

FEARFUL ASYMMETRY: HOW THE ABSENCE OF PUBLIC PARTICIPATION IN SECTION 7 OF THE ESA CAN MAKE THE “BEST AVAILABLE SCIENCE” UNAVAILABLE FOR JUDICIAL REVIEW

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Recent empirical studies have shown that public participation is an essential part of the listing process of the Endangered Species Act (“ESA”) because it provides the wildlife agencies with valuable scientific information regarding candidate species and forces agencies to make politically unpopular decisions to protect species standing in the way of development interests. However, the crucial agency-forcing mechanism of public participation is lacking in the interagency consultation process in section 7 of the ESA, one of the most important provisions by which the ESA’s protections for listed species are enforced. This Article explains how the absence of public input through a notice-and-comment procedure in the section 7 consultation process creates a chain of structural asymmetries that predictably skew section 7 decisions in favor of regulated parties and against environmental interests. Because of these structural asymmetries, section 7 is the only provision of the ESA where the “availability” of the “best available science” is an essential evidentiary issue. Examining several recent significant section 7 cases, this Article shows that courts have failed to grapple with the structural differences between section 7 and other parts of the ESA, leading to an inconsistent and improper application of the “best available science” standard in section 7. This Article argues that in order to address the structural asymmetries in the section 7 process, courts should be less deferential toward agency scientific analysis in section 7 decisions, and should be more willing to admit extra-record scientific evidence to challenge the adequacy of agency scientific decisions. Finally, the Article argues in favor of introducing a notice-and-comment procedure in a subset of significant section 7 decisions.

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INTRODUCTION

Despite its promise, section 7 of the Endangered Species Act (“ESA”)¹ is considered by many scholars to be a surprising failure. The provision requires agencies to consult with one of the federal wildlife agencies² to analyze how a proposed federal project will affect the habitat, population, and recovery of an endangered species.³ The agency’s analysis results in a determination as to whether the project will “jeopardize the continued existence” of the species.⁴ This determination has the potential to be one of the most powerful in the ESA: a finding of jeopardy can halt major federal actions outright or impose significant modifications on the operations of proposed or ongoing projects without regard to cost or social impact.⁵ For that reason, section 7 has been a favorite target of politicians and industries seeking to decrease the discretion that wildlife agencies have to block or modify development projects.⁶ And yet despite section 7’s power and potential, the consensus among many scholars of the

¹ 16 U.S.C. §§ 1531–1544 (2012).

² The federal wildlife agencies are the U.S. Fish and Wildlife Service (“FWS”), located in the Department of the Interior, and the National Marine Fisheries Service (“NMFS”), located in the Department of Commerce. NMFS has jurisdiction over most marine and anadromous species, while the FWS has jurisdiction over all terrestrial, all freshwater, and certain other specified species. 50 C.F.R. § 402.01(b) (2014).

³ 16 U.S.C. § 1536(a)(2).

⁴ *Id.*

⁵ See Brigham Daniels, *Environmental Regulatory Nukes*, 2013 UTAH L. REV. 1505, 1536 (2013) (describing section 7 decisions as “regulatory nukes” that can “kill the federal project”). The archetypal ESA decision, *Tenn. Valley Auth. v. Hill*, 437 U.S. 153 (1978), involved a section 7 determination. See Daniel A. Farber, *A Tale of Two Cases*, 20 VA. ENVTL. L.J. 33, 34 (2001) (describing *Tenn. Valley Auth. v. Hill* as possibly “the best-known case in environmental law”). In that case, the Supreme Court ordered a halt to construction of the Tellico Dam because it threatened the only known habitat of the endangered snail darter. *Tenn. Valley Auth.*, 437 U.S. at 172 (1978).

⁶ Most recently, the Bush Administration passed regulations in its final days that would have allowed agencies to sidestep consultation with federal wildlife agencies by making their own determination as to whether a project would jeopardize a species. The regulations, which were subsequently repealed, are discussed in more detail in ERIC BIBER ET AL., COMMENTS FROM ENVIRONMENTAL LAW PROFESSORS RE: PROPOSED RULE—INTERAGENCY COOPERATION UNDER THE ENDANGERED SPECIES ACT (AMENDMENTS) (2008). See also Michael C. Blumm & Andrea Lang, *Shared Sovereignty: The Role of Expert Agencies in Environmental Law*, 42 ECOLOGY L.Q. (forth-

ESA is that the provision has failed to protect endangered species, and produces relatively few meaningful limitations on federal action.⁷

In seeking to explain the gap between section 7's promise and its effect, scholars have focused on the failure of agencies and the courts to enforce the substantive terms of the statute. They argue that the ambiguity of the concept of "jeopardy" allows the wildlife agencies to make politically motivated decisions to benefit regulated industries and to allow harm to endangered species.⁸ Others argue that courts have improperly deferred to highly political agency decisions that are couched in dubious scientific reasoning.⁹ Underlying these arguments is a claim that section 7's failure is primarily a problem of *interpretation*: if the agencies and the courts enforced the statutory language according to its plain meaning and the intent of the legislature, section 7 would more effectively protect species affected by federal action.¹⁰

While there is undoubtedly significant evidence that the implementation of section 7 has been affected by politically inspired agency recalcitrance and by overly deferential courts,¹¹ this Article contends that section 7 suffers primarily from a problem of *structure*. Unlike every other substantive provision of the ESA—and unlike many structurally similar environmental review and permitting processes¹²—section 7 consultations do not include a public notice-and-

coming 2015) (manuscript at *33–35) (on file with author) (discussing other regulations meant to undermine the significance of consultation under section 7).

⁷ See, e.g., Daniel J. Rohlf, *Jeopardy Under the Endangered Species Act: Playing a Game Protected Species Can't Win*, 41 WASHBURN L.J. 114, 115 (2001) ("[T]he concept of jeopardy often amounts to little more than a vague threat employed by the FWS and NMFS to negotiate relatively minor modifications to federal and non-federal actions."); Oliver A. Houck, *The Endangered Species Act and Its Implementation by the U.S. Departments of Interior and Commerce*, 64 U. COLO. L. REV. 277, 321 (1993) ("[T]here is no evidence that formal consultation under the Endangered Species Act is stopping the world. Indeed, there is little evidence that it is changing it very much at all.").

⁸ See Houck, *supra* note 7, at 326 ("Taken together, Interior's regulations present a composite picture of an agency doing everything possible within law, and beyond, to limit the effect of protection under section 7(a)(2)."); Rohlf, *supra* note 7, at 116 ("[T]he agencies' current interpretation of jeopardy often deprives listed species of protections to which they should be legally entitled."); Dave Owen, *Critical Habitat and the Challenge of Regulating Small Harms*, 64 FLA. L. REV. 141, 185–86 (2012) (discussing the section 7 "capture" narrative).

⁹ See, e.g., Katherine Renshaw, *Leaving the Fox to Guard the Henhouse: Bringing Accountability to Consultation Under the Endangered Species Act*, 32 COLUM. J. ENVTL. L. 161, 165 (2007) ("Courts, by channeling challenges to jeopardy determinations to only procedural, rather than substantive routes, are effectively removing the substantive mandate from the ESA, and allowing further corruption of agency science.").

¹⁰ See, e.g., Rohlf, *supra* note 7, at 115 ("If the federal government is actually committed to stemming the continued decline of many threatened and endangered species, both the FWS and NMFS must act expeditiously to reform their interpretations and implementation of the Act's jeopardy standard."); Renshaw, *supra* note 9, at 165 ("The tools for this stringent review are present in the ESA By giving teeth to these requirements, courts can reinstate the substantive requirement to actually insure against jeopardy, rather than allowing agencies to simply hope that species are not put in jeopardy.").

¹¹ See, e.g., Holly Doremus, *Scientific and Political Integrity in Environmental Policy*, 86 TEX. L. REV. 1601, 1603–09 (2008) (surveying political controversies involving the ESA).

¹² See *infra* notes 113–14 and accompanying text for a discussion of similar processes under the National Environmental Policy Act and the Clean Water Act requiring public notice and comment. Similarly, the National Forest Management Act requires opportunities for public participation during the development or revision of Forest Management Plans. See 16 U.S.C. § 1604(d) (2012).

comment procedure.¹³ This Article contends that this absence, which has gone largely undiscussed in scholarship on the ESA generally and section 7 in particular, creates a series of structural asymmetries that have the potential to skew the outcome of the section 7 process in favor of regulated industries and against environmental interests.

Drawing on insights from administrative law and political science scholarship, this Article shows how these asymmetries affect the section 7 formal consultation process¹⁴ at both the front and the back end. At the front end, when the federal wildlife agency is developing its jeopardy decision and its biological opinion (“BiOp”),¹⁵ the agencies that propose federal actions (“action agencies”) and private project applicants (“applicants”) have asymmetric access to the wildlife agency because only those parties have an opportunity to comment on draft BiOps. This allows action agencies and applicants to pre-determine the contents of the administrative record and to use the threat of litigation to pressure the wildlife agencies.

At the back end of the process, action agencies and applicants have asymmetric access to judicial review because they have already constructed an administrative record buttressed by material supporting their preferred outcome. A well-developed administrative record will allow the applicant to raise sub-

¹³ Houck, *supra* note 7, at 326 (noting that opportunity for public notice and comment is provided for in “every other step of the [ESA] process” and “for nearly all federal decisions affecting the general public” except section 7 decisions). The formal justification for the absence of a notice-and-comment procedure in section 7 is that the issuance of a biological opinion is not an agency rulemaking, because the biological opinion is technically a guidance document that provides guidelines for the action agency to avoid jeopardy. *See infra* Part I.C.3; *see also* San Luis & Delta-Mendota Water Auth. v. Jewell, 747 F.3d 581, 604 (9th Cir. 2014) (noting the absence of a notice-and-comment procedure in section 7 and stating that “[t]he ESA consultation process is not a rulemaking proceeding, but a request from one agency for the expertise of a second agency”). However, as the Supreme Court has recognized, biological opinions have “coercive effect[s]” because the action agency risks civil and criminal penalties if a deviation from the terms of the biological opinion provided by the wildlife agency results in the take of an endangered species. *See Bennett v. Spear*, 520 U.S. 154, 169–70 (1997); *see also* Blumm & Lang, *supra* note 6, at 37 (“[A]lthough the ESA technically places final decision-making authority in the hands of the action agency, in practice it may not be possible for an action agency to articulate good reasons for disregarding the expert Service’s biological opinion that will survive judicial review.” (citations omitted)).

¹⁴ The majority of project applications are resolved through *informal* consultation, which is a process of discussion and negotiation between the action agency and the wildlife agency prior to formal consultation. *See* U.S. FISH & WILDLIFE SERV., CONSULTATIONS WITH FEDERAL AGENCIES: SECTION 7 OF THE ENDANGERED SPECIES ACT 2 (2011), <http://perma.cc/4K3K-49JF> (stating that in 2010 the FWS “assisted Federal agencies in carrying out their responsibilities under section 7 on more than 30,000 occasions. The vast majority of the workload was technical assistance to Federal agencies and informal consultations on actions that were not likely to adversely affect listed species”); *see also* Oliver Houck, *Reflections on the Endangered Species Act*, 25 ENVTL. L. 689, 692 (1995) (noting that over a five-year period “100,000 consultations have resulted in jeopardy opinions exactly .054 percent of the time”). However, the formal consultation process is of particular importance because it becomes necessary when a project is likely to adversely affect a listed species or critical habitat. 16 U.S.C. § 1536(a); 50 C.F.R. § 402.14(a) (2014).

¹⁵ Under section 7, when the wildlife agency determines that a project is likely to adversely affect any endangered or threatened species or critical habitat, it produces a BiOp through the formal consultation process that articulates the basis for its finding of “jeopardy” or “no jeopardy.” *See* 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14(b), (h).

stantive attacks on a BiOp that are unavailable to parties excluded from the pre-decisional process.¹⁶ This Article shows how these asymmetries predictably skew the section 7 process in favor of minimal environmental management of federal projects. Ultimately, this Article contends that section 7's structural problems often drive its substantive failures.¹⁷

The absence of a notice-and-comment procedure in the section 7 consultation process is particularly important because one of the defining features of the ESA is that it requires the wildlife agencies to ground their decisions in the "best available science."¹⁸ Science pervades the ESA: almost every major provision of the statute requires the agency to make its decisions using some variation of "the best scientific and commercial data available."¹⁹ However, while scholarship on the "best available science" standard has focused on the normative question of how "science" should be defined and employed for purposes of the ESA,²⁰ the procedural and evidentiary question of what science should be considered "available" to the agency for purposes of judicial review has been largely neglected.

Without the adversarial element provided by the notice-and-comment process,²¹ the wildlife agency, working alongside the action agency and applicant, has the opportunity to self-determine what scientific data it considers relevant and "available" for purposes of determining jeopardy, and to limit the administrative record accordingly. This nearly unreviewable authority to determine the

¹⁶ Because of the procedural advantages that applicants possess, they rarely challenge the decisions of the wildlife agency in court. For the reasons discussed in this Article, the threat of litigation by the applicant is enough in the absence of countervailing pressure from environmental groups.

¹⁷ See, e.g., William W. Buzbee, *Expanding the Zone, Tilting the Field: Zone of Interests and Article III Standing Analysis After Bennett v. Spear*, 49 ADMIN. L. REV. 763, 770 (1997) ("The law's shadow is cast not just by substantive law, but by the procedural choices provided by the law.").

¹⁸ Although the phrase "best available science" does not appear directly in the ESA, the phrase is widely used within the literature as shorthand for the various science standards within the ESA and related statutes. See, e.g., Holly Doremus, *The Purposes, Effects, and Future of the Endangered Species Act's Best Available Science Mandate*, 34 ENVTL. L. 397 (2004). The term reflects the fact that both courts and scholars have read the statutory requirement broadly to cover questions of scientific methodology as well as data.

¹⁹ 16 U.S.C. § 1533(b)(1)(A) (listing decisions); *id.* § 1533(b)(2) (critical habitat determinations); *id.* § 1536(a)(2) (interagency consultation); *id.* § 1536(h)(2)(B) (exemption from consultation requirements).

²⁰ See generally, e.g., Laurence Michael Bogert, *That's My Story and I'm Stickin' to It: Is the "Best Available" Science Any Available Science Under the Endangered Species Act?*, 31 IDAHO L. REV. 85 (1994); Michael J. Brennan et al., *Square Pegs and Round Holes: Application of the "Best Scientific Data Available" Standard in the Endangered Species Act*, 16 TUL. ENVTL. L.J. 387 (2003); Doremus, *supra* note 11; Doremus, *supra* note 18; Holly Doremus, *Listing Decisions Under the Endangered Species Act: Why Better Science Isn't Always Better Policy*, 75 WASH. U. L.Q. 1029 (1997) [hereinafter Doremus, *Listing Decisions Under the Endangered Species Act*]; Julie Lurman Joly, Joel Reynolds & Martin Robards, *Recognizing When the "Best Available Scientific Data" Isn't*, 29 STAN. ENVTL. L.J. 247 (2010); Renshaw, *supra* note 9; J.B. Ruhl & James Salzman, *In Defense of Regulatory Peer Review*, 84 WASH. U. L. REV. 1 (2006); J.B. Ruhl, *The Battle Over Endangered Species Act Methodology*, 34 ENVTL. L. 555 (2004).

²¹ See Doremus, *Listing Decisions Under the Endangered Species Act*, *supra* note 20, at 1151 (noting the "intensely adversarial" quality of the notice-and-comment process under section 4 of the ESA).

scope of the scientific record predictably leads to manipulation and abuse. Accordingly, in recent years the wildlife agencies have used their power to control the administrative record to exclude evidence regarding climate change;²² set arbitrary limits on the scientific data considered “available” for consultations;²³ and relied on outdated data modeling even where more recent data could easily be analyzed.²⁴ In each of these cases, the agency relied upon its privileged access to the pre-decisional record to exclude scientific data or analyses that would contradict the conclusions in the final BiOp, a strategy that would be less available to the agency if section 7 allowed for notice and comment from the public. Through the notice-and-comment process, interested members of the public would be able to challenge agency science and to fill in the gaps in the agency’s analysis, building a counter-record for purposes of subsequent judicial review.

Indeed, a recent empirical analysis of the section 4 listing process showed that public participation through citizen petitions and litigation is highly effective at identifying endangered and threatened species, and essential to compelling the wildlife agencies to protect “biologically threatened taxa that would otherwise be ignored because they conflict with development projects and related political pressures or because they are low-profile subspecies.”²⁵ There is no reason to assume that public participation would not be similarly effective to protect species directly in the crosshairs of “development projects and related political pressures” in the section 7 context.²⁶

The notice-and-comment process has important potential benefits for the agency as well. First, members of the public, including environmental groups, scientists, and industry groups often have access to scientific data and analysis

²² See, e.g., *S. Yuba River Citizens League v. Nat’l Marine Fisheries Serv.*, 723 F. Supp. 2d 1247, 1274 (E.D. Cal. 2010). In *South Yuba*, NMFS failed to include in the administrative record of a BiOp regarding endangered fish any data or analysis regarding the probable effects of climate change on the species. *Id.* at 1273–74. The Agency did so despite the fact that scientists at NMFS had recently published a paper under NMFS’s authority describing the effects of climate change on species in the Yuba River. *Id.* NMFS argued in court that its own scientists’ report could not be considered a relevant part of the “best available science” for purposes of judicial review and that the Agency implicitly considered climate change before tacitly deciding that it was not an important factor in the jeopardy analysis for the species. *Id.*

²³ See, e.g., Felicity Barringer, *New Rule on Endangered Species in the Southwest*, N.Y. TIMES (May 24, 2005), <http://perma.cc/T4PL-S9QP>. Under the second Bush Administration, the Southwest Region of the FWS imposed an informal internal policy that, for purposes of section 7 consultations, the “best available” genetic science for species would be the genetic data that was available at the time the species was listed, even if the species had been listed decades earlier. *Id.* See also Renshaw, *supra* note 9, at 169 n.32.

²⁴ See, e.g., *Cabinet Res. Grp. v. U.S. Fish & Wildlife Serv.*, 465 F. Supp. 2d 1067, 1090 (D. Mont. 2006).

²⁵ Berry J. Brosi & Eric G. N. Biber, *Citizen Involvement in the U.S. Endangered Species Act*, 337 SCIENCE 802, 803 (2012).

²⁶ See Houck, *supra* note 7, at 326 (“That the ESA operates largely through the benefit of the public’s interest in and knowledge of endangered species—from listing provisions through enforcement—is beyond cavil. That Interior would strain so deliberately to exclude the public—while including the development agencies and private applicants—from biological opinions is some measure of just how important it is that the public be involved. Without public participation, findings of ‘no jeopardy’ are far easier to reach.”).

that is of the same quality or higher than that possessed by the agency.²⁷ A notice-and-comment mechanism encourages those groups to share that information during the consultation process when there is still time to determine the structure of a BiOp. Second, in litigation over other sections of the ESA, as well as similar environmental statutes such as the National Environmental Policy Act (“NEPA”), the notice-and-comment process plays an important role in limiting the scope of judicial review. Criticisms of agency science that were not raised during a notice-and-comment period cannot be considered by a court in a subsequent challenge to the agency’s decision.²⁸ Thus, by the time the agency has addressed all of the substantive comments that have been submitted, it will have had the opportunity to respond on the record to all factual and analytical disputes that might subsequently serve as the basis for litigation. The absence of notice and comment in the section 7 process leaves the wildlife agencies uniquely vulnerable to plaintiffs who raise new scientific concerns through extra-record evidence in court after the decision has been issued.²⁹

This Article challenges the consensus among scholars that the “best available science” standard is essentially congruent with the “arbitrary and capricious” standard of the Administrative Procedure Act (“APA”).³⁰ The absence of an adversarial notice-and-comment procedure in the section 7 decision-making process means that the administrative record in a section 7 decision is less developed and more one-sided than many other types of agency decisions subject to judicial review under the APA. Scholars and courts—accustomed to the standard procedures of the section 4 listing process and informal APA rulemaking in general—have treated section 7 as if it included a notice-and-comment requirement even though none exists in the statute.³¹ This Article argues that

²⁷ Brosi & Biber, *supra* note 25, at 803 (noting that in the section 4 context, “[c]itizen actors—including numerous scientists—have specialized knowledge about biological taxa and geographic locales. FWS is limited in its budget, staff size, and scope and is unlikely to ever contain enough expertise to identify all species most worthy of protection” (citation omitted)).

²⁸ See *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 519, 553 (1978) (noting that during the comment period, parties must “structure their participation . . . so that it alerts the agency to the intervenors’ position and contentions”); *Tex Tin Corp. v. EPA*, 935 F.2d 1321, 1323 (D.C. Cir. 1991) (per curiam) (“Absent special circumstances a party must initially present its comments to the agency during the rulemaking in order for the court to consider the issue.”).

²⁹ As discussed further in Part II.B.3 *infra*, extra-record evidence is generally inadmissible to challenge informal decision-making by administrative agencies under the Administrative Procedure Act. However, courts can and do admit extra-record evidence under an established set of narrow exceptions. See *infra* text accompanying note 176. The admission of extra-record scientific evidence places the agency at a disadvantage because the agency has not had the opportunity to respond to the plaintiff’s evidence in the administrative record. See *infra* text accompanying notes 268–69.

³⁰ See, e.g., J.B. Ruhl, *Climate Change and the Endangered Species Act: Building Bridges to the No-Analog Future*, 88 B.U. L. REV. 1, 56–57 (2008) (“It is not possible to extract from case law, administrative policy, or legislative intent any independent mandate of agency decision-making method or standard of judicial review the [best available science standard] adds to the picture. Nor does commentary on the standard suggest that it imposes higher duties.”).

³¹ See, e.g., *Ariz. Cattle Growers Ass’n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229, 1245 (9th Cir. 2001) (stating incorrectly that “the extraordinarily complex consultation process . . . includes reporting requirements and public comment periods”).

courts should examine agency scientific conclusions under section 7 more closely than analogous decisions under section 4 due to the lack of pre-decisional public participation, and should allow plaintiffs more leeway to introduce extra-record evidence to explain defects in the agency's scientific reasoning.

