference"); Wilderness Soc'y v. U.S. Fish & Wildlife Serv., 316 F.3d 913, 921–22 (9th Cir. 2003) (following long discussion admitting the complexity, concludes *Chevron* applies, but result is the same under *Skidmore*); *see also* Natural Res. Def. Council, Inc. v. Nat'l Marine Fisheries Serv., 421 F.3d 872, 878–79 (9th Cir. 2005) (avoiding and choosing not to resolve the question of whether *Chevron* applies, and instead assuming *Chevron* applies and finding impermissible construction of statute under step one even under the deferential *Chevron* standard of review). For a discussion of *Chevron* avoidance, see Note, *The Two Faces of* Chevron, 120 HARV. L. REV. 1562, 1579–80 (2007); Schultz Bressman, *supra* note 47, at 1464–69.

153. *See, e.g.*, Lyon County Landfill v. EPA, 406 F.3d 981, 984 (8th Cir. 2005); *see also W.R. Grace*, 429 F.3d at 1235 (citing Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 980–82 (2005)) ("Nonetheless, in *Brand X* the majority's language explaining *Chevron* is quite broad and does not come with

ciety v. U.S. Fish & Wildlife Service seemed unwilling to speak with such clarity, stating:

> After *Mead*, we are certain of only two things about the continuum of deference owed to agency decisions: *Chevron* provides an example of when *Chevron* deference applies, and *Mead* provides an example of when it does not.[154]

Where *Chevron* deference does not apply, courts review the agency action under the arbitrary and capricious standard,[155] and/or courts invoke some form of persuasive deference.[156]

2. The Two-Step?

Oftentimes courts will not state *Chevron*'s two-step test or, even if it is stated, will not apply it. Professor Kerr, in his analysis of the doctrine in the U.S. Courts of Appeals, found that in 28% of the applications, courts applied *Chevron* by condensing the two-step test into a single question of whether the interpretation was reasonable, and in these cases upheld agency views 78% of the time.[157]

For example, in *NRDC v. National Marine Fisheries Services*, the Ninth Circuit combined both steps into a single reasonableness inquiry after stating that *Chevron* requires determination of whether the agency decision is a "permissible construction" and "reasonable interpretation" of the statute.[158] It seems, according to the court, that to violate one step is to violate the other—"The interpretation of § 1854(e)(4) [of the Magnuson-Stevens Fishery Conservation and Management

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a proviso that the *Chevron* deference is limited to agency interpretations expressed through formal rulemaking.").

154. 316 F.3d at 921 (citing United States v. Mead Corp., 533 U.S. 218, 237 n.18 (2001)).

155. *See, e.g.*, *W.R. Grace*, 429 F.3d at 1251–52 (Bea, J., concurring) ("Thus, while I concur in the result of the majority's decision, I write separately to emphasize that this court should stand ready to review separately the EPA's actions at different locations at a removal site under the 'arbitrary and capricious' standard stated in 42 U.S.C. § 9613(j)(2)."); Ala. Rivers Alliance v. FERC, 325 F.3d 290, 296–97 (D.C. Cir. 2003).

156. *See, e.g.*, La. Envtl. Action Network v. EPA, 382 F.3d 575 (5th Cir. 2004); Bullcreek v. Nuclear Regulatory Comm'n, 359 F.3d 536 (D.C. Cir. 2004); Colorado v. Sunoco, Inc., 337 F.3d 1233, 1242–43 (10th Cir. 2003).

157. Kerr, *supra* note 82, at 30.

158. 421 F.3d 872, 879 (9th Cir. 2005) (citation and internal quotation marks omitted).

Act] stated in the 1998 [National Standards Guidelines], as applied in the 2002 quota, is not a permissible (or reasonable) construction of the statute; it is directly at odds with the text and the purpose of the Act."[159] Similarly, in *Rhinelander Paper Co. v. FERC*,[160] the D.C. Circuit provided no real discussion of step one, instead only determining whether the interpretation was permissible. The *Rhinelander* court stated, "We conclude that FERC's reliance on section 10(j)(1) reflects, at least, a permissible reading of the statutory language—and, in particular, of the phrase 'affected by'—and should therefore be sustained under the second step of the *Chevron* inquiry."[161]

3. *Chevron* Step Two Versus the APA

Judges and students commonly conflate *Chevron* step two and arbitrariness/hard look review.[162] For example, does the APA's arbitrariness standard or hard look review simply inform the meaning of *Chevron* step two?[163] Or alternatively, does *Chevron* inform review under the APA?[164] Are hard look review and step two doctrinally different, but functionally the same? Or are they different both doctrinally and practically?

It is not uncommon for courts to note no difference between *Chevron* step two and arbitrary and capricious review under the APA. For example, in *New York Public Interest Research Group, Inc. v. Johnson*, the Second Circuit stated, "However, if we determine that the statute is ambiguous, in the second step of the *Chevron* analysis, we defer to an agency's interpretation

159. *Id.*

160. 405 F.3d 1 (D.C. Cir. 2005).

