Presidential Politics and Judicial Review:
Fifteen Years of Litigation Under the National Environmental Policy Act

David E. Adelman & Robert L. Glicksman

The emergence of the modern era of environmental law is typically associated with President Nixon's nationally televised signing of the National Environmental Policy Act (NEPA) into law on January 1, 1970. Passage of NEPA demarcated the beginning of what has become known as the environmental decade—virtually all of the major federal environmental laws were either first enacted or strengthened through amendments during the 1970s. The primary objective of these laws was protection of public health and the environment from the consequences of modern industrial development. NEPA set the stage for this period of legislative reform by articulating a set of aspiration goals for environmental policy and establishing a procedural framework for detailed environmental reviews of actions by federal agencies with the potential to have significant human health or environmental impacts.[1]

NEPA has had a profound impact on the consciousness of environmental issues within the federal government, and its trademark model for environmental reviews has been widely adopted by countries around the world. NEPA is also the forerunner of specialized forms of administrative procedure in the United States, such as the Regulatory Flexibility Act and Paperwork Reduction Act, that augment the basic requirements of the federal Administrative Procedure Act. However, it is specialized only with respect to subject matter—NEPA is government-wide in scope and subjects thousands of federal actions each year to environmental reviews, which provide information and potential legal grounds for stakeholders who oppose or have concerns about proposed federal actions.[2]

In significant part because of negative perceptions about litigation practices, fundamental disagreements exist among policymakers and observers about the value of NEPA procedures. These conflicting perspectives have been aptly summarized as follows:

> NEPA seems to be a statute with two lives: part "paper tiger," part "procedural straightjacket"; apparently too vague to give courts authority to reverse agency actions for conflicting with its policies, but still capable of inducing court injunctions when agencies fail to satisfy its procedures. This process-laden approach to environmental policymaking has both critics and defenders, but both seem to agree that what reviewing courts think NEPA requires of agencies is not predictable."[3]

In essence, the debate over NEPA turns on disparate views about the burdens that its procedures impose on federal agencies and the benefits of those procedures in informing agency decision-

[1] The environmental goals were defined broadly to include "promot[ing] efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man" and "attain[ing] the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences." 42 U.S.C. §§ 4321, 4331.
[2] *See infra* Part II.B.
[3] Michael C. Blumm & Stephen R. Brown, *Pluralism and the Environment: The Role of Comment Agencies in NEPA Litigation*, 14 HARV. ENVTL. L. REV. 277 (1990).

making.[4] Critics claim that NEPA reviews have ossified into rote processes with little added value and that any potential benefits are more than offset by the time delays and costs associated with conducting them.[5] Supporters counter that most environmental reviews—which involve limited procedures and brief assessments—are conducted quickly (a few weeks or less) and cheaply.[6] They maintain further that NEPA is essential to ensuring that all federal agencies, particularly those inclined to pursue their missions without regard to the health or environmental consequences, adequately consider the potential impacts of their actions.[7]

This Article presents an empirical study of NEPA litigation during the administrations of President George W. Bush and President Barack Obama that refutes the most critical views of the law. We find little evidence that litigation under NEPA is out of control or that NEPA processes are being abused. To the contrary, environmental reviews and procedures conducted under NEPA are typically circumscribed and rarely challenged in court. According to the White House Counsel on Environmental Quality (CEQ), roughly 99 percent of federal actions with potentially significant environmental impacts are covered either by "categorical exclusions" to NEPA procedures (hundreds of thousands annually) or abbreviated "environmental assessments" (tens of thousands annually).[8] By contrast, yearly completions of full-blown "environmental impact statements" number in the hundreds. To put this in perspective, we find that on average fewer than 15 district court cases are filed annually challenging categorical exclusions and fewer than 60 with challenges involving environmental assessments, as well as a comparable number of cases raising claims about environmental impact statements. A tiny fraction of environmental

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[4] Burdach & Pugliaresi, *The Environmental Impact Statement vs. The Real World,* 49 PUBLIC INTEREST 22 *passim* (1979) (case study of the Department of the Interior); Hill & Ortolano, *NEPA's Effect on the Consideration of Alternatives: A Crucial Test,* 18 NAT. RESOURCES J. 285 *passim* (1978) (NEPA's requirement to consider alternatives had only a cosmetic effect on the water resources project of the Soil Conservation Service and the Corps of Engineers); Montange, *supra* note _, *passim* (case study of the Interstate Commerce Commission).

[5] *See, e.g.*, Murray, Arthur W. "The National Environmental Policy Act and the Licensing Process: Environmentalist Magna Carta or Agency Coup de Grace?" *Colum. L. Rev*. 72 (1972): 963-1007; Fairfax, Sally K. "A Disaster in the Environmental Movement." *Science* 199 (1999): 743-48; Lindstrom, Matthew J. "Procedures Without Purpose: The Withering Away of the National Environmental Policy Act's Substantive Law." *J. Land Resources & Envtl. L*. 20 (2000): 245-268; Culhane, Paul J. "NEPA's Impacts on Federal Agencies, Anticipated and Unanticipated." *Envtl. L*. 20 (1990): 681; Caldwell, Lynton K. "Beyond NEPA: Future Significance of the National Environmental Policy Act." *Harv. Envtl. L. Rev*. 22 (1998): 203-240; Blumm, Michael C. "The National Environmental Policy Act at Twenty: A Preface." *Envtl. L.* 20 (1990): 447-484; Karkkainen, Brad C. "Toward a Smarter NEPA: Monitoring and Managing Government's Environmental Performance." *Colum. L. Rev*. 102 (2002): 903-972; Lindstrom, Matthew J., & Zackary A. Smith. *The National Environmental Policy Act: Judicial Misconstruction, Legislative Indifference & Executive Neglect* (2001); Mandelker, Daniel R. "The National Environmental Policy Act: A Review of Its Implementation and Problems." *Wash. U.J.L. & Pol'y* 32 (2010): 293-312.

[6] *See infra* Part II.B.

[7] Proponents suggest that the EA/EIS process produces several beneficial effects. First, NEPA compels agency managers to "[t]hink more carefully about the environment before acting," focusing their attention on environmental consequences that otherwise might not have come to their attention. Bradley C. Karkkainen, *Toward A Smarter NEPA: Monitoring and Managing Government's Environmental Performance*, 102 COLUM. L. REV. 903, 909 (2002).

[8] According to the Council on Environmental Quality, annually federal agencies conduct hundreds of detailed environmental reviews, tens of thousands of abbreviated environmental reviews, and hundreds of thousands of routine determinations that environmental impacts of a proposed action are insignificant. *See* CEQ, NEPA Litigation, *available at* http://ceq.hss.doe.gov/legal_corner/litigation.html.

reviews under NEPA are therefore subject to judicial challenges that have the potential to hold up federal programs.

Our data also reveal striking disparities in the number of NEPA cases filed against federal agencies, the geographic distribution of cases across circuits, and the types of plaintiffs. While one would not expect NEPA litigation to be evenly spread across federal agencies given their divergent missions and responsibilities, we find that two-thirds of NEPA cases were filed against just five agencies, each of which either manages federal lands or has principle authority over protecting endangered species and critical habitat.[9] Notably absent from this list are agencies that fund or permit major infrastructure, such as the Federal Highway Administration and Federal Energy Regulatory Commission, or agencies with authority over major federal facilities, such as the Department of Defense and the Department of Energy. The geographic distribution of NEPA litigation is similarly skewed, with roughly 50 percent of the district court and circuit cases filed in the Ninth circuit alone and another 25 percent in the D.C., Sixth, and Tenth circuits. Given the concentration of federal lands in western states, this pattern likely reflects litigants' bias towards federal land management agencies. Finally, it should come as no surprise that local and national environmental organizations filed upwards of 70 percent of the NEPA cases, with roughly equal numbers of cases between them at the district level but almost twice as many appeals by local organizations as their national counterparts.

The descriptive statistics highlight the enormous variability in NEPA litigation and by implication the potential for NEPA procedures to disrupt certain federal programs. For most agencies in most states, the patterns of litigation we observe suggest that public engagement and oversight are likely to be low, particularly given that most environmental reviews under NEPA are low-profile and brief. Important exceptions can of course arise—the Keystone and Dakota Access pipelines come to mind—but it would obviously be a mistake to infer that these cases are in any way representative of NEPA processes generally. In part due to the paucity of data, we worry that this is precisely what NEPA's critics are doing—generalizing from high-profile, unrepresentative cases. While litigation data is also selective, it has at least two virtues—it singles out federal actions of significant importance to stakeholders and the legal claims that matter in practice. Thus, while our litigation data are not representative of "typical" NEPA processes, they provide valuable insights into the contexts in which they are of central importance and the experiences of federal agencies that are most impacted by them.

The most far reaching results of the study concern the interplay between judicial ideology and the policies of presidential administrations. Under the Bush Administration, plaintiffs were 2.7 times more likely to prevail in district court cases and twice as likely to prevail in appeals relative to their success rates during the Obama Administration.[10] At the district court level, we observe similar declines (by percentage) between administrations in the rates at which plaintiffs prevailed before Democratic- and Republican-appointed judges, although success rates before

[9] The five federal agencies include the U.S. Forest Service (USFS), Bureau of Land Management (BLM), U.S. Fish & Wildlife Service, National Marine Fisheries Service, and U.S. Army Corps of Engineers. Moreover, among these agencies the USFS and BLM accounted for approximately 50 percent of the district court cases.

[10] Plaintiff success rates were also impacted by judicial ideology and whether the case was filed in the Ninth circuit. Plaintiffs were more than twice as likely to prevail in the Ninth circuit relative to other circuits, and Democrat-appointed district court judges were 80 percent more likely to rule in a plaintiff's favor than their Republican counterparts.

Democratic judges remained higher.[11] The corresponding changes are distinctly different at the circuit level, however, due to interactions between judges on appellate panels. We find large disparities in plaintiffs' success rates between Democratic- and Republican-majority panels (41 versus 15 percent, respectively) during the Bush Administration, but they disappear during the Obama Administration for all-Republican and ideologically mixed panels. Only the all-Democratic panels fail to converge; in fact, for these panels plaintiffs prevailed at roughly the same rate irrespective of administration. This analysis exposes an asymmetry between Republican and Democratic judges on ideologically uniform panels: the judicial ideology of Democratic judges is relatively invariant to presidential administration, whereas Republican judges display a heightened level of deference to Republican administrations.

These results shed new light on the variability of judicial review across presidential administrations. While excellent studies exist on the impacts of judicial ideology, including the more complex dynamics of three-judge appellate panels,[12] to our knowledge no studies have evaluated it across presidential administrations with widely divergent policies. The most striking finding is the dampening of the influence judicial ideology had on case outcomes during the Obama Administration in both the district and circuit court cases. Apart from all-Democratic appellate panels, differences based on judicial ideology were not statistically significant. These and other related findings are considered in greater detail in sections II and III below. The Article proceeds as follows: Part I describes the legal framework for environmental reviews under NEPA, discusses the limited information that is available on agency compliance with NEPA, and examines the existing empirical literature on NEPA litigation. Part II describes the details of the empirical studies we conducted, presents the descriptive statistics for the studies of district court and appellate cases, and discusses the results of regressions and other statistical analyses of the data. Part III concludes with a discussion of the implications for NEPA policy and principles of judicial review more generally.

I. The NEPA Framework and Processes

NEPA is often referred to as the Magna Carta of Environmental Law.[13] As noted above, the principles and procedures in NEPA reflected a shift in consciousness around environmental issues and a decision by Congress to ensure that federal agencies adequately considered the adverse impacts of their actions and policies. The strategic value of NEPA to stakeholders impacted by government projects stems from the statute's broad scope, the capacity of NEPA procedures to delay and draw public attention to federal actions, and the potential for the

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[11] During the Bush Administration plaintiffs prevailed in 48 percent of the district court cases before a Democratic judge (a striking result on its own) versus 31 percent of the cases before a Republican judge. By contrast, under the Obama Administration, plaintiffs' success rates dropped precipitously to 24 and 14 percent for cases before Democratic and Republican judges, respectively.

[12] *See* Richard L. Revesz, *Environmental Regulation, Ideology, and the D.C. Circuit*, 83 VA. L. REV. 1717, 1721 (1997); Cass R. Sunstein, *et al.*, *Ideological Voting on Federal Courts of Appeals: A Preliminary Investigation*, 90 VA. L. REV. 301, 305 (2004); Thomas J. Miles & Cass R. Sunstein, *Do Judges Make Regulatory Policy?*, 73 U. CHI. L. REV. 823, 827 (2006); Thomas J. Miles & Cass R. Sunstein, *The Real World of Arbitrariness Review*, 75 U. CHI. L. REV. 761 (2008).