Second, this Article argues that the absence of notice-and-comment review in the section 7 context is a procedural problem that can and should be remedied through regulation or voluntary agency action, at least for consultations that will have broad public effect, such as those involving the reauthorization of federal infrastructure. Here, NEPA serves as a model: the Council on Environmental Quality remedied the absence of a statutory requirement for public notice and comment through regulations that made the opportunity for public comment mandatory. While a notice-and-comment procedure would impose a significant up-front time cost on the agency, as it does in NEPA decisions, it would also in many cases lead to a better-defined scientific record, more genuine consideration of alternatives, and greater finality by making it more difficult for disgruntled parties to raise new, post-hoc scientific challenges in court.

Part I of this Article juxtaposes section 4 of the ESA, which governs listing decisions, with section 7 of the statute in order to highlight the importance of the absence of notice and comment in section 7. Part II of the Article explains how the lack of a notice-and-comment procedure in section 7 creates two significant structural asymmetries that undermine the strong species-protection mandate of the provision. Part III argues that due to the absence of an adversarial notice-and-comment procedure, courts should review agency scientific decisions under section 7 with heightened scrutiny and should be more willing to admit extra-record scientific evidence to challenge BiOps. Reviewing several recent important section 7 decisions, it shows how courts have struggled with the evidentiary problems caused by the absence of a notice-and-comment procedure in section 7. Finally, it argues that despite the significant and widely recognized drawbacks to the notice-and-comment process, the wildlife agencies should consider establishing a notice-and-comment procedure for at least a subset of major section 7 decisions.

Ultimately, the structural integrity of the section 7 process matters. The next few decades of ESA litigation will be dominated by section 7 issues regarding the reauthorization of major infrastructure projects such as dams and water transportation systems,³² as well as concerns about the development of

³² Existing infrastructure projects are subject to a number of license renewals and other procedures that require reauthorization under section 7 of the ESA. For example, hydropower dams located on waterways to which federal commerce clause or public lands authority extends must be licensed by the Federal Energy Regulatory Commission ("FERC") under the Federal Power Act. See 16 U.S.C. §§ 791–828c (2012); see also Dave Owen & Colin Apse, *Trading Dams*, 48 U.C. DAVIS L. REV. 1043, 1064–66 (2015) (discussing FERC licensing and relicensing procedure). The licenses are granted for forty-year terms, and must be renewed upon expiration. Owen & Apse, *supra*, at 1064–66; 16 U.S.C. § 808 (relicensing procedure). The FERC relicensing triggers NEPA and section 7 requirements. See Owen & Apse, *supra*, at 1064–65; Robin Kundis Craig, *Does the Endangered Species Act Preempt State Water Law?*, 62 U. KAN. L. REV. 851, 872 (2014) (discussing effect of ESA on relicensing process for hydropower in the Klamath Basin). Changes to opera-

federally funded renewable energy sources in western landscapes dotted with endangered species.³³ Recent episodes of back-and-forth litigation over large-scale infrastructure projects in the Klamath and the Sacramento Bay-Delta demonstrate that the section 7 process is failing to produce sustainable and defensible results in court. Without a robust section 7 review process that prioritizes gathering scientific data and analyses from all interested parties, the ESA's statutory goal of protecting endangered species will be pushed to the margins.

I. BACKGROUND: PURPOSE AND PROCEDURE IN SECTION 4 AND SECTION 7 OF THE ESA

The ESA's strong emphasis on science-based decisions, its overriding and single-minded focus on species protection, and its far-reaching effect on both federal and private actors, have made it the most significant legal tool for protecting and preserving a diversity of wild species in the United States.³⁴ Enacted in 1973, the statute broadened the scope of federal power over wildlife to cover the entirety of the country. A mandate for science-based decision-making pervades the statute, which requires federal wildlife agencies to base nearly all of their decisions on some statutory variant of the "best available scientific and commercial data," whether those decisions involve the listing of species,³⁵ the designation of critical habitat,³⁶ the determination of the risk of jeopardy caused by a federal project,³⁷ exemptions from jeopardy determinations issued by the "God Squad,"³⁸ or the implementation of the Convention on International Trade in Endangered Species.³⁹

tions at existing infrastructure may also trigger a requirement for consultation under section 7. For example, changes to the coordination of state and federal water projects in the Sacramento Bay-Delta in 2004 required development of a new BiOp, which has led to nearly a decade of litigation. See *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 596 n.7 (9th Cir. 2014); *Natural Res. Def. Council, Inc. v. Kempthorne*, 506 F. Supp. 2d 322, 329–30 (2007) (discussing the 2004 coordination agreement).

³³ See J.B. Ruhl, *The Endangered Species Act's Fall from Grace in the Supreme Court*, 36 HARV. ENVTL. L. REV. 487, 518–19 (2012) (explaining how the expansion of territory covered by the ESA due to listing and critical habitat decisions means that section 7 "increasingly reach[es] deeper and deeper into the private sector," governing a large number of private land use decisions).

³⁴ See Eric Biber & Berry Brosi, *Officious Intermeddlers or Citizen Enforcers?: Petitions and Public Production of Information in Environmental Law*, 58 UCLA L. REV. 321, 332 (2010); see also Buzbee, *supra* note 17, at 788 ("Few statutes have goals as unidimensional in purpose as the ESA.").

³⁵ 16 U.S.C. § 1533(b)(1)(A).

³⁶ *Id.* § 1533(b)(2).

³⁷ *Id.* § 1536(a)(2).

³⁸ The God Squad was known formally as the Endangered Species Committee. See *id.* § 1536(h)(2)(B).

³⁹ *Id.* § 1537(a). The ESA curiously fails to require the use of the best available science to create recovery plans for the species, to create special rules for the conservation of the species, or to permit incidental take of the listed species. Doremus, *supra* note 18, at 407. It is unclear why these sections do not include a statutory science mandate, given that it is unlikely that Congress did not

And yet, despite its repeated invocation of the “best available science,” the ESA provides essentially no guidance on how the agency should determine what science is “best” or “available.” As Professor Doremus has shown, the legislative history of the ESA indicates that Congress incorporated the best-available-science mandate in the ESA without discussion of how the standard should be interpreted, and most likely intended little more than “to insure objective, value-neutral decision making by specially trained experts.”⁴⁰

Congress would never be so sanguine about environmental science again. In the intervening decades, science has been at the heart of the political debate over the role of the ESA, a debate that intensified after the Supreme Court’s decision in *Tennessee Valley Authority v. Hill*⁴¹ and continues to intensify. On multiple occasions, Congress has sought to revise the ESA either to remove the science requirements entirely or to shift the scientific burden of proof to make regulation so burdensome as to be impossible.⁴² While none of these fundamental reforms have been successful, legislators have succeeded in passing science-related statutes such as the Data Quality Act⁴³ that have added additional regulatory burdens for agency scientists.

Despite these changes, the core components of the ESA remain essentially the same as when the statute was enacted in 1973. Two of the most important, and most litigated, aspects of the ESA’s wildlife protection program are the section 4 listing process, whereby species are added to the list of threatened or endangered species, and the section 7 consultation process, which requires federal agencies undertaking an action that might affect endangered species to consult with either the U.S. Fish and Wildlife Service (“FWS”) or the National Marine Fisheries Service (“NMFS”) to determine whether the project will jeopardize the species. The statute requires both of these types of decisions to be informed primarily by scientific data and analysis. The agency must make listing decisions “solely on the basis of the best scientific and commercial data available to [the agency] after conducting a review of the status of the species.”⁴⁴ Similarly, in deciding whether or not a federal project will jeopardize a listed species, the agency must “use the best scientific and commercial data available.”⁴⁵

However, despite the superficial similarity of the “best available science” requirements in section 4 and section 7 of the ESA, these two sections provide very different statutory procedures for how the wildlife agency should collect the “best available science.” Section 4 requires the agency to undertake a notice-and-comment period that allows members of the public to contribute their

intend for wildlife agencies to refer to the best available science in implementing those provisions of the ESA. *Id.*

⁴⁰ Doremus, *supra* note 18, at 418–19.

⁴¹ 437 U.S. 153 (1978). For a discussion of *Tenn. Valley Auth. v. Hill*, see *supra* note 5.

⁴² See, e.g., BIBER ET AL., *supra* note 6, at 5–7.

⁴³ 44 U.S.C. §§ 3504(d)(1), 3516 (2012).

⁴⁴ 16 U.S.C. § 1533(b)(1)(A).

⁴⁵ *Id.* § 1536(a)(2).

scientific data and analysis, while the data-gathering process in section 7 does not feature a notice-and-comment period and is closed to all but the action agency and the applicant. This Part of the Article will first briefly discuss the role of the notice-and-comment requirement under the APA. Then it will take a close look at the role of the notice-and-comment procedure in section 4 of the ESA, as well as in NEPA. Finally, it will discuss the section 7 consultation process in order to highlight the significance of the absence of notice and comment in section 7.

A. *Informal Notice-and-Comment Rulemaking Under the APA*

The notice-and-comment process is a fundamental aspect of informal rulemaking under the APA.⁴⁶ The process requires (1) the publication of formal notice in the Federal Register that a rule is being proposed, including an explanation of the legal authority for the rule and a description of the “terms or substance of the proposed rule,” followed by (2) an opportunity for interested parties “to participate in the rulemaking through submission of written data, views, or arguments.”⁴⁷ The public must be granted an “adequate” opportunity to submit comments.⁴⁸ Following the comment period, the agency must “consider[] the relevant matter submitted” and “incorporate in the rules adopted a concise general statement of their basis and purpose.”⁴⁹ This statement must incorporate some response to substantive comments submitted by the public.⁵⁰

The notice-and-comment process serves two important accountability-promoting purposes within the administrative law system. First, it requires the agency to seek and consider public input external to the regulated industries. This democratic process compels the agency to consult each of its stakeholder “constituents,” ensuring that the ultimate agency action will in some way be responsive to the concerns of all interested parties.⁵¹ Scholars have recognized that such an opportunity for public input serves as a partial corrective for the attenuated relationship between executive agency action and voter response that

⁴⁶ Formal rulemaking, which requires a trial-like hearing in which affected parties can give testimony and present evidence, is rarely employed by agencies, and only where required by statute. See 5 U.S.C. §§ 556–557 (2012).

⁴⁷ *Id.* § 553(b)–(c).

⁴⁸ See *Fla. Power & Light Co. v. United States*, 846 F.2d 765, 771 (D.C. Cir. 1988). Under Executive Order 12,866, the public’s opportunity to comment “in most cases should include a comment period of not less than 60 days.” Exec. Order No. 12,866, § 6(a), 58 Fed. Reg. 51,735 (Oct. 4, 1993).

⁴⁹ 5 U.S.C. § 553(c).

⁵⁰ See JEFFREY S. LUBBERS, *A GUIDE TO FEDERAL AGENCY RULEMAKING* 376 (4th ed. 2006).

⁵¹ See Daniel T. Deacon, *Deregulation Through Nonenforcement*, 85 N.Y.U. L. REV. 795, 820 (2010) (“When acting through rulemaking, the executive must at least invite the participation of, and respond to, interest groups other than the regulated industry itself. Indeed, participation is an essential element of the accountability-promoting nature of the executive branch.”); Richard B. Stewart, *The Reformation of American Administrative Law*, 88 HARV. L. REV. 1667, 1683 (1975) (“[A]gencies must consider all of the various interests affected by their decisions as an essential predicate to ‘balancing all elements essential to a just determination of the public interest.’” (quoting *Airline Pilots Ass’n v. Civil Aeronautics Bd.*, 475 F.2d 900, 905 (D.C. Cir. 1973))).

undermines the dominant presidential-control model of administrative legitimacy.⁵²

Second, notice and comment develops a record that will ultimately enable effective judicial review of the agency's action under section 706 of the APA.⁵³ The potential for judicial review of the administrative record provides a second accountability check on the legislative authority delegated to administrative agencies.⁵⁴ The APA requires rulemaking decisions to contain a "concise general statement of their basis and purpose."⁵⁵ In interpreting the APA, courts have imposed a requirement that the agency must provide evidence of a reasoned decision-making process.⁵⁶ Among other things, the reasoned decision-making standard requires the agency to consider alternatives "within the ambit of the existing standard" and to explain why it has selected one alternative over another.⁵⁷

Although the reasoned decision-making requirement is often framed in terms of ultimate judicial review, its aim is to provide an incentive for the agency to take action to obtain contradictory information and viewpoints *before* it makes its final decision.⁵⁸ The agency is motivated to seek input from those parties most likely to challenge the decision in court so that it can craft a decision that will survive those challenges.⁵⁹ This pre-decisional engagement with opposing viewpoints has the additional benefit of encouraging agencies to rem-

⁵² Under the presidential-control model, the problematic nature of the delegation of congressional legislative authority to unelected agency officials is cured by the ultimate accountability of the President to electoral concerns. See Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245, 2335–36 (2001). Notice and comment provides a secondary democratic check on arbitrary agency action by inviting direct engagement with, and requiring accountability to, an agency's constituents. See, e.g., *Batterton v. Marshall*, 648 F.2d 694, 703 (D.C. Cir. 1980) ("The essential purpose of according § 553 notice and comment opportunities is to reintroduce public participation and fairness to affected parties after governmental authority has been delegated to unrepresentative agencies."); Lisa Schultz Bressman, *Deference and Democracy*, 75 GEO. WASH. L. REV. 761, 782 (2007) (discussing the requirement for public input and explaining that "[p]olitical accountability, to constitute a meaningful and effective check on executive branch action, must entail a more continuous commitment to the principles of good government").

⁵³ See 5 U.S.C. § 706 (providing review to determine if an agency's action is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law" and requiring the court to "review the whole record").

⁵⁴ See Peter L. Strauss, *Legislation That Isn't—Attending to Rulemaking's "Democracy Deficit,"* 98 CAL. L. REV. 1351, 1357 (2010) ("The legitimacy of delegated discretionary authority . . . is tied directly to the possibility of judicial review for the rationality of its exercise."); Mathew D. McCubbins, Roger G. Noll & Barry R. Weingast, *Administrative Procedures as Instruments of Political Control*, 3 J.L. ECON. & ORG. 243, 257–59 (1987).

⁵⁵ 5 U.S.C. § 553(c).

⁵⁶ See Lisa Schultz Bressman, *Procedures as Politics in Administrative Law*, 107 COLUM. L. REV. 1749, 1777–79 (2007) (explaining origins of "reasoned decisionmaking" standard); see also *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) ("[T]he agency must examine the relevant data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'" (citation omitted)).

⁵⁷ See *State Farm*, 463 U.S. at 51.

⁵⁸ Bressman, *supra* note 56, at 1781 ("Agencies must produce an explanation that is likely to survive judicial review. To do so, they must anticipate potential weaknesses in the record. Perhaps the best way to anticipate such weaknesses is to consult the likely challengers, sharing information with them in order to gain information from them.")

⁵⁹ *Id.*

edy informational deficits, and of facilitating decisions that seek some degree of compromise between competing stakeholder interests.⁶⁰

B. Notice and Comment in Section 4 and NEPA

The notice-and-comment process plays a significant role in regulation under most environmental statutes. For purposes of this Article, the most relevant counterparts to section 7 of the ESA are the listing process under section 4 of the ESA, which employs an almost identical “best available science” standard, and NEPA, which similarly requires the agency to undertake a broad examination of the likely environmental impacts of an action and to explore reasonable alternatives.

1. The Section 4 Listing Process

Section 4 of the ESA creates a process for identifying the species that require protection under the Act. The listing process results in what is essentially a binary outcome: a species is either regulated—it is “endangered”⁶¹ or “threatened”⁶²—or it is not. Species that fit into the first two categories receive the full weight of the ESA’s protection, while those that do not make the cut receive essentially no protection. It is this binary quality of the ESA that gives section 4 listing decisions their existential weight and makes them a flash point for litigation, advocacy, and politics.⁶³

Listing decisions come about in two ways. First, the wildlife agency can choose to initiate the listing process on its own, at which point it will follow the standard procedure of an informal rulemaking under the APA. This process has important implications for identifying the “best available science” for purposes

⁶⁰ See, e.g., *Am. Hosp. Ass’n v. Bowen*, 834 F.2d 1037, 1061 (D.C. Cir. 1987) (“[P]ublic participation assures that the agency will have before it the facts and information relevant to a particular administrative problem . . . [and] increase[s] the likelihood of administrative responsiveness to the needs and concerns of those affected.” (quoting *Guardian Fed. Sav. & Loan v. Fed. Sav. & Loan Ins. Corp.*, 589 F.2d 658, 662 (D.C. Cir. 1978))); Richard J. Pierce, Jr., *Seven Ways to Deossify Agency Rulemaking*, 47 ADMIN. L. REV. 59, 85–86 (1995) (listing the “social benefits” of the notice-and-comment rulemaking process as “(1) enhanced quality of agency rules attributable to broad participation of all potentially affected groups in the policymaking process; (2) enhanced fairness of agency rules attributable to the same characteristic of the process; and, (3) enhanced political accountability of agency policymaking attributable to the notice of proposed rulemaking that alerts the president, Congress, and the general public of an agency’s intention to make important policy decisions, and to the ensuing decisionmaking process in which the public and elected officials can influence the policy outcomes”).

⁶¹ 16 U.S.C. § 1532(6) (2012). Endangered species are those species “in danger of extinction throughout all or a significant portion of [their] range.” *Id.*

⁶² *Id.* § 1533(b)(3)(A). Threatened species are not yet endangered, but likely to become so in the foreseeable future. As a default, FWS regulations provide threatened species with the same level of protection as endangered species. 50 C.F.R. § 17.31(a) (2014). While threatened species are accorded the same protections under section 7 and section 9 of the ESA, they are less likely to be protected by a jeopardy opinion in a section 7 consultation. See Houck, *supra* note 7, at 322 (“One effect of only a ‘threatened’ listing is the reduced likelihood that any single federal action will be seen as jeopardizing the entire species (which is, after all, only ‘threatened’).”).

⁶³ 16 U.S.C. § 1533(b)(3)(B).

of any subsequent litigation. First, the agency publishes its proposed rule—which will include the agency’s own analysis of the “best available science”—then the agency gives notice and seeks public comments on the proposal.⁶⁴ After the comment period, the agency publishes a final rule that responds to the comments that were submitted.⁶⁵ In response to the comments, the agency can alter or withdraw the rule, or publish it unaltered with a separate document that responds to comments. Regardless, it must respond to all substantive comments submitted by the public.⁶⁶

The notice-and-comment procedure in section 4 produces three significant results. First, it notifies interested parties that the agency is planning to list a species as threatened or endangered and provides those parties with the agency’s preliminary analysis of the “best available science.”⁶⁷ Second, it allows third parties to identify gaps in the agency’s scientific analysis and to fill those with their own data and analysis, whether that analysis supports or contradicts the agency’s decision. For example, an environmental group that believed that a species should be listed as endangered rather than threatened could submit scientific data showing that the species is—contrary to the evidence provided by the agency—threatened with imminent extinction. Finally, the notice-and-comment process guarantees to interested parties that their comments will be addressed formally by the agency, and also provides them with a strong incentive to take part in building the administrative record: issues not raised before the agency during the notice-and-comment process will generally be considered waived.⁶⁸

Listing decisions can also come about when citizen groups directly petition the agency to list a species as endangered or threatened.⁶⁹ If a citizen group files a petition, the agency must first determine whether the group has presented “substantial scientific or commercial information” in the petition indicating that listing might be warranted.⁷⁰ If not, the agency may dismiss the petition. If it decides that substantial scientific information exists to consider the petition, the agency has a year in which to determine whether or not the

⁶⁴ 5 U.S.C. § 553 (2012).

⁶⁵ *Id.* § 553(c).

⁶⁶ *Id.*; *Ala. Power Co. v. Costle*, 636 F.2d 323, 385 (D.C. Cir. 1979) (“[T]he duty to respond to significant comments finds a statutory basis in required notice and comment procedures, for ‘the opportunity to comment is meaningless unless the agency responds to significant points raised by the public.’” (citation omitted)).

⁶⁷ Regulations require the agency to provide as part of its notice: (1) a summary of the data on which the proposed rule is based, (2) an explanation of the relationship of the data to the proposed rule, and (3) a summary of the factors affecting the species. 50 C.F.R. § 424.16(b).

⁶⁸ *See Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 523, 553 (1978) (parties must “structure their participation . . . so that it alerts the agency to the intervenors’ position and contentions”); *Omnipoint Corp. v. FCC*, 78 F.3d 620, 635 (D.C. Cir. 1996) (“As a general rule, claims not presented to the agency may not be made for the first time to a reviewing court.”); *Tex Tin Corp. v. EPA*, 935 F.2d 1321, 1323 (D.C. Cir. 1991) (per curiam) (“Absent special circumstances, a party must initially present its comments to the agency during the rulemaking in order for the court to consider the issue.”).

⁶⁹ 16 U.S.C. § 1533(b)(3)(A) (2012).

⁷⁰ *Id.*

species warrants listing.⁷¹ When the agency agrees that the species warrants listing, it follows the notice-and-comment process described above. If the agency decides that listing is not warranted, or if it fails to meet the deadline, then the citizen group can bring suit to challenge the rejection or delay under the ESA's citizen-suit provision or the APA.⁷²

Here, as in the agency-initiated listing process, the citizen petition process allows interested third parties to submit their own summary of the "best available science" on the species. The data and analysis in the petition will form the basis of any later suit against the agency, which is why environmental groups exert considerable effort developing a petition that will be an effective litigation tool. Because the citizen group bears the initial burden of providing substantial scientific information indicating that listing might be warranted, it is unlikely that an environmental group would neglect to include a scientific analysis it believed was the "best available."