161. *Id.* at 6.

162. For a discussion of the conflation between *Chevron* step two and the hard look doctrine, see Ronald M. Levin, *The Anatomy of* Chevron*: Step Two Reconsidered*, 72 CHI.-KENT. L. REV. 1253 (1997).

163. *See, e.g.*, Riverkeeper, Inc. v. EPA, 358 F3d 174, 184 (2d Cir. 2004) (internal quotations and citations omitted) ("[I]f, on the other hand, 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, which is to say, one that is reasonable, not arbitrary, capricious, or manifestly contrary to the statute.").

164. *See, e.g.*, Harvey v. Veneman, 396 F.3d 28, 33–34 (1st Cir. 2005), *superseded by statute*, Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, Pub. L. No. 109–197, § 796, 119 Stat. 2120, 2165 (2005), *as recognized in* Harvey v. Johanns, 494 F.3d 237, 239 (1st Cir. 2007).

unless it fails the APA's 'arbitrary and capricious' test."[165] Thus, in this way, the APA gives meaning to the *Chevron* doctrine, informing what "unreasonable" means under step two.[166]

However, this view is inconsistent with those courts that view the two standards of deference as doctrinally distinct.[167] Perhaps the varying levels of confusion in determining how to review agency interpretations of environmental statutes (and statutes in general) cause courts to frequently fall back into a simple reasonableness inquiry. Like combining steps one and two, a court in one case used the term "reasonable" throughout the opinion to include reasonableness under step two, reasonableness under the APA, and reasonableness in light of existing precedent.[168]

C. Tools of Statutory Interpretation

Courts employ a host of tools of statutory construction in determining statutory meaning,[169] though there is no widespread agreement on which tools of statutory construction can or should be used under *Chevron* footnote nine. While nearly every court agrees that the statutory text makes up part of the

165. 427 F.3d 172, 179 (2d Cir. 2005); *see also* N.Y. Pub. Interest Group v. Whitman, 321 F.3d 316, 324 (2d Cir. 2003) ("When the question is not one of the agency's authority but of the reasonableness of its actions, the 'arbitrary and capricious' standard of the APA governs.").

166. *See* Isle Royale Boaters Ass'n v. Norton, 330 F.3d 777, 781 (6th Cir. 2003) (internal quotations and citations omitted) ("Under *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, we first determine whether Congress has directly spoken to the precise question at issue; if it has not, we ask whether the agency's answer is based on a permissible construction of the statute. Section 706(2)(A) of the Administrative Procedure Act permits us to set aside the agency's determination only if it is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.").

167. *See supra* text accompanying notes 33–34.

168. *See generally* Sierra Club v. EPA, 353 F.3d 976 (D.C. Cir. 2004).

169. *See, e.g.*, United States v. W.R. Grace & Co., 429 F.3d 1224, 1239 (9th Cir. 2005) (overall statutory scheme); United States v. Duke Energy Corp., 411 F.3d 539, 548, 550 (4th Cir. 2005) (intratextualism and plain language), *vacated*, Envtl. Def. v. Duke Energy Corp., 127 S. Ct. 1423 (2007); Forest Watch v. U.S. Forest Serv., 410 F.3d 115, 117 (2d Cir. 2005) (plain language); Am. Chemistry Council v. Johnson, 406 F.3d 738, 741–42 (D.C. Cir. 2005) (overall structure of the statute); Rhinelander Paper Co. v. FERC, 405 F.3d 1, 6–7 (D.C. Cir. 2005) (dictionary); Bluewater Network v. EPA, 370 F.3d 1, 13, 18 (D.C. Cir. 2004) (dictionary and legislative history); Ne. Md. Waste Disposal Auth. v. EPA, 358 F.3d 936, 947 (D.C. Cir. 2004) (dictionary); City of Abilene v. EPA, 325 F.3d 657, 660 (5th Cir. 2003) (canon of constitutional avoidance).

initial inquiry,[170] there is considerable debate as to whether the plain language is the end of the step one analysis[171] or part of a more holistic inquiry.[172] Should courts go beyond the statutory text to find congressional intent contrary to the plain meaning?[173] And if courts were to limit step one to the plain meaning, should extratextual sources be available under step two?[174]

"Legislative history is one of the most common interpretive aids available to judges, but judges, like legal scholars, disagree about its proper use and even whether to use it at all."[175]

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170. *See, e.g.*, *Bluewater*, 370 F.3d at 13 ("We begin our interpretation of the provision with the 'assumption that legislative purpose is expressed by the ordinary meaning of the words used.'" (quoting Sec. Indus. Ass'n v. Bd. Of Governors, 468 U.S. 137, 139 (1984))).