[13] Shorna R.Broussard and Bianca D. Whitaker, *The Magna Charta of Environmental Legislation: A Historical Look at 30 Years of NEPA—Forest Service Litigation*, 11 FOREST POL. & ECON. 134, 134 (2009); Michael Blumm & Marla Nelson, *Pluralism and the Environment Revisited: The Role of Comment Agencies in NEPA Litigation*, 37 VERMONT L. REV. 5, 5 (2012).

information NEPA environmental reviews generate to provide grounds for halting or modifying projects that would otherwise pose significant threats to human health or the environment.

Perhaps more than its authors anticipated, NEPA has figured prominently in many of the most important environmental disputes and cases over the last forty years. This potential was exploited soon after the law was enacted when a group of environmental plaintiffs filed a NEPA suit to enjoin construction of the infamous Tellico dam, which was poised to engulf the Little Tennessee Valley and to destroy one of the last free-flowing rivers in the region. The NEPA suit ultimately delayed the project and gave the plaintiffs time to initiate a second suit under the Endangered Species Act, *TVA v. Hill*, which remains one of the seminal cases in environmental law. This early victory for environmentalists is just one example among many that could be cited. NEPA lawsuits have been filed challenging a huge range of federal activities, including management of public lands (grazing, mining, forestry), funding and permitting of major infrastructure (highways, power lines, pipelines, airports), remediation and disposal of toxic waste, and operation of major military programs. NEPA procedures and litigation provide among the most important avenues for public engagement and government oversight in all of federal environmental law.

A. Overview of NEPA Procedures

Congress has described NEPA's mandate as "protect[ing] public health, safety and environmental quality by ensuring transparency, accountability and public involvement in federal actions and in the use of public funds." Pub. L. No. 111-5, § 1609(a)(1), 123 Stat. 115, 304 (2009). Senator Henry Jackson, NEPA's principal drafter, characterized its objectives in similarly expansive terms:

> What is involved [in NEPA] is a declaration that we do not intend as a government or as a people to initiate actions which endanger the continued existence or the health of mankind: That we will not intentionally initiate actions which do irreparable damage to the air, land and water which support life on earth.

115 Cong. Rec. 40416 (1969). These ambitions are somewhat at odds with the statute's relative simplicity. NEPA's core provisions a purely procedural. In essence, they require agencies proposing a "major federal action" to evaluate whether it will have significant effects on human health or the environment (broadly construed) and, if so, to prepare an "environmental impact statement" (EIS) analyzing the impacts and considering the relative merits of alternative actions. 42 U.S.C. § 4332(2)(C). In many cases, this initial review entails undertaking an abbreviated analysis, referred to as an "environmental assessment" (EA), to ascertain whether the environmental impacts of a proposed action have the potential to be significant. If an agency finds that they are insignificant, it issues a "findings of no significant impact" (FONSI). For more routine federal actions, which neither individually nor collectively have the potential to be environmentally significant, agencies can designate them under "categorical exclusions" (CEs) as being exempt from NEPA procedures. As described below, the vast majority of NEPA compliance is covered by CEs and EAs; preparation of EISs occurs in relatively exceptional cases. The statutory framework is premised on generating information that is intended to enable agencies identify alternatives to proposed actions that would accomplish agency objectives with fewer adverse environmental effects, including impacts that might adversely affect public health.

To oversee implementation of NEPA, Congress established a new federal office, the Council on Environmental Quality (CEQ), that is based in the White House. The CEQ has issued numerous regulations specifying how agencies must comply with NEPA, such as defining the range of environmental "effects" that must be considered. 40 C.F.R. § 1508.8(b). NEPA procedures have been augmented overtime through subsequent legislative amendments and CEQ regulations, which now require the Environmental Protection Agency (EPA) to review and comment on all environmental impact statements. CEQ regulations also provide for resolution of interagency disputes over the information or analysis in environmental impact statements through CEQ mediation. Agencies referring a dispute to the CEQ must, among other things, provide detailed support for any assertions it makes regarding the adequacy of the NEPA process from the standpoint of public health or welfare or environmental quality. 40 C.F.R. § 1504.3(c)(2). These processes and continuing CEQ oversight provide valuable checks on the quality of the environmental reviews and compliance with NEPA procedures.

NEPA is distinctive because its procedural requirements apply to virtually every federal agency. Thus, while the CEQ issues general regulations governing compliance with NEPA, the primary responsibility for implementing NEPA rests with the federal agencies that are subject to its procedures. Similar to other forms of administrative procedure, the federal government is far from monolithic and compliance with NEPA has varied substantially across federal agencies despite oversight from CEQ and EPA. Given the large number of federal actions potentially subject to NEPA procedures, federal agencies contemplating major actions both practically and legally have ultimate authority over their compliance with NEPA. Recognizing the limits of the independent oversight that exists, critics of NEPA's implementation have charged that "the gap between the purpose and practice of NEPA and the failure of environmental agencies to regulate fairly so as to protect public health and the environment has created a dissonance between the law stated and its operation in the real world."[14] Litigation has consequently been essential to ensuring that federal agencies, especially those with development-oriented missions, comply fully with NEPA's procedures.

B. The Limited Empirical Understanding of NEPA Processes

Empirical studies of NEPA implementation are relatively few and far between. A principal reason for this is the paucity data. Federal agencies typically do not record the number of EAs or CEs they issue, despite the fact that the vast majority of agency compliance with NEPA is covered by them.[15] The estimates that do exist find that roughly 94 percent of NEPA decisions fall under CEs, 5 percent are covered by EAs, and only about 1 percent are covered by EISs.[16] However, significant inter-agency variability expected to exist. For example, the U.S.

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[14] Freeman, James S., & Rachel D. Godsil, "The Question of Risk: Incorporating Community Perceptions into Environmental Risk Assessments," *Fordham Urb. L.J.* 21 (1994): 547-576.

[15] GAO, *National Environmental Policy Act: Little Information Exists on NEPA Analyses* 8 (April 2014). The GAO notes, however, that "DOE and the Forest Service officials told us that CEs are likely underrepresented in their totals because agency systems do not track certain categories of CEs considered "routine" activities, such as emergency preparedness planning." *Id*.

[16] *Id*. These are crude estimates, and there is clearly variation by agency. These numbers are drawn from experience with specific agencies. For example, "the Department of Energy (DOE) reported that 95 percent of its 9,060 NEPA analyses from fiscal year 2008 to fiscal year 2012 were CEs, 2.6 percent were EAs, and 2.4 percent were EISs or supplement analyses." *Id*. Similarly, the Federal Highway Administration (FHWA) also reported that approximately 96 percent of highway projects were processed as CEs in 2009.

Forest Service (USFS) has reported that 78 percent of the 14,574 NEPA analyses it conducted from 2008 through 2012 were CEs, 20 percent were EAs, and 2 percent were EISs.[17] If one includes draft, supplement, and final NEPA documents, government-wide these estimates translate into an average of roughly 43,500 CEs, 2,175 EAs, and about 435 EISs annually for the period 2008 through 2015.[18] This estimate is based on EPA data for the number of draft and final EISs issued each year.[19] For the period 2008 through 2015, EPA data reveal that an average of 224 draft and 211 EISs were issued each year, but the number declined over this period from a high of 277 final EISs issued in 2008 to about 190 by 2014 and 2015.[20] The number of final EISs issued annually appears to have settled in the range of 185 to 200 per year.

According to EPA and CEQ data for the period 1998 through 2015, four federal agencies issued more than 50 percent of the EISs published nationally: on average for this period the USFS accounted for 24 percent, Bureau of Land Management (BLM) accounted for 8 percent, U.S. Army Corps of Engineers (USACE) accounted for 10 percent, and the Federla Highway Administration (FHWA) accounted for 13 percent.[21] The EPA data also reveal that 36 other federal agencies issued at least one EIS per year over the period 2012 through 2015, with the Nation Park Service and the Fish & Wildlife Service (FWS) accounting for another 10 percent of the EISs issued, and the Federal Energy Regulatory Commission (FERC) rising in prominence starting in 2015 when it began issuing roughly the same number of EISs each year as the Fish & Wildlife Service.[22]

Cost and time data for NEPA analyses are similarly difficult to obtain.[23] In 2003, a NEPA task force report "estimated that an EIS typically costs from $250,000 to $2 million, whereas an EA typically costs from $5,000 to $200,000.[24] The National Association of Environmental

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[17] *Id*.

[18] *Id*. at 9; EPA data were downloaded from the Environmental Impact Statement (EIS) Database, which is available at: https://cdxnodengn.epa.gov/cdx-enepa-public/action/eis/search. We simply downloaded all available records from January 1, 2012, through December 31, 2015.

[19] CEQ was required to collect and issue a report on NEPA compliance in 2009 that included all federal agencies that received funding under the American Recovery and Reinvestment Act of 2009. *See* https://ceq.doe.gov/nepa/reports_congress_feb2010.htm. The data cover just a single year, but are broadly consistent with the other findings. For most federal agencies, CEs represented 86 percent of their NEPA compliance, while EAs and EISs were prepared for 17 and 3 percent, respectively, of the government actions (these statistics exclude two agencies, Rural Development and the Department of Housing and Urban Development, that together issued more than 103,000 CEs, whereas all other federal agencies issued about 55,000 CEs). There was also substantial inter-agency variation, including among the four agencies with the highest numbers of EISs: BLM – 41% CEs, 54% EAs, and 5% EISs; FHWA – 94% CEs, 4% EAs, and 2% EISs; USACE – 66% CEs, 20% EAs, and 14% EISs; and USFS – 68% CEs, 26% EAs, and 6% EISs. *Id*.

[20] This is roughly consistent with other work finding that EPA reported 253 (standard deviation of 26) EISs annually during the period 1987 through 2006, and as observed here the number of EISs completed declined gradually over this time period. Piet deWitt & Carole A. deWitt, *How Long Does It Take to Prepare an Environmental Impact Statement*, 10 ENVTL. PRACTICE 164, 171 (Dec. 2008).

[21] GAO, *supra* note 15, at 11; EPA data cited in note 18.

[22] The U.S. Navy, Nuclear Regulatory Commission, Federal Transit Administration, Bureau of Reclamation, National Oceanic & Atmospheric Administration, and Department of Energy each accounted for between 2 and 3 percent of the EISs issued from 2012 through 2015 according to the EPA data.

[23] GAO, *supra* note 15, at 12.

[24] *Id*. at 13-14. DOE collects some of the most detailed information on costs. For the period 2003 through 2012, it found that the median cost of an EIS was $1.4 million and the average $6.6 million, with costs ranging from a low of

Professionals (NAEP) collects data on the time for EISs to be completed. In a report covering the time period 2000 through 2012, it found that the average preparation time was 4.6 years in 2012 and that EIS preparation times had increased on average at a rate of 34 days per year over this time period.[25] However, it is important to recognize that these estimates do not include the substantial amount of upfront work that federal agencies must conduct and thus represent lower bounds on the timing.[26] In a more thorough study covering 20 years (1987-2006), the average time for agencies to prepare an EIS was 3.4 years, with a standard deviation of 2.7 years and a strikingly broad range of from 51 days to 18.4 years.[27] It also found significant differences between federal agencies, with the FHWA and USACE having mean preparation times that were 1.9 and 1.26 times longer than the average for other federal agencies.[28] Thus substantial differences exist in preparation times both within and between federal agencies, with the FHWA being an extreme outlier among federal agencies—completing less than 10 percent of its EISs in two years or less.[29] By contrast, the USFS was found to be on the lower end of the spectrum, and managed to prepare more than half of its EISs during this period in two years or less.[30]

It is important to note that the USFS and BLM expanded the range of federal actions covered by CEs in 2007 and 2006, respectively, which both impacted the number of EISs (and EAs) each agency prepared and the average time for completion of an EIS.[31] In particular, the USFS (the agency with the largest number of EISs) established CEs for land-management plans, which constituted 8 percent of its plans and had on average much longer preparation times, as well as new CEs that covered oil and gas exploration and development activities.[32] The resource constraints of the two agencies, as well as politics surrounding them, may explain this shift in policy. In the only study available on the reasons for its long preparation times, the FHWA surveyed its offices and found that "the most common response was lack of funding, followed by low priority, local controversy, and project complexity.[33] A 2006 Congressional Research

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$60,000 and a high of $85 million; it also estimated that the median cost of an EA is $65,000, with a range from $3,000 to $1.2 million. *Id*.