Accordingly, the *availability* of scientific data is almost never a contested issue in section 4 cases. The statute makes clear that the agency need only consider scientific data that is available at the time the agency makes its decision, and the notice-and-comment and petition procedures guarantee that interested parties will be able to provide any available data that they believe is essential to evaluating the status of the species. The agency will have carefully responded to the data provided by the public, and explained why it made use of it or not, in the administrative record.

These opportunities for public participation—the notice-and-comment procedure and the citizen petition—make the section 4 listing process time-consuming and expensive for the agency. Collecting and responding to comments requires substantial expenditures of the agency's time and resources, and the requirement to produce and justify a draft before the comment period can slow the listing process down significantly. These expenses, along with the wildlife agencies' general lack of resources, have limited the number of species that can be listed.⁷³ And the opportunity for citizen groups to petition for the listing of a species necessarily directs agency resources away from the agency's own priorities and compels the agency to consider species it had not originally intended to list.⁷⁴

But these costs are not without their benefits. First, the public listing process provides for transparency in agency decision-making and injects a useful element of adversarial scrutiny into the agency's internal scientific analyses.⁷⁵

⁷¹ *Id.* § 1533(b)(3)(B).

⁷² *See id.* § 1533(b)(3)(C)(ii).

⁷³ Doremus, *supra* note 18, at 402.

⁷⁴ Even though petitions and citizen suits redirect wildlife agencies from their regulatory priorities, they may not do so inefficiently. Empirical evidence suggests that petitions and citizen suits do as good a job or better of identifying deserving species as the agency. Biber & Brosi, *supra* note 34, at 363–64.

⁷⁵ *See* Doremus, *Listing Decisions Under the Endangered Species Act*, *supra* note 20, at 1151 ("This public review period provides the opportunity for informal but intensely adversarial scrutiny of the decision. Scientists with a professional interest in the species are drawn to these proceedings, as are persons threatened with economic harm by the proposal. The proceedings afford

Through the public-review process, interested parties can supplement the agency's scientific analysis, or in some cases introduce entirely new lines of analysis that might fall outside the expertise of the agency's staff biologists.⁷⁶ Similarly, the citizen petition has allowed NGOs and individuals to bring obscure but worthy species to the agency's attention in a process of "crowdsourcing" environmental science, and also to force consideration of politically controversial species.⁷⁷

The public participation aspects of the listing process have an additional advantage: they allow for the development of a full and complete record for judicial review. This is especially important in the context of citizen petitions, which challenge the inaction of the agency. By reviewing the petition, the judge can consider all of the available science that the citizen group believed warranted the listing of the species, at least as of the time of the petition. Citizen groups have proven able to present their case for various species with great effectiveness: despite the substantial deference granted to an agency's interpretation of scientific information, courts have repeatedly found that listing of a species was warranted despite a denial by the agency.⁷⁸ Thus, the notice-and-comment and citizen petition processes allow members of the public to act as effective advocates for endangered species throughout the listing process.

2. *Notice and Comment in NEPA*

A similar dynamic takes place in the NEPA decision process. Broadly speaking, under NEPA a proponent of a project with a federal nexus must develop an Environmental Impact Statement ("EIS") to evaluate the project's likely effects on the environment.⁷⁹ The development of an EIS is an iterative process that involves multiple rounds of drafts, comments, and revisions. While NEPA includes no requirement for public comment in the statutory language, the implementing regulations have made public input central to the NEPA process.⁸⁰ The regulations state that "NEPA procedures must insure that environ-

an opportunity for more complete evaluation of the data and interpretations than is typical of formal peer review, permitting attacks not only on the reliability of the methods and the plausibility of the interpretation, but also on the motives and honesty of those who supply the data.").

⁷⁶ See Eric Biber, *Which Science? Whose Science? How Scientific Disciplines Can Shape Environmental Law*, 79 U. CHI. L. REV. 471, 519 (2012) (explaining how in successful challenges to section 4 decisions "the reading of uncertain information that is given by particular [scientific] disciplines is privileged by the courts over the interpretation by an administrative agency of the same information").

⁷⁷ See generally Biber & Brosi, *supra* note 34; see also Doremus, *supra* note 18, at 402 ("The wildlife agencies rarely initiate the listing process for controversial species. At a minimum citizen petitions are required to begin that process and frequently litigation is necessary to complete it."); Susan D. Daggett, *NGOs as Lawmakers, Watchdogs, Whistle-blowers, and Private Attorneys General*, 13 COLO. J. INT'L ENVTL. L. & POL'Y 99, 112 (2002) ("[L]itigation has become an essential element to making any progress [with listing decisions].").

⁷⁸ Doremus, *supra* note 18, at 431 (listing section 4 cases where the agency's decision was reversed).

⁷⁹ 42 U.S.C. § 4332(2)(c) (2012).

⁸⁰ As a matter of statutory language, NEPA requires an agency preparing an EIS to consult only with other federal agencies that have relevant authority or expertise and to make available the EIS

mental information is available to public officials and citizens before decisions are made and before actions are taken. . . . Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.”⁸¹

Courts have given the public-comment requirement a prominent role in reviewing NEPA decisions. Thus, in *Robertson v. Methow Valley Citizens Council*,⁸² the Supreme Court found that the draft EIS “gives the public the assurance that the agency ‘has indeed considered environmental concerns in its decision-making process,’ . . . and, perhaps more significantly, provides a springboard for public comment.”⁸³ A draft EIS or Environmental Assessment (“EA”)⁸⁴ “must provide the public with sufficient environmental information, considered in the totality of circumstances, to permit members of the public to weigh in with their views and thus inform the agency decision-making process.”⁸⁵ The purpose of the draft EIS is not only to make the public and the decision-maker aware of all of the environmental tradeoffs of the action, but also to expose errors and bias in the decision-maker’s analysis.⁸⁶ When a draft EIS fails to inform the public about environmental data, there are two dangers: “(1) the ultimate decision-makers will believe that there is no controversy due to the lack of critical comment; and (2) objective errors without being red-flagged would go unnoticed.”⁸⁷

Taken together, the practices of notice-and-comment rulemaking under section 4 of the ESA and under NEPA suggest that public participation makes two important contributions to the type of sophisticated scientific analyses required by the ESA. First, public comment provides *more* scientific data than would otherwise be available solely through the agency’s own investigation. By collecting and collating data that is difficult to find, or by performing analyses that lie outside of an agency’s disciplinary expertise, public commenters expand the range of scientific alternatives considered by the agency, and—where necessary—by the reviewing court.

Second, the notice-and-comment process introduces *adversarial* science. Public comments can question the bases of an agency’s scientific assumptions or expose errors in the analyses employed by the agency. In some cases, the agency can respond to such comments by correcting the error, thereby avoiding a potential litigation hook. In other cases, public comment reveals an irreconcil-

and comments of federal, state, and local environmental agencies. *See id.*; 40 C.F.R. § 1503.1 (2014).

⁸¹ 40 C.F.R. § 1500.1(b).

⁸² 490 U.S. 332 (1989).

⁸³ *Id.* at 349.

⁸⁴ An Environmental Assessment is a document prepared by an action agency when it is determining whether a full EIS will be necessary. 40 C.F.R. § 1508.9. It contains a brief discussion of the need for the proposal, alternatives to the proposal, the environmental impacts of the project, and a list of the agencies and people consulted. *Id.*

⁸⁵ *Bering Strait Citizens v. U.S. Army Corps of Eng’rs*, 524 F.3d 938, 953 (9th Cir. 2008).

⁸⁶ *Appalachian Mountain Club v. Brinegar*, 394 F. Supp. 105, 121 (D.N.H. 1975) (“By requiring opposing viewpoints to be included in the final EIS, Congress intended for those beyond the decisional agency to be cognizant of all ‘environmental tradeoffs’ that may occur if the project was approved. A balanced EIS is a vehicle for responsible decision-making.”).

⁸⁷ *Id.* at 122.

able difference in policy preferences between the scientific analysis favored by the agency and by the commenter. Under those circumstances, the comment offers the agency the opportunity to respond on the record by stating its policy choice between the two approaches, laying the issue out for ultimate judicial review under the arbitrary-and-capricious standard.

C. *The Section 7 Interagency Consultation Process*

Such opportunities for public input are unavailable under section 7 of the ESA, even though the consultation process has striking similarities to both section 4 of the ESA and the EIS process under NEPA. Section 7 requires every federal agency to undertake a “consultation” with one of the federal wildlife agencies to “insure that any action authorized, funded, or carried out by” the agency “is not likely to jeopardize the continued existence” of a listed species or adversely modify its critical habitat.⁸⁸ Because consultations are localized decisions regarding individual federal projects and rarely constitute a referendum on a species’ long-term survival, they lack the existential weight of section 4 listing decisions. However, these decisions are the culmination of the listing process—they are the points at which the ESA is put into action.⁸⁹

1. *Administrative Procedure for Section 7 Consultations*

Consultations under section 7 of the ESA are triggered when a federal agency, or a private applicant in a project with a federal nexus, proposes an action that has the potential to affect one or more endangered species. These actions may include new projects or the reauthorization of an existing activity. Section 7 requires the action agency to consult with either the FWS or NMFS whenever the action agency determines that the project may affect a listed species to ensure that the proposed action is not likely to “jeopardize” the survival of any endangered species. “Jeopardizing” activity is defined as that which “reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild.”⁹⁰

⁸⁸ 16 U.S.C. § 1536(a)(2) (2012). By necessity, there is significant overlap between the “jeopardy” and “adverse modification” standards: an adverse modification of critical habitat will likely jeopardize an endangered species. According to NMFS and the FWS, “the adverse modification of critical habitat consultation standard is nearly identical to the jeopardy consultation standard.” Endangered and Threatened Wildlife and Plants; Notice of Intent to Clarify the Role of Habitat in Endangered Species Conservation, 64 Fed. Reg. 31,871, 31,872 (June 14, 1999); *see also* Rohlf, *supra* note 7, at 118 (“FWS and NMFS currently interpret section 7’s prohibition on destroying or adversely modifying critical habitat to be simply another version of section 7’s jeopardy standard.”). Recent scholarship shows some limited empirical evidence for the independent effect of critical habitat considerations in BiOps. *See generally* Owen, *supra* note 8. However, for purposes of clarity, this Article will focus solely on the jeopardy standard.

⁸⁹ *See* Karuk Tribe of Cal. v. U.S. Forest Serv., 681 F.3d 1006, 1019 (9th Cir. 2012) (en banc) (describing section 7 as the “heart of the ESA”); Houck, *supra* note 7, at 326 (the BiOp produced by consultation is “the result to which everything from listing on has pointed”).

⁹⁰ 50 C.F.R. § 402.02 (2014).

Once the wildlife agency determines that the project will likely adversely affect a listed species, formal consultation becomes necessary. During this process, the wildlife agency considers the scientific data presented to it by the action agency or applicant in the form of a “biological assessment,” and performs its own independent evaluation of the effect of the action on the species and its critical habitat. Having completed its assessment, the wildlife agency presents its conclusions in the form of a BiOp: a written report that describes the proposed action, summarizes the status of the species, establishes an environmental baseline to delineate the harm caused by the action, evaluates the action’s direct effects on the species and its habitat as well as any cumulative effects, provides a yes-or-no determination on whether the action jeopardizes the species, and finally suggests a “reasonable and prudent alternative” (“RPA”) that would allow the action to go forward while avoiding jeopardy.⁹¹

If the wildlife agency finds that the action will cause jeopardy to a listed species, it must provide an RPA in the BiOp that would allow the action to proceed, if possible.⁹² In reality, the agency provides an RPA in virtually every case⁹³—the number of projects that are denied permits is vanishingly small. In most cases, RPAs involve fairly minor modifications to the proposed action, such as modifying the timing or location of operations to avoid conflicts with species or requiring construction of warning signs and other protective measures.⁹⁴ However, in some cases—most notably in the high-profile water and energy projects on the West Coast such as the Sacramento Bay-Delta water projects and the Klamath River hydroelectric projects—RPAs require more extensive regulation of the day-to-day operations.

In formulating RPAs, the agency must use the “best available scientific and commercial data,” the same standard that governs the rest of the consultation process.⁹⁵ But the scope of possible RPAs is limited by other, more practical, considerations: RPAs must be consistent with the scope of the proposed action, within the authority of the action agency, and economically and technologically feasible.⁹⁶

These regulations have two important results. First, because in most cases the agency must formulate an RPA that will allow the project to go forward without jeopardizing the species, the wildlife agency must develop substantial expertise in *all* of the relevant aspects of the project. The wildlife agency must determine not only what the effects of the project on the species are and how

⁹¹ U.S. FISH & WILDLIFE SERV. & NAT’L MARINE FISHERIES SERV., ENDANGERED SPECIES CONSULTATION HANDBOOK: PROCEDURES FOR CONDUCTING CONSULTATION AND CONFERENCE ACTIVITIES UNDER SECTION 7 OF THE ENDANGERED SPECIES ACT 2-6 (1998) [hereinafter *ESA HANDBOOK*], <https://perma.cc/J644-HA2G>. Where the wildlife agency finds that the project will not jeopardize the species, it may provide “reasonable and prudent measures” (“RPM”) to minimize incidental take of the species. *Id.* at 4-53. For purposes of convenience, this Article will focus on RPAs; however, the same scientific and policy analysis applies to both RPAs and RPMs.

⁹² 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(h)(3).

⁹³ See *ESA HANDBOOK*, *supra* note 91, at xxii, 4-43–4-45; see also Rohlf, *supra* note 7, at 115 (noting that the expert agencies do not use jeopardy to “draw a clear biological line in the sand”).

⁹⁴ Houck, *supra* note 7, at 321.

⁹⁵ 50 C.F.R. § 402.14(g)(8).

⁹⁶ *Id.* § 402.02.

those effects could be mitigated, but also whether mitigation is economically and technologically feasible. In cases involving highly complicated federal projects, this can be a substantial task that requires the agency to develop intensive, independent scientific analysis of the effects of the action. Second, because it is essentially impossible for the wildlife agency to develop the necessary expertise on its own, in most cases the RPA is the result of an iterative collaboration between the wildlife agency, the action agency and, where appropriate, any private applicants involved in the project.⁹⁷

Prior to issuing the BiOp, the wildlife agency is required to provide a draft of the opinion and the RPA to the action agency and the applicant for their review and comment before it is finalized.⁹⁸ In most cases, this is the full extent of comment or review of the BiOp by parties outside the wildlife agency prior to its final publication.

2. *The Role of Science in Section 7*

Section 7 is intended to provide protection to species that have already been designated as “endangered” or “threatened” through the section 4 listing process. Thus, under section 7, the wildlife agency must “insure” that the proposed federal action “is not likely to jeopardize the continued existence of any endangered species” or to adversely modify its critical habitat.⁹⁹ The mandate to “insure” that the federal action will not jeopardize the species involves a substantially different set of concerns and requires a different set of scientific methodologies from those required by a listing determination under section 4.

First, because section 7 consultations begin where the section 4 process ends—with a listed species that is potentially jeopardized—the presumption in favor of the species is stronger. Whereas the section 4 process does not start with an assumption that the species should be listed, the section 7 process arguably puts a finger on the scale for the species: when the scientific data is inconclusive regarding the effect of a federal project on the species, the agency is instructed to “giv[e] the benefit of the doubt to the species.”¹⁰⁰ The Section 7 Consultation Handbook states that:

Where significant data gaps exist there are two options: (1) if the action agency concurs, extend the due date of the biological opinion until sufficient information is developed for a more complete analysis; or (2) develop the biological opinion with the available information giving the benefit of the doubt to the species.¹⁰¹

⁹⁷ See *id.* § 402.14(g)(5) (“The Service will utilize the expertise of the Federal agency and any applicant in identifying these alternatives.”).

⁹⁸ *Id.*; see also James C. Kilbourne, *The Endangered Species Act Under the Microscope: A Closeup Look from a Litigator’s Perspective*, 21 ENVTL. L. 499, 542 (1991).

⁹⁹ 16 U.S.C. § 1536(a)(2) (2012).

¹⁰⁰ ESA HANDBOOK, *supra* note 91, at 1-7.

¹⁰¹ *Id.*

Regardless of whether and to what extent this requirement can be read to require the agency to employ a “precautionary principle” when making section 7 jeopardy determinations,¹⁰² it is clear that the stated policy of “giving the benefit of the doubt to the species” stems from the fact that the species in question has already come under the protection of the ESA, and is not merely a candidate for listing.

Second, while section 4 listing decisions are intended to determine whether, in general, a species should be protected by the ESA, section 7 consultations require a more particularized legal and scientific determination of whether individual aspects of the proposed federal project will jeopardize the species, and what RPAs could be taken to avoid that jeopardy.¹⁰³ Determining jeopardy and formulating a sufficiently protective RPA requires analysis of science-based questions that in most cases will not have been directly addressed in any peer-reviewed literature: Will siting a wind farm on these particular acres of land threaten migratory birds? Will changing the opening and closing dates of a fishery this year threaten endangered salmon? Will changes in the management of this particular forest threaten the local grizzly bear population?

In attempting to answer these questions, the wildlife agency may draw on published studies, models, and reports, but because of the particularity of the determination, the agency will often be obligated to conduct its own independent analyses in order to achieve the requisite specificity. Moreover, the action agency and wildlife agency are often the only parties in possession of the data regarding the proposed action, making them the only parties capable of producing a scientific analysis of the effect of the action on the species. Unlike the section 4 process, in which the agency essentially conducts a review of the existing scientific literature regarding the status of a particular species, the section 7 process requires the agency to take an active role in analyzing the existing scientific data and studies on both the species and the project to determine whether there is evidence that the proposed project will lead to jeopardy and how jeopardy can be avoided through an RPA.

Here the agency is given a narrower task in reviewing the available scientific information, but a more active role in shaping it. Unlike section 4 decisions, where the agency must make its decisions “on the basis” of the best available science,¹⁰⁴ in section 7, the agency must “use the best scientific and commercial data available”¹⁰⁵ to make its jeopardy decision and formulate the RPA. As a consequence of this narrower application, the data set for section 7

¹⁰² For an argument that the precautionary principle does not apply to section 7 determinations, see Ruhl, *supra* note 20, at 593 (“Simply put, the fact that the substantive prohibitions against jeopardy and take sprang from congressional caution does not mean that Congress codified the Precautionary Principle Method for implementing them.”).

¹⁰³ As Professor Ruhl has explained, the scientific questions raised by section 4 listing decisions include, “[i]s it a species?” and, “[o]verall, are these threats enough to cause it to go extinct?” Section 7, on the other hand, raises questions such as, “[w]hat are the impacts of the action on reproduction, numbers, or distribution of the species?” and, “how much do such impacts reduce the species’ chances of surviving and recovering in the wild?” *Id.* at 574–75.

¹⁰⁴ 16 U.S.C. § 1533(b)(1)(A).

¹⁰⁵ *Id.* § 1536(a)(2) (emphasis added).

decisions will always be smaller, often dramatically so: the agency is unlikely to find a published, peer-reviewed paper on the effect of a project on a species when that project has not yet broken ground. The burden on the agency to choose a scientific methodology and develop its own analysis of the available data is accordingly greater, because the agency must use the limited data to “insure” that the project will not jeopardize the species.¹⁰⁶

Finally, as a practical matter, the section 7 consultation is often the final word on the project. Many federal projects permanently alter the landscape through development or use. When the wildlife agency finds no jeopardy, or allows the project to go forward with an RPA and incidental-take limit, that decision will be the final scientific analysis before the landscape is changed. While BiOps require the action agency to reinitiate consultation if the incidental-take limit is exceeded or the RPA is violated, the reinitiation will come after the project has already started. Even where the project involves a reauthorization of an existing federal action, the damage caused by an improperly high incidental-take limit or a poorly formulated RPA may be irreparable long before reconsultation is initiated. Unlike section 4 listing petitions, which may be resubmitted following denial by the agency, decisions under section 7 can only effectively be challenged when they are first issued.

3. *Reasons for the Absence of a Notice-and-Comment Procedure in Section 7*

As this discussion demonstrates, the absence of a notice-and-comment procedure creates a significant asymmetry between judicial review of a decision under section 4 and a decision under section 7. Moreover, this asymmetry is not congruent with any substantive distinction between section 4 and section 7: there is nothing in section 7 that would suggest that public input would be less useful or necessary to the consultation process than it is to the listing process. In fact, for the reasons discussed above, public comment would arguably provide more benefit for the more focused and practical scientific analysis required by section 7.

At a structural level, the absence of a notice-and-comment requirement in the section 7 process may be explained by the fact that the issuance of a BiOp is not an agency rulemaking. While other actions under section 7, such as listing a species or designating critical habitat, are binding rules that are issued by the wildlife agency itself, a BiOp is a “guidance document” that provides technically non-binding advice on how the action agency should proceed with the proposed project without jeopardizing the species in question.¹⁰⁷

¹⁰⁶ *Id.*

¹⁰⁷ See *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 604 (9th Cir. 2014) (noting the absence of a notice-and-comment procedure in section 7 and stating that “[t]he ESA consultation process is not a rulemaking proceeding, but a request from one agency for the expertise of a second agency”).

However, in practice the “guidance” in a BiOp is hardly optional, and action agencies almost never treat it as such.¹⁰⁸ Along with the jeopardy opinion, a BiOp will also include the RPA, which instructs the agency to take steps to minimize the take of the species, as well as an Incidental Take Statement, which acts as a permit that insulates the action agency against the civil and criminal penalties associated with the take of endangered species.¹⁰⁹ Thus, as the Supreme Court recognized in *Bennett v. Spear*,¹¹⁰ the BiOp has a significant “coercive effect” on action agencies because any failure to comply with the RPA proposed in a BiOp can result in significant criminal and civil penalties.¹¹¹ After *Bennett*, there is less of a structural rationale for the absence of a notice-and-comment procedure, because, for purposes of standing, courts find that the BiOp contains the “actual basis” for the action agency’s final decision regarding its operations.¹¹²

Finally, Congress may have assumed that a notice-and-comment procedure would be unnecessary because section 7 consultations are often embedded within a larger mass of agency procedures that involve their own opportunities for public participation. For example, section 7 consultations often take place in the context of a federal action requiring the preparation of an EIS or an EA under NEPA, processes that require public participation.¹¹³ Similarly, permits to dredge or fill wetlands under section 404 of the Clean Water Act also require opportunities for public comment and hearings.¹¹⁴ In these cases, a third party

¹⁰⁸ See *Bennett v. Spear*, 520 U.S. 154, 169 (1997) (“In the government’s experience, action agencies very rarely choose to engage in conduct that the Service has concluded is likely to jeopardize the continued existence of the species.” (quoting Brief for the Respondents at 20–21, *Bennett*, 520 U.S. 154 (No. 95-813))).