171. Sierra Club v. Seaboard Farms, Inc., 387 F.3d 1167, 1169 (10th Cir. 2004) (only looking at the plain language of the statute to determine if ambiguous). *But see* Forest Watch v. U.S. Forest Serv., 410 F.3d 115, 117 (2d Cir. 2005) ("[T]he plain meaning of language in a regulation governs unless that meaning would lead to absurd results." (quoting Reno v. Nat'l Transp. Safety Bd., 45 F.3d 1375, 1379 (9th Cir. 1995))).

172. Citizens Coal Council v. Norton, 330 F.3d 478, 481 (D.C. Cir. 2003) ("In this first analytical step, the courts use 'traditional tools of statutory interpretation—text, structure, purpose, and legislative history.'" (quoting Pharm. Research & Mfrs. of Am. v. Thompson, 251 F.3d 219, 224 (D.C. Cir. 2001))).

173. *See* Defenders of Wildlife v. Hogarth, 330 F.3d 1358, 1366–67 (Fed. Cir. 2003).

174. *See* Envtl. Defense v. EPA, 369 F.3d 193, 209 (2d Cir. 2004) (using a dictionary as part of step two to determine reasonability after determining that text was ambiguous); Safe Food & Fertilizer v. EPA, 350 F.3d 1263, 1269 (D.C. Cir. 2003) (stating that step two means "reasonable and consistent with the statutory purpose" (quoting Am. Mining Cong. v. United States EPA, 907 F.2d 1179, 1186–87 (D.C. Cir. 1990))).

175. Jason J. Czarnezki, William K. Ford & Lori A. Ringhand, *An Empirical Analysis of the Confirmation Hearings of the Justices of the Rehnquist Natural Court*, 24 CONST. COMMENT. 127, 151 (citing Bank One Chi., N.A. v. Midwest Bank & Trust Co., 516 U.S. 264, 283 (1996) (Scalia, J., concurring in part and concurring in the judgment) ("The text's the thing. We should therefore ignore drafting history without discussing it, instead of after discussing it.")); *see also* Archer-Daniels-Midland Co. v. United States, 37 F.3d 321, 323–24 (7th Cir. 1994) (opinion by Posner, J.) ("Legislative history is in bad odor in some influential judicial quarters, but it continues to be relied on heavily by most Supreme Court Justices and lower-court judges; and in the case of statutory language as technical and arcane as that of the DISC provisions, the slogan that Congress votes on the bill and not on the report strikes us as pretty empty." (citation omitted)); Stephen Breyer, *On the Uses of Legislative History in Interpreting Statutes*, 65 S. CAL. L. REV. 845 (1992)); INS v. Cardoza-Fonseca, 480 U.S. 421, 452–53 (1987) (Scalia, J., concurring); *Citizens Coal Council*, 330 F.3d at 484 ("As Judge Leventhal once observed, reviewing legislative history is like 'looking over a crowd and picking out your friends.'" (quoting Patricia M. Wald, *Some Observations on the Use of Legislative History in the 1981 Supreme Court Term*, 68 IOWA L. REV. 195, 214 (1983)));

Yet, in the environmental context, legislative history is often used to determine statutory meaning.

Judicial opinions also look to the underlying purpose of the statute in determining the meaning of more specific statutory provisions. Statutory purposes are often stated at the beginning of the statutory text and can be quite broad and very ambitious. For example, the Congressional declaration in the Clean Water Act is so ambitious that it states, "[I]t is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985."[176] Similarly, the Clean Air Act seeks "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population."[177] This section looks at how federal appellate courts in environmental cases invoke a statute's legislative history and underlying purpose.

For the cases in the dataset, courts commonly invoked legislative history to determine statutory meaning,[178] including as an appropriate tool of statutory interpretation under *Chevron* step one.[179] At least in the context of environmental law, it seems any fight against the use of legislative history has ultimately failed, and courts view it as a proper tool of statutory construction under *Chevron*. In fact, citing Supreme Court precedent,[180] circuits have even acknowledged a need to some-

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ANTONIN SCALIA, A MATTER OF INTERPRETATION: FEDERAL COURTS AND THE LAW 29–32 (Amy Gutmann ed., Princeton University Press) (1997).

176. 33 U.S.C. § 1251(a)(1) (2000).

177. 42 U.S.C. § 7401(b)(1) (2000).

178. United States v. Duke Energy Corp., 411 F.3d 539, 548–49 (4th Cir. 2005); Am. Chem. Council v. Johnson, 406 F.3d 738, 741 (D.C. Cir. 2005); Sierra Club v. EPA, 353 F.3d 976, 988 (D.C. Cir. 2004); City of Waukesha v. EPA, 320 F.3d 228, 240–41 (D.C. Cir. 2003) (citing S. Rep. No. 104-169, at 35 (1995)); Wilderness Soc'y v. U.S. Fish & Wildlife Serv., 316 F.3d 913, 927–28 (9th Cir. 2003).