[25] NAEP, *Annual NEPA Report 2012 of the National Environmental Policy Act (NEPA) Practice* (April 2013) *available at* https://ceq.doe.gov/nepa_information/NAEP_2012_NEPA_Annual_Report_excerpt.pdf. Less information is available on EAs. According to 2013 DOE report, the average completion time for an EA was 13 months (median 9 months). DOE, 75 NEPA Lessons Learned Quarterly Report 16 (June 2013) *available at* http://energy.gov/sites/prod/files/2013/06/f1/LLQR-2013-Q2_0.pdf. Similarly, in 2012 it took the USFS about 18 months on average to prepare an EA. GAO, *supra* note 15, at 15. Even less information is collected on CEs, but loose estimates exist that range from typical times of 1-2 within DOE to 177 days within the USFS, which documents its CEs with "decision memos." *Id*. at 16.

[26] GAO, *supra* note 15, at 15.

[27] deWitt, *supra* note 20, at 167.

[28] The average for other federal agencies (excluding the USFS, which was slightly lower) was 2.9 years (standard deviation of 2 years), whereas the average for FHWA was 5.5 years (standard deviation of 3.2 years) and the average for USACE was 3.7 years (standard deviation of 2.4 years).

[29] deWitt, *supra* note 20, at 169.

[30] *Id*.

[31] *Id*. at 172.

[32] *Id*.

[33] *Id*. Federal Highway Administration. 2000c. *Reasons for EIS Project Delays*, available at http://environment.fhwa.dot.gov/strmlng/eisdelay.asp.

Service report also highlighted these factors along with the complexity of NEPA processes themselves.[34] Notably, neither study singled out litigation as a principal source of delay.[35]

B. Existing Empirical Studies of NEPA Litigation

A relatively small number of government and independent studies exist on NEPA litigation.[36] Both empirical studies of litigation and surveys of agency officials confirm that "most NEPA analyses do not result in litigation."[37] According to the CEQ, the number of NEPA cases filed in federal district courts was highest in the 1970s, roughly between 150 and 190 cases filed annually, but the numbers dropped to about 100 cases per year in decades that followed; data on circuit cases are more limited, with data from 2012 indicating that about 30 cases are filed per year.[38] The CEQ data suggest that about half of the district court cases involved challenges to EISs and that from 2008 through 2011 federal defendants prevailed in more than 50 percent of them.[39] The few studies of circuit court cases indicate that federal defendants prevail at an even higher rate, with a recent report from NAEP finding that the government prevailed in 86 percent of the NEPA-related appellate cases in 2012.[40]

A handful of independent empirical studies exist that complement the CEQ and NAEP reports.[41] However, each is limited in one or more of the following respects: (1) the data are limited to a narrow time period; (2) the data are highly aggregated; (3) the decisions analyzed are associated with a single federal agency or court; or (4) the analysis is limited to descriptive statistics. Since 2001, the CEQ has collected some of the most valuable data on NEPA litigation. Its annual surveys provide statistics on the number of NEPA cases by federal agency, national statistics on the legal bases for each decision, and statistics on broad classes of plaintiffs (i.e., public interest group, individual, business group, state or local government).[42] The CEQ data display interesting patterns, particularly variation in litigation success rates over time, but the data set lacks more fine-grained information about the plaintiffs, judges, claims raised, and type of federal action. It is also apparent, after a close analysis of the data, that the coding of the cases was subject to a number of inconsistencies and inaccuracies owing, in large part, to the fact that collection of the data was not centralized within CEQ but instead dependent on loosely overseen individuals in each federal agency responding to annual CEQ data calls.

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[34] Congressional Research Service, *The National Environmental Policy Act: Streamlining NEPA* 8-9 (2006).
[35] *Id*. at 10-11; deWitt, *supra* note 20, at 172-73.
[36] GAO, *supra* note 15, at 19-20.
[37] *Id*.
[38] *Id*. at 20.
[39] *Id*. at 21. For example, in 2011 CEQ found that federal defendant prevailed in 68 percent of the cases. *Id*.
[40] *Id*. at 22.
[41] Earlier studies include the following Kent, Paul G., and John A. Pendergrass. "Has NEPA Become a Dead Issue—Preliminary Results of a Comprehensive Study of NEPA Litigation." *Temp. Envtl. L. & Tech. J.* 5 (1986): 11-16 (citing statistics showing that most NEPA litigation involves challenges to agency decisions not to prepare an EIS); Lucinda Low Swartz, Recent NEPA Cases (2004) (noting that agencies won 60% of cases in 2004 where there was a substantive decision on NEPA), available at http://ceq.hss.doe.gov/nepa/caselaw/NEPA_Cases_2004_NAEP_paper.pdf.
[42] See http://ceq.hss.doe.gov/legal_corner/litigation.html.

Several studies have focused on NEPA litigation against the USFS, perhaps because it is the federal agency subject to the largest number of NEPA lawsuits annually.[43] These empirical studies provide valuable insights into litigation patterns over a period of 20-30 years, including changes in the geographic distribution of cases, the types of federal actions challenged, the frequency of suits by different classes of plaintiffs, the types of claims asserted by plaintiffs, and the success rates of specific claims. Other work has focused on the 17 cases decided by the Supreme Court and the influence on judicial review of comments (both critical and supportive) from federal agencies other than the lead agency conducting a NEPA analysis.[44] All of this work has enhanced understanding of NEPA litigation and implementation, but the information it provides remains substantially incomplete.[45]

The empirical studies of litigation involving the USFS are the most sophisticated and detailed. Several broad patterns emerge from this work. Consistent with other studies, the USFS led other federal agencies in the number of EISs prepared each year, preparing an average of 147 EISs annually from 1998 through 2008.[46] Among the cases filed against the USFS, the available studies indicated that the most common claims involved challenges to either an EA or EIS, with almost equal numbers of each.[47] Given that EAs are issued much more frequently than EISs, these statistics imply that EISs are challenged much more frequently than EAs. Geographically, more than half of the cases were filed against the USFS in the Ninth circuit,[48] which reflects the fact that over 60 percent of USFS lands are located in the states encompassed by the circuit.[49] In

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[43] Shorna R. Broussard and Bianca D. Whitaker, *The Magna Charta of Environmental Legislation: A Historical Look at 30 Years of NEPA—Forest Service Litigation*, 11 FOREST POL. & ECON. 134 (2009); Amanda Miner, *et al.*, *Twenty Years of Forest Service National Environmental Policy Act Litigation*, 12 ENVTL. PRACTICE 116, 11_ (2010).

[44] Richard J. Lazarus, *The Power of Persuasion before and Within the Supreme Court: Reflections on NEPA's Zero for Seventeen Record at the High Court*, 2012 U. ILL. L. REV. 231, 23_ (2012); Michael C. Blumm and Marla S. Nelson, *Pluralism and the Environment Revisited: The Role of Comment Agencies in NEPA Litigation*, 37 *VERMONT L. REV.* 5, 7 (2013) (concluding that "[t]wo decades ago, agency comments explained a high percentage of the outcomes of NEPA litigation; twenty-some years later, the correlation between agency comments and case outcomes is somewhat less obvious".).

[45] In particular, relatively little information exists about the specific case outcomes. *See, e.g.,* Jim Vines, Stephanie Salek, & Kelsey Desloover, *Reforming NEPA Review of Energy Projects*, King & Spaulding Energy Newsletter (Dec. 2012), http://www.kslaw.com/library/newsletters/EnergyNewsletter/2012/December/article1.html (finding that an average of 24 Temporary Restraining Orders and preliminary and permanent injunctions halting projects were issued each year between 2001 and 2009); CRS, *supra* note 34, at 10 (noting that in 2004 170 NEPA-related case were filed, but only 11 resulted in an injunction).

[46] Amanda Miner, *et al.*, *Twenty Years of Forest Service National Environmental Policy Act Litigation*, 12 ENVTL. PRACTICE 116, 116 (2010).

[47] Broussard, *supra* note 43, at 138 (find that challenges to EAs or EISs accounted for 36 percent of the district court cases and 48 percent of the appellate cases, and 55 percent of the district court cases and 35 percent of the appellate cases involved claims that an EA or EIS should have been prepared); Miner, *supra* note 46, at 124.

[48] *Id*. at 137 (finding that 61% of the cases were filed in the Ninth circuit, 12% in the Tenth, and 7% in the Eighth circuit); Robert W. Malmsheimer, *et al*, *National Forest Litigation in the US Courts of Appeals*, 112 J. FORESTRY 20, 23 (2004)) (stating that environmental organizations were plaintiffs in 87 percent of the district court cases and appellants in 71 percent of the appeals); Denise M. Keele & Robert W. Malmsheimer, *Is the Ninth Circuit a Liberal Environmental Activist Court?*, 37 JUSTICE SYS. J. 115, 130 (2016) (finding that courts deferred to agency is close to 70% of cases); Miner, *supra* note 46, at 120 (finding that 64% of cases were in the Ninth circuit).

[49] Keele, *supra* note 48, at 118 (observing that the "Ninth circuit has jurisdiction over more public lands than any other federal circuit"); Malmsheimer, *supra* note 52, at 21 (observing that 63% of USFS land is located in the Ninth Circuit); Amanda Miner, *et al*., *Twenty Years of Forest Service Land Management Litigations*, 112 J. FORESTRY 32, 35 (2014) (finding that 66% of the cases in the Ninth circuit).

addition, the results were mixed with respect to whether plaintiffs prevailed at different rates based on the circuit in which a NEPA suit was filed, with conflicting findings about whether the Ninth Circuit favors plaintiffs more or less than other circuits.[50] Finally, there was strong evidence that the number of NEPA cases filed increased substantially starting in the mid-1980s and effectively plateaued in the 1990s and 2000s.[51]

The studies also find interesting patterns in the outcomes of NEPA litigation. In both district and circuit courts, environmental organizations are the most common plaintiffs, typically representing 60 to 70 percent of the NEPA cases filed, whereas business interests and user groups filed only about 8 percent of the cases.[52] Moreover, while the USFS won roughly 60-70 percent of the NEPA cases,[53] environmental organizations prevailed at higher rates than other plaintiffs.[54] Two studies also found mixed evidence that rates at which plaintiffs prevailed varied by administration, with an earlier study finding higher success rates during the Regan Administration relative to both the George H.W. Bush and William J. Clinton administrations,

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[50] *Id*. at 118 (concluding that "the Ninth Circuit was not significantly more activist than other circuits over the time period [1989-2008]"); *Id*. at 131 (concluding that Courts. The District Courts located within the Ninth Circuit were statistically significantly more likely to reverse agency action (36.2 percent) than the decisions of District Courts located within All Other Circuits (21 percent)"); Susan Hair, *Judicial Selection and Decision Making in the Ninth Circuit,* 48 ARIZONA L. REV. 267, __ (2006) (concluding that while there is evidence that individual judges make decision on ideological grounds, the Ninth circuit as a whole is not more liberal than other circuits); Lettie M. Wenner & Lee E. Dutter, *Contextual Influence on Court Outcomes*, 41 WESTERN POL. QUARTERLY 115, 1__ (1988) (finding that that the First, Second, Third, Sixth, and Ninth circuits were more responsive to environmental demands, while the Fourth, Tenth, and eleventh were more responsive to industry demands); Malmsheimer, *supra* note 52 at 23 (finding that the USFS had a highest likelihood of prevailing in Tenth (67%) and Eighth (71%) circuits, and the lowest in the Ninth circuit (49%)); Miner, *supra* note 49, at 35 (concluding that the USFS was most successful in Seventh circuit, winning 80 percent of the cases, and least in the Ninth and Eleventh circuits, winning just 48 percent of the cases).

[51] Broussard, *supra* note 43, at 138 (observing that "[l]itigation initiated by environmental interest groups, such as the Sierra Club and the Audubon Society, has increased significantly over Time").