¹⁰⁹ 16 U.S.C. § 1536(o)(2) (“[A]ny taking that is in compliance with the terms and conditions specified in a written statement provided under subsection (b)(4)(iv) of this section shall not be considered to be a prohibited taking of the species concerned.”).

¹¹⁰ 520 U.S. 154.

¹¹¹ *Id.* at 170 (stating that any deviation from the BiOp is done “at [the agency’s] own peril”). The BiOp at issue in *Bennett* stated regarding the RPA that “[t]he measures described below are nondiscretionary, and must be taken by [the Bureau].” *Id.* Other federal statutes require action agencies to undergo consultation, but generally the opinions of expert agencies are not as determinative as in section 7. For example, the Fish and Wildlife Coordination Act requires consultation with the FWS, 16 U.S.C. § 662(b), but the Act “does not require that the [action agency] decision always correspond to the views of the Fish and Wildlife Service.” *Sierra Club v. Alexander*, 484 F. Supp. 455, 469–70 (N.D.N.Y. 1980) (upholding decision by the Army Corps “over the unresolved objection of the Fish and Wildlife Service”). Similarly, under the National Historic Preservation Act (“NHPA”), 16 U.S.C. § 470f, action agencies must “take into account” the opinion of the Advisory Council on Historic Preservation, but need not comply with all of its recommendations. See *City of Tacoma v. FERC*, 460 F.3d 53, 69 (D.C. Cir. 2006). See also Blumm & Lang, *supra* note 6, at *29 (“The structure of the ESA and the role of the Services under the statute makes the effect of their opinions more determinative than those of comment agencies under either NEPA or NHPA.”).

¹¹² Bressman, *supra* note 56, at 1800; Buzbee, *supra* note 17, at 799–800. Further, action agencies may rely upon the wildlife agency’s scientific expertise when adopting the BiOp and RPA.

¹¹³ 42 U.S.C. § 4332(2)(c) (2012); 40 C.F.R. § 1500.1(b) (2014); see, e.g., *Alaska v. Lubchenco*, 723 F.3d 1043, 1050–51 (9th Cir. 2013) (simultaneous NEPA and section 7 processes); *Native Vill. of Chickaloon v. Nat’l Marine Fisheries Serv.*, 947 F. Supp. 2d 1031, 1044–46 (D. Alaska 2013) (same).

¹¹⁴ 33 U.S.C. § 1344 (2012).

who disagreed with the outcome of the action agency's consultation with the wildlife agency could lodge its complaints in the administrative record of the action agency's final decision document.

However, the fact that section 7 consultations sometimes occur within another process requiring public comment does not resolve the complicated problems created by the absence of public comment in section 7 itself. First, in many situations agencies have found that changes in operations at existing infrastructure projects such as water or hydroelectric dams may trigger section 7 consultation without also requiring the preparation of an EIS under NEPA. For example, in litigation regarding the federal and state water projects in the Sacramento Bay-Delta, a district court found that the Bureau of Reclamation did not have to go through the NEPA process for an operational planning procedure that *did* require consultation under section 7.¹¹⁵ In the related case *San Luis & Delta-Mendota Water Authority v. Jewell*,¹¹⁶ the Bureau of Reclamation similarly did not prepare an EIS regarding a BiOp addressing the continued operation of the state and federal water projects in the Delta.¹¹⁷ The U.S. Court of Appeals for the Ninth Circuit ultimately found that an EIS was required for the implementation of the BiOp, but only after it had already resolved the substantive challenges to the BiOp itself on the merits.¹¹⁸ The *San Luis* case may signal a movement in the case law towards requiring NEPA in more cases involving changed operations at existing projects. However, despite its holding, the *San Luis* case does little to clarify the circumstances in which changes to existing operations will require the completion of an EIS. As the dissent in *San Luis* noted, earlier cases with highly similar facts found that "post-construction fluctuation of water flow constituted routine operation of the dam rather than a major action triggering NEPA requirements."¹¹⁹ Given the lack of clarity in the case law, it is likely that many such federal actions will be undertaken without an EIS or any opportunity for public comment.

Second, even where the section 7 process takes place in conjunction with another process requiring public comment, the opportunity to comment on the action agency's adoption of the final BiOp is a poor substitute for the opportunity to comment on the draft BiOp while it is in the process of being written. By commenting, for example, on an EIS that incorporates the final BiOp, a third party may be able to overcome the difficulty discussed in Part II.B.3, *infra*, of introducing scientific evidence that the wildlife agency has excluded from the evidentiary record. However, such evidence is still "extra-record evidence" in the important sense that it was not discussed or evaluated by the wildlife agency during the drafting of the BiOp. Thus it is unclear how courts

¹¹⁵ See *Pac. Coast Fed'n of Fishermen's Ass'n v. Gutierrez*, No. 1:06-CV-00245, 2007 WL 1752289, at *12-13 (E.D. Cal. June 15, 2007) ("The OCAP and OCAP BiOp [do not trigger NEPA because they] are not the 'last word' in authorizing any action or inaction by the Bureau. They do not implement any actions or inactions. They are informational.").

¹¹⁶ *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581 (9th Cir. 2014).

¹¹⁷ *Id.* at 645.

¹¹⁸ *Id.* at 645-46.

¹¹⁹ *Id.* at 660 (Rawlinson, J., concurring and dissenting).

should evaluate such evidence given precedent requiring the court to evaluate the wildlife agency's scientific decision-making based on the wildlife agency's reasoning. Moreover, as courts have recognized, a challenge to the action agency's decision to adopt the wildlife agency's BiOp is often superfluous because the action agency is expected to adopt the BiOp wholesale rather than employ its own judgment to pick and choose which elements it will implement.¹²⁰ In this sense, the section 7 consultation is different from other consultations that take place under NEPA and other statutes which allow the action agency more leeway to make its own final decision about what weight to give to the opinions of consulting agencies.¹²¹ Finally, as discussed in more depth below, the opportunity to register disagreement with the final BiOp is not equivalent to the opportunity to take part in the shaping of the draft BiOp through the iterative process that the wildlife agency undertakes with the action agency and applicant.

II. PROCEDURAL ASYMMETRIES IN THE SECTION 7 CONSULTATION PROCESS

The absence of a notice-and-comment procedure in section 7 of the ESA creates two interrelated asymmetries. First, the public's lack of opportunity to comment on a BiOp before it is issued means that only the action agency and applicants have access to the wildlife agency during the consultation process. This asymmetry gives the action agency and applicants privileged access to the administrative record, which in turn gives them leverage to seek concessions from the wildlife agency before the BiOp is issued. Second, the action agency and applicants have asymmetric access to the court following the issuance of the BiOp because the rules of administrative record evidence and deference to scientific rulemaking put those parties in a uniquely privileged position to make substantive scientific attacks on the wildlife agency's decision.

As this Article explains, the cumulative effect of these structural influences is that section 7 decisions are less likely to receive substantive review. This in turn provides less incentive to the wildlife agencies to risk confrontation during the decision-making process. The particular frictions applied by each of these procedural features biases the section 7 process toward outcomes that are less protective of the species.

Earlier analyses of the weaknesses of the section 7 program have relied on narratives of will or abdication. Under these narratives, either the agency is captured by the regulated industries and acts intentionally to read the jeopardy requirements as narrowly as possible to avoid inconveniencing development

¹²⁰ See *Bennett v. Spear*, 520 U.S. 154, 169 (1997) (“[In order to deviate from the BiOp] the action agency must not only articulate its reasons for disagreement (which ordinarily requires species and habitat investigations that are not within the action agency’s expertise), but . . . run [] a substantial risk if its (inexpert) reasons turn out to be wrong.”); *Sierra Club v. U.S. Army Corps of Eng’rs*, 295 F.3d 1209, 1222 (11th Cir. 2002) (“[Plaintiff] bears a heavy burden to prove that the Corps was arbitrary and capricious in relying upon the FWS determination of a matter firmly within that agency’s area of expertise.”).

¹²¹ See *supra* note 111 for a discussion of other statutes requiring environmental consultation.

interests,¹²² or the courts construe doctrines of deference so broadly as to abdicate substantive review of section 7 decisions altogether.¹²³ There is evidence to support either narrative, but both exclude important parts of the story. The agency-capture theory discounts too heavily the fact that the wildlife agencies are generally staffed with people who have a strong personal and institutional interest in protecting species.¹²⁴ And the theory that courts are overly deferential to the agencies cannot explain why courts aggressively overturn section 4 decisions using the same “best available science” standard that proves less effective on the scientific merits in section 7 decisions.

The advantage of a procedural analysis is that it explains why even with the best of intentions, the section 7 process tends to produce outcomes that compromise species protection in favor of development interests, regardless of the administration, the ideology of the reviewing court, or any other external influence.

A. *Asymmetric Access to the Decision-Maker in Section 7 of the ESA*

The first of the two asymmetries derives from the fact that the public is shut out of the section 7 process, while the action agency and applicant have exclusive access to the wildlife agency. There is no notice given in the Federal Register or elsewhere that a BiOp is under development, nor must a draft BiOp be made available to the general public.¹²⁵ However, the wildlife agency does undertake an iterative process of exchanging drafts with the action agency and private applicants holding an interest in the project.

When the action agency or wildlife agency initially determines that a project will likely adversely affect an endangered species, the formal consultation process begins. First, the action agency develops a “biological assessment,” which contains the action agency’s own analysis of how the project is likely to affect the species, and whether the project will likely cause jeopardy to the species.¹²⁶ The biological assessment is a precursor document to the final BiOp, and it is often written aggressively in order to stake out a non-jeopardy finding or to develop analyses favorable to the action agency. In response, the wildlife agency produces the BiOp, which contains its analysis of the project, and—where jeopardy is found—proposes an RPA that will allow the project to pro-

¹²² See Houck, *supra* note 7, at 326 (“Taken together, Interior’s regulations present a composite picture of an agency doing everything possible within law, and beyond, to limit the effect of protection under section 7(a)(2).”); Rohlf, *supra* note 7, at 116 (“[T]he agencies’ current interpretation of jeopardy often deprives listed species of protections to which they should be legally entitled.”).

¹²³ See, e.g., Renshaw, *supra* note 9, at 165 (“Courts, by channeling challenges to jeopardy determinations to only procedural, rather than substantive routes, are effectively removing the substantive mandate from the ESA, and allowing further corruption of agency science.”).

¹²⁴ See Owen, *supra* note 8, at 187–88.

¹²⁵ Agencies can and sometimes do elect to share the draft BiOp with third parties, but there is no statutory or regulatory mechanism guiding the practice.

¹²⁶ 16 U.S.C. § 1536(c) (2012); 50 C.F.R. § 402.12 (2014).

ceed without causing jeopardy.¹²⁷ In many cases, the final BiOp is produced through an iterative series of exchanges of drafts and comments with the action agency and applicants. Throughout this process, which resembles the notice-and-comment period in the production of an EIS under NEPA, the action agency and applicants can state their objections to the wildlife agency's analysis and have those objections included in the administrative record.¹²⁸

Structurally, this iterative exchange is *not* a formal notice-and-comment process. The wildlife agency is under no obligation to respond to any of the comments provided by the action agency or private applicants.¹²⁹ Moreover, the wildlife agency is under no obligation to recirculate or supplement a draft BiOp if it substantially changes its analysis,¹³⁰ as would be required under NEPA.¹³¹ For these reasons, even private applicants with access to the administrative record lack some of the leverage they would have under a formal notice-and-comment procedure under NEPA or the APA.

However, the fact remains that under section 7, the regulated entity—the action agency or private applicant—has privileged access to draft BiOps and to the developing administrative record. Third parties, such as other local stakeholders or environmental groups who represent regulatory beneficiaries, have no formal access to the section 7 process and may not even be aware that it is taking place. Indeed, according to a federal report on section 7 consultations, a common complaint from both environmental groups and affected industries is that interested third parties do not have access to the process, making post-decision lawsuits the only means of challenging agency actions.¹³²

According to that report, one representative of local agricultural interests stated that his organization's role consisted primarily of "'pounding on the door of [the Bureau of Reclamation],' on its constituents' behalf, in order to receive timely updates on the agency's deliberations with the Services and to provide input to the process."¹³³ Similarly, representatives of environmental groups complained that "land management decision-making processes, such as consultations, are often closed to them until after final decisions are made, and that the only way they can make their voices heard is through administrative ap-

¹²⁷ 16 U.S.C. § 1536(b)(3)(A).

¹²⁸ See Houck, *supra* note 7, at 326 ("As in the NEPA process, 'draft' biological opinions are prepared and circulated to the development agency and to private applicants—subdivision developers, dam builders, whomever—for review and comment." (footnote omitted)).

¹²⁹ See, e.g., *San Luis & Delta-Mendota Water Auth. v. Salazar*, 760 F. Supp. 2d 855, 857 (E.D. Cal. 2010) ("Neither the ESA nor its implementing regulations require an opportunity for public comment or that FWS respond to any comments received." (citing *Kandra v. United States*, 145 F. Supp. 2d 1192, 1209 n.8 (D. Or. 2001))).

¹³⁰ See, e.g., *Sw. Ctr. for Biological Diversity v. U.S. Bureau of Reclamation*, 143 F.3d 515, 522–23 (9th Cir. 1998) (finding that draft RPAs were irrelevant to determination of whether final RPA selected by the agency was arbitrary and capricious).

¹³¹ See 40 C.F.R. § 1502.9(c) (2014) (requiring the agency to prepare a supplemental EIS if "[t]he agency makes substantial changes in the proposed action that are relevant to environmental concerns" or if "[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts").

¹³² U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-04-93, *ENDANGERED SPECIES: MORE FEDERAL MANAGEMENT ATTENTION IS NEEDED TO IMPROVE THE CONSULTATION PROCESS* 57–58 (2004).

¹³³ *Id.* at 57.

peals and lawsuits.”¹³⁴ As the report noted, under the ESA, “certain procedural opportunities—such as the opportunity to submit information during the consultation and to review and comment on the draft BiOp—are provided only for an applicant seeking federal approval for an activity.”¹³⁵

Having been excluded from the pre-decisional comment period, many environmental groups will not have the resources to challenge the final decision when it is issued. Litigation poses a considerably higher cost than participation in a notice-and-comment process,¹³⁶ and that cost differential discourages regulatory beneficiaries from participating in the section 7 process. There is no reason to assume that the willingness to pay the costs associated with litigation corresponds with the importance of the public interests at issue in a section 7 decision, and it would be reasonable to expect that members of the regulated industries would have greater resources to mount litigation to support an anti-regulatory position.¹³⁷ Without a notice-and-comment procedure, the section 7 process does not allow environmental interests to make their voices heard cost-effectively at earlier stages in the proceedings when they could compel the agency to provide some accommodation to their interests. Such accommodation is unlikely to occur in litigation.¹³⁸ This procedural asymmetry does not just *exclude* the voices of environmental groups and other interested parties, it necessarily *privileges* the position of the action agency or private applicant. Scholars have recognized that under the reasoned decision-making standard, any party with the power to contribute to the administrative record during the pre-decisional period has a correspondingly heightened ability to threaten litigation against the agency:

[R]eview of the factual underpinnings of regulations or adjudicatory actions has empowered stakeholders with the capacity to raise questions and put new material into the administrative record, thereby requiring agency response to factual criticisms and attacks. Each contribution to the administrative record constitutes a possible basis for later judicial challenge.¹³⁹

¹³⁴ *Id.* at 58.

¹³⁵ *Id.*

¹³⁶ During a notice-and-comment procedure, scientific evidence can be introduced to the record by any interested party simply by sending a letter or submitting a comment on a website. See Michael Herz, “Data, Views, or Arguments”: A Ruminantion, 22 WM. & MARY BILL RTS. J. 351, 358 (2013) (“[I]n recent years . . . the rulemaking process has moved online, enabling fuller participation by the lay public.”).

¹³⁷ See Peter L. Strauss, *Revisiting Overton Park: Political and Judicial Controls over Administrative Actions Affecting the Community*, 39 UCLA L. REV. 1251, 1327 (1992) (“If we consider participation in the judicial review process as surrogate for an impaired political-democratic process, we must immediately be struck that the pricing of judicial review makes it an extremely inaccurate marker for the competing interests that may be involved in the proceeding.”).

¹³⁸ *Id.* (“In a political process, we might expect those interests to be tested against others with, often, some form of accommodation in the outcome. But we would not expect a settlement reflecting a balance of strength of interests to be the result of a judicial proceeding, and the way the costs of judicial review are experienced makes it unlikely that accommodation will occur in its shadow.”).

¹³⁹ Buzbee, *supra* note 17, at 770 (footnote omitted).

At the pre-decisional stage, the threat of post-decisional litigation, which would be costly and time-consuming for the agency, will tend to push the agency's policy choices in the direction of the party most likely to prevail in court.¹⁴⁰ Because only private applicants have access to the administrative record, they are more likely to make their voices heard, and thus to be able to enforce their preferences in the section 7 process.

This is not to suggest that the wildlife agencies are fully "captured"¹⁴¹ by the regulated parties or that they never impose limitations on action agencies. On the contrary, by all accounts, staff members at the wildlife agencies are generally committed to their task and work to develop modifications to proposed actions in order to protect endangered species, even when those modifications run contrary to the desires of the action agency or applicant.¹⁴² However, because of the one-sided influence of the action agency and applicant on the administrative record, the wildlife agency will always be incentivized to compromise in as many places as possible in order to avoid adding easy targets to the administrative record.¹⁴³ Acting together, these one-sided interactions with the action agency and applicants will tend to push decisions toward accommodation on as many points as possible, whatever the intentions of wildlife agency staff.

This asymmetry of influence likely plays a significant role in the widely recognized failure of the consultation process to protect species to section 7's full potential.¹⁴⁴ While the degree to which the wildlife agencies capitulate to pressure from action agencies and private applicants will wax and wane with changes in executive policies and administrations—there may be periods when the agencies are genuinely captured and times when they more aggressively pursue species protection—the background pressure of the threat of litigation from the regulated party will tend to shift the jeopardy analysis, along with the structure of RPAs, in the direction of the action agency and applicant. This underlying structural tendency is likely as important, if not more important, than questions of the agency's interpretation of the substantive law, if only because problems with the latter are more susceptible to correction from the courts.

¹⁴⁰ *Id.* ("For good or bad, a stakeholder's ability to threaten to stop an agency action by filing a complaint alleging substantive or procedural agency missteps leads to greater agency willingness to provide the requested process, or to respond to stakeholder criticisms or requests.")

¹⁴¹ See Thomas W. Merrill, *Capture Theory and the Court: 1967-1983*, 72 CHI.-KENT L. REV. 1039, 1043 (1997) (explaining that under "capture theory" administrative agencies are "regarded as being uniquely susceptible to domination by the industry they were charged with regulating").

¹⁴² See Owen, *supra* note 8, at 187-88.

¹⁴³ See Thomas McGarity, *The Courts and the Ossification of Rulemaking: A Response to Professor Seidenfeld*, 75 TEX. L. REV. 483, 535 (1997) (noting that regulated industries can employ "sophisticated employees or consultants" to establish positions in the record, and then "fill their briefs with blunderbuss attacks on every conceivable aspect of the rule's factual and analytical predicates").

¹⁴⁴ See Rohlfs, *supra* note 7, at 115 (noting that "the jeopardy standard's reality is a far cry from its promise").

B. Asymmetric Access to the Reviewing Court Under the APA

Because third parties, such as environmental groups, do not have access to the section 7 process at the pre-decisional stage, the only avenue for challenging the scientific determinations in a BiOp is litigation. This section explains how a challenge to a section 7 decision proceeds, and why the absence of a notice-and-comment procedure creates a second asymmetry that gives the action agency and the applicants a decisive advantage in regard to scientific issues.

1. Judicial Review Under the APA

Because section 7 does not include its own judicial review standard, challenges to a section 7 decision are decided under the standards of the APA.¹⁴⁵ Section 706(2)(A) of the APA provides the standard that governs APA review of informal agency rulemaking and adjudication: the reviewing court must “hold unlawful and set aside agency action, findings, and conclusions found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.”¹⁴⁶ The APA provides little guidance on the proper interpretation of the term “arbitrary and capricious,” though courts have reasoned that the standard must be effectively identical with the “substantial evidence” standard provided in section 706(2)(E), which covers formal agency decision-making.¹⁴⁷

As a general matter, courts have read the APA to require a basic level of reasoned decision-making. The agency must explain its decision fully and reasonably in the record of the decision, and the court will not provide a reasoned basis for a decision where that basis does not exist in the record.¹⁴⁸ Somewhat paradoxically, a court’s review of the agency’s reasoning must be probing and in-depth, but simultaneously deferential to the statutory authority and expertise of the agency.¹⁴⁹ The court must review the basis of the agency’s decision, but

¹⁴⁵ *Bennett v. Spear*, 520 U.S. 154, 174–79 (1997); *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 601 (9th Cir. 2014) (“Neither the ESA nor NEPA supply a separate standard for our review, so we review claims under these acts under the standards of the APA.”).

¹⁴⁶ 5 U.S.C. § 706(2)(A) (2012).