179. Alliance to Protect Nantucket Sound, Inc. v. U.S. Dept. of the Army, 398 F.3d 105, 109 (1st Cir. 2005) ("In this case, however, we find it unnecessary to reach the question of *Chevron* deference because legislative history reveals, with exceptional clarity, Congress's intent that Section 10 authority under OCSLA not be restricted to structures related to mineral extraction.").

180. *Id.* at 109 n.3 ("Even were the text less ambiguous, a reviewing court may consider legislative history to determine whether there is 'clearly expressed legislative intention' contrary to [the statutory] language, which would require [the Court] to question the strong presumption that Congress expresses its intent through the language it chooses."); Train v. Colo. Pub. Interest Research Group, Inc., 426 U.S. 1, 10 (1976) (citing United States v. American Trucking Ass'ns., 310 U.S. 534, 543–44 (1940)). *But see* Zuni Pub. Sch. Dist. No. 89 v. Dep't of Educ., 127 S. Ct. 1534, 1543 (2007) ("But what of the provision's literal language? The matter is important, for normally neither the legislative history nor the reasonableness of the Secretary's method would be determinative if the plain language

times examine the legislative history despite unambiguous statutory text to avoid a result contrary to congressional intent.[181] Other courts would like to consider legislative history but have noted that the "legislative history is particularly unhelpful" due to the complexity of environmental legislation.[182]

Turning to discussing statutory purpose as an interpretive tool, most cases in the dataset provide only boilerplate language in describing the purpose and historical background of the statute at issue. The opinions do not use the stated statutory purpose to import meaning to the specific statutory provision at issue.[183] However, this is not always the case. Courts invoke the statute's goals both to bring meaning to the statutory text[184] and to confirm that the plain meaning of the text is consistent with congressional intent.[185]

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of the statute unambiguously indicated that Congress sought to foreclose the Secretary's interpretation. And Zuni argues that the Secretary's formula could not possibly effectuate Congress' intent since the statute's language literally forbids the Secretary to use such a method. Under this Court's precedents, if the intent of Congress is clear and unambiguously expressed by the statutory language at issue, that would be the end of our analysis." (citing Chevron U.S.A., Inc., v. Natural Res. Def. Council, Inc., 467 U.S. 837, 842–43 (1984))).

181. Bullcreek v. Nuclear Regulatory Comm'n, 359 F.3d 536, 541 (D.C. Cir. 2004) ("[O]n rare occasions, it may suffice to overcome a result of the plain language of the statute that is 'demonstrably at odds with the intentions of its drafters.'" (quoting United States v. Ron Pair Enters., 489 U.S. 235, 242 (1989)); Sierra Club v. EPA, 353 F.3d 976, 988 (D.C. Cir. 2004); Isle Royale Boaters Ass'n v. Norton, 330 F.3d 777, 784 (6th Cir. 2003) ("When a statute's text is unambiguous, there is ordinarily no need to review its legislative history. However, there are those 'rare cases in which the literal application of a statute will produce a result demonstrably at odds with the intentions of its drafters . . . .'" (citation omitted) (quoting United States v. Ron Pair Enters., 489 U.S. 235, 242 (1989))).

182. United States v. W.R. Grace & Co., 429 F.3d 1224, 1240 (9th Cir. 2005).

183. *See, e.g., Sierra Club*, 353 F.3d at 979–80; Public Citizen, Inc. v. EPA, 343 F.3d 449, 452–53 (5th Cir. 2003); *see also* Envtl. Defense v. EPA, 369 F.3d 193, 196 (2d Cir. 2004) ("To put this case in context, and drawing on legislative history, we essay a very brief summary of what the legislative and the executive branches of government have aimed to accomplish since 1963 when Congress enacted the Clean Air Act, the first modern environmental law.").

184. *See* Harvey v. Veneman, 396 F.3d 28, 38 (1st Cir. 2005) ("Since the Act is silent on these issues, we must conclude that Congress committed the questions to the Secretary's discretion and assess the challenged portions of the Rule for their reasonableness in light of OFPA's overall scheme." (citing Penobscot Air Servs., 164 F.3d 713, 719 (1st Cir. 1999); United States v. Haggar Apparel Co., 526 U.S. 380, 392 (1999) ("If . . . the agency's statutory interpretation fills a gap or defines a term in a way that is reasonable in light of the legislature's revealed design, we give that judgment controlling weight.")).

185. City of Arcadia v. EPA, 411 F.3d 1103, 1106 (9th Cir. 2005) ("This plain reading of section 1313 is consistent with the basic goals and policies that underlie the Clean Water Act—namely, that States remain at the front line in combat-

Courts can invoke the statutory purpose under step one to overturn agency action. In *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Service*, the Ninth Circuit used the statutory purpose under *Chevron* step one to strike down a U.S. Fish and Wildlife Service interpretation of the Endangered Species Act that would allow, according to the court, complete elimination of critical habitat necessary for species recovery. This "offends the ESA because the ESA was enacted not merely to forestall the extinction of species (i.e., promote a species survival), but to allow a species to recover to the point where it may be de-listed."[186]

D. Environmental Science and Law

"Law and science have had a troubled marriage."[187] These difficulties are furthered by the limited institutional capacity of judges to understand scientific principles. At Supreme Court oral arguments for *Massachusetts v. EPA*, an appeal from the D.C. Circuit's decision in a case in this Article's dataset regarding the EPA's authority and duty to regulate greenhouse gases, Justice Scalia, in a dialogue with the Deputy Attorney General of Massachusetts, readily admitted that judges are not experts in environmental science.