[52] Broussard, *supra* note 43, at 137 (in a study of 291 district and circuit court cases litigated between 1970 and 2001, environmental organizations were the plaintiffs in 61 and 66 percent of the district and circuit court cases, respectively); Broussard, *supra* note 13, at 135; Beth Gambino, *et al.*, *Litigants' Characteristics and Outcomes in U.S. Forest Service Land-Management Cases 1989-2005*, J. FORESTRY 16, 18-19 (Jan./Feb. 2009) (finding that of 2,501 parties involved in 949 cases from 1989 to 2005, the top twelve parties were all environmental organizations);

[53] Broussard, *supra* note 43, at 137 (finding that the USFS won 60 percent of the district and 57% of the circuit court cases; lost 20 and 26 percent of the district and circuit court cases, respectively; and 20 and 17 percent of the district and circuit court cases, respectively, were decided on non-NEPA grounds); Broussard, *supra* note 13, at 135 (observing that "the Forest Service had a higher success rate than the rates for all other litigant types, even when the agency represented a pro-development and/or pro-use position"); Gambino, *supra* note 52, at 19 (finding that the USFS won 70 percent of the cases litigated, excluding 28 percent of all cases filed that were either withdrawn by the plaintiffs or settled); Miner, *supra* note 46, at 123 (finding that the USFS won 51% (66% if exclude settlements) of the NEPA cases studied, lost 26 percent, and settled 23 percent); Amanda Miner, *et al.*, *Twenty Years of Forest Service Land Management Litigations*, 112 J. FORESTRY 32, 34 (2014) (finding that the USFS won 70 percent of the appeals and "nearly two of every three (64.0%) cases in which judges decided the case on the merits).

[54] Broussard, *supra* note 13, at 135; Gambino, *supra* note 52, at 17 (finding that repeat litigants, which were overwhelming environmental organizations, were more likely to prevail in their claims); Miner, *supra* note 49, at 35 (finding that the USFS won only 49 percent of the cases filed by environmental interests, which was substantially lower than the 70 percent of cases it prevailed in against other plaintiffs).

and a later study failing to find statistically significant differences between the George W. Bush and Barack Obama administrations.[55]

None of the existing studies of NEPA litigation examines the influence of judicial ideology on the outcome of cases. However, a large literature exists on the role of judicial ideology, with a modest number of studies focusing on or including environmental cases.[56] A ground-breaking study from the late 1990s examined the impact of judicial ideology on environmental cases decided by the D.C. Circuit.[57] In this study, the authors found that "ideology significantly influences judicial decisionmaking" and "that a judge's vote (not just the panel outcome) is greatly affected by the identity [i.e., political affiliation] of the other judges sitting on the panel."[58] The central finding of the study was that "judges generally vote consistently with their ideological preferences only when they sit with at least one other judge of the same political party."[59] Given the importance of the effects observed in this study, as well as many other studies that have focused on other areas of law,[60] we collected background information on federal judges, including information on the party of the president who nominated each judge. This information is an important addition to the data that is now available on environmental litigation generally and NEPA cases in particular.

II. Description of the Empirical Study & Results

From an empirical standpoint, collecting data on NEPA cases is facilitated by their procedural simplicity. Essentially all NEPA cases are decided on motions to dismiss or motions for summary judgment, with few if any going to trial. Moreover, since administrative challenges are based largely, and typically exclusively, on administrative records, district court proceedings are not burdened by drawn-out discovery battles. These procedural virtues are complemented by the relative simplicity and linguistic idiosyncrasies of NEPA claims. In particular, the distinct legal terms associated with each NEPA claim enable automated coding of cases and facilitate hand coding as well with few potential sources of ambiguity. Together, these characteristics make NEPA litigation a particularly attractive subject for empirical study.

Unlike many federal court cases, NEPA cases follow a foreshortened series of steps—transmittal of the administrative record to the court; filing of cross motions for dismissal,

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[55] Malmsheimer, *supra* note 52, at 22 (finding that the USFS won a lower proportion of cases during the Reagan Administration (28.6 percent of cases) than George H.W. Bush I (64 percent) and William J. Clinton (80 percent) administrations); Keele, *supra* note 48, at 126 (finding that the differences in rates at which the USFS prevailed was not statistically significant between the George W. Bush and Obama administrations).

[56] Richard L. Revesz, *Environmental Regulation, Ideology, and the D.C. Circuit*, 83 VA. L. REV. 1717, 1721 (1997) (the study examined 250 environmental cases decided by the D.C. Circuit over the time period between 1970 and 1994); Cass R. Sunstein, *et al.*, *Ideological Voting on Federal Courts of Appeals: A Preliminary Investigation*, 90 VA. L. REV. 301, 305 (2004); Thomas J. Miles & Cass R. Sunstein, *Do Judges Make Regulatory Policy?*, 73 U. CHI. L. REV. 823, 827 (2006); Thomas J. Miles & Cass R. Sunstein, *The Real World of Arbitrariness Review*, 75 U. CHI. L. REV. 761 (2008).

[57] Revesz, *supra* note 56, at 1717-18.

[58] *Id*. at 1719.

[59] *Id*. at 1719.

[60] *See, e.g.*, Joshua B. Fischman & David S. Law, *What is Judicial Ideology, and How Should We Measure It?*, 29 J.L. & POL. 133 (2008); Daniel Ho & Kevin M. Quinn, *How Not to Lie With Judicial Votes: Misconceptions, Measurement, and Models*, 98 CAL. L. REV. 813 (2010); Michael A. Bailey, *Measuring Ideology on the Courts* (June 2016) *available at* http://faculty.georgetown.edu/baileyma/MeasuringIdeology_Jan2016.pdf.

injunctive relief, or summary judgment; and disposition of the case based solely on pretrial motions. Further, while settlement, abandonment, or a procedural defect may shortcut the process and minor variations in procedural timelines may occur (e.g., motions to stay cases pending external events), most NEPA cases are resolved on motions for summary judgment. In such cases involving judicial review of agency action, a judge's primary task is to evaluate the administrative record from the federal agency, the relevant legal authorities, and the arguments of the parties to pass judgment on the adequacy of agency processes and environmental reviews under NEPA—affirming or reversing the agency, in whole or part, and where a defect is found granting injunctive relief or remanding the case to the federal agency for further consideration.

A. NEPA Litigation Study Design and Methods

We adopted a two-part strategy for determining how we would code the cases. First, we coded a sample of about 200 district court cases at a high level of granularity (data on roughly 60 claims and subclaims were collected) to gain a rough assessment of the key variables, and perhaps most importantly which claims had the potential to generate meaningful statistics. As a complement to this sample, we used the NVivo software to auto code about 1,580 district court and 585 circuit court opinions[61] drawn from the Westlaw federal courts database that referred to NEPA from 2001 through 2015.[62] This coding evaluated the frequency of specialized legal terms used in NEPA claims and thus provided a complementary measure of the frequency with which specific NEPA claims are raised.[63] Together, this preliminary work enabled us to identify the factors that were likely to be of greatest importance for a larger sample, but more focused analysis, of approximately 500 district court cases and 320 circuit court cases. The relative frequency of specific NEPA claims and their importance to the final disposition of the cases allowed us to narrow down the larger study to about ten key variables. We also conducted numerous Chi^2 and regression analyses to determine which variables would be included in the larger study.

The study data were drawn from three separate sources: (1) the federal judiciary's "Public Access to Court Electronic Records" (PACER) database, which contains case docket information and court filings dating back to roughly 2000;[64] (2) the Westlaw database of published and unpublished federal court opinions;[65] and (3) the Attributes of U.S. Federal Judges

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[61] For both the district court and circuit court cases, we compiled a large database of cases using the search-term phrase "National Environmental Policy Act" in the Westlaw "Federal Cases" database. This generated 1,967 district cases and 842 circuit court cases. From these cases, we culled cases in which at least one substantive NEPA claim was raised (e.g., a challenge to a categorical exclusion or to the alternatives in environmental assessment); this second round of coding generated the 1,579 district court and 584 circuit court cases. Random samples were then taken for each database for use in hand coding of cases.

[62] [cite to Westlaw federal case database]. Cases were selected based on whether included the phrase "National Environmental Policy Act." This was purposefully over-inclusive and cases were subsequently culled based on more precise studies of their content. There is an apparent lag in the time that its takes district court cases to be added to the Westlaw data, which is evident in the low numbers of cases for 2015 and particularly 2015.

[63] In a subset of these cases, we were able to use the automated coding to determine whether the plaintiff or federal defendants prevailed. These cases provided a very efficient means of assessing the relative success of different types of NEPA claims, but this analysis is incomplete because it presumes (in correctly) that all NEPA claims rise and fall together. Because of this, any associations observed are likely to be real, but the absence of such associations does not imply that none exist—as the lumping of claims together will obscure such associations.

[64] The PACER database is *available at* https://www.pacer.gov/.

[65] The Westlaw database for federal cases and opinions is *available at* https://lawschool.westlaw.com/.

Database compiled under the Judicial Research Initiative at the University of South Carolina.[66] In addition, we obtained a database from the Council on Environmental Quality (CEQ) with partially coded NEPA cases for the period 2000-2009, which CEQ officials believed was close to comprehensive.[67] The CEQ database is particularly valuable because it contains cases settled or dismissed prior to a court decision on the merits; without this case information, it would have been exceedingly difficult to identify such cases given the limitations of existing databases. Unfortunately, because of inconsistencies in the case-coding methods, we ultimately relied on this database only as a source for identifying NEPA cases to include in our study.

Use of several databases was also critical because it enabled us to collect a large sample of unpublished opinions, which numerous studies have shown can differ from published decisions in systematic ways.[68] Researchers have found, for example, that published district court opinions are generally more "liberal" than unpublished ones, and that ideological influences are greater in the former compared with the latter.[69] The low rates at which judges actually rule on cases filed in district courts exacerbates these selection biases further. In 2006, less than half of the cases filed in district courts were resolved by some form of adjudication, with most of the remaining cases either being abandoned or settled.[70] Moreover, given that cases are unlikely to settle randomly, fully litigated cases will not be representative of all filed cases. The presence of these selection effects demonstrates that studies limited to evaluating district court opinions, especially if solely published opinions, will generate misleading or unrepresentative results.

Our data collection followed the recommendations of recent legal scholarship,[71] and the principles of study design in the PHLR research methods and the ICPSR Guide to Social Science Data Preparation and Archiving (5th ed., 2012). The study included preparation of an online coding framework that identified and categorized each variable. Further, although NEPA cases were relatively easy to code, we adopted several measures to ensure the accuracy and reliability of our data, including checks against automated coding and inter-coder comparisons. Each of the law students hired as coders was trained and inter-coder consistency was assessed using a sample of cases that were coded by multiple researchers, including the principal investigators. The large

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[66] The Judicial Research Initiative is *available at* http://artsandsciences.sc.edu/poli/juri/attributes.htm; also obtained information from the federal Judiciary cite *available at* http://www.fjc.gov/history/home.nsf/page/judges.html.
[67] The data were obtained through Horst Greczmeil, the Associate Director for NEPA Oversight at CEQ, which oversees an annual NEPA litigation survey (*available through*: https://ceq.doe.gov/legal_corner/litigation.html and http://energy.gov/nepa/downloads/nepa-litigation-surveys).
[68] *See* Rowland, C.K. and Robert A. Carp, *Politics and Judgment in Federal District Courts* (1996); Ringquist, E., and C. Emmert. 1999. "Judicial Policymaking in Published and Unpublished Decisions: The Case of Environmental Civil Litigation." *Political Research Quarterly* 52(1): 7-37; Hannon, M. 2001. "A Closer Look at Unpublished Opinions in the United States Court of Appeals." *Journal of Appellate Practice and Process* 3(1): 199-250; Keele, Denise M., *et al.*. 2009. "An Analysis of Ideological Effects in Published Versus Unpublished Judicial Opinions." *Journal of Empirical Legal Studies* 6(1): 213-39; Siegelman, Peter, and John Donohue. 1990. "Studying the Iceberg from Its Tip: A Comparison of Published and Unpublished Employment Discrimination Cases." *Law and Society Review* 24: 1133-70; Wasby, Stephen, 2001. "Unpublished Decisions in the Federal Courts of Appeals: Making the Decision to Publish." *Journal of Appellate Practice and Process* 3(1): 325-41.
[69] *Id*.
[70] David A. Hoffman, et al., *Docketology, District Courts, and Doctrine*, 85 WASH. U.L. REV. 681, 682-82 (2007).
[71] Pauline T. Kim, *et al*., How Should We Study District Judge Decision-Making?, 29 J. LAW & POL. 83, 83-84 (2009).

sample of cases was also coded almost exclusively by the two principal investigators, as we had streamlined the case coding process by the time we were collecting those data.