¹⁴⁷ *Id.* § 706(2)(E); see also *Ass’n of Data Processing Serv. Orgs. v. Bd. of Governors*, 745 F.2d 677, 683–84 (D.C. Cir. 1984) (“When the arbitrary or capricious standard is performing that function of assuring factual support, there is no substantive difference between what it requires and what would be required by the substantial evidence test.”).

¹⁴⁸ *Citizens to Pres. Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416 (1971) (“To make this finding the court must consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment.”); *SEC v. Chenery Corp.*, 332 U.S. 194, 196 (1947).

¹⁴⁹ *Overton Park*, 401 U.S. at 416 (“Although this inquiry into the facts is to be searching and careful, the ultimate standard of review is a narrow one. The court is not empowered to substitute its judgment for that of the agency.”); see also Gordon G. Young, *Judicial Review of Informal Agency Action on the Fiftieth Anniversary of the APA: The Alleged Demise and Actual Status of Overton Park’s Requirement of Judicial Review “On the Record,”* 10 ADMIN. L.J. AM. U. 179, 182 (1996) (describing the *Overton Park* standard as “schizophrenic (if not fully contradictory)”).

may not substitute its judgment for the agency in deciding between reasonable alternatives.¹⁵⁰

Naturally, a “reasoned decision-making” standard offers courts a great deal of latitude in determining the degree to which they will defer to agency decisions. At its most aggressive, judicial review takes a “hard look” at the agency’s decision to test it for reasonableness.¹⁵¹ The classic statement of the hard-look doctrine comes from *Motor Vehicle Manufacturers Ass’n v. State Farm Mutual Automobile Insurance Co.*,¹⁵² where the Court explained:

Normally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.¹⁵³

At the other end of the spectrum, the “reasonableness” standard can be read to require judicial deference to any agency decision that has some modicum of factual support.¹⁵⁴ And indeed, even though cases such as *State Farm* endorse a standard of “quite aggressive judicial review,”¹⁵⁵ that review takes place within a framework that is highly deferential to the agency. Even under the “hard look” standard, the reviewing court must explain why the decision entirely failed to consider an important aspect of the problem, or was so implausible that it could not be considered the product of agency expertise.¹⁵⁶ This bias toward deference, which is built into the APA’s requirement that an action

¹⁵⁰ *Universal Camera Corp. v. NLRB*, 340 U.S. 474, 488 (1951) (stating that the court may not substitute its judgment where the agency has made a “choice between two fairly conflicting views, even though the court would justifiably have made a different choice had the matter been before it *de novo*”); *C&W Fish Co. v. Fox*, 931 F.2d 1556, 1565 (D.C. Cir. 1991) (stating that courts “will not second guess an agency decision or question whether the decision made was the best one”).

¹⁵¹ The Court introduced “hard look” judicial review of agency action in *Overton Park*, where the Court explained that although agency action decision-making enjoys a “presumption of regularity,” that presumption does not “shield [the agency’s] action from a thorough, probing, in-depth review.” 401 U.S. at 415.

¹⁵² 463 U.S. 29 (1983).

¹⁵³ *Id.* at 43.

¹⁵⁴ See Sidney A. Shapiro & Richard E. Levy, *Heightened Scrutiny of the Fourth Branch: Separation of Powers and the Requirement of Adequate Reasons for Agency Decisions*, 1987 DUKE L.J. 387, 411 (1987) (noting vacillation in the Supreme Court between endorsing and rejecting aggressive judicial review of agency action); Donald W. Stever, Jr., *Deference to Administrative Agencies in Federal Environmental, Health and Safety Litigation—Thoughts on Varying Judicial Application of the Rule*, 6 W. NEW ENG. L. REV. 35, 45, 48–50 (1983) (describing a spectrum of judicial review from “hard look” to “no look” and discussing cases involving minimal judicial review).

¹⁵⁵ Peter L. Strauss, *One Hundred Fifty Cases Per Year: Some Implications of the Supreme Court’s Limited Resources for Judicial Review of Agency Action*, 87 COLUM. L. REV. 1093, 1129 (1987). For a summary of arguments for and against “hard look” review, see Matthew C. Stephenson, *A Costly Signaling Theory of “Hard Look” Judicial Review*, 58 ADMIN. L. REV. 753, 761–65 (2006).

¹⁵⁶ See *State Farm*, 463 U.S. at 43.

will survive judicial review unless it is “arbitrary [or] capricious,”¹⁵⁷ makes it difficult to prevail in a challenge under section 706(2)(A), and in turn discourages litigation where it will be difficult to prove that an agency’s decision was “entirely” baseless.

2. “Super Deference” to Agency Scientific Decisions

The already high level of judicial deference to agency decisions mandated by the APA is further elevated when the court reviews an agency’s scientific determinations. In *Baltimore Gas & Electric Co. v. Natural Resources Defense Council*,¹⁵⁸ the Supreme Court added another layer to the “reasoned decision-making” standard by imposing what Professor Meazell has termed “super deference” to agency science.¹⁵⁹ The decision involved a challenge under NEPA to a decision of the Nuclear Regulatory Commission (“NRC”) regarding the long-term risk of radioactive releases from stored nuclear waste.¹⁶⁰ The Court upheld the NRC’s determination that licensing boards could assume that proper storage would result in “zero release” of nuclear waste, and explained that special deference is required in regard to scientific policy decisions:

[A] reviewing court must remember that the Commission is making predictions, within its area of special expertise, at the frontiers of science. When examining this kind of scientific determination, as opposed to simple findings of fact, a reviewing court must generally be at its most deferential.¹⁶¹

The Court did not explain the basis of this heightened deference in *Baltimore Gas*, but subsequent decisions suggest that the Court views scientific decisions as fundamentally outside the realm of judicial institutional competence.¹⁶² Setting aside scientific decisions under a heightened standard disproportionately affects environmental law cases, which tend to hinge on scientific issues committed to the agency’s expertise.¹⁶³

¹⁵⁷ 5 U.S.C. § 706(2)(A) (2012).

¹⁵⁸ 462 U.S. 87 (1983).

¹⁵⁹ See Emily Hammond Meazell, *Super Deference, the Science Obsession, and Judicial Review as Translation of Agency Science*, 109 MICH. L. REV. 733, 760 (2011).

¹⁶⁰ *Balt. Gas & Elec. Co.*, 462 U.S. at 89–90.

¹⁶¹ *Id.* at 103.

¹⁶² See *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 865 (1984) (“Judges are not experts in the field.”); *Lands Council v. McNair*, 537 F.3d 981, 988 (9th Cir. 2008) (en banc) (“Lands Council asks this court to act as a panel of scientists that instructs the Forest Service how to validate its hypotheses regarding wildlife viability, chooses among scientific studies in determining whether the Forest Service has complied with the underlying Forest Plan, and orders the agency to explain every possible scientific uncertainty. . . . [T]his is not a proper role for a federal appellate court.”).

¹⁶³ Jim Chen, *Legal Mythmaking in a Time of Mass Extinctions: Reconciling Stories of Origins with Human Destiny*, 29 HARV. ENVTL. L. REV. 279, 299–300 (2005) (“More than most other areas of legal endeavor, environmental law ‘involves policy determinations in which the agency is acknowledged to have expertise.’” (quoting *Time Warner Entm’t Co. v. FCC*, 56 F.3d 151, 163 (D.C. Cir. 1995) (per curiam))); see also Meazell, *supra* note 159, at 737 n.19 (“[A] Westlaw

While the Court has rarely revisited *Baltimore Gas*,¹⁶⁴ the decision has been highly influential in the lower courts, where it is often cited as an additional, stand-alone basis for deference to agency scientific determinations.¹⁶⁵ More specifically, numerous courts have applied the heightened deference standard when reviewing decisions under section 7 of the ESA, finding repeatedly that scientific findings in a BiOp are entitled to special deference.¹⁶⁶

The degree to which courts use the super-deference principle as a meaningful legal distinction to separate a “close call” regarding a scientific disagreement that would otherwise go against the agency, as opposed to a rhetorical device for justifying deference, is unclear.¹⁶⁷ However, for the purposes of this Article, the important point is that the existence of the super-deference principle makes deference to agency scientific determinations the default mode that a challenger must overcome in order to address a scientific decision under section 7. This initial presumption that an agency’s scientific determinations are correct presents a significant initial obstacle to a party seeking to challenge a BiOp.

search of 185 cases citing *Baltimore Gas* for the super-deference principle revealed that over 75 percent of those cases involved environmental law.”).

¹⁶⁴ The Court has only cited the *Baltimore Gas* standard again once, in *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360 (1989), where it stated “because analysis of the relevant documents ‘requires a high level of technical expertise,’ we must defer to ‘the informed discretion of the responsible federal agencies.’” *Id.* at 377 (quoting *Kleppe v. Sierra Club*, 427 U.S. 390, 412 (1976)). See also Meazell, *supra* note 159, at 764–66 (discussing the application of the *Baltimore Gas* standard in *Marsh*).

¹⁶⁵ See, e.g., *Selkirk Conservation Alliance v. Fosgren*, 336 F.3d 944, 954 (9th Cir. 2003) (“Particularly when the analysis ‘requires a high level of technical expertise,’ this Court ‘must defer to the informed discretion of the responsible federal agencies.’” (quoting *Marsh*, 490 U.S. at 377)); *City of Waukesha v. EPA*, 320 F.3d 228, 247 (D.C. Cir. 2003) (“We ‘will give an extreme degree of deference to the agency when it is evaluating scientific data within its technical expertise.’” (quoting *Huls Am., Inc. v. Browner*, 83 F.3d 445, 452 (D.C. Cir. 1996))); *New York v. Reilly*, 969 F.2d 1147, 1150 (D.C. Cir. 1992) (“We are particularly deferential when reviewing agency actions involving policy decisions based on uncertain technical information.”); *A.M.L. Int’l, Inc. v. Daley*, 107 F. Supp. 2d 90, 102 (D. Mass. 2000) (“Indeed, a reviewing court must afford special deference to an agency’s scientific expertise.”).

¹⁶⁶ See, e.g., *Conservation Cong. v. Finley*, 774 F.3d 611, 621 (9th Cir. 2014) (“The determination of what constitutes the best scientific data available [for purposes of section 7] belongs to the agency’s special expertise, and thus when examining such a determination, a reviewing court must generally be at its most deferential.” (internal quotation marks and citations omitted)); *Micosukee Tribe of Indians of Fla. v. United States*, 566 F.3d 1257, 1271 (11th Cir. 2009) (“[W]e do owe a high level of deference to the Service’s scientific determinations. The deference owed the 2006 biological opinion is especially strong because the agency had to predict future hydrological conditions and estimate the likelihood, extent, and duration of injury to a species.”); *Rock Creek Alliance v. U.S. Fish & Wildlife Serv.*, 390 F. Supp. 2d 993, 1003 (D. Mont. 2005) (“The issue is whether under the best available scientific data standard of 16 U.S.C. § 1536(a)(2), a decision based on that data without trend analysis was proper. Considering the deference due the agency’s scientific reasoning, it was.” (internal quotation marks omitted)); *Sierra Club v. Veneman*, 273 F. Supp. 2d 764, 767 (E.D. Tex. 2003) (“Therefore, this court must grant deference in scientific and biological matters to the Forest Service and the U.S. Fish and Wildlife Service.”); *Loggerhead Turtle v. Cnty. Council of Volusia Cnty.*, 120 F. Supp. 2d 1005, 1022 (M.D. Fla. 2000) (“The Service’s selection is entitled to deference due to its biological expertise.”).

¹⁶⁷ See Meazell, *supra* note 159, at 764, 772–78 (arguing that the *Baltimore Gas* standard is now “boilerplate” and has been replaced by a return to “hard look” review).

3. Limitations on the Admission of Extra-Record Evidence

The second major obstacle faced by a third party seeking to challenge the validity of the scientific determinations in a BiOp is that the third party's preferred scientific analyses may not be included in the administrative record before the court. This is because third parties often do not have an opportunity to contribute to the agency's administrative record before judicial review. The challenger may wish to submit expert declarations, scientific articles, or data sets in support of its scientific argument, and yet all of these will be subject to the rule excluding evidence outside of the administrative record.

The administrative record is a compilation produced by the agency that contains the materials that were before the agency at the time it made its decision.¹⁶⁸ Under the APA, judicial review is generally limited to the administrative record.¹⁶⁹ Courts are discouraged from seeking evidence that was not presented to the agency prior to its decision. As the Supreme Court explained in *Camp v. Pitts*,¹⁷⁰ when applying the APA, "the focal point for judicial review should be the administrative record already in existence, not some new record made initially in the reviewing court."¹⁷¹

The record-review rule exists to promote finality in agency decision-making, to encourage participation during the administrative process, and to prevent reviewing courts from substituting their own judgment for the agency. Thus, in the influential decision *Asarco, Inc. v. EPA*,¹⁷² the Ninth Circuit reversed a district court that held a four-day evidentiary hearing featuring "numerous" expert witnesses in a challenge to an EPA order regarding a copper smelter.¹⁷³ The court reasoned that "[w]hen a reviewing court considers evidence that was not before the agency, it inevitably leads the reviewing court to substitute its judgment for that of the agency."¹⁷⁴ Permitting the court to consider scientific evidence or expert testimony that was not presented to the agency invites a type of de novo review that is contrary to the structure of the APA.¹⁷⁵ Because the agency has not had the opportunity to review the newly presented evidence during the administrative process, it could not have presented any "reasoning" regarding the evidence that a court could review.

¹⁶⁸ See Daniel J. Rohlf, *Avoiding the 'Bare Record': Safeguarding Meaningful Judicial Review of Federal Agency Actions*, 35 OHIO N.U. L. REV. 575, 582–87 (2009) (discussing the creation of an administrative record).

¹⁶⁹ *Citizens to Pres. Overton Park, Inc. v. Volpe*, 401 U.S. 402, 420 (1971); see also 5 U.S.C. § 706 (2012) ("In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party.").

¹⁷⁰ 411 U.S. 138 (1973).

¹⁷¹ *Id.* at 142.

¹⁷² 616 F.2d 1153 (9th Cir. 1980).

¹⁷³ *Id.* at 1157.

¹⁷⁴ *Id.* at 1160.

¹⁷⁵ See *id.* As Professor Meazell notes, the limitation imposed by the administrative record "distinguishes administrative law from other proceedings that arise in the courts where science may be at issue: unlike the typical trial scenario, courts reviewing agencies normally do not engage in any de novo examinations of scientific issues." Meazell, *supra* note 159, at 743.

Courts have provided several narrow exceptions to the record-review rule. Most notably, they allow for the introduction of extra-record evidence when that evidence shows that the agency ignored a relevant aspect of the problem, or when the evidence is necessary to explain complex and technical subject matter.¹⁷⁶ But the admission of extra-record evidence is highly disfavored, and courts have repeatedly emphasized that it should be allowed only in the most limited fashion.¹⁷⁷ Moreover, the case law on extra-record evidence is incoherent,¹⁷⁸ and provides little guidance on how courts can make use of the evidence once admitted. For example, it is commonly asserted that extra-record evidence “may not be advanced as a new rationalization either for sustaining or attacking an agency’s decision,”¹⁷⁹ but it is hard to imagine why a plaintiff would seek to submit the evidence, or why a court would consider it, if not to provide new support for overturning the agency’s decision.

The record-review rule, and the APA generally, assume the presence of a notice-and-comment period preceding agency rulemaking. Under the record-review rule, extra-record evidence is inadmissible precisely because it should have been submitted to the agency *as part of the rulemaking process*, before the agency made its final decision. The failure of parties to “structure their participation” in the administrative process so as to guarantee that their factual and analytical concerns are addressed in the administrative record constitutes a waiver of those challenges in court.¹⁸⁰ Accordingly, interested parties take care to fill the administrative record with scientific studies, expert affidavits, scientific data, and critical analyses of the agency’s draft findings.¹⁸¹ The rule against extra-record evidence applies because a diligent challenger should not *need* to introduce new evidence into the record.

The rule breaks down, however, during judicial review of a section 7 consultation. In challenges to a BiOp, the agency usually produces a substantial administrative record containing the agency’s summary of the scientific data and analysis it considered in making its decision. But third parties, who would normally introduce contradictory evidence or challenge the agency’s analyses in the administrative record during a notice-and-comment period, often have no opportunity to build a contrary record except in litigation, in front of the district

¹⁷⁶ *Lands Council v. Powell*, 395 F.3d 1019, 1030 (9th Cir. 2004) (listing exceptions).

¹⁷⁷ *Id.*

¹⁷⁸ *See* *Ctr. for Native Ecosystems v. Salazar*, 711 F. Supp. 2d 1267, 1278 (D. Colo. 2011) (“Unfortunately, lower courts have failed to articulate coherently and consistently the exceptions which justify supplementation of the record.”).

¹⁷⁹ *Sw. Ctr. for Biological Diversity v. U.S. Forest Serv.*, 100 F.3d 1443, 1450 (9th Cir. 1996). In particular, the recognized exception that permits evidence that the agency failed to consider relevant information would in most cases lead to a “new rationalization” for attacking the agency’s decision.

¹⁸⁰ *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 523, 553 (1978); *see also* *Omnipoint Corp. v. FCC*, 78 F.3d 620, 635 (D.C. Cir. 1996).

¹⁸¹ *See, e.g.,* *Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 98 n.11 (1983) (“The record includes more than 1100 pages of prepared direct testimony, two rounds of questions by participants and several hundred pages of responses, 1200 pages of oral hearings, participants’ rebuttal testimony, concluding statements, the 137-page report of the hearing board, further written statements from participants, and oral argument before the Commission.”).

court. In order to raise a substantive scientific challenge to the reasonableness of the wildlife agency's section 7 analysis, a third party will first have to obtain admission of the evidence under one of the exceptions to the record-review rule.¹⁸² Second, the third party will have to overcome precedent holding that extra-record evidence cannot provide a new, post-hoc rationalization for challenging the agency's decision¹⁸³—even though the challenger never actually had the opportunity to present its “rationalization” ex ante during the administrative process.

These procedural hurdles present significant entry costs to a third party seeking to challenge the scientific basis of a BiOp. Third parties must pay the costs of initiating and maintaining the litigation. They must hire and pay a scientific expert willing to participate in the rigors and stress of an adversarial process.¹⁸⁴ They must undertake expensive and time-consuming motion practice to seek admission of the expert evidence. And finally, they must commit to this costly process knowing that all of the effort and expense will be wasted if the judge decides not to admit the extra-record evidence—a decision that is reviewed solely for abuse of discretion, and where a judge is only likely to be reversed if she admits the extra-record evidence.

4. *Rulemaking Without Notice and Comment and Agency Strategies for Judicial Review*

The reasoned decision-making requirement under the APA provides an incentive for agencies to take part in an open and iterative process during the notice-and-comment period of informal APA rulemaking. Aware that their decisions will be scrutinized by interested stakeholders and ultimately by the courts, agencies must act strategically:

[Agencies] must anticipate potential weaknesses in the record. Perhaps the best way to anticipate such weaknesses is to consult the likely challengers, sharing information with them in order to gain information from them. . . . [T]hey may attempt to insulate themselves against particular claims by obtaining the information necessary to remedy particular deficiencies.¹⁸⁵

¹⁸² Extra-record evidence is also subject to challenge under the principles set forth in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), which do not apply to scientific evidence already in the administrative record. See Meazell, *supra* note 159, at 743 n.47.

¹⁸³ *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 603 (9th Cir. 2014) (“Just as we will not allow the agency to supply post-hoc rationalization for its actions, so ‘post-decision information . . . may not be advanced as a new rationalization either for sustaining or attacking an agency’s decision.’” (quoting *Sw. Ctr. for Biological Diversity*, 100 F.3d at 1450)).

¹⁸⁴ See Sarah Axtell, *Reframing the Judicial Approach to Injunctive Relief for Environmental Plaintiffs in Monsanto Co. v. Geertson Seed Farms*, 38 *ECOLOGICAL L.Q.* 317, 335 (2011) (“Scientific experts and commissioned reports are expensive to prepare and may prevent some legitimate claims from being brought to court by publicly funded environmental interest groups who lack up-front capital.”). Even when the expert volunteers, declaration testimony is laborious and time consuming both for the experts and the attorneys.

¹⁸⁵ Bressman, *supra* note 56, at 1781 & n.173.

Because interested parties have the ability to supplement the administrative record with their own data and arguments regarding the weaknesses in the agency's analysis, the agency cannot use the record to hide contradictory evidence.¹⁸⁶ Instead, the best strategy for the agency to avoid reversal of its chosen policy will be to invite conflicting arguments and address them in the record in order to receive the benefits of judicial deference.

Removing the notice-and-comment procedure changes the equation and reverses the agency's incentives, encouraging the agency to conceal or ignore contradictory evidence. This becomes clearer when we consider a model in which agencies function as strategic actors who seek to forward their policy-making agenda at the lowest overall cost. One of the insights of administrative law theory is that when an agency has a choice between different policy-making instruments, it will choose based not only on the cost of the particular instrument, but also on the costs that the instrument imposes on higher-level reviewers, such as courts.¹⁸⁷ Agencies want to avoid expense during the administrative process, but they also wish to avoid reversal and remand in the courts, which can be even more costly overall.

Agencies are intensely aware of the decision costs faced by the reviewing court, and make their decisions accordingly. Thus, for example, when an agency believes that a new policy decision will be challenged in court, and that a court would be likely to reverse, it will elect to present that policy decision through a more formal decision-making process that will be more likely to survive scrutiny.¹⁸⁸ The decision to make use of a more formal rulemaking mode, such as a notice-and-comment procedure, is more costly to the agency at the outset, but the cost is justified by the decision costs imposed on a reviewing court that would be ideologically inclined to reverse if deference were not required.¹⁸⁹

Thus, agencies will act strategically, making decisions by weighing the overall cost to the agency against the overall cost to the reviewing court. While scholars have so far applied this analysis at the macro scale of agency choices between decision-making forms, there is no reason why the same approach would not apply at the micro scale of agency factual analysis within a decision document.