> Justice Scalia: "Mr. Milkey, I had—my problem is precisely on the impermissible grounds. To be sure, carbon dioxide is a pollutant, and it can be an air pollutant. If we fill this room with carbon dioxide, it could be an air pollutant that

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ing pollution." (citing 33 U.S.C. § 1251(b) (2000) ("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 . . .."); 33 U.S.C. § 1370 (2000) (stating that "nothing in this chapter shall . . . preclude or deny the right of any State or political subdivision thereof . . . to adopt or enforce . . . any standard or limitation respecting discharges of pollutants" unless the standard is less stringent than an existing standard))).

186. 378 F.3d 1059, 1069–70 (9th Cir. 2004) (citing 16 U.S.C. § 1532(3) (2000); Sierra Club v. U.S. Fish & Wildlife Servs., 245 F.3d 434, 438 (5th Cir. 2001)).

187. Czarnezki, *Shifting Science*, *supra* note 25, at 409 (citing Oliver Houck, *Tales from a Troubled Marriage: Science and Law in Environmental Policy*, 302 SCI. 1926 (2003)); *see also* David Adelman, *Scientific Activism and Restraint: The Interplay of Statistics, Judgment, and Procedure in Environmental Law*, 79 NOTRE DAME L. REV. 497, 498–99 (2004) (describing the difficulties in using science in environmental policy); Holly Doremus & Dan A. Tarlock, *Science, Judgment, and Controversy in Natural Resource Regulation*, 26 PUB. LAND & RESOURCES L. REV. 1 (2005); Holly Doremus, *Science Plays Defense: Natural Resource Management in the Bush Administration*, 32 ECOLOGY L.Q. 249 (2005).

> endangers health. But I always thought an air pollutant was something different from a stratospheric pollutant, and your claim here is not that the pollution of what we normally call 'air' is endangering health. That isn't, that isn't—your assertion is that after the pollutant leaves the air and goes up into the stratosphere it is contributing to global warming."
>
> Mr. Milkey: "Respectfully, Your Honor, it is not the stratosphere. It's the troposphere."
>
> Justice Scalia: "Troposphere, whatever. I told you before I'm not a scientist."
>
> (Laughter.)
>
> Justice Scalia: "That's why I don't want to have to deal with global warming, to tell you the truth."[188]

It is not surprising that courts may be reluctant to definitively rule on issues involving expertise in environmental science and may defer to administrative agencies in such matters. In fact, the recognition that "[j]udges are not experts in the field" provided the Court with a rationale for the *Chevron* decision itself.[189] Perhaps Congress, when discussing who should determine environmental policy, thought "that those with great expertise and charged with responsibility for administering the provision would be in a better position to do so."[190] Thus, courts may be more willing to (and some argue should[191]) defer

188. Transcript of Oral Argument at 22–23, Massachusetts v. EPA, 127 S. Ct. 1438 (2007) (No. 05-1120), *available at* www.supremecourtus.gov/oral_arguments/argument_transcripts/05-1120.pdf.

189. Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837, 865 (1984).

190. *Id.*

191. *See* Cass R. Sunstein, *Beyond* Marbury*: The Executive's Power to Say What the Law Is*, 115 YALE L.J. 2580 (2006); *see also* STEPHEN BREYER, BREAKING THE VICIOUS CIRCLE: TOWARD EFFECTIVE RISK REGULATION 61 (1993) (calling for creation of a health and environmental administrative agency that would be "mission oriented, seeking to bring a degree of uniformity and rationality to decision making in highly technical areas, with broad authority, somewhat independent, and with significant prestige").

when issues of environmental policy or science are involved, and are less willing to do so otherwise.[192]

The cases in the dataset support the notion that courts will defer where scientific expertise is required—a recognition of both present and future institutional capacity as agencies may later choose to change their reasonable interpretation as scientific information evolves.[193] (However, this does not mean that courts must abdicate their responsibility to interpret and enforce clear statutory text.[194]) The Supreme Court itself has recognized the relationship between science and administrative deference. In *Baltimore Gas & Electric Co. v. NRDC*, the Court wrote,

> [A] reviewing court must remember that the Commission is making predictions, within its area of special expertise, at the frontiers of science. When examining this kind of scientific determination, as opposed to simple findings of fact, a reviewing court must generally be at its most deferential.[195]

This statement is cited by a number of cases in the dataset,[196] and the appellate courts have explicitly recognized that "predictions at the frontiers of science" are better left to the administrative agencies.[197] The D.C. Circuit once stated, "We give particular deference to the EPA when it acts under 'unwieldy and science-driven' statutory schemes like the Clean Air

192. *Cf.* Allentown Mack Sales & Serv., Inc. v. NLRB, 522 U.S. 359, 364 (1998) (overruling agency finding in case regarding polling employees about unionization).