A complete list of the data collected in the different samples are listed in Appendix A. The samples included information on the court and judge, parties to the litigation, the nature of the federal action, jurisdictional challenges, substantive challenges under NEPA, and the timing of a case. The list below provides a high-level description of the data collected on each case in the samples:

- Court, Judge, Presidential Administration (and party) that appointed the Judge
- Identity of parties to the litigation, classes of litigants (e.g., environmental organization, individual, government, business)
- Dates of court filings, motions, and opinions and duration of the litigation
- Lead federal agency, other federal agencies (if any) involved in the NEPA process and type of federal action (e.g., federal permit, funding, or direction action)
- NEPA claims raised (e.g., adequacy of an environmental assessment), disposition of claims (e.g., dismissal, settlement, decision on the merits)
- Nature of the relief (if any) provided by the court to successful plaintiffs (e.g. remand to agency, preliminary or permanent injunction)

As noted earlier, NEPA is among the most prominent environmental statutes because it applies to all federal agencies—creating a process, if not a mandate, for carefully considering the environmental impacts of federal actions. This broad scope is tempered by the requirement that the federal action must "significantly impact the environment." In practice, most federal actions do not meet this threshold, and for many federal agencies the nature of their statutory mandates (e.g., Department of Education, National Institutes of Health) will strictly limit the opportunities for NEPA to apply. The impact of this threshold requirement is reflected powerfully in the litigation data, which itself is a highly selected sample of federal actions subject to NEPA. While one must be careful when interpreting litigation data, an alternative comprehensive database of federal compliance with NEPA does not exist. Moreover, the selective nature of litigation data has at least two virtues—it singles out federal actions of significant importance to stakeholders and legal claims that matter in practice. Thus, while our data are not representative of NEPA compliance generally, they provide a valuable insights regarding contexts in which public engagement is high and where NEPA is used aggressively by interested stakeholders.

B. Study Results

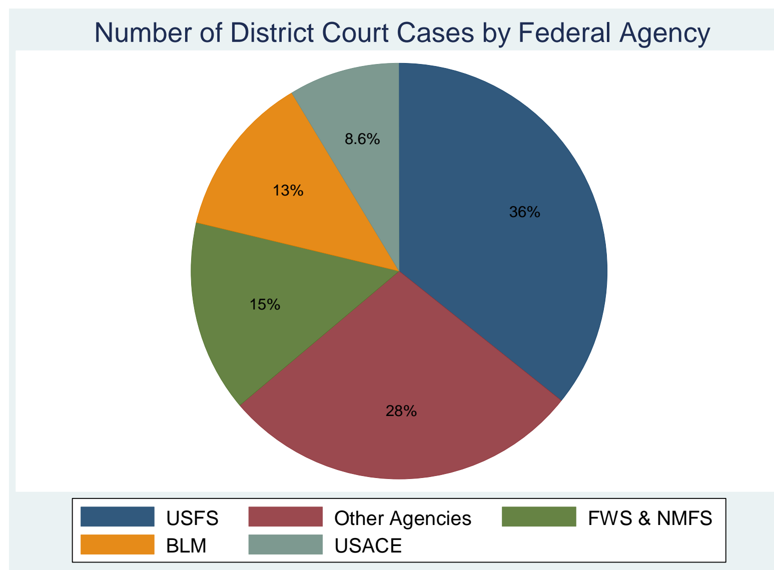
Our studies of district and circuit court cases used both traditional sampling methods and automated coding of cases to generate descriptive statistics of the entire population of cases in our database. The initial round of coding drew cases from a comprehensive list of NEPA cases litigated between 2000 and 2009 compiled by CEQ; this work generated a sample of roughly 200 cases that were spread over the latter half of the Bush Administration. This sample was complemented by a second sample of about 175 cases filed between 2012 and 2014, which provided a sample for comparison with NEPA litigation during the Obama Administration. These samples are particularly valuable because they include cases that were settled or dismissed

prior to a legal ruling on the merits. The two samples indicate that settlement rates differed substantially between the administration—40 percent of the cases were either settled or dismissed during the Bush Administration versus 29 percent during the Obama Administration. The bulk of our analysis, however, centers on the full population study of NEPA claims that was conducted using the NVivo software and the two larger samples of district and circuit court cases coded using a select number of variables. The details of the results for the district and circuit court cases are described in the two subsections that follow.

1. Results for District Court Cases

We will begin with an analysis of several descriptive statistics associated with the litigants and the NEPA claims they bring. At the outset, one would not expect the frequency of NEPA litigation to be uniform across all federal agencies. For a host of reasons, the types of actions that certain federal agencies routinely undertake, fund, or permit are much more likely to have significant environmental impacts than the average agency. To give just one example, the Federal Highway Administration is much more likely through its highway funding programs to trigger NEPA than, say, the Department of Housing and Urban Development. The reason for this is simple—the scale of highway development and the environmental settings in which projects occur are typically of a different order than a housing development in an urban setting. Figure 1 below bears out this intuition, but the degree to which NEPA litigation targets just a handful of federal agencies exceeded our expectations, particularly given prior CEQ estimates. More than two-thirds of the district court cases litigated from 2001 to 2015 involved just five federal agencies, each of which either manages federal lands or has principle authority for protecting endangered species or ecosystems. Even more striking, two federal agencies, the USFS and BLM, accounted for about 50 percent of the district court cases.

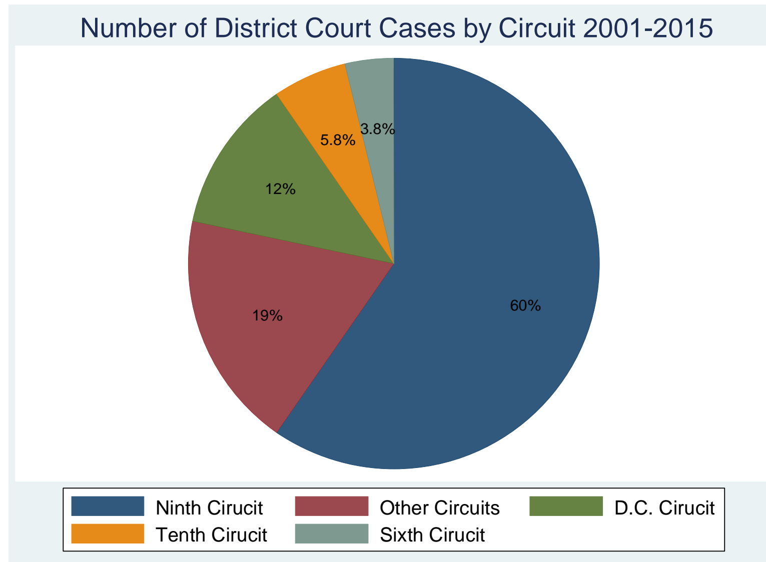
Figure 1: Number of NEPA Cases by Federal Defendant 2001-15



The degree to which litigation is skewed towards and handful of federal agencies is a remarkable finding—both because it is so extreme and because such a small number of federal

actions are implicated.[72] Many federal agencies routinely undertake, fund, or permit federal actions with large environmental impacts and yet are rarely subject to law suits, notably agencies such as the Department of Energy, Department of Defense, Federal Energy Regulatory Commission, and Department of Transportation, to name just a few.[73] Thus, a central question raised by these results is why NEPA litigation does not reflect the extraordinarily broad scope of the statute, and why it is so disproportionately used by plaintiffs as a procedural check on decisions involving federal land management or natural resource conservation.

Figure 2: Number of NEPA Cases by Circuit 2001-15



We did not attempt to identify specific plaintiffs involved in each case. Instead, we grouped them into five classes: (1) local environmental organizations, (2) national environmental organizations,[74] (3) other non-governmental organizations, (4) businesses and business associations, and (5) cities, counties, states, and tribes. Consistent with earlier studies, environmental organizations were plaintiffs in more than two-thirds of the NEPA cases—46 percent of the cases in our sample were filed by local environmental groups and 24 percent were filed by national environmental groups.[75] By contrast, businesses or business associations as well as cities, counties, states or tribes were plaintiffs in just 7 percent of the cases. In addition, individuals and non-environmental organizations made up 5 and 11 percent, respectively, of the cases in our sample. We also find that local and national environmental organizations are much

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[72] The distribution of cases across federal agencies was very similar for full population: USFS – 36%; Other Agencies – 28%; FWS & NMFS – 15%; BLM – 16%; and USACE – 6%. The largest differential is 3 percentage points for BLM and USACE, but these are very minor differences.

[73] Only the Federal Highway Administration accounts for more than 5 percent of the district court cases filed, and it accounts for about 6 percent if all of the DOT cases are included; none of the other federal agencies listed accounts for more than 4 percent of the cases filed.

[74] "National environmental organizations" were defined relatively narrowly to include a small number of high-profile environmental organizations (e.g., Sierra Club, Natural Resources Defense Council, National Wildlife Federation, Center for Biological Diversity).

[75] A significant number of cases included plaintiff groups that included both local and national environmental organizations; these cases were categorized as national environmental organizations in our scheme. Accordingly, likely more than fifty percent of NEPA cases filed include local environmental organizations as plaintiffs.

more likely to prevail in their NEPA claims (33 and 38 percent, respectively) than other plaintiffs (16 percent), and that the disparity between environmental and other plaintiffs was far greater during the Bush than the Obama administration (roughly 25 versus 11 percentage points, respectively).[76]

The focus of NEPA litigation on a small subset of federal agencies is also reflected in the geographic distribution of cases nationally. As noted earlier, large tracts of federal land are located in western states, suggesting that on this basis alone one would expect cases to be brought disproportionately in the Ninth and Tenth circuits. Consistent with this inference, we find that two-thirds of the district court cases were filed in either the Ninth or Tenth circuits, and 12 percent were filed in the D.C. circuit (see Figure 2).[77] At the state level, two-thirds of the cases were also filed in just 10 states,[78] and just four states (California, District of Columbia, Montana, Oregon, Arizona) accounted for half of the cases. Only two states of the top 10, Florida and New York, were eastern states, and each has distinctive characteristics—Florida has many endangered species and wetlands (including the Everglades),[79] and New York has significant wetlands and very powerful environmental interests. The D.C. circuit is unique for a different reason: plaintiffs can use it as an alternative venue to the circuit in which a federal action is located because most federal agencies are based in D.C.[80]

The dominance of the Ninth circuit as a venue for NEPA cases suggests that its judges and their opinions ought to have a disproportionate influence on the evolution of legal doctrines nationally by dint of the sheer number of cases its judges hear. One would also expect the predominance of certain types of agency actions and circuits to be mutually reinforcing, as the types of claims and facts at issue will unavoidably frame the context in which legal doctrines are developed. Surprisingly, we do not see this reflected in any meaningful variation in the frequency of claims brought against specific federal agencies or variation across circuits. As discussed further below, we do observe significant differences across circuits—though not federal agencies—with regard to plaintiffs' success rates. However, these differences do not appear to be associated with particular doctrines or claims.

[76] Specifically, during the Bush Administration national environmental organizations prevailed in 53 percent of their cases, local environmental groups in 40 percent, and other plaintiffs in just 20 percent; however, during the Obama Administration, national environmental organizations prevailed in 21 percent of their cases, local environmental groups in 25 percent, and other plaintiffs 13 percent.
[77] The distribution of cases across federal circuits was very similar for the full population of cases: Ninth Circuit – 51%, Other Circuits – 27%, D.C. Circuit – 12%; Sixth Circuit 3%; and the Tenth Circuit 7%.
[78] The states are: Arizona, California, Colorado, District of Columbia, Florida, Idaho, Montana, New York, Oregon, and Washington. Only Colorado, Florida, and New York are outside the Ninth or D.C. circuits.
[79] Florida also ranks 15th nationally with regard to the percentage of federal land in the state.
[80] [identify the circuits from which D.C. courts receive the most cases].