Agencies are aware that some agency analyses, such as decisions that draw on fact-based analysis within the agency's area of expertise, require more effort on the part of the courts to reverse, while others, such as agency statutory interpretations and pure policy choices, are more amenable to reversal. Assum-

¹⁸⁶ See *id.* at 1781 n.173.

¹⁸⁷ Emerson H. Tiller & Pablo T. Spiller, *Strategic Instruments: Legal Structure and Political Games in Administrative Law*, 15 J.L. ECON. & ORG. 349, 351 (1999).

¹⁸⁸ Matthew C. Stephenson, *The Strategic Substitution Effect: Textual Plausibility, Procedural Formality, and Judicial Review of Agency Statutory Interpretations*, 120 HARV. L. REV. 528, 531 (2007) ("If the agency is rational, it will try to secure judicial approval for its interpretation at the minimum cost to itself In any given case, the agency must decide whether it is worth paying the costs associated with more formal procedures in order to 'purchase' greater judicial toleration of a more aggressive interpretation of the statute.").

¹⁸⁹ See *id.* at 553–56.

ing that, on the whole, courts would also prefer that their decisions survive review, a decision to reverse an agency's policy determination will be more "costly" for the court when the agency has couched that policy decision in complicated scientific analysis than when it is presented as a pure policy choice.¹⁹⁰

As discussed above, the notice-and-comment rulemaking form required by section 4 of the ESA provides a strong statutory incentive for agencies not only to solicit scientific information from the public, but also to address that information on the record in order to produce a decision that is likely to survive judicial review. Because the agency cannot control the administrative record, its best strategy is to address it comprehensively to avoid reversal, in part by providing a detailed response to comments, a lengthy justification of a listing decision, and an explanation of why it employed its discretion to reject alternative proposals, such as listing the species as threatened or endangered.¹⁹¹

In the absence of a notice-and-comment procedure, such incentives are removed. Because the agency can control the contents of the administrative record in a section 7 decision, it has an incentive to include as few contrary facts in the record as possible and to consider few or no alternatives on the record. Acquiring more data, performing alternative analyses, or explaining weaknesses in its own analysis will only make reversal more likely by creating more decision points for the court to analyze for reasonableness.¹⁹²

There is strong evidence to suggest that the incentive to conceal or suppress contradictory evidence plays out at the decision-making level. Surveys of scientists in 2005 at both the FWS and NMFS showed that forty-four percent of FWS scientists and thirty-seven percent of NMFS scientists "ha[d] been directed, for non-scientific reasons, to refrain from making jeopardy or other findings that are protective of species."¹⁹³ Moreover, twenty percent of FWS scientists reported that they had been "directed to inappropriately exclude or alter technical information from a FWS scientific document,' such as a biological opinion."¹⁹⁴ Meanwhile, fifty-three percent of NMFS scientists were aware of situations where "commercial interests have inappropriately induced the reversal or withdrawal of scientific conclusions or decisions through political in-

¹⁹⁰ See Tiller & Spiller, *supra* note 187, at 351; see also Wendy E. Wagner, *The Science Charade in Toxic Risk Regulation*, 95 COLUM. L. REV. 1613, 1661–67 (1995) (arguing that agencies engage in a "science charade" by presenting policy choices in the language of scientific analysis in order to avoid probing judicial review).

¹⁹¹ Stephenson, *supra* note 188, at 553–54.

¹⁹² See Wendy E. Wagner, *Commons Ignorance: The Failure of Environmental Law to Produce Needed Information on Health and the Environment*, 53 DUKE L.J. 1619, 1719 (2004) ("Actors who enjoy an asymmetric advantage in accessing and controlling information about their externalities can use it to their advantage when attempting to influence how regulatory programs are designed."); *id.* at 1678 ("Under the current regulatory system, volunteering adverse information on the effects or even the existence of harms associated with one's product or activity is the equivalent to shooting oneself in the foot.").

¹⁹³ Survey: *U.S. Fish & Wildlife Service Scientists (2005)*, UNION OF CONCERNED SCIENTISTS, <http://perma.cc/PA5X-KVHW>.

¹⁹⁴ *Id.*

tervention.”¹⁹⁵ Given the control that the wildlife agencies have over the administrative record, it is not surprising that agency staff or directors might be tempted to manipulate the record to support the chosen scientific or policy decision while excluding the alternatives.¹⁹⁶

This tendency is exacerbated by the “super deference” principle and the rule against the admission of extra-record evidence. Imagine a situation in which the wildlife agency relies in the BiOp on a simplistic or incomplete analysis of the available scientific data on a species to conclude that a project will not jeopardize the species. There may be superior analytical tools or superior data available, but the agency has no incentive or obligation to include reference to them in the administrative record.

A challenger who wants to argue that the hypothetical agency’s decision is arbitrary and capricious because it was not based on the best available science must first cross two hurdles: the challenger must succeed in convincing a judge to admit extra-record evidence of the alternative scientific techniques that are available, and must also convince the judge to overcome the strong presumption that the agency has made its choice of methodology based on its scientific expertise. Even if the district court is inclined to credit the challenger, both of these decisions will be costly to the court: because of the structural biases of APA review, the district court will almost never risk reversal by excluding extra-record evidence or by deferring to the agency’s scientific rationale. On the other hand, granting the challenger’s request on either point will provide an easy point of reversal for a higher court.¹⁹⁷

This analysis suggests two hypotheses regarding section 7 decisions. First, due to the difficulty of bringing a substantive scientific challenge to a section 7 decision, there are likely to be fewer challenges to section 7 decisions than to section 4 listing decisions and critical habitat designations, both of which include a notice-and-comment procedure, even though there are far more consultation decisions made every year. Second, substantive challenges to section 7 decisions are less likely to succeed.

The evidence supports both hypotheses. First, section 4 and critical habitat designations are frequently litigated,¹⁹⁸ providing the basis for the popular per-

¹⁹⁵ *Id.*

¹⁹⁶ See Doremus, *supra* note 11, at 1607–09 (discussing other examples of political interference with agency science); see also Owen, *supra* note 8, at 186–87 (“[B]oth individual biological opinions and individual court cases demonstrate that the agencies sometimes adopt strained reasoning in support of no-adverse-modification decisions, sometimes in response to acknowledged political pressure. That strained reasoning suggests a vigorous effort to avoid imposing regulatory constraints. Though these machinations may sometimes seem remarkable, the motivation behind them is not hard to understand. No one could credibly dispute that the political pressures against species protection are persistent and intense.” (internal citation omitted)).

¹⁹⁷ See *Cape Hatteras Access Pres. Alliance v. U.S. Dep’t of Interior*, 667 F. Supp. 2d 111, 112 (D.D.C. 2009) (“A court that orders an administrative agency to supplement the record of its decision is a rare bird.”).

¹⁹⁸ *Legislative Hearing on H.R. 3824, To Amend and Reauthorize the Endangered Species Act of 1973 to Provide Greater Results Conserving and Recovering Listed Species, and for Other Purposes: Hearing Before the H. Comm. on Res.*, 109th Cong. 29 (2005) (statement of Craig Manson, Assistant Secretary for Fish and Wildlife, U.S. Department of the Interior) (explaining that

ception that the ESA is “hopelessly embroiled in litigation,”¹⁹⁹ but, on the other hand, the “extent of judicial oversight over most consultation processes is minimal.”²⁰⁰ Second, scholars have noted that substantive scientific challenges under the “best available science” standard of section 4 of the ESA have an “extraordinarily” high success rate—indeed, as high as seventy-eight percent.²⁰¹ At the same time, scholars have found that substantive scientific challenges to section 7 decisions are less likely to succeed, and that “the substantive aspect of section 7 has rarely been enforced . . . resulting in a virtual elimination of the substantive requirements.”²⁰² These results are consistent with the argument presented here.

III. ADDRESSING THE ASYMMETRIES AND STRENGTHENING SECTION 7

As discussed above, the absence of a notice-and-comment procedure in section 7 makes BiOps unique among major agency scientific rulemakings. Unlike rulemakings undertaken through the ESA, NEPA, or other environmental statutes, in the section 7 process the wildlife agency not only evaluates the available scientific information to determine what it considers the “best available science,” but it also has the sole power to seek out and identify what science is “available” for purposes of the administrative record without the third-party supplementation of the record that would take place in a normal notice-and-comment procedure. For the reasons discussed in the previous Part of this Article, this structural feature of section 7 makes the scientific record of BiOps uniquely susceptible to manipulation by the wildlife agency and the applicant in order to avoid politically undesirable results.

This Part proposes two important steps that could be taken to address and solve the problems caused by the absence of notice and comment in the section 7 process. First, judicial review of section 7 decisions should be more probing and less deferential to agency scientific determinations than review of other agency scientific decisions, and should allow more opportunity to challenge the

“[u]nfortunately under the Act, our work related to endangered species has been in large part driven by lawsuits” and that “[a]s of September 8, 2005, the Service is involved in 34 active lawsuits on listing issues with respect to 93 species”).

¹⁹⁹ Owen, *supra* note 8, at 175.

²⁰⁰ *Id.* at 177.

²⁰¹ Doremus, *supra* note 18, at 431. Surveying the case law, Professor Doremus found that listing decisions “have proven extraordinarily vulnerable to judicial review.” *Id.* She found that twenty-five of the thirty-two reported decisions as of mid-2003 evaluating the scientific merits of the agency’s decision resulted in reversal. *Id.* Doremus concludes that “the courts have quite effectively forced the agencies to look hard at the scientific evidence.” *Id.* at 432; *see also* Biber, *supra* note 76, at 516 n.216 (citing listing cases where the decision was reversed on the merits).

²⁰² Renshaw, *supra* note 9, at 187. In her survey of the case law, Professor Doremus found that “[c]hallenges under section 7 have been less successful” than challenges to section 4 listing decisions, with a success rate of approximately fifty percent. Doremus, *supra* note 18, at 432 n.208. The rate would likely be lower if Doremus had analyzed how many section 7 decisions were successful on the scientific merits (as opposed to procedural challenges) as she did with section 4 decisions. *See id.* at 431. Regardless, an approximately thirty percentage-point difference in success rates is significant and sufficient to drive decisions regarding litigation.

scope and completeness of the agency's scientific record. Second, the wildlife agencies should consider using their regulatory powers to introduce a limited notice-and-comment process in certain formal consultation processes where there is no other avenue for public participation.

A. *More Probing Review of Section 7 Decisions*

Faced with a substantive challenge to the scientific underpinnings of a section 7 decision, courts tend to look for precedent in judicial decisions addressing analogous agency scientific decisions. Thus, they draw on cases addressing section 4 of the ESA,²⁰³ or NEPA,²⁰⁴ or, going further afield, other science-based statutes such as the Occupational Safety and Health Act.²⁰⁵ And yet courts have failed to recognize that the factual predicate to each of these scientific decisions is an administrative record that is open to adversarial supplementation by third parties through the notice-and-comment procedure—a predicate lacking in many section 7 cases. The question in each of these cases was whether the agency had used its scientific expertise to make a reasonable decision between all available alternatives *that had been presented to the agency*, including those proposed by people challenging the agency decision. In section 7 decisions, on the other hand, the question is whether the agency has made a reasonable decision based on the record *it has compiled itself with the assistance of the applicant*—one that may or may not tell the whole scientific story.

To give an example, it has become standard practice in section 7 decisions to cite to the Supreme Court's NEPA decision in *Marsh v. Oregon Natural Resources Council*²⁰⁶ for the proposition that “an agency must have discretion to rely on the reasonable opinions of its own qualified experts” and that the reviewing court must defer to the agency's resolution of conflicting data in the record.²⁰⁷ However, these references to *Marsh* and other NEPA cases in section

²⁰³ See *Heartwood, Inc. v. U.S. Forest Serv.*, 380 F.3d 428, 436 (8th Cir. 2004) (citing *Sw. Ctr. for Biological Diversity v. Babbitt*, 215 F.3d 58 (D.C. Cir. 2002)); *Ariz. Cattle Growers' Ass'n v. Salazar*, 606 F.3d 1160, 1164 (9th Cir. 2010) (same); *Defenders of Wildlife v. U.S. Dep't of Navy*, 895 F. Supp. 2d 1285, 1317 n.34 (S.D. Ga. 2012) (same).

²⁰⁴ See *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 603–04 (9th Cir. 2014) (citing *Marsh v. Or. Natural Res. Council*, 490 U.S. 360 (1989)); *Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation*, 426 F.3d 1082, 1090 (9th Cir. 2005) (same); *Miccosukee Tribe of Indians of Fla. v. United States*, 566 F.3d 1257, 1265 (11th Cir. 2009) (same); *Trout Unlimited v. Lohn*, 559 F.3d 946, 955 (9th Cir. 2009) (same); *Heartwood*, 380 F.3d at 432 (8th Cir. 2004) (same); *Kandra v. United States*, 145 F. Supp. 2d 1192, 1202 (D. Or. 2001) (same); *Greenpeace v. Nat'l Marine Fisheries Serv.*, 55 F. Supp. 2d 1248, 1259 (W.D. Wash. 1999) (same).

²⁰⁵ See *San Luis*, 747 F.3d at 592 (quoting *Indus. Union Dep't, AFL-CIO v. Am. Petroleum Inst.*, 448 U.S. 607, 656 (1980) for the proposition that the FWS is “not required to support its finding that a significant risk exists with anything approaching scientific certainty”); *Ariz. Cattle Growers' Ass'n*, 606 F.3d at 1164 (citing *Pub. Citizen Health Research Grp. v. U.S. Dep't of Labor*, 557 F.3d 165, 176 (3d Cir. 2009)).

²⁰⁶ 490 U.S. 360.

²⁰⁷ *Id.* at 377. For citations to *Marsh* in section 7 cases see, e.g., *San Luis*, 747 F.3d at 603–04; *Pac. Coast Fed'n of Fishermen's Ass'ns*, 426 F.3d at 1089; *Miccosukee Tribe*, 566 F.3d at 1265;

7 decisions miss the mark: the deference accorded to the agency in *Marsh* was appropriate where the agency had employed its scientific expertise to draw a line between the opinions of outside “specialists” who had provided “conflicting views” in the administrative record of the decision, not where the agency made tacit decisions about the scope of its own scientific record.²⁰⁸

In *Marsh*, the factual question was whether the Army Corps of Engineers (“Corps”) had properly determined that new scientific studies did not require the Corps to develop a supplemental EIS for a project involving a dam.²⁰⁹ In making the determination that a supplemental EIS was not required, the Court found that the Corps had “carefully scrutinized the proffered information” and that “in disputing the accuracy and significance of this information, the Corps did not simply rely on its own experts. Rather, two independent experts hired by the Corps to evaluate the [study] . . . found significant fault in the methodology and conclusions of the study.”²¹⁰

In other words, the scientific decision evaluated by the Court was one that was fully visible in the record: the Agency analyzed scientific data provided by opponents and made a policy decision based on its analysis. The Court deferred to the Agency’s scientific judgment because, in the words of a later district court decision, “where there are competing expert opinions, or where the scientific data are equivocal, it is the agency’s prerogative ‘to weigh those opinions and make a policy judgment based on the scientific data.’”²¹¹

The situation is different in many section 7 decisions because of the agency’s power to control its own scientific record and tacitly ignore scientific data that does not support the preferred outcome. For example, in *South Yuba River Citizens League v. National Marine Fisheries Service*,²¹² a recent section 7 case echoing the facts in *Marsh*, NMFS issued a BiOp concluding that an Army Corps of Engineers dam project would not jeopardize the survival of protected salmon species in the Yuba River.²¹³ In the BiOp, the Agency did not discuss the impact of climate change on the species, even though several scientists from NMFS had recently published a paper indicating that climate change would adversely affect salmon habitat in the river.²¹⁴

The district court observed that it was faced with a legal puzzle in regard to the climate change data.²¹⁵ It had to evaluate the Agency’s “scientific” determination that climate change was insignificant to the survival of the species even though there was no evidence in the administrative record to explain *how* the Agency had made that determination, or even whether the Agency had con-

Trout Unlimited, 559 F.3d at 955; *Heartwood*, 380 F.3d at 432; *Kandra*, 145 F. Supp. 2d at 1202; *Greenpeace*, 55 F. Supp. 2d at 1259.

²⁰⁸ *Marsh*, 490 U.S. at 378.

²⁰⁹ *See id.* at 368.

²¹⁰ *Id.* at 383.

²¹¹ *Maine v. Norton*, 257 F. Supp. 2d 357, 389 (D. Me. 2003) (citing *Brower v. Daley*, 93 F. Supp. 2d 1071, 1082–83 (N.D. Cal. 2000)).

²¹² 723 F. Supp. 2d 1247 (E.D. Cal. 2010).

²¹³ *Id.* at 1250.

²¹⁴ *Id.* at 1269–70.

²¹⁵ *Id.* at 1270.

sidered the issue at all.²¹⁶ Ultimately, the district court concluded that, under the APA, the court could not defer to NMFS's tacit determination that climate change would not significantly affect the species' long-term survival and recovery prospects:

Courts must extend reasonable deference to NMFS's determinations regarding the extent to which a circumstance affects listed species. *NMFS pays for this deference with the obligation to actually make determinations on the record.* It would be inconsistent with the court's duty to assume that, in every BiOp, for every issue not discussed, NMFS considered the issue and found it insignificant.²¹⁷

The court in *South Yuba* reached the right conclusion, but it is important to recognize how rarely the right answer will be so clear in a section 7 case.²¹⁸ In *South Yuba*, the Agency had ignored a widely recognized environmental stressor, the plaintiffs were able to present a scientific study prepared to a significant degree by the Agency itself, and the judge was willing to go out on a limb to consider the contents of that study even though it was not contained in the administrative record.²¹⁹ If any of these elements had not been present, the Agency would likely have been able to prevail in defending an inadequate BiOp.

As the *South Yuba* decision demonstrates, applying a traditionally deferential standard regarding scientific determinations to section 7 decisions leads to what is effectively double deference to the wildlife agencies: deference not only to the actual scientific determinations expressed in the record, but also to the unstated scientific determinations regarding what will be included in and excluded from the record. Indeed, a growing number of courts have formalized this double deference by explicitly counseling special scientific deference to the agency's determination of the scope of its own scientific administrative record. Thus, in an influential recent decision, the U.S. Court of Appeals for the Eleventh Circuit stated that "[t]he general view is that the agency decides which

²¹⁶ See *id.* As the court explained, "[t]he apparent threshold issue, to which the parties have paid little attention, is the determination of what constitutes an *important* aspect of the problem. Plainly, some issues are so obviously insignificant that NMFS's silence thereon is not arbitrary and capricious. . . . It appears just as plain, however, that important issues are not only those actually imposing significant effects on the species. NMFS must sometimes explain why a potential impact will not be significant." *Id.* at 1269–70. However, the court found that "the parties have provided no pertinent discussion and the court is aware of little authority" to explain how the court should evaluate the Agency's decision regarding what constitutes "an important aspect of the problem" where the record is silent regarding an agency's decision that a stressor is *not* important. *Id.* at 1270.

²¹⁷ *Id.* at 1269–70 (emphasis added).

²¹⁸ *Id.* at 1270 ("Despite the absence of authority, this case does not present a close question.").

²¹⁹ *Id.* at 1274 ("Federal Defendants separately argue that the court should disregard the [study] because it was not included in the administrative record. Although this study was authored in part by NMFS scientists and available prior to the completion of the BiOp, it is not clear whether NMFS actually considered this study in formulating the BiOp.").

data and studies are the ‘best available’ *because that decision is itself a scientific determination deserving deference.*”²²⁰

Such double deference is improper for the reason stated by the *South Yuba* court: under the APA, deference is owed to agency decisions that are based on, and explained in, the administrative record—not to determinations that take place outside of the administrative record.²²¹ Where an agency makes determinations outside of the record—such as the decision to exclude scientific evidence of the effect of climate change on the species—the court has no basis in the record to judge whether the determination was reasonable. To assume, without support from the record, that the agency must have had good scientific reasons worthy of deference for excluding such scientific data is to offer agencies the kind of “automatic deference” criticized in *Marsh*.²²² Nor is such automatic deference warranted: in practice, the decision to exclude data may often be more motivated by policy or politics than by any scientific analysis worthy of deference.

Instead, courts should follow the lead of the *South Yuba* court and recognize that in section 7, the agency has two independently reviewable duties: (1) a procedural duty to “seek out” the best available scientific and commercial data necessary to insure that the project does not jeopardize the species²²³ and (2) a substantive duty to use that scientific data to determine whether the project will or will not jeopardize the species. While the first data-gathering duty is present to a certain extent in any agency scientific determination, it will rarely be an evidentiary issue for purposes of judicial review because the notice-and-comment process will allow other parties to build their own counter-record to which the agency must respond. For example, if the *South Yuba* case had been a section 4 ESA case, the plaintiffs would simply have submitted the climate change study during the notice-and-comment period, thereby compelling an agency response on the record, which a court could subsequently evaluate for reasonable-

²²⁰ *Miccosukee Tribe of Indians of Fla. v. United States*, 566 F.3d 1257, 1257 (11th Cir. 2009) (emphasis added) (citation omitted); *see also San Luis & Delta-Mendota Water Auth. v. Locke*, 776 F.3d 971, 995 (9th Cir. 2014) (“[W]hat constitutes the best scientific and commercial data available is itself a scientific determination deserving of deference.” (citing *Miccosukee Tribe*, 566 F.3d at 1265)); *Conservation Cong. v. Finley*, 774 F.3d 611, 620 (9th Cir. 2014) (“The determination of what constitutes the ‘best scientific data available’ [for purposes of section 7] belongs to the agency’s ‘special expertise,’ and thus when examining such a determination, ‘a reviewing court must generally be at its most deferential.’” (quoting *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 602 (9th Cir. 2014))); *Defenders of Wildlife v. U.S. Dep’t of Navy*, 895 F. Supp. 2d 1285, 1311 (S.D. Ga. 2012) (citing *Miccosukee Tribe*, 566 F.3d at 1265); *San Luis v. Badgley*, 136 F. Supp. 2d 1136, 1151 (E.D. Cal. 2000) (stating that under the ESA, “[a]n agency has wide latitude to determine what is the best scientific and commercial data available”).