193. For a discussion and use of expertise as a rationale for *Chevron* deference in the courts of appeals, including a small empirical inquiry into the D.C. Circuit, see *The Two Faces of Chevron*, *supra* note 152.

194. *See generally* Czarnezki, *Shifting Science*, *supra* note 25.

195. 462 U.S. 87, 103 (1983) (citing Indus. Union Dep't v. Am. Petroleum Inst., 448 U.S. 607, 656 (1980) (plurality opinion); *id.* at 705–06 (Marshall, J., dissenting)).

196. *See, e.g.*, United States v. W.R. Grace & Co., 429 F.3d 1224, 1245 (9th Cir. 2005) ("[W]e will not delve further to second-guess the underlying data absent a showing of specific evidence that the EPA's conclusion were not warranted." (citing *Baltimore Gas*, 462 U.S. at 103)); Ass'n of Irritated Residents v. EPA, 423 F.3d 989, 997 (9th Cir. 2005) ("This is a determination that is scientific in nature and is entitled to the most deference on review." (citing *Baltimore Gas*, 462 U.S. at 103)); Cent. Arizona Water Cons. Dist. v. EPA, 990 F.2d 1531, 1539–40 (9th Cir. 1993).

197. Envtl. Def. v. EPA, 369 F.3d 193, 204 (2d Cir. 2004) ("A reviewing court must remember that the agency is making predictions at the frontiers of science. In 'examining this kind of scientific determination, as opposed to simple findings of fact, a reviewing court must generally be at its most deferential.'" (quoting *Baltimore Gas*, 462 U.S. at 103)).

Act,"[198] and other courts seem particularly happy to defer to evaluations of complicated science within agencies' areas of expertise.[199] Thus, both the complexity of the statutory scheme and underlying science help determine the appropriate scope of deference.

In *United States v. W.R. Grace & Co.*, discussed above,[200] the Ninth Circuit decided whether the EPA had properly characterized cleanup activities under CERCLA as a removal action rather than a remedial action.[201] In addition to citing *Baltimore Gas*,[202] the court used the scientific nature of the question to award the EPA highly persuasive *Skidmore* deference.

> Grace contests the denomination of the action as a removal by cherry-picking discrete cleanup activities which, standing alone, might fall within the ambit of a remedial action. We refrain from slicing and dicing the EPA's single, cohesive removal action into a myriad of fractured parts. Such atomization would undermine the EPA's scientific and administrative expertise by requiring us to second-guess whether, for example, the excavation of soil at the local elementary school was a remedial action because 1000 cubic yards of soil was removed when perhaps removal of less soil

198. Bluewater Network v. EPA, 372 F.3d 404, 410 (D.C. Cir. 2004) (quoting Husqvarna AB v. EPA, 254 F.3d 195, 199 (D.C. Cir. 2001)); *see also Baltimore Gas*, 462 U.S. at 103 (explaining that a court is "at its most deferential" when an agency is "making predictions, within its area of special expertise, at the frontiers of science"); Union Elec. Co. v. EPA, 427 U.S. 246, 56 (1976) (citing Train v. NRDC, 421 U.S. 60, 75 (1975)) (according "great deference" to the EPA's construction of the Clean Air Act); Greenbaum v. EPA, 370 F.3d 527, 533–534 (6th Cir. 2004) ("If Congress has been either silent or ambiguous about the 'precise question at issue,' then a reviewing court must defer to the agency's interpretation if it is reasonable." (citing Chevron U.S.A., Inc., v. Natural Res. Def. Council, Inc., 467 U.S. 837, 842–43 (1984))); *id.* at 534 ("To uphold EPA's interpretation of a statute, the Court need not find that it is the only permissible construction that EPA might have adopted but only that EPA's understanding of this very complex statute is a sufficiently rational one to preclude a court from substituting its judgment for that of EPA." (quoting Southwestern Penn. Growth Alliance, 144 F.3d 984, 988 (6th Cir. 1998))); BCCA Appeal Group v. EPA, 355 F.3d 817, 825 (5th Cir. 2003) (citing Union Elec. Co. v. EPA, 427 U.S. 246, 256 (1976)).

199. *BCCA Appeal Group*, 355 F.3d at 824 ("A reviewing court must be 'most deferential' to the agency where, as here, its decision is based upon its evaluation of complex scientific data within its technical expertise." (citing *Baltimore Gas*, 462 U.S. at 103)); City of Waukesha v. EPA, 320 F.3d 228, 247 (D.C. Cir. 2003) (giving "an extreme degree of deference to the agency when it is evaluating scientific data within its technical expertise" (internal quotation omitted)).

