THE HEART OF THE MATTER: ALTERNATIVES, MITIGATION MEASURES, AND THE CLOUDED HEART OF NEPA

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I. Introduction

The linchpin.[1] The heart.[2] These are just a few of the names courts use to emphasize the centrality of an agency's discussion of alternatives to a proposed federal project in an environmental impact statement (EIS), prepared pursuant to the National Environmental Policy Act of 1969 (NEPA).[3] NEPA's procedural framework places alternatives front and center. Two explicit provisions within the statute relate to alternatives.[4] These requirements go far to serve NEPA's twin purposes by providing decision makers and the public with essential context for the agency's assessment of the impacts that may occur from its proposed or, ultimately, its selected course of action.[5]

The meaning of alternatives appears straightforward on its face: an agency must consider different ways of achieving its desired ends. But the case law and implementing regulations are not as simple. Courts and agencies often conflate the alternatives re-

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1. Nat. Res. Def. Council, Inc. v. Callaway, 524 F.2d 79, 92 (2d Cir. 1975) (quoting Monroe Cnty. Conservation Council, Inc. v. Volpe, 472 F.2d 693, 697-98 (2d Cir. 1972)).

2. Ctr. for Biological Diversity v. U.S. Dep't of Interior, 623 F.3d 633 (9th Cir. 2010). *See also* 40 C.F.R. § 1502.14 (stating that the alternatives section is the heart of the EIS).

3. Nat'l Envtl. Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified as amended at 42 U.S.C. §§ 4321-4370c (1988 & Supp. III 1991)) (stating an EIS must be prepared when a federal agency is proposing a major federal action significantly affecting the quality of the human environment); 42 U.S.C. § 4232(2)(C) (2012); *see also* 40 C.F.R. § 1501.7 (2016).

4. 42 U.S.C. § 4322(2)(C), (E) (2012).

5. *See* 42 U.S.C. § 4321 (2012) (describing purposes); *see also* Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349–50 (1989); Hughes River Watershed Conservancy v. Glickman, 81 F.3d 437, 443 (4th Cir. 1996) (describing the principal goals of an EIS as twofold: to compel agencies to take a "hard look" at the environmental consequences of a proposed project and to permit the public a role in the agency's decision-making process).

quirements.[6] Even more significantly, courts frequently mistake alternatives for another key requirement of an EIS: mitigation measures. The Supreme Court has stated an EIS must discuss mitigation measures in order to provide a complete picture of the impacts of the project.[7] While the Supreme Court's requirement is clear, the line between alternatives to a proposed action and mitigation measures is hazy, as both requirements compel agencies to explore different methods of meeting a project's purpose. As a result, courts, commenters, and even the Council on Environmental Quality (CEQ)—which issues regulations governing compliance with NEPA[8]—routinely conflate the two, due in part to the CEQ's regulations that treat mitigation measures as merely one type of alternative.[9] This confusion has apparently led some courts to demand that agencies discuss mitigation measures in far more detail than required by the Supreme Court to fairly reveal a project's impacts. These courts require that mitigation analyses contain a depth of consideration typically reserved for alternatives.[10]

Because NEPA case law on mitigation and alternatives can be muddled, it is often difficult to determine the true heart of a NEPA analysis. Is it a procedural discussion of alternatives—some of which are likely beyond the purview of the action agency—or is it the potentially more substantive discussion of mitigation measures that an agency may realistically implement to avoid harm to the environment?[11] Finally, how can a NEPA practitioner prepare an

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6. *See infra* Sections III.A and III.C. As discussed below, some of this conflation may be explained because the CEQ regulations regarding alternatives include a provision which states that the alternatives discussion should "[i]nclude appropriate mitigation measures *not already included* in the proposed action or alternatives." 40 C.F.R. § 1502.14 (2016) (emphasis added).

7. *Methow Valley,* 490 U.S. at 349–50. Interestingly, NEPA itself does not explicitly mention mitigation. 42 U.S.C. § 4321 (2012).

8. *See* 42 U.S.C. § 4342 (2012); Exec. Order No. 11,991, 42 Fed. Reg. 26,927 (1978). *See also* Exec. Order 11,514, 35 Fed. Reg. 4,247 (1970) (mandating issuance of guidelines to assist the agencies in preparing EISs).

9. *See* 40 C.F.R. § 1508.25(b) (2016).

10. *See* Ocean Mammal Inst. v. Gates, 546 F. Supp. 2d 960, 983 (D. Haw. 2008) (requiring mitigation measures in narrowly crafted injunction to avoid harm to marine mammals caused by the Navy's use of sonar in training exercises, instead of shutting down those exercises). *See* N.W. Indian Cemetery Protective Ass'n v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986) (holding EIS inadequate for failure to discuss mitigation measures in sufficient detail*), rev'd on other grounds, sub nom.* Lyng v. N.W. Indian Cemetery Protective Ass'n, 485 U.S. 439 (1988).