²²¹ *S. Yuba*, 723 F. Supp. 2d at 1270.

²²² *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 378 (1989) (“[C]ourts should not automatically defer to the agency’s [decision] without carefully reviewing the record and satisfying themselves that the agency has made a reasoned decision based on its evaluation of the significance—or lack of significance—of the new information. A contrary approach would not simply render judicial review generally meaningless, but would be contrary to the demand that courts ensure that agency decisions are founded on a reasoned evaluation ‘of the relevant factors.’”).

²²³ *See Heartwood, Inc. v. U.S. Forest Serv.*, 380 F.3d 428, 436 (8th Cir. 2004) (“[Agencies must] seek out and consider all existing scientific data relevant to the decision at hand.”).

ness. But in section 7 cases like *South Yuba*, the quality and completeness of the scientific record compiled by the agency should be considered an independent procedural issue when evaluating the overall reasonableness of a BiOp.

In undertaking an analysis of the quality and completeness of the scientific record, courts should consider key questions: Did the agency choose to reach out to stakeholders during the consultation process?²²⁴ Does the scientific record contain a range of data and analyses, including analysis contrary to the agency's policy decisions in the BiOp? Are there obvious subject-matter omissions in the agency's analysis? Are the plaintiffs able to identify relevant data sources or analytical methodologies not discussed in the administrative record?

In many cases, review of the record will show that the agency has, in fact, compiled an adequate record reflecting the best available science. For example, in a recent section 7 case, the Eleventh Circuit carefully reviewed the administrative record for a BiOp against charges that the agency "irrationally excluded certain scientific data from consideration."²²⁵ The court found that even though the plaintiffs were able to point to disagreements between experts *within* the record, they could not identify data that was excluded from the record or any other evidence that the record was inadequate.²²⁶ In such cases, courts can move on to a consideration of whether the agency made a reasonable determination based on the scientific data in the record. However, the fact that the administrative record in section 7 cases often will *not* be in dispute does not mean that judges should automatically defer to the agency in cases where parties *do* question the adequacy of the record.

As in similar NEPA cases, review of the completeness of the record should be governed by a "rule of reason" that does not require that the agency provide "exhaustive detail" on every detail of the project, but rather evaluates whether the record contains sufficient scientific data to allow for full consideration of all of the significant stressors for a species and to make a reasoned choice where

²²⁴ Agencies will sometimes request data from interested parties, or will prepare the BiOp concurrently with another procedure, such as an EIS under NEPA, which features a notice-and-comment procedure. *See, e.g., Alaska v. Lubchenco*, 723 F.3d 1043, 1049 (9th Cir. 2013) ("NMFS issued the BiOp pursuant to the ESA and an EA pursuant to NEPA. The BiOp was promulgated after review by the Council and public comment, including feedback from the fishing industry plaintiffs here."); *Native Vill. of Chickaloon v. Nat'l Marine Fisheries Serv.*, 947 F. Supp. 2d 1031, 1067–68 (D. Alaska 2013) (citing, in regard to best-available-science issue, scientific evidence submitted as part of NEPA notice and comment); *Kandra v. United States*, 145 F. Supp. 2d 1192, 1209 n.8 (D. Or. 2001) ("[T]he government noted that it voluntarily made draft and final BiOps and EAs available to plaintiffs and others through a Web site and other sources."); *Aluminum Co. of Am. v. Bonneville Power Admin.*, 175 F.3d 1156, 1159 (9th Cir. 1999) ("Before reaching [a jeopardy conclusion], NMFS participated in a series of discussions with two groups formed to assist the federal consulting and action agencies . . . These groups were composed for the most part of the parties [to a previous case involving the project]."). In such cases, courts should be more willing to assume that the scientific record is complete.

²²⁵ *Micosukee Tribe*, 566 F.3d at 1265.

²²⁶ *Id.* at 1266 ("While the 2006 biological opinion's predictions do differ from those of some scientists who have studied the kite, the basic data is not in dispute and was taken into account by the Service when it drafted the opinion.").

the available data is ambiguous or contradictory.²²⁷ The burden should be on the plaintiff to produce evidence that the record is incomplete. And such review should be based on a realistic understanding of the difficulty of the agency's task in compiling the record. However, courts should not grant the compilation of the scientific record the same kind of "super deference" that they typically grant to scientific decisions that are explained within the administrative record. By conducting a more probing review of whether the wildlife agencies have compiled an adequate scientific record, courts will take a first step toward correcting the asymmetries caused by the absence of notice and comment in the section 7 process.

B. Recognizing an Exception to the Record-Review Rule to Challenge the Adequacy of the Record in Section 7

In order to conduct a more probing review of the adequacy of the agency's scientific record in a section 7 case, courts will sometimes need to consult scientific data and evidence that the agency did not include in the record. However, as discussed above, the admission of extra-record evidence is highly disfavored in cases reviewing agency decisions under the APA.²²⁸ The record-review rule limiting judicial review of the merits of an agency decision to the administrative record is traditionally justified by a pragmatic emphasis on the finality of agency decisions²²⁹ as well as a concern that the reviewing court will substitute its judgment for that of the agency.²³⁰ These restrictions make sense in a standard APA rulemaking because they encourage the parties to build a factual record in front of the agency during the notice-and-comment period so that the agency will be able to evaluate the parties' arguments in the administrative record before the record is ultimately submitted for judicial review.

However, the strict adherence to the record-review rule makes much less sense in many section 7 cases because, due to the absence of a notice-and-comment procedure, third parties may never have an opportunity to challenge or question the agency's determinations before the final decision is published.

²²⁷ See, e.g., *City of Carmel-By-The-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1149 (9th Cir. 1997) (applying "rule of reason" and explaining "[w]e make 'a pragmatic judgment whether the [EIS's] form, content and preparation foster both informed decision-making and informed public participation'" (quoting *California v. Block*, 690 F.2d 753, 761 (9th Cir. 1982))); *Suffolk Cnty. v. Sec'y of Interior*, 562 F.2d 1368, 1375 (2d Cir. 1977) ("[An EIS] will be upheld as adequate if it has been compiled in good faith and sets forth sufficient information to enable the decision-maker to consider fully the environmental factors involved. . . .").

²²⁸ See *supra* Part II.B.3.

²²⁹ See, e.g., *Camp v. Pitts*, 411 U.S. 138, 142 (1973) ("[T]he focal point for judicial review should be the administrative record already in existence, not some new record made initially in the reviewing court."); *United States v. L.A. Tucker Truck Lines, Inc.*, 344 U.S. 33, 37 (1952) ("Simple fairness to those who are engaged in the tasks of administration . . . requires as a general rule that courts should not topple over administrative decisions unless the administrative body has not only erred but has erred against objection made at the time appropriate under its practice.").

²³⁰ *Asarco, Inc. v. EPA*, 616 F.2d 1153, 1160 (9th Cir. 1980) ("When a reviewing court considers evidence that was not before the agency, it inevitably leads the reviewing court to substitute its judgment for that of the agency.").

Under section 7, the standard APA concern that parties will use extra-record evidence to advance a “new rationalization” for attacking the agency’s decision in court does not apply: third-party plaintiffs in section 7 cases will often have to raise their concerns regarding the merits of the agency’s decision for the first time in the district court, and they should not be penalized for that fact. Judicial scrutiny of the agency’s action is especially warranted in regard to the composition of the record itself because agency decisions regarding what to include in or exclude from the record often take place *outside of the record* provided to the court.²³¹ To forbid extra-record evidence to challenge the completeness of the record is to cede virtually all judicial review of an important agency scientific decision.

Faced with this evidentiary problem in section 7 cases, a number of district courts have responded by allowing parties to submit extra-record evidence to challenge the wildlife agency’s scientific determinations in spite of the restrictions of the record-review rule. For example, in *Oceana v. Evans*,²³² an environmental group challenged NMFS’s use of a statistical model to set a numerical limit on the number of endangered loggerhead sea turtles that could be taken as bycatch in a scallop fishery.²³³ *Oceana* argued that the use of the model was arbitrary and capricious because the model was not designed to make quantitative decisions regarding take, and because the model was based on outdated data that required NMFS to make unfounded assumptions regarding the existing loggerhead turtle population.²³⁴ In support of its argument, *Oceana* submitted evidence in the form of a letter from Dr. Selina Heppell, one of the chief scientists who had designed the model.²³⁵ The letter explained in depth the reasons why such models are “inappropriate tools for such quantitative decision making.”²³⁶

NMFS objected that the letter constituted improper extra-record evidence that should not be considered by the court because the letter was not submitted to NMFS during the consultation and NMFS had not had an opportunity to address Dr. Heppell’s criticisms on the record. The district court rejected the

²³¹ Because the concern in section 7 cases is that third-party plaintiffs do not have access to the administrative record, it is reasonable to maintain traditional restrictions on the admission of extra-record evidence submitted *by the agency* where that evidence amounts to a post-hoc justification of the agency’s decision. See *Dow AgroSciences LLC v. Nat’l Marine Fisheries Serv.*, 707 F.3d 462, 468–69 (4th Cir. 2013) (reversing district court decision to admit declaration from a NMFS scientist that “expanded the agency’s record by providing justifications, explanations, and facts not relied on by the Fisheries Service in its BiOp”); *Ariz. Cattle Growers’ Ass’n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229, 1245 (9th Cir. 2001) (allowing agency to submit new information would “allow the consulting agency to produce far reaching and unsupported Biological Opinions knowing that it could search for evidentiary support if the opinion was later challenged”). The agencies should be permitted to submit extra-record evidence only to rebut the significance of extra-record evidence submitted by plaintiffs.

²³² 384 F. Supp. 2d 203 (D.D.C. 2005).

²³³ *Id.* at 213–14. For a detailed discussion of the *Oceana* decision, see Renshaw, *supra* note 9, at 192–203.

²³⁴ *Oceana*, 384 F. Supp. 2d at 211, 221–24.

²³⁵ Renshaw, *supra* note 9, at 198 (citing Letter from Dr. Selina S. Heppell to Dr. Michael Sisenwine, Chief Science Advisor, NOAA Fisheries (Mar. 13, 2005)).

²³⁶ *Id.*

Agency's argument and admitted the evidence, finding that the letter shed light on the question of whether NMFS had "considered factors which are relevant to its final decision," and that it helped the court to understand the complex technical material in the BiOp.²³⁷ Both of these are generally recognized exceptions to the record-review rule. The court further observed that admission of the evidence was particularly appropriate because Dr. Heppell did not actually have an opportunity to submit her letter until "after the close of the administrative record":

While Dr. Heppell submitted her comments only after the agency had issued the December 2004 [BiOp], the delay is understandable, since *there was no public comment period for the [BiOp] and she only recently became aware of the [BiOp's] use of the model.*²³⁸

As the district court recognized, Dr. Heppell's letter was necessary for proper judicial review of the Agency's decision. Had the court excluded the evidence, Oceana would have been compelled to rely solely on the unsupported assertions of its lawyers that the use of the model for quantitative decision-making was arbitrary, which would have placed the group at a severe disadvantage in its challenge to the Agency's scientific decision. Moreover, NMFS's objection that the plaintiffs had not submitted the evidence during the consultation period would place an impossible structural barrier in the way of challenging the Agency's scientific decision because neither Oceana nor Dr. Heppell had a formal opportunity to submit any evidence to the Agency during the consultation period, and indeed may not have been aware of the use of the model until the publication of the BiOp itself.²³⁹

Oceana's struggle to introduce such a basic piece of evidence highlights the asymmetry between section 7 decisions and other major agency scientific decisions. Here, as in the *South Yuba* case discussed above, if this had been a listing decision under section 4 of the ESA, the plaintiffs easily could have submitted the letter during the public-comment period, which would have required a formal agency response on the record. If the Agency could not rationally rebut Dr. Heppell's argument regarding the inappropriateness of the use of the statistical model in the administrative record, the court would find the Agency decision arbitrary and capricious and find that the Agency had failed to use the best available science to protect the species.

However, in a case under section 7 of the ESA, under nearly identical circumstances, a court might uphold an agency's identically arbitrary use of a statistical model simply because the plaintiffs were not able to introduce evidence that would have been added to the administrative record as a matter of course in a notice-and-comment procedure. There is nothing in the language or

²³⁷ *Oceana*, 384 F. Supp. 2d at 217 n.17 (citing *Esch v. Yeutter*, 876 F.2d 976, 991 (D.C. Cir. 1989) (listing exceptions to the record-review rule in dicta)).

²³⁸ *Id.* (emphasis added).

²³⁹ *See Axiom Res. Mgmt., Inc. v. United States*, 564 F.3d 1374, 1381 (Fed. Cir. 2009) (stating that extra-record evidence is particularly inappropriate where it "allow[s] the introduction of new evidence or theories *not presented to the deciding agency*" (emphasis added)).

purpose of section 7 that would suggest that the scientific analysis in a BiOp should receive less probing scientific review than the scientific analysis in a section 4 listing decision—and yet the structure of the ESA means that there will be often less scientific evidence available to challenge an agency’s scientific determinations in court. Thus, as a number of district courts have recognized, extra-record scientific evidence is appropriate in section 7 cases because that evidence is necessary to challenge agency scientific decisions that would otherwise be effectively unreviewable under the ESA’s “best available science” standard.²⁴⁰

The de facto acceptance of extra-record evidence in some district courts reviewing section 7 decisions has not translated, however, into the appellate courts, which continue to enforce the record-review rule strictly in section 7 cases. A recent major section 7 decision in *San Luis & Delta-Mendota Water Authority v. Jewell* regarding California’s endangered delta smelt illustrates some of the complexity and incoherence of the application of the record-review rule in section 7 cases. In that case, a number of California water districts, water contractors, and agricultural consumers brought suit to challenge the FWS’s BiOp regarding the effect of the Sacramento Bay-Delta’s massive federal water projects on the delta smelt.²⁴¹ The district court permitted the plaintiffs to submit declarations from scientific experts to challenge the reasonableness of the scientific analyses in the BiOp, and the district court relied on those expert declarations to a large degree in its decision to invalidate the BiOp.²⁴²

The Ninth Circuit reversed, finding that the district court had “overstepped its bounds” by admitting extra-record evidence.²⁴³ In finding that the district court had abused its discretion, the Ninth Circuit focused on the scope of the admitted extra-record evidence, which was unquestionably extensive,²⁴⁴ but did not explain why the evidence was inadmissible or by what other evidentiary means the district court should have evaluated the Agency’s use of the “best available science.”

²⁴⁰ See, e.g., *Kandra v. United States*, 145 F. Supp. 2d 1192, 1208–10 (D. Or. 2001) (discussing extra-record declarations); *Env’tl. Prot. Info. Ctr. v. U.S. Fish & Wildlife Serv.*, No. C 04-04647, 2005 WL 3021939, at *15 (N.D. Cal. Nov. 10, 2005) (discussing extra-record declaration); *Natural Res. Def. Council, Inc. v. Kempthorne*, 506 F. Supp. 2d 322, 344–47 (E.D. Cal. 2007) (admitting extra-record evidence); *Natural Res. Def. Council, Inc. v. Pritzker*, No. C-12-05380, 2014 WL 1311556, at *31–35 (N.D. Cal. Mar. 28, 2014) (admitting extra-record evidence).

²⁴¹ *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 591–93 (9th Cir. 2014).

²⁴² *Id.* at 603–04 (“The district court relied extensively on the declarations of the parties’ experts-as-advocates as the basis for rejecting the BiOp.”).

²⁴³ *Id.* at 604. Relying on the *San Luis* decision, the Ninth Circuit came to an identical decision regarding a BiOp for salmon in the Sacramento Bay-Delta. See *San Luis & Delta-Mendota Water Auth. v. Locke*, 776 F.3d 971, 992 (9th Cir. 2014) (“We hold, based in part on our opinion in [*San Luis*], that the district court went beyond the *Lands Council* exceptions when it admitted extra-record declarations and substituted the analysis in those declarations for that provided by NMFS.”).

²⁴⁴ According to the court, the plaintiffs submitted more than forty expert declarations during the proceedings before the district court. *San Luis*, 747 F.3d at 603.

The Ninth Circuit's discussion of extra-record evidence in *San Luis* is unsatisfying for a number of reasons. First, the court listed the four exceptions to the record-review rule recognized in the Ninth Circuit—most notably the exceptions allowing extra-record evidence to show whether “the agency has considered all factors and explained its decision” and “to explain technical terms or complex subjects”²⁴⁵ that had served as the justification for admission of the evidence in the district court—but did not actually explain why the evidence was inadmissible under those exceptions.²⁴⁶

That omission was curious, because the court acknowledged that at over 400 pages, the BiOp was a “big bit of a mess,” and that it was “unrefined,” “out of logical order,” and “largely unintelligible.”²⁴⁷ The court also found that the BiOp was so scientifically complex that the district court reasonably had “need for a scientific interpreter.”²⁴⁸ Given the court's acknowledgment that the BiOp was so unclear that it was difficult to tell whether it had addressed all relevant issues, and that the document was so highly complex and technical that it required a scientific interpreter, the Ninth Circuit's unsupported finding that it was an abuse of discretion on the part of the district court to admit extra-record evidence under those recognized exceptions raises the question of whether extra-record evidence would ever be admissible under the Ninth Circuit's standard.

Second, having rejected the district court's decision to admit extra-record evidence from party scientific experts, the Ninth Circuit upheld the district court's appointment of neutral scientific expert witnesses under Federal Rule of Evidence 706 (“Rule 706”), stating “we can see no reasonable objection to the use of experts to explain the highly technical material in the BiOp.”²⁴⁹ Rule 706 permits a court to appoint its own expert to evaluate technical evidence before the court and to moderate between the parties' experts. However, from the perspective of APA review, there is no discernable distinction between a neutral expert appointed by the court to “explain highly technical material” and a party expert whose testimony is admitted to explain the same material. Both expert opinions constitute post-hoc, extra-record evidence that was not submitted to the agency for its review. If a court-appointed neutral expert disagrees with the

²⁴⁵ The justification for admitting extra-record evidence to explain technical terms or complex subjects is more powerful in section 7 cases than in cases that consider the product of notice-and-comment rulemaking. This is because federal regulations require the agency to make documents subject to public comment comprehensible to lay readers. *See, e.g.*, 40 C.F.R. § 1502.8 (2014) (“[NEPA e]nvironmental impact statements shall be written in plain language and may use appropriate graphics so that decisionmakers and the public can readily understand them.”). Section 7 decisions, which are not subject to such a requirement, are often highly technical and complicated with no explanations for lay readers.

²⁴⁶ *San Luis*, 747 F.3d at 603.

²⁴⁷ *Id.* at 604–05.

²⁴⁸ *Id.* at 603. As discussed *infra*, the court found this need to be sufficiently great that it upheld the district court's decision to appoint neutral, scientific expert witnesses under Federal Rule of Evidence 706. *Id.* at 604.

²⁴⁹ *Id.* at 603. Among other reasons, the Ninth Circuit upheld the appointment of Rule 706 experts because none of the parties objected. However, the court also found “no reasonable objection” to the lower court's use of such experts. *Id.*

agency's scientific conclusions, it creates that same "appearance that the administrative record [is] open and that the proceedings [are] a forum for debating the merits of the BiOp" that concerned the Ninth Circuit.²⁵⁰ The fact that the appointment of neutral experts is permissible in some cases under one of the Federal Rules of Evidence does not mean that such evidence is admissible for purposes of arbitrary-and-capricious review under the APA.²⁵¹

Moreover, the traditional purpose of Rule 706 is to appoint a neutral expert to judge between the arguments presented by the parties' experts.²⁵² That was what happened in the *San Luis* case: the court-appointed Rule 706 experts reviewed the scientific evidence submitted by the party experts and gave their own opinion regarding the conflicting views.²⁵³ Thus, even though the Ninth Circuit claimed that it would not review the scientific evidence submitted to the district court by the party experts, it still evaluated that evidence indirectly by relying heavily on the testimony of the Rule 706 experts in its findings.²⁵⁴

Finally, in reviewing the Rule 706 experts' testimony, the Ninth Circuit found that the parties' expert testimony had, in fact, raised several scientific issues that significantly undermined important analyses in the BiOp. For example, in regard to a highly significant statistical analysis in the BiOp, the plaintiffs showed that the FWS had employed a statistical technique that an early peer review of the BiOp, and subsequently the Rule 706 experts, criticized as scientifically inadequate or even incorrect.²⁵⁵ Despite the criticism in the peer review, and despite the FWS's own admission in the BiOp that "normalizing" the data would be useful to verify its conclusions, the FWS did not provide an explanation in the record for why it chose not to "normalize" its data, which it could have done using the available data and basic division.²⁵⁶ The Ninth Circuit stated that, if considering this issue in isolation, it "would [have] face[d] a difficult question as to the continuing validity of this aspect of the BiOp,"²⁵⁷ and that "the FWS should have at least prepared [an analysis] based on nor-

²⁵⁰ *Id.*

²⁵¹ See *Murakami v. United States*, 46 Fed. Cl. 731, 739 (2000) ("[T]his court is disinclined to use [Federal Rule of Evidence] 201 to circumvent the established rule requiring review in cases such as this to be based on the administrative record developed by the agency whose decision is being reviewed. . . . [D]iscretion to take judicial notice must be exercised sparingly lest Rule 201 be wielded to create an exception that would envelop the established procedures for conducting arbitrary and capricious review."), *aff'd*, 398 F.3d 1342 (Fed. Cir. 2005).

²⁵² See, e.g., *Planned Parenthood of Wis. v. Van Hollen*, 738 F.3d 786, 798–99 (7th Cir. 2013) ("[G]iven the technical character of the evidence likely to figure in the trial . . . the district judge may want to [consider] appointing a neutral medical expert to testify at the trial. . . . [A] court-appointed expert may help the judge to resolve the clash of the warring party experts." (emphasis added)).