200. *See supra* Part V.B.1.

201. 429 F.3d 1224, 1226 (9th Cir. 2005).

202. 462 U.S. 87, 103 (1983).

> or less drastic measures could have been employed to counteract the immediate threat. Instead, we take a more comprehensive view of the administrative record in concluding that the EPA's response was a removal action.[203]

Not surprisingly, this principle of scientific deference was also invoked when defendants attempted to contest the actual scientific process.

> The disputes between Grace and the EPA regarding testing methodology and data analysis are exceedingly complex. The administrative record includes, for instance, the EPA's response to Grace's contention that the EPA "inappropriately calculated PCMEs [phase contrast microscopy equivalents] if those findings are going to be compared to the OSHA PEL [Occupational Safety & Health Administration permissible exposure limits]." We are not scientists, nor do we intend to play armchair EPA administrator. But we are judges and it is our role to evaluate the record evidence against the standard of review. We defer to the EPA's reasoned judgment.[204]

Courts are well aware of their limitations in addressing issues of scientific expertise. The federal intermediate appellate courts, in environmental cases, have built upon the Supreme Court's statements in both *Chevron* and *Baltimore Gas* to create strong principles of deference when environmental science is involved. This is consistent with the recently made argument that the courts of appeals, based on reasonable interpretations of Supreme Court precedent, are relying heavily on agency expertise in their deference decisions.[205] Courts have exerted such deference regardless of whether *Chevron* deference is required or whether some lesser form of deference is permitted. Where scientific expertise is involved, due to the

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203. *W.R..Grace*, 429 F.3d at 1237.

204. *Id.* at 1245–46 (citing Colorado v. Sunoco, Inc., 337 F.3d 1233, 1243 (10th Cir. 2003) ("[*Skidmore*] deference seems particularly appropriate where an action reasonably can be classified as both 'removal' and 'remedial' under CERCLA's complex definitional provisions.")).

205. *The Two Faces of Chevron*, *supra* note 152, at 1563 (stating that, compared to the Supreme Court, "in the circuit courts, expertise plays a more central role in the deference decision" and that "a noticeable pattern emerges in the way that the courts of appeals apply Chevron: they have come to rely on agency expertise in more contexts, and more heavily, in deciding the degree of deference to provide to agency interpretations than the Supreme Court does.").

highly persuasive findings of the environmental agency and strength of deference employed, it seems there is little difference in outcome whether *Chevron* or *Skidmore* deference is offered up as the legally appropriate standard,[206] a qualitative conclusion that is not readily ascertained from the type of quantitative results available earlier in this Article.

CONCLUSION

This Article makes four basic claims about judicial voting in cases of environmental statutory interpretation that ultimately lead to two possible conclusions, one complementary and the one contradictory. The claims are as follows. (1) Consistent with other research, judges vote in their perceived ideological directions. (2) The *Chevron* doctrine, when employed in environmental cases, works as expected—courts find most statutory provisions ambiguous and then affirm agency action. (3) The data provide very limited evidence that *Chevron* step one is used strategically to achieve desired policy preferences. (4) At some level law itself matters, as invocations of legislative history more often correspond to a liberal vote, yet ideology does not predict this invocation.

These findings are arguably contradictory, and perhaps open to other explanation. How can judges simultaneously be

206. Deference is also granted under the APA's arbitrary and capricious review. *See, e.g.*, Waterkeeper Alliance, Inc. v. EPA, 399 F.3d 486, 516–17 (2d Cir. 2005); Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv., 378 F.3d 1059, 1066 (9th Cir. 2004) (in upholding USFWS habitat models under the APA, the court noted that "[a]n agency's scientific methodology is owed substantial deference . . . "); Riverkeeper, Inc. v. EPA, 358 F.3d 174, 184 (2d Cir. 2004) ("[W]e acknowledge that we lack the EPA's expertise when it comes to scientific or technical matters . . . ."); Crutchfield v. County of Hanover, 325 F.3d 211, 217–18 (4th Cir. 2003) ("Our concern with the district court's decision begins with the standard of review. Under the deferential standard established by the Administrative Procedure Act, federal courts can overturn an administrative agency's decision if it was arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. Although our inquiry into the facts is to be searching and careful, this court is not empowered to substitute its judgment for that of the agency. Particularly with environmental statutes such as the Clean Water Act, the regulatory framework is exceedingly complex and requires sophisticated evaluation of complicated data. We therefore do not sit as a scientific body in such cases, meticulously reviewing all data under a laboratory microscope. Rather, if the agency fully and ably explain[s] its course of inquiry, its analysis, and its reasoning sufficiently enough for us to discern a rational connection between its decision-making process and its ultimate decision, we will let its decision stand." (citations and quotations omitted)).

ideological and legal? Perhaps when the two are not in conflict, or perhaps sometimes (or often) judges hold legal preferences higher than policy preferences. One could certainly imagine a judge deciding a case based on *stare decisis* even though as a matter of policy the judge would rather overturn precedent. However, law and politics are not easily disentangled where legal preferences lead to the same result as preferred policy preferences. Future research may examine periods of different and divergent political party control of the administration and judiciary.