Table 1: Relative Frequency of Procedural and Supplemental Claims 2000-2015[81]

	Categorical Exclusion	Supplemental EIS	Tiering	Constitutional Standing	Prudential Standing	Ripeness	Mootness	Exhaustion
Number of Cases	205	250	88	642	91	166	141	119
Percent All Cases	13%	15.8%	5.6%	40.7%	5.8%	10.5%	8.9%	7.5%
Median	2	3	2.5	3	2	2	3	2
90th%	11	14.5	8	21	11	10	12	6

Table 2: Relative Frequency of Environmental Assessment Claims 2000-2015[82]

	Alternatives	Cumulative Impacts	Mitigation	Indirect Impacts	Uncertainty	Intensity	FONSI
Number of Cases	355	278	162	119	87	71	683
Percent All Cases	22.5%	17.6%	10.3%	7.5%	5.5%	4.5%	13.36%
Percent of EA Claims	47.84%	37.47%	21.83%	16.04%	11.73%	9.57%	92.05%
Median	2	2.5	2	1	1	1	4
90th%	9	10	6	4	3	2	19

Whether evaluated nationally, by circuit, or by agency, we find that a small number of NEPA claims are raised consistently, with the most common challenges based on the alternatives considered, cumulative impacts, mitigation measures, and the scope of the NEPA analysis (see Tables 2 & 3). These four types of claims that center on the content of EAs and EISs, along with challenges to uses of categorical exclusions and demands for supplemental EISs, were the only substantive claims raised in more than 10 percent of the cases. The sole exception to this pattern was constitutional standing, which was the single most frequently litigated issue (see Table 1); however, our sample results indicate that standing challenges rarely succeed.[83]

[81] Note that the mean, median, and 90th percentile refer to the actual number of times that the specific claim is referred in a case. For example, the 90th percentile indicates the number of times that the claim is references in this top tier of cases. These data are based on the database of 1579 cases we compiled from the Westlaw database, 640 of which are unpublished cases.
[82] Claims based on "controversial actions" and "segmentation" were raised in less than 3 percent of the district court cases and less than 7 percent of the district court cases in which challenges to EAs were raised.
[83] We found that constitution standing was a basis for the court's ruling in roughly 6 percent of the cases.

Table 3: Relative Frequency of Environmental Impact Statement Claims 2000-2015

	Alternatives	Cumulative Impacts	Mitigation	Scope	Indirect Impacts	Uncertainty	Connected	Intensity
Number of Cases	587	398	247	173	160	147	138	111
Percent All Cases	37.2%	25.2%	15.6%	11.0%	10.1%	9.3%	8.74%	7.0%
Percent of EIS Claims	72.83%	49.38%	30.65%	21.46%	19.85%	18.24%	17.12%	13.77%
Median	2	2	2	1	1	1	1	1
90th%	8	6	7	3	3	4	3	3

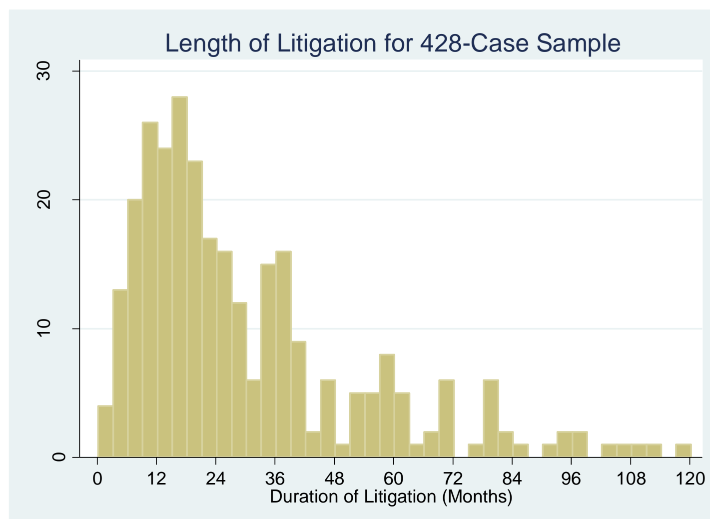
The NEPA claims raised most frequently are, by in large, the ones most commentators would predict. Their attractiveness to plaintiffs has several elements. Perhaps most importantly, these claims challenge the fundamental legitimacy of an agency's analysis; the alternatives analysis, for example, is viewed by courts as the "heart of the NEPA process."[84] Similarly, failure to consider cumulative or indirect impacts, or reliance on improper mitigation methods, can be determinative of whether NEPA applies and what level of analysis, an EA or EIS, is required. Moreover, each of these legal doctrines has the further virtue that they are often less likely to implicate complex technical details that are difficult for courts to assess and thus receive a higher degree of judicial deference. On the other hand, the most surprising finding is that segmentation claims, which are conceptually close cousins of cumulative and indirect impacts, are rare—a mere 2 percent of the cases. This finding is fundamentally at odds with the importance that scholars have associated with segmentation as a barrier to effective implementation of NEPA.

The final descriptive statistic that we examined, in this instance using a sample of roughly 300 NEPA cases litigated during the Bush Administration, was the duration of NEPA litigation. This is a key variable practically and politically because one of the recurring critiques leveled against NEPA is that its procedures and the litigation surrounding them has undermined federal programs by unduly burdening decision-making processes. By the standards of federal administrative litigation, we find weak evidence for these claims (see Figure 3). The median duration of a NEPA case was less than 2 years (23 months), and 75 percent of the cases were resolved within 3.2 years (39 months). Moreover, for the subset of cases in which the federal government prevailed, the median duration was just 1.5 years and 75 percent of the cases were resolved within 3 years (36 months).[85] By contrast, protracted litigation of more than 5 years occurred in only about 10 percent of the NEPA cases in our sample.

[84] [need cite].

[85] For cases in which the federal government wins, 50% of the cases are resolved within about 1.5 years; 75% resolved within 3 years; 90% of the cases are resolved within 5 years. For cases in which the plaintiff prevails on at least one claim, 50% of the cases are resolved within 2.5 years; 75% resolved within about 4.3 years; 90% of the cases are resolved within 6.2 years. [*obtain studies on other federal litigation for comparison*]

Figure 3: Duration of NEPA Litigation in District Courts



We conducted a variety of statistical tests and subdivided the sample data along several dimensions, most notably by circuit, administration, federal agency, and the putative ideology of each district judge (based on the party of the appointing president). The most striking trends revolved around differences between cases filed during President George W. Bush's Administration and those filed during President Barack Obama's Administration. For example, we observe dramatic differences between the circuits in which most NEPA cases were filed, the Ninth and D.C. circuits, and all other circuits. The rates at which plaintiffs prevailed in the Ninth and D.C. circuits during the Bush Administration were far higher than those in other circuits—roughly 45 versus 23 percent, respectively. However, during the Obama Administration, this differential dropped to about 2 percent for the D.C. circuit and 11 percent for the Ninth circuit, with neither being statistically significant.[86] Similarly, we observe a statistically significant difference in plaintiff success rates between judges appointed by a Republican president and judges appointed by a Democratic president (31 versus 48 percent, respectively) during the Bush Administration. Once again, this disparity drops below statistical significance during the Obama Administration (14 versus 24 percent, respectively). Overall, we find that for NEPA cases filed during the Obama Administration federal defendants prevailed more often than during the Bush Administration (80 percent versus 61 percent, respectively), and disparities across circuits and between judges based on their political affiliation are substantially smaller.

Contrary to our expectations, we found few statistically significant differences in plaintiffs' success rates across federal agencies. During the Bush Administration, none of the differences were statistically significant or sizeable in absolute terms—regardless of how we grouped or separated out specific federal agencies, plaintiffs prevailed roughly 33-42 percent of the time. Similarly, under the Obama Administration the USFS was the only potential outlier, with plaintiff success rates almost 30 percent higher than those of other federal agencies (25

[86] During the Obama Administration, plaintiffs won 24 percent of the cases in the Ninth circuit, 15 percent in the D.C. circuit, and 13 percent in all other circuits. The statistical significance was analyzed using a Chi^2 test; the differences in plaintiff success rates across the Ninth, D.C., and other circuits was highly statistically significant (p-value of 0.003) during the Bush Administration, but the p-value rose to 0.158 during the Obama Administration.

versus 19 percent, respectively). In essence, the data reveal that plaintiffs' success rates dropped roughly equivalently for all federal agencies after the Bush Administration, and this effectively magnified the somewhat higher success rates for plaintiffs against the USFS. As discussed further below, the regression analysis resolves this point because it shows that the defendant federal agency is not a statistically significant predictor of case outcomes; instead, it appears that the circuit in which a case is filed is the overriding factor.

Table 4: Logistic Regression for District Court Case Outcomes

	(1) Ruling	(2) Ruling	(3) Ruling	(4) Ruling	(5) Ruling
Administration	0.379^{***}	0.374^{***}	0.362^{***}	0.399^{***}	0.379^{***}
	(-4.27)	(-4.34)	(-4.53)	(-4.34)	(-4.64)
D.C. Circuit[87]	1.771	1.620	1.757	1.867	1.914
	(1.47)	(1.26)	(1.49)	(1.67)	(1.75)
Ninth Circuit	2.831^{***}	2.607^{***}	2.468^{***}	2.320^{**}	2.576^{***}
	(3.64)	(3.51)	(3.37)	(3.22)	(3.69)
National Environmental Organization	2.614^{**}	2.476^{**}	2.539^{**}	2.777^{***}	1.695^{*}
	(3.07)	(2.93)	(3.02)	(3.40)	(2.30)
Local Environmental Organization	2.080^{*}	1.945^{*}	1.972^{*}	2.092^{**}	
	(2.49)	(2.36)	(2.42)	(2.70)	
Appointing President's Party for Judge	1.904^{**}	1.809^{**}	1.851^{**}		
	(2.83)	(2.64)	(2.76)		
Case Published	1.382	1.375			
	(1.37)	(1.35)			
Federal Lands Agency	0.797				
	(-0.84)				
Federal Ecological Agency	0.546				
	(-1.68)				
N	462	462	462	462	462

Exponentiated coefficients; *z* statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

After identifying the variables that influenced plaintiff success rates in NEPA cases, we conducted a regression analysis to determine which of them were most important. In the present case, because the dependent variable—whether the plaintiff prevailed on at least one of its NEPA claims—was categorical, logistic regression was used in place of conventional ordinary-least-

[87] The baseline for the likelihood ratio is the odds of a plaintiff winning a NEPA case at the district court level in one of the circuits other than the Ninth and D.C. circuits.

squares regression.[88] This type of regression generates a "likelihood" or "odds" ratio, which in our analysis is simply the ratio of the likelihood of a plaintiff prevailing when the value of the applicable dummy variable is "one" over the likelihood when it is "zero." For example, the dummy variable presidential administration in our analysis designates the Bush Administration as "0" and the Obama Administration as "1." Accordingly, the likelihood ratio is the odds of a plaintiff winning their case during the Obama Administration *over* the odds of a plaintiff prevailing during the Bush Administration. In this case, a likelihood ratio of "0.5" implies that a plaintiff has a 50 percent *lower* chance of winning a NEPA suit during the Obama Administration than during the Bush Administration; conversely, a likelihood ratio of "1.5" implies that a plaintiff has a 50 percent *greater* chance of prevailing during the Obama Administration. In Table 4, the likelihood ratios appear above the z-values,[89] which are in brackets, and the asterisks indicate the degree of statistical significance.

Table 5: Chi^2 Test for Statistical Significance of Each Independent Variable

Ruling	*Chi2*	*P>Chi2*	*Res.*
Administration	21.64	0.0000	455
Circuit[90]	11.13	0.0009	455
National Environmental NGO	9.5	0.0021	455
Local Environmental NGO	6.54	0.0105	455
Party Affiliation President	7.33	0.0068	455

Use of a regression is essential because it allows us to control for the influence of other variables, whereas individualized Chi^2 tests can lead to spurious results when one independent variable is influenced by or correlates with another. Our analysis utilizes multiple independent variables to ensure that the analysis has adequate controls, and it employs the method preferred by most statisticians (the likelihood-ratio Chi^2 test) to evaluate the statistical significance of each parameter in the regression separately (see Table 5).[91] Table 4 displays the results from five logistic regressions with different numbers of parameters to test the relative strength of each model. In addition to this analysis, we ran regressions on all of the potential NEPA claims to determine whether either specific claims or collections of claims influenced the case outcomes. Only one of these, challenges to mitigation measures in an EIS, generated results in which specific NEPA claims or collections of claims came even close to being statistically significant. The association was actually negative—claims based on EIS mitigation measures were about 40 percent less likely to succeed than the average claim; however, the lack of statistical significance led us to drop it in the final regression analysis.

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[88] Alan C. Acock, *A Gentle Introduction to Stata* 302-04 (3rd ed., 2012).

[89] A "z-value" is a complementary measure of statistical significance that indicates the number of standard deviations the observed data deviate from the value predicted by the statistical model.