²⁵³ *San Luis*, 747 F.3d at 656 (Arnold, J., dissenting) (noting that the Rule 706 experts reviewed and discussed the party experts' arguments).

²⁵⁴ *Id.* at 604 (majority opinion).

²⁵⁵ *Id.* at 608–10.

²⁵⁶ *Id.* at 609.

²⁵⁷ *Id.* at 610 n.24.

malized data or explained why it could not.”²⁵⁸ The dissent would have found the BiOp arbitrary and capricious on that basis alone.²⁵⁹

Ultimately, the Ninth Circuit upheld the BiOp because it found that, despite the significant problems that had been identified with the FWS’s statistical analysis, the Agency had supported its policy decision in other ways.²⁶⁰ However, it is not difficult to imagine a BiOp that relied solely on a flawed statistical analysis like the one identified in *San Luis*. The Ninth Circuit’s decision stands for the proposition that even in such a case, the plaintiff would not be able to introduce extra-record scientific evidence demonstrating that the statistical analysis was incorrect, except perhaps through the tortured mechanism of urging the court to appoint an expert under Rule 706 to review the issue independently.²⁶¹ Such a strict application of the record-review rule is a bad fit for section 7 because it means that significant scientific decisions made by the agency, which affect both endangered species and, as in *San Luis*, millions of citizens, will continue to be essentially unreviewable by parties that did not have access to the agency during the consultation process.²⁶²

The Ninth Circuit’s decision to apply the record-review rule strictly is particularly inappropriate because the Ninth Circuit and several other circuits have carved out a recognized exception to the record-review rule in NEPA decisions, in which the plaintiff alleges “that an EIS has neglected to mention a serious environmental consequence, failed adequately to discuss some reasonable alternative, or otherwise swept stubborn problems or serious criticism under the rug.”²⁶³ As the U.S. Court of Appeals for the Second Circuit recognized in the seminal case, *County of Suffolk v. Secretary of the Interior*:²⁶⁴

[I]n NEPA cases . . . a primary function of the court is to insure that the information available to the decision-maker includes an adequate discussion of environmental effects and alternatives, which can sometimes be determined only by looking outside the administrative record to see what the agency may have ignored.²⁶⁵

²⁵⁸ *Id.* at 616.

²⁵⁹ *See id.* at 656 (Arnold, J., dissenting).

²⁶⁰ *Id.* at 616 (majority opinion).

²⁶¹ As discussed in notes 252–53, *supra*, and the accompanying text, Rule 706 presupposes a conflict between party experts. It is difficult to imagine why a court would appoint an expert under Rule 706 based only on the unsupported assertion of the plaintiffs’ lawyers that a statistical analysis was flawed.

²⁶² The *San Luis* case was complicated by the fact that a number of the plaintiffs were applicants who *did* have access to the Agency before it made its decision. The Ninth Circuit found that at least one of the plaintiffs, the California Department of Water Resources, had endorsed an early version of the allegedly flawed statistical model during the consultation process. *San Luis*, 747 F.3d at 613.

²⁶³ *Nat’l Audubon Soc’y v. U.S. Forest Serv.*, 46 F.3d 1437, 1447 (9th Cir. 1993) (quoting *Cnty. of Suffolk v. Sec’y of the Interior*, 562 F.3d 1368, 1384–85 (2d Cir. 1977), *cert. denied*, 434 U.S. 1064 (1978)).

²⁶⁴ 562 F.3d 1368 (2d Cir. 1977).

²⁶⁵ *Id.* at 1384.

This exception to the record-review rule is “based on a crucial distinction between judicial review of *substantive* agency decisions and judicial review of an agency’s compliance with the *procedural* requirements of NEPA.”²⁶⁶

The same justification applies in section 7 cases, where the agency similarly has a procedural duty to compile its own record and where there may be a similar need to “inform the court about environmental factors that the agency may not have considered.”²⁶⁷ Indeed, the case for an exception to the record-review rule is even stronger in section 7 cases than in NEPA cases because the NEPA process includes a notice-and-comment period that would allow the public to highlight issues “the agency may not have considered.” In order to address the asymmetric structure of the section 7 process, courts should develop a similarly recognized exception to the record-review rule for section 7 decisions based on the fact that extra-record evidence will often be necessary to discern where as a procedural matter the agency has “swept stubborn problems or serious criticism under the rug.”

In applying such an exception, however, courts must recognize the risks inherent in using extra-record evidence to scrutinize an agency’s scientific decisions. First, as a number of courts have warned, admitting extra-record evidence “inevitably leads the reviewing court to substitute its judgment for that of the agency.”²⁶⁸ However, it should be said that the record support for this proposition is not as strong as the appellate courts appear to believe: looking at section 7 and NEPA cases, a significant number of district courts, including the court in the *Oceana* case discussed above, have admitted extra-record evidence, carefully reviewed it, and subsequently upheld the agency’s decision.²⁶⁹ In most cases courts should be competent to evaluate the significance of extra-record evidence to determine whether it would be sufficiently important as to require serious reconsideration of the agency’s decision.

More importantly, the admission of extra-record evidence places the agency at a disadvantage because the agency must respond to the plaintiff’s evidence without the presumption of deference that the agency would normally

²⁶⁶ *Colo. Wild v. Vilsack*, 713 F. Supp. 2d 1235, 1241 (D. Colo. 2010); see also *Cape Hatteras Access Pres. Alliance v. U.S. Dep’t of Interior*, 667 F. Supp. 2d 111, 115 (D.D.C. 2009) (“[Record-review exceptions] are generally more appropriately applied in actions contesting the procedural validity of agency decisions.”).

²⁶⁷ *Ohio Valley Envtl. Coal. v. Aracoma Coal Co.*, 556 F.3d 177, 201 (4th Cir. 2009) (“While review of agency action is typically limited to the administrative record that was available to the agency at the time of its decision, a NEPA suit is inherently a challenge to the adequacy of the administrative record. That is why, in the NEPA context, courts have generally been willing to look outside the record when assessing the adequacy of an EIS.” (citations omitted)).

²⁶⁸ *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 602 (9th Cir. 2014) (quoting *Asarco, Inc. v. EPA*, 616 F.2d 1153, 1160 (9th Cir. 1980)).

²⁶⁹ *Oceana, Inc. v. Evans*, 384 F. Supp. 2d 203, 217 n.17 (D.D.C. 2005); *Kandra v. United States*, 145 F. Supp. 2d 1192, 1209–10 (D. Or. 2001) (discussing extra-record declarations and concluding that “[t]he opposing views and supporting evidence of the parties demonstrate that plaintiffs simply disagree with the scientific conclusions reached by FWS and NMFS”); *Envtl. Prot. Info. Ctr. v. U.S. Fish & Wildlife Serv.*, No. C 04-04647, 2005 WL 3021939, at *15 (N.D. Cal. Nov. 10, 2005) (discussing extra-record declaration and finding that “the Court must defer to the Service”); *Natural Res. Def. Council, Inc. v. Pritzker*, No. C-12-05380, 2014 WL 1311556, at *31–35 (N.D. Cal. Mar. 28, 2014) (rejecting ESA claim after considering extra-record evidence).

enjoy during the administrative process. Thus, problems with the agency's decision that could have been resolved by the introduction of a few sentences in the administrative record, had they been presented in time, must be solved through a costly and time-consuming remand.²⁷⁰ Also, in certain cases, pitting a party expert against the agency in the adversarial forum of the court rather than the administrative process can overly privilege the importance of minority scientific viewpoints.²⁷¹ Finally, and most significantly, reliance on extra-record testimony rather than a notice-and-comment procedure greatly privileges the voices of regulated industries challenging a decision because they are more likely to have the resources to raise a challenge in court and pay for expert scientific testimony.

For all of these reasons, courts should not accept extra-record testimony as a matter of course in section 7 cases. But on the other hand, courts should be more willing in section 7 cases to admit and evaluate extra-record evidence that may well be the only way that an environmental plaintiff can prove that an agency's failure to use the best available science was arbitrary and capricious.

C. *Incorporating Notice and Comment into the Section 7 Consultation Process*

While greater judicial scrutiny of the scientific record in section 7 decisions would be an important first step toward addressing the evidentiary problems identified above, a better solution would be to introduce some opportunity for public comment in the consultation process itself, at least in major decisions where the public has no other opportunity to contribute to the regulatory decision. Incorporating a notice-and-comment procedure would impose a significant time cost on the agency in the early stages of an interagency consultation, but that cost would pay off in the development of an administrative process that would do a better job of protecting species and developing a record for proper judicial review. Through a notice-and-comment procedure, all stakeholders in a consultation could submit the data and analysis they believe are necessary to understand the effects of the proposed project, and would have the opportunity to critique the agency's draft proposals. Such an opportunity, which is standard in a number of structurally similar environmental review and permitting processes,²⁷² would provide the wildlife agencies with a more complete picture of the best available science and better insulate the agency against post-hoc attacks in court.

²⁷⁰ See, e.g., *Dow AgroSciences LLC v. Nat'l Marine Fisheries Serv.*, 707 F.3d 462, 468–69 (4th Cir. 2013) (excluding extra-record agency declaration meant to address deficiencies in the record, and then remanding to agency due to deficiencies in the record).

²⁷¹ See Rebecca Haw, *Adversarial Economics in Antitrust Litigation: Losing Academic Consensus in the Battle of the Experts*, 106 Nw. U. L. REV. 1261, 1262–63 (2012) (“As long as there is some scientifically legitimate difference of opinion, one side can exploit that difference by calling an expert from the minority side. . . . And the more an area of law demands technical reasoning, the more acute the problem is likely to be.”).

²⁷² See *supra* note 12.

A notice-and-comment requirement is by no means an unalloyed good. As Professor Wagner has discussed, public comment periods in other environmental rulemakings offer regulated parties an opportunity to capture agencies through informational overload.²⁷³ Moreover, public comments often contain dubious and biased scientific data, which can serve to obscure rather than clarify a regulatory decision.²⁷⁴ Finally, where significant regulatory interests are at stake, “[o]utside reviews by ‘hired guns’ often devolve into exercises in identifying every small criticism to which the decision might be subject, even if those flaws had no discernable impact on the decision.”²⁷⁵ Such a process, which also inevitably adds time and expense to a decision, is not to be added lightly to the section 7 consultation process.

However, the fact is that the section 7 formal consultation process already suffers from a number of these drawbacks because it incorporates *half* of a public notice-and-comment procedure. The action agency and private applicants are parties to the development of the BiOp, and they both can and do engage in the kind of informational capture discussed above.²⁷⁶ Indeed, they are able to do so more effectively because knowledgeable members of the public who could provide a counter-voice are shut out of the process. Opening the process up to full public comment would act to balance out the current overrepresentation of development interests.

Adding a notice-and-comment process to section 7 would also have several important benefits for the agency. First, allowing interested members of the public to submit scientific data and analysis would often substantially supplement the scientific resources available to the agency. The wildlife agencies, which are chronically underfunded and understaffed, may actually be unaware of available scientific data and methodologies that fall outside of the agencies particular disciplinary boundaries.²⁷⁷ In the consultation context, wildlife agen-

²⁷³ Wendy E. Wagner, *Administrative Law, Filter Failure, and Information Capture*, 59 DUKE L.J. 1321, 1325 (2010) (“In the regulatory context, information capture refers to the excessive use of information and related information costs as a means of gaining control over regulatory decision-making in informal rulemakings. A continuous barrage of letters, telephone calls, meetings, follow-up memoranda, formal comments, post-rule comments, petitions for reconsideration, and notices of appeal from knowledgeable interest groups over the life cycle of a rulemaking can have a ‘machine-gun’ effect on overstretched agency staff.”); *see also* McGarity, *supra* note 143, at 535 (describing regulated industries’ “blunderbuss attacks on every conceivable aspect of the rule’s factual and analytical predicates”).

²⁷⁴ *See* Ruhl & Salzman, *supra* note 20, at 21 (noting that provisions for public comment “are neither limited to experts nor do they screen out biased members of the public. Indeed, quite the opposite is likely”); Herz, *supra* note 136, at 364 (particularly in regard to technical, fact-dependent analyses “the very process of deliberation can amplify error and aggregate prejudice and misinformation”). *But see* Sanne H. Knudsen, *Adversarial Science*, 100 IOWA L. REV. (forthcoming 2015) (manuscript at *107–12) (on file with author) (discussing how “adversarial science” can helpfully fill gaps in the data sets available for environmental regulation).

²⁷⁵ Holly Doremus & Dan Tarlock, *Science, Judgment, and Controversy in Natural Resource Regulation*, 26 PUB. LAND & RESOURCES L. REV. 1, 34 (2005) (“Regulatory decisions, because of the notice and comment procedure prescribed by the APA, are always subject to that kind of [fly-specking] if there is an interested party with the resources to finance it.”).

²⁷⁶ *See supra* notes 141–42 and accompanying text.

²⁷⁷ *See* Brosi & Biber, *supra* note 25, at 803 (explaining how citizen scientists bring specialized knowledge to the attention of the wildlife agencies); Doremus, *supra* note 18, at 416 (“Field-level

cies are asked to analyze the effect on species caused by technologically complex federal projects—nuclear power plants, hydrological projects, etc.—that require sophisticated analysis of the project's operations. As a result, agency scientists may miss scientific data that would contribute to, or potentially change, their analyses of the effect of a proposed project on the species until the publication of the BiOp, at which point the only option left is the zero-sum game of litigation.

Second, the notice-and-comment process plays an important role in limiting the scope of judicial review. Criticisms of agency science that were not raised during the notice-and-comment period cannot be considered by the court in a subsequent challenge to the agency's decision.²⁷⁸ Thus, by the time the agency has addressed all of the substantive comments that have been submitted, it will have had the opportunity to respond on the record to all relevant potential litigation positions. At present, the absence of notice and comment in the section 7 process leaves the wildlife agencies uniquely vulnerable to plaintiffs who raise new scientific concerns in court after the decision has been issued. By adding a notice-and-comment procedure to section 7, the wildlife agencies would be better protected against such lawsuits because they could respond to criticisms on the record, where the agencies receive deference, rather than in court.

Finally, in major consultations affecting extensive public infrastructure, such as the highly controversial BiOps in the Sacramento Bay-Delta and the Klamath, a notice-and-comment process would provide a better forum for peer review of the BiOp by the National Research Council ("NRC"). In recent years, Congress and administrative agencies "have increasingly turned to the [NRC] to defuse environmental regulatory controversies."²⁷⁹ In the major section 7 decisions in the Sacramento Bay-Delta and the Klamath, political outcry regarding agency scientific decisions led to NRC peer review of the BiOps.²⁸⁰ In each case, the NRC reviewed the scientific conclusions of the BiOps and issued detailed criticisms regarding the agencies' scientific analyses, but did so only *after* the BiOps were published by the wildlife agencies.

As other scholars have explained, post-hoc peer review by the NRC is a less-than-ideal mechanism for solving the scientific problems in BiOps. In regard to scientific issues, post-hoc peer review does not serve the purpose of presenting or evaluating alternatives, does not examine or authenticate the data employed in the analysis, and does not generate new analysis.²⁸¹ In addition,

agency scientists may have academic training only to the bachelor's or master's degree level, as opposed to the doctoral training typical of research scientists. Moreover, they may not have enough time in their jobs to systematically keep up with the latest developments in the field by, for example, regularly reading the key journals.").

²⁷⁸ See *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 519, 553 (1978) (noting that parties must "structure their participation . . . so that it alerts the agency to the intervenors' position and contentions").

²⁷⁹ Ian Fein, *Reassessing the Role of the National Research Council: Peer Review, Political Tool, or Science Court?*, 99 CAL. L. REV. 465, 465 (2011).

²⁸⁰ See *id.* at 484–93, 506–22; see also generally Doremus & Tarlock, *supra* note 275 (discussing the Klamath).

²⁸¹ Doremus, *Listing Decisions Under the Endangered Species Act*, *supra* note 20, at 1147.

scientific peer reviewers may be unsympathetic to the management constraints and necessary policy choices committed to the agency's discretion.²⁸² Nor does peer review by the NRC solve the democratic accountability problem caused by the absence of a notice-and-comment requirement in the section 7 process. If anything, the NRC is even less accountable to the public than either the agency or the reviewing court, and its review of a BiOp takes place outside of any congressionally legislated structure.²⁸³

For these reasons, to the extent peer review by the NRC plays a role in agency environmental policy-making, it would be better to incorporate that review in a notice-and-comment process *before* the publication of the BiOp.²⁸⁴ Adding a notice-and-comment process to section 7 would permit the agency to respond to criticisms raised by an NRC peer review in the administrative record—where it could either change the BiOp or explain why it did not—in order to facilitate a final judicial determination.

While section 7 of the ESA, unlike section 4,²⁸⁵ does not include a formal statutory mandate to provide an opportunity for public comment through the rulemaking process, a notice-and-comment procedure could be introduced through agency regulation without requiring a legislative change, much as the public comment process in NEPA was introduced by regulation.²⁸⁶ Alternatively, the wildlife agencies could simply choose to offer draft BiOps for comment where time allowed, especially in controversial cases such as the Klamath or the Sacramento Bay-Delta where subsequent litigation is almost guaranteed and the procedural protections provided by notice and comment would be most useful. Of course, such informal agreements to invite public comment would be more likely to occur if the agencies involved believed that courts would admit extra-record evidence to challenge the BiOp and would use the more probing review discussed above.

Incorporating a notice-and-comment procedure into section 7 would undoubtedly add a significant up-front time commitment to the consultation process, which would have the potential to delay the implementation of federal projects. However, in many cases the addition of a public-comment period

²⁸² Doremus & Tarlock, *supra* note 275, at 34–35 (explaining that “fly-specking” scientific criticisms by outside experts may have disproportionate weight during the notice-and-comment period than during post-hoc scientific peer review).

²⁸³ Fein, *supra* note 279, at 533–42.

²⁸⁴ *Id.* at 534–35 (“Regulatory peer review conducted earlier in the agency’s decision-making process fits more comfortably within the conventional APA notice-and-comment framework, as it allows both the agency and members of the public to respond to aspects of the report they disagree with or dislike.”); *see also* Ruhl & Salzman, *supra* note 20, at 54–61 (proposing a system of randomized peer review to take place during the notice-and-comment period).

²⁸⁵ See 16 U.S.C. § 1533(b)(5)–(8) (2012).

²⁸⁶ *See supra* note 80 and accompanying text. The main obstacle to introducing notice and comment in section 7 through agency regulations is the statutory requirement that consultation be completed within ninety days, which typically would not allow enough time to develop a BiOp and circulate it for public comment. *See* 16 U.S.C. § 1536(b)(1)(A). However, the ESA permits the wildlife agency and the action agency to agree to a longer consultation period where necessary. *Id.* § 1536(b)(1)(B). In such complex cases, where public interest and controversy would be more likely anyway, the agency could introduce a notice-and-comment procedure as standard practice.

would lead to a better-defined scientific record, more genuine consideration of alternatives, more public accountability and buy-in, and greater finality by making it more difficult for disgruntled parties to raise new, post-hoc scientific challenges in court. As the Ninth Circuit observed in *San Luis*, one of the ironies of the 2008 delta smelt BiOp was that the document itself was produced over a one-year period on a tight deadline, while the litigation over it has lasted for nearly five years.²⁸⁷ While a notice-and-comment procedure allowing public participation in the process would certainly not by itself head off the kind of serial litigation seen in the Sacramento Bay-Delta or the Klamath, investing more time in public comment on draft BiOps would likely produce better and more defensible decisions, which would ultimately pay dividends in court.

CONCLUSION

The asymmetries in the interagency consultation process under section 7 of the ESA significantly undermine its important role in protecting endangered species. By granting the action agency and private applicants sole access to the wildlife agency during the pre-decisional process, section 7 skews jeopardy determinations and RPAs in favor of the regulated parties. And by limiting judicial review to an administrative record that was created solely by the action agency and wildlife agency, courts significantly limit the ability of environmental groups to challenge section 7 scientific determinations on the merits.

The first step toward correcting the problems caused by these asymmetries is for courts to recognize that, when they review section 7 decisions, they are dealing with a different animal from a standard informal agency rulemaking. Unlike many other structurally similar environmental review and permitting processes,²⁸⁸ a BiOp is not the result of a notice-and-comment process to which all stakeholders—including future challengers—have access. As a result, the scientific decisions in a BiOp are less likely to have been fully vetted by all interested parties, and plaintiffs are less likely to have had the opportunity to submit any pre-decisional data or analysis to the agency. These deviations from standard rulemaking practice mean that courts should more carefully consider whether the agency has truly used the best available science to reach its conclusions, or whether it has obscured relevant data and analysis for political reasons. In addition, because plaintiffs may well not have had access to the record before the agency's decision, courts should not apply the rule excluding evidence that was not submitted to the agency during the administrative process, but instead carefully consider extra-record evidence presented by the plaintiff to determine whether the wildlife agency has neglected to consider any important data relevant to the effect of the project on the listed species.

The second, more fundamental, step would be to incorporate a notice-and-comment procedure into the formal consultation process. As in the listing pro-

²⁸⁷ *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 605 n.15 (9th Cir. 2014).

²⁸⁸ See *supra* note 12.

cess under section 4, public participation would expand the scientific record and augment the wildlife agencies' limited resources by making the agencies aware of specialized scientific knowledge about species, locations, and industries in the hands of citizen scientists. Public participation through notice and comment would also have the important agency-forcing effect of compelling the wildlife agencies to consider and weigh data and analysis that run counter to the interests of the action agency.

Adding a notice-and-comment process to major section 7 formal consultations would not solve all of the problems with interagency consultation, but it would have the important effect of bringing section 7 decisions into symmetry with the other informal agency rulemakings they so closely resemble, allowing for effective judicial review under the APA. Adding a notice-and-comment procedure would create a more robust section 7 process that would prioritize the gathering of scientific data and analysis from all interested parties. As a result, future BiOps would be more sustainable, more protective of species, and more likely to survive judicial review.