In addition, the data look only to the strategic use of *Chevron* step one, but what of the strategic use of *Chevron* step zero, arbitrary and capricious review,[207] other interpretive tools, or the determination of how much expertise is needed to address the problem at hand? Since most research models (with some exceptions) lend support to the existence of ideological voting, is it that diverse legal avenues, a hodgepodge of legal mechanisms ("pick a card, any card"), are being used strategically to achieve preferred policy preferences? Judges are not systematically using a single mechanism such as *Chevron* step one (though the data suggests it may be used sometimes) to achieve their preferred outcomes. Thus, the "muddled" nature of *Mead* and *Chevron* may lead to strategic options allowing for "judicial policy space" even though *Chevron* would presumably create "agency policy space."

But this Article's findings are equally complementary. Taking its findings regarding the use of legislative history based on judicial philosophy and limited strategic use of *Chevron* based on ideology, in context with recurring findings of the role policy preferences in judicial decisionmaking, it would appear that judges respond both to the legal and attitudinal models. [208] Thus, legal choices such as whether to defer to an

207. Thomas J. Miles & Cass R. Sunstein, *The Real World of Arbitrariness Review*, ___ U. CHI. L. REV. ___ (forthcoming 2008).

208. Humphries & Songer, *supra* note 3, at 217–18 ("The judges do not appear to simply substitute their own policy preferences for those of the administrators without regard for law. Variables that captured elements of the legal model were also related to judicial decisions to a statistically significant degree. Taken together, the evidence suggests that the appeals courts appear to respond to both legal concerns and political preferences. Thus, while it would be naive [sic] to believe that politics is irrelevant in judicial review of agencies, it appears that the courts do fulfill, at least in part, the normative expectations that they will constrain the worst abuses of discretion by administrators by imposing the rule of law.").

agency and judicial philosophy about the legitimacy of certain interpretive tools, as well as ideology, are key aspects to judicial decisionmaking.[209]

This Article and the descriptive data it presents also suggest a number of avenues for future research about the environmental law docket in the United States. First, more time must be devoted to understanding environmental litigation outside the D.C. Circuit and, more specifically, to learning why certain cases are filed in certain jurisdictions when not mandated by statute (e.g., environmental hot spots, venue preferences). Second, in recognition of the Supreme Court's 2005 *Brand X* decision, will fewer courts affirm agency action under *Chevron* step one in order to give ample "policy space" to agencies in the future?[210] Third, what is the true nature of judicial preferences? In other words, even if a judge may be, at times, ideologically motivated, would he or she prefer to reach a certain environmental outcome or affirm the presidential administration with which he or she aligns?[211] For example, if an industry group challenges an interpretation of the Bush Administration's EPA, does a conservative judge prefer to vote with the "anti-environmental" industry group or the "conservative" Republican administration? Furthermore, might a preference toward executive deference really be a legal preference, not an ideological one?[212] Future work should consider both the nature of the presidential administration in power and the challenging litigants. Fourth, judges have exhibited a strong willingness to defer to agency action when environmental scientific expertise is required. What are the implications for *Chevron* deference or other forms of deference in other areas of law that deal with scientific or technological complexities?[213]

Finally, empirical scholarship of environmental and administrative law requires, in practice and methodology, a more sophisticated understanding of judging in environmental cases

209. *See* Kritzer et al., *supra* note 91, at 1–3, 23.

210. Kristin E. Hickman & Matthew D. Krueger, *In Search of the Modern* Skidmore *Standard*, 107 COLUM. L. REV. 1235, 1304–10 (2007).

211. *See* Kritzer et al., *supra* note 91.

212. *See* Sunstein, *supra* note 191.

213. *See* Verizon Tel. Cos. v. FCC, 292 F.3d 903, 909 (D.C. Cir. 2002) ("[D]eference is particularly great where . . . the issues involve 'a high level of technical expertise in an area of rapidly changing technological and competitive circumstances.'" (quoting Sprint Commc'ns Co. v. FCC, 274 F.3d 549, 556 (D.C. Cir. 2001))).

and a more nuanced model of judicial decisionmaking in general.[214] Such a model will depend not only on political ideology but also on how law creates a set of rules by which decisions are made (e.g., the *Chevron* doctrine), the malleability of those rules (e.g., how many *Chevron* steps can one choose from), and the facts given to the court (e.g., complex statutes or scientific findings requiring expert analysis).

214. James Gibson, *From Simplicity to Complexity: The Development of Theory in the Study of Judicial Behavior*, 5 POL. BEHAVIOR 7, 32 (1983) ("Judges' decisions are a function of what they prefer to do, tempered by what they think they ought to do, but constrained by what they perceive is feasible to do.").