[90] The "circuit" variable used in this analysis was binary, with the D.C. and Ninth circuit represented by "1" and all other circuits categorized together under "0." The reason for the change from the logistic regression is that this test can only accommodate binary variables.

[91] The likelihood-ratio Chi^2 test compares two logistic regression models—one with the independent variable that is being test and a second without it; the test is simply the difference in the likelihood-ratio Chi^2 values for these two models. Acock, *supra* note 88, at 314-15.

The regressions in Table 4 indicate that plaintiff success rates are influenced strongly by the presidential administration, the circuit in which a case is filed, and whether the plaintiff is a national or local environmental organization. Specifically, plaintiffs were less than half as likely to succeed in a NEPA action during the Obama administration than during the Bush Administration. They were also roughly 2.5 times more likely to succeed if they filed their case in the Ninth circuit over another circuit, and and they were 2 to 2.5 times more likely to prevail if they were a local or national environmental organization, as opposed to a state or local government, a business, or an individual plaintiff. Interestingly, the success rates of environmental plaintiffs diverged somewhat across the two administrations—national environmental organization had substantially higher success rates during the Bush Administration, whereas local and national environmental organizations had roughly the same success rates during the Obama Administration.[92]

The results for the other parameters tested were much more mixed. The defendant federal agency was not a statistically significant factor, nor was whether the case was published. Unlike the few existing studies, we find clear evidence that the political affiliation of the district judge is a significant factor, with judges appointed by a democratic president 80 percent more likely to rule in favor of a plaintiff. This result confirms our earlier finding that Democratic judges were more likely to rule in favor of plaintiffs than Republican judges during both the Bush and Obama administration (according to a Chi^2 test). The strong statistical significance of the presidential administration is consistent with the weaker influence of a judge's political affiliation during the Obama Administration. Anticipating the results for the appellate cases, the influence of judicial ideology may or may not be tempered through the appeals process, as ideology can be a factor on circuit panels depending on the balance of the political affiliations of the judges.

In summary, we will note that the most striking trends we observe are geographic, based on circuit, and political, based both on the presidential administration in power and the ideology of the federal judge. The higher rates of success for national versus local environmental groups during the Bush Administration (53 and 40 percent, respectively), which disappears during the Obama administration, suggests that the orientation or purpose of NEPA litigation may also shift depending on the politics of a presidential administration. Alternatively, these patterns may reflect the political influence of national environmental groups with sympathetic administrations, or a greater willingness in politically favorable times for national groups to negotiate with the federal government or settle NEPA cases with strong claims. Indeed, if national environmental groups were more likely to settle strong cases (or simply not file them in the first place) during Democratic administrations, weaker cases would be relatively more prominent in our principal database because it excludes cases that settle or are dismissed. The observation that NEPA cases were settled or dismissed less frequently during the Obama Administration runs contrary to this inference unless government compliance with NEPA was better or plaintiffs chose engagement over litigation more often with a sympathetic administration. These and other observations will be examined more systematically in Part III.

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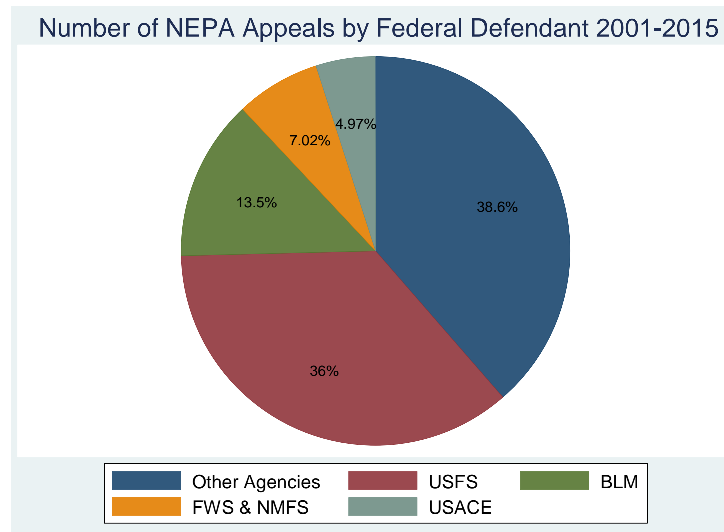
[92] During the Bush Administration, the national environmental plaintiffs prevailed in 53 percent of the cases, whereas the rates for local environmental organizations and other plaintiffs were 40 and 20 percent, respectively. During the Obama Administration, local and national environmental plaintiffs prevailed at similar rates (25 and 21 percent, respectively), whereas other plaintiffs prevailed in just 13 percent of the cases.

2. Results for Appellate Court Cases

The distribution of appellate cases mirrors the results for the district court cases, with a handful of federal land management and conservation agencies (USFS, BLM, FWS, NMFS, USACE) accounting for almost two-thirds of the appeals. The most significant divergence we observe is that appeals from cases involving the FWS, NMFS, and USACE were much less frequent than those involving other federal agencies. While cases involving these agencies accounted for 26 percent of the district court cases, they made up only 12 percent of the appellate cases in our sample, despite plaintiff success rates in district courts modestly lagging those of other federal agencies. At the other end of the spectrum, cases involving other federal agencies represented 28 percent of district court cases but accounted for 39 percent of the appeals. Relative to cases involving the handful of agencies subject to most NEPA litigation, suits against other agencies were about 40 percent more likely to be appealed; yet, plaintiffs that filed appeals against these agencies were much less likely to prevail (14 versus 29 percent).

Figure 4: Number of NEPA Cases Appealed by Federal Agency 2001-15

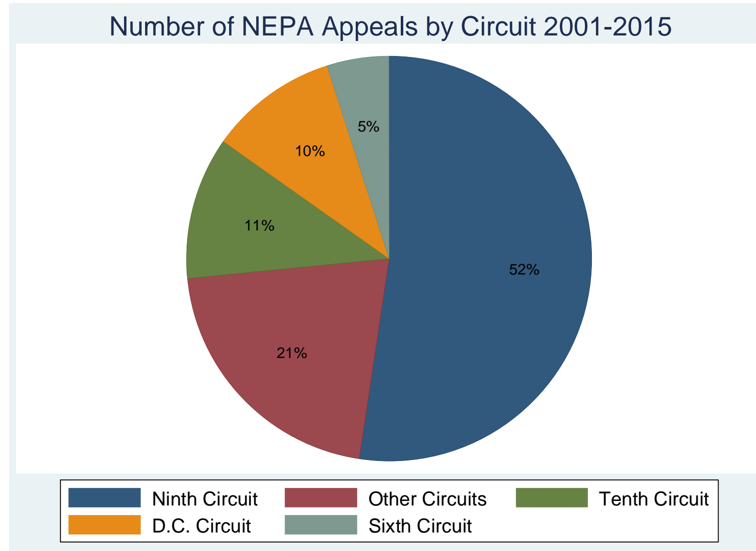


The types of plaintiffs that appealed NEPA cases also largely tracks the plaintiffs in district court cases. Environmental plaintiffs were slightly less likely to file appeals, about 6 percent fewer appeals than district court cases (40 versus 46 percent, respectively), whereas government plaintiffs were about 40 percent more likely to file an appeal.[93] The smaller number of appeals by environmental organizations is partly attributable to their substantially higher success rates at the district court level (35 percent versus 16 percent for all other plaintiffs), which meant that they had fewer cases to appeal. The more limited resources of environmental organizations, relative to state or local governments, may also explain these differences. It is nevertheless worth considering whether the rates of appeals by environmental organizations is

[93] In our sample, 64 percent of the appeals were filed by environmental organizations (40% by EL and 24% by ENs); 7% by businesses or business associations; 11% by a city, county, state, or tribe; 7% by individuals; and 11% by non-environmental organizations. By comparison, 70% of district court cases were filed by environmental organizations (46% by EL and 24% by ENs); 7% by businesses or business associations; 7% by a city, county, state, or tribe; individuals 5%; and 11% by non-environmental organization.

evidence against their purported use of NEPA for the purely strategic objective of holding up federal actions. This inference is bolstered by the observation that environmental organizations won appeals more often than other plaintiffs (27 versus 14 percent, respectively).

Figure 5: Fraction of NEPA Cases Appealed by Circuit 2001-15



Similarly, the rate of appeals by circuit closely parallels the number of cases at the district court level for virtually all of the circuits with significant numbers of NEPA cases. The only exception to this rule was the Tenth circuit, which accounted for just 6 percent of the district court cases but represents 11 percent of the appeals in our sample of appellate cases; as a consequence, the Tenth Circuit has an appeal rate for NEPA suits that is almost twice that of other circuits. This cannot be explained by more aggressive litigation on the part of environmental plaintiffs, as their rates of litigation do not differ from those in other circuits with a substantial number of cases.[94] Statistically, an important factor to consider is the small number of appeals, just 23 all told, in the Tenth circuit, which is small enough that random variance may be the most likely explanation.

Consistent with the district court cases, we do not observe any meaningful variation in the frequency of claims brought against specific federal agencies or across circuits. Almost without exception, the rates at which specific claims were raised at the district court parallel those at circuit level or were within a few percent of each other. The only notable exception was challenges to "findings of no significant impact," so called "FONSI" claims, occurred twice as often in appeals as they did at the district court level. It is unclear why plaintiffs would view challenges to a FONSI as more likely to succeed, particularly given that they involve technical judgments about the magnitude of potential environmental impacts that courts are likely to be deferential towards.[95] The only other exceptions of potential significance involved categorical

[94] In our sample, environmental plaintiffs account for 64 percent of the NEPA cases appealed nationally, whereas they represent 71 percent of the cases appealed in Ninth circuit, 61 percent in the Tenth circuit, and about 50 percent in the other circuits.
[95] We included FONSI claims as a dummy variable in the regression discussed below and did not find it to be a statistically significant predictor of success in a NEPA appeal.

exclusions, which were raised in only 8 percent of the appeals versus 13 percent of the district court cases. However, while this reflects a roughly 30 percent drop in the rate at which such claims were raised, the number of cases was modest in absolute terms (fewer than 50 appeals in 8 years), which suggests that one should not read too much into this finding.

Table 6: Relative Frequency of Procedural and Supplemental Claims in Appeals[96]

stats	Categorical Exclusion	Supplemental EIS	Tiering	Constitutional Standing	Prudential Standing	Ripeness	Mootness	Exhaustion
Number of Cases	47	93	30	219	30	56	57	35
Percent All Cases	8.05%	15.92%	5.14%	37.50%	5.14%	9.59%	9.76%	5.99%
Median	2	3	3	3	3	3	4	1
90th%	11	11	7	23	8	10	9	7

Overall, we find that the same small number of NEPA claims raised at the district court level reappear in the appeals, namely, challenges based on the alternatives considered, cumulative impacts, mitigation measures, and the scope of the NEPA analysis (see Tables 7 & 8). These four classes of challenges to the content of EAs and EISs, along with claims for supplemental EISs, were the only substantive claims raised in more than 10 percent of the cases. Like the district court cases, constitutional standing was the single most frequently litigated issue (see Table 5), but it was also exceedingly rare for defendants to succeed with such challenges.[97] The circuit court cases therefore reinforce the district findings—a subset of claims tend to predominate in NEPA cases and no single claim or collection of claims has a substantially greater likelihood of succeeding that is statistically significant.[98]

Table 7: Relative Frequency of Environmental Assessment Claims in Appeals

stats	Alternatives	Cumulative Impacts	Mitigation	Indirect Impacts	Uncertainty	Intensity	FONSI
Number of Cases	73	67	38	24	23	19	210
Percent All Cases	12.50%	11.47%	6.51%	4.11%	3.94%	3.25%	35.96%
Percent of EA Claims	30.67%	28.15%	15.97%	10.08%	9.66%	7.98%	88.24%
Median	2	2	2	1	1	1	4.5
90th%	9	8	8	4	2	3	14

[96] [NVivo data: of the 584 cases, 301 involved EIS claims and 238 involved EA claims].
[97] We found that constitutional standing was a basis for the court's ruling in roughly 5 percent of the appeals.
[98] This finding is based on a combination of analyses based on Chi^2 tests and logistic regressions conducted using dummy variables for each of the most common claims (alternatives, cumulative impacts, mitigation measure, and scope). [qualify given that the number of cases in each claim category is small in our sample]

Table 8: Relative Frequency of Environmental Impact Statement Claims in Appeals

	Alternatives	Cumulative Impacts	Mitigation	Scope	Indirect Impacts	Uncertainty	Intensity	Connected
Number of Cases	208	117	86	79	41	53	33	32
Percent All Cases	35.62%	20.03%	14.73%	13.53%	7.02%	9.08%	5.65%	5.48%
Percent of EIS Claims	69.10%	38.87%	28.57%	26.25%	13.62%	17.61%	10.96%	10.63%
Median	2	2	2	1	1	1	1	2
90th%	9	7	7	4	2	3	2	10

The most compelling findings are once again associated with the differences observed between cases filed during Bush and Obama administrations. Similar to the district cases, appeals in most circuits, including the D.C. circuit, which had the second highest number of appeals, were roughly equally likely to succeed (roughly 12 percent). Only the Ninth circuit had both a large enough number of cases and sufficiently divergent success rates for plaintiffs to be a statistically significant outlier; however, even this result was contingent on the administration. Specifically, plaintiffs in the Ninth circuit during the Bush Administration were roughly 2.5 times more likely to prevail than plaintiffs in other circuits (43 versus 17 percent). But during the Obama Administration, plaintiff success rates in the Ninth circuit dropped to 16 percent and the inter-circuit differential was just 5 percent. At this level, the success rates of appeals in the Ninth circuit were no longer statistically significant, and outcomes of appeals effectively converged to the national average. This dramatic shift highlights how the impact of judicial review changes with the politics of the presidential administration.

The influence of circuit judges' political affiliation is more complex than at the district court level because appeals are heard by three-judge panels. Nevertheless, we observe substantial differences in case outcomes when panels are uniform ideologically, either all Republican or Democratic appointees, relative to those with at least one judge having an opposing political affiliation. This observation is also sensitive to the politics of the administration in power. During the Bush Administration, plaintiffs appearing before a majority-Republican panel prevailed in 20 percent of the cases, and just 5 percent of the cases before an all-Republican panel; by contrast, plaintiffs won 41 percent of their appeals before all- or majority-Democratic judge panels. Similar to prior observations, the impact of judicial ideological greatly diminished during the Obama Administration, when plaintiff success rates were 9-13 percent for both all-Republican and ideologically mixed panels. Interestingly, plaintiff success rates before all-Democratic panels declined only modestly during the Obama Administration to 36 percent, or roughly triple the rates of all-Republican or ideologically mixed panels. Of course, we cannot know whether the long-term baseline is closer to the level observed during the Bush or Obama administrations, although at least one earlier study suggests that the average is closer to rates observed during the Obama Administration.[99] We only know that federal defendants prevailed

[99] Malmsheimer, *supra* note 52, at 22 (finding that the USFS won a lower proportion of cases during the Reagan Administration (28.6 percent of cases) than George H.W. Bush I (64 percent) and William J. Clinton (80 percent) administrations).

more often during the Obama Administration (84 versus 71 percent), and that the disparities across circuits and between judges based on political affiliation were statistically insignificant.

Table 9: Logistic Regression for Appeals Outcome[100]

	(1) Ruling	(2) Ruling	(3) Ruling	(4) Ruling	(5) Ruling
Case Published	3.052** (2.91)	3.064** (2.93)	3.038** (2.96)	3.158** (3.07)	2.192* (2.18)
Appellee	0.197** (-3.10)	0.205** (-3.04)	0.215** (-3.12)	0.249** (-2.89)	0.184*** (-3.72)
Administration[101]	0.512* (-2.22)	0.507* (-2.26)	0.543* (-2.08)	0.521* (-2.24)	0.508* (-2.38)
Other Circuits-Ninth Circuit	2.154* (2.19)	2.331* (2.50)	2.975*** (3.57)	3.319*** (3.98)	
Environmental Organization	1.977* (1.96)	2.127* (2.24)	2.048* (2.20)		
Circuit Panel[102] 3-Reps	0.563 (-0.85)	0.583 (-0.80)			
Circuit Panel 1-Rep/2-Dems	1.400 (0.92)	1.394 (0.91)			
Circuit Panel 3-Dems	2.488* (2.11)	2.489* (2.12)			
Federal Land Agency	1.322 (0.89)				
N	338	338	342	342	342

Exponentiated coefficients; *z* statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[100] Whether the case is published is used as a control variable, but it does not change the results dramatically if it is excluded. The most significant impact is on the variable designating cases filed in the 9th circuit, which falls below statistical significance if the publication variable is removed. The coefficients for other independent variables change only modestly. [need to address question of its endogeneity and whether it is a proper control variable]
[101] The substantial time lag associated with appeals makes it more difficult to define when one administration stops and another begins, as an appeal may originate in actions that occurred in a prior administration. We experimented with different cutoff dates with overall relatively minor differences in results. As a consequence, we went with a "middle of the road" approach that defines the Bush Administration as encompassing all circuit cases filed between 2002 and 2009, and the Obama Administration as encompassing all cases filed between 2010 and 2015.
[102] The baseline for comparison of the likelihood ratio is a panel with two judges appointed by a Republican administration and 1 judge appoint by a Democratic administration.

The pattern of divergence and convergence observed between Republican and Democratic judges suggests that, on average, the two classes of judges have different thresholds for overturning agency action. The existence of different thresholds for conservative and liberal judges follows conventional wisdom, but what our data show is an asymmetry in the practical implications of these divisions. The shift we observe in case outcomes appears to stem from a larger number of cases being appealed during the Bush Administration in which agency compliance with NEPA exceeded the threshold for reversal among many Democratic judges but relatively few Republican judges. Moreover, this disparity may have been compounded by a reluctance among Republican judges to second-guess the actions of a Republican administration—a factor perhaps reflected in the increase rate that plaintiffs prevailed before all-Republican panels during the Obama Administration relative to their success rates during the Bush Administration (5 to 12 percent).

Under this hypothesis, agencies during the Obama Administration may have implemented NEPA with greater care and Democratic judges may have been more likely to be sympathetic to federal agencies, whereas Republican judges may have been less concerned about NEPA violations irrespective of the administration. Consistent with this interpretation, we find that the difference in plaintiff success rates between majority-Republican and majority-Democratic panels is roughly 6 times greater (24 versus 4 percentage points) during the Bush Administration than the Obama Administration.[103] Similar to the convergence observed for cases filed in the Ninth circuit, the judge data are suggestive of a pattern in which case outcomes before majority-Democratic panels converged back to the average for all cases in the sample during the Obama Administration. The problem is that this pattern does not hold for all-Democratic panels for which plaintiffs prevail at roughly the same rates over both administrations. Perhaps the more accurate understanding is that ideologically uniform panels are relatively indifferent to the politics of the presidential administration and essentially all of the movement is occurring within the mixed panels, which also account for the substantial majority of cases. These results will be considered more fully in the final section, but it is worth noting in closing here that we are not aware of any similar finding in the legal literature.

One other important difference between the district-court and appellate cases is that federal defendants can initiate appeals. Of the 342 appellate cases in our sample, 24 of them were initiated by federal or private defendants or involved a cross appeal. Although representing less than 10 percent of the appeals, these cases are notable for their relatively high success rates—whereas plaintiffs won just 20 percent of the appeals they initiated, defendants won 38 percent of their appeals.[104] Thus a defendant-initiated appeal was almost twice as likely to succeed as one

[103] The statistics for the four combinations of judges on an appellate panel are as follows: (1) all cases in the sample – plaintiffs prevailed on at least one claim is 8% of the cases before an all Republican panel, 17% before a panel of two Republicans and 1 Democrat, 26% before two Democrats and one Republican, and 39% before an all Democrat panel; Bush Administration – plaintiffs prevailed on at least one claim is 5% of the cases before an all Republican panel, 20% before a panel of two Republicans and 1 Democrat, 42% before two Democrats and one Republican, and 41% before an all Democrat panel; Obama Administration – plaintiffs prevailed on at least one claim is 12% of the cases before an all Republican panel, 13% before a panel of two Republicans and 1 Democrat, 9% before two Democrats and one Republican, and 36% before an all Democrat panel

[104] We have lumped together all of the instances in which an appeal is at least partially initiated by a federal or private defendant due to the small number of such cases in our sample. There may be significant differences between the subsets of cases—in particular, defendants other than federal agencies actually prevailed at a higher rate

initiated by a plaintiff. One must be careful, however, when interpreting these results because the small number of defendant-initiated appeals could reflect a high bar for pursuing appeals,[105] which may partially account for the disparity in outcomes observed.[106] Nevertheless, given that such judgments are made against adverse lower court rulings and complex factual settings, it would take exceptionally good case selection by defendants to account for the dramatically different success rates. In light of these realities, the difference in outcomes could be driven by the deference of appellate courts towards federal agencies, which in effect offsets the weight circuit judges give to a lower court's ruling.

Similar to the district court cases, the logistic regressions we performed on the appellate cases enabled us to take interactions between the variables discussed above into account and, in doing so, to determine which ones were statistically significant. Table 9 displays the likelihood ratios above the z-statistic in brackets, and the asterisks indicate the degree of statistical significance for each parameter.[107] Complementing this analysis, Table 10 contains likelihood-ratio Chi^2 tests, which are again used to evaluate the statistical significance of each parameter in the regressions separately. We also ran regressions on all of the potential NEPA claims to determine whether either specific claims or collections of claims influenced the case outcomes. None of these regressions generated results in which dummy variables representing specific claims or collections of claims were statistically significant. These results were often indeterminate, though, because the smaller sample size for our appellate cases and the low rates at which most NEPA claims were raised limited the statistical power of our analysis for a majority of the individual NEPA claims.

Table 10: Likelihood-Ratio Chi^2 Test for Each Independent Variable

Ruling	*Chi2*	*P>Chi2*	*Res.*
Case Published	9.93	0.0016	335
Appellee	10.08	0.0015	335
Administration	4.44	0.035	335
Other Circuits-Ninth Circuit	13.41	0.0003	335
Environmental NGO	5.13	0.0235	335

The factors that influence the appellate outcomes overlap with those found for district court cases, but significant—and somewhat surprising—differences were also observed. Among the commonalities, both the coefficients for presidential administration and environmental plaintiffs were statistically significant—a plaintiff was about half as likely to succeed in a NEPA appeal during the Obama Administration than during the Bush Administration, and environmental plaintiffs were about 2.5 time more likely to prevail than other plaintiffs.

than federal defendants, 44 versus 33 percent of the cases they appealed. Given the small number of cases in the sample, however, one cannot generalize from these statistics.

[105] Federal defendants won 71 percent of the district court cases, but defendants filed less than 7 percent of the appeals in the sample. This disparity implies that defendants filed only about a quarter of the appeals predicted based on the number of their losses in district court.

[106] [obtain data on the typical rates at which lower court opinions are overturned on appeal].

[107] The number in the brackets in the "z-value," which is a complementary measure of statistical significance that indicates the number of standard deviations the observed data deviate from the value predicted by the statistical model.

Similarly, both the district- and appellate-court samples reveal statistically significant differences geographically in case outcomes. Intuitively, this might expected given that holdings at the appellate level are binding on district courts. The hierarchical relationship between appellate and districts courts need not result in a strict logical relationship, though, because of selection effects associated with appeals—for example, federal defendants rarely file appeals and thus are less likely to offset selection effects dictated by plaintiff's strategic choices. In short, it is difficult to have an intuition either way whether inter-circuit differences will parallel each other at the district court and appellate levels.

Arguably our most intriguing finding concerns the importance of the balance on circuit panels between Republican- and Democrat-appointed judges. This finding is consistent with the findings for district court judges, where a judge's political affiliation was a statistically and practically significant factor. The observed dynamics are both predictable—the disparities are greatest on ideologically uniform panels—and somewhat counterintuitive insofar as we observe an asymmetry between all-Democratic and all-Republican panes. While the rate at which plaintiffs prevailed before all-Democratic panels was relatively invariant to presidential administration, all-Republican panels displayed a greater level of deference towards the Bush Administration (ruling in its favor in 95 percent of the cases) but then converged to levels of mixed panels during the Obama Administration. Unlike prior studies of judicial ideology, we observe significant differences between majority-Republican and majority-Democratic panels for ideologically mixed panels during the Bush Administration but not during the Obama Administration. Put differently, politically homogenous panels account disproportionately for the influence of political affiliation in appellate decisions, but substantial differences are observed across presidential administrations and between the two ideological classes of judges. These and other questions are explored in the next section.

III. Implications for NEPA and Judicial Review

[to be completed]