11. *See* David C. Richards, Robertson v. Methow Valley Citizens Council: *The Gray Area of Environmental Impact Statement Mitigation*, 10 J. ENERGY L. & POL'Y 217, 233 (1990) (noting that NEPA is procedural but that adequate mitigation is a procedural requirement which inevitably results in substantive action). *See also* Bradley C. Karkkainen, *Toward a Smarter NEPA: Monitoring and Managing Government's Environmental Performance*, 102 COLUM. L. REV. 903, 932 (2002) (discussing the benefits of mitigated finding of no significant impacts or FONSIs).

EIS that meets NEPA's requirements with respect to alternatives and mitigation measures, and withstands judicial scrutiny?

In answering these questions, this article first introduces the requirements for both alternatives and mitigation measures and discusses how courts have treated these requirements. Next, this article considers cases where courts, scholars, and the CEQ seemingly conflate the two requirements and the confusion that can consequently arise. Third, this article examines how this confusion has potentially led lower courts to demand more of mitigation analyses than required by the Supreme Court. Next, this article argues that mitigation measures are the more significant part of an EIS, in that they instruct decision makers and the public on practical, and frequently easily achievable, ways to lessen environmental impacts. As a result, the additional discussion of mitigation measures required by many lower courts has an unintended, but beneficial, side effect: providing a relatively complete discussion of more modest alternatives to the project as initially proposed. Finally, this article concludes with recommendations for how practitioners should consider both alternatives and mitigation measures in their environmental analyses to avoid challenges and remands by the courts.

II. BACKGROUND: NEPA REQUIREMENTS RELATED TO ALTERNATIVES & MITIGATION

A. Alternatives

NEPA contains two separate requirements related to alternatives. First, section 102(2)(C)(iii) requires that an environmental impact statement (EIS) contain a discussion of "alternatives to the proposed action."[12] Second, section 102(2)(E) requires federal agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."[13] In the first landmark NEPA case, *Calvert Cliffs' Coordinating Committee, Inc. v. Atomic Energy Commission*,[14] the U.S. Court of Appeals for the D.C. Circuit highlighted the importance of these requirements and noted that they seek:

> [T]o ensure that each agency decision maker has before him and takes into proper account all possible approaches to a

12. 42 U.S.C. § 4232(2)(C)(iii) (2012).
13. *Id.* § 4232(2)(E) (2012).
14. 449 F.2d 1109 (D.C. Cir. 1971).

> particular project (including total abandonment of the project) which would alter the environmental impact and the cost benefit analysis. Only in that fashion is it likely that the most intelligent, optimally beneficial decision will ultimately be made.[15]

As discussed below, while these requirements are separate and distinct, courts often (1) discuss only the 102(2)(C)(iii) requirement, or (2) treat the two provisions as a single requirement.

1. Section 102(2)(C) Requirement

NEPA section 102(2)(C) requires an EIS[16] to discuss "alternatives to the proposed action."[17] The CEQ, in its implementing regulations, emphasizes alternatives as the "heart" of the EIS.[18] Despite the apparently critical role alternatives play in accomplishing NEPA's goals, the statute itself does not define alternatives. The legislative history offers little guidance and only defines "alternatives" broadly as "[t]he alternative ways of accomplishing the objectives of the proposed action."[19] One court found that "the term 'alternatives' is not self-defining,"[20] while another court explained section 102(2)(C)(iii) as a terse notation for both "[t]he alternative ways of accomplishing the objectives of the proposed action and the results of not accomplishing the proposed action."[21]

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15. *Id.* at 1114.

16. The EIS is described as the primary procedural mechanism embodied in NEPA. Grazing Fields Farm v. Goldschmidt, 626 F.2d 1068, 1072 (1st Cir. 1980). An EIS "aids a reviewing court to ascertain whether the agency has given the good faith consideration to environmental concerns . . . , provides environmental information to the public and to interested departments of government, and prevents stubborn problems or significant criticism from being shielded from internal and external scrutiny." *Id*; *see also* Silva v. Lynn, 482 F.2d 1282, 1283-84 (1st Cir. 1973).

17. 42 U.S.C. § 4332(2)(c)(iii) (2012). An EIS must describe the impact of federal actions which have a major effect on the environment. In terms of timing, an EIS "ought not to be modeled upon the works of Jules Verne or H. G. Wells, or written at such late date that 'the purposes of NEPA will already have been thwarted.'" Scientists' Inst. for Public Information v. Atomic Energy Comm'n, 481 F.2d 1079, 1093 (D.C. Cir. 1973) (citing CEQ guidance).

18. CEQ distinguishes between the "environmental consequences section" of an EIS, which should be devoted largely to a scientific analysis of the impacts of the analyzed alternatives, and the "alternatives section," which should present a concise comparison of alternatives (based on and summarizing information developed in the "environmental consequences section"). Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,028 (1981) ("Forty Questions").

19. 115 CONG. REC. 40,420 (1969).

20. Vermont Yankee Nuclear Power Corp. v. Nat. Res. Def. Council, Inc., 435 U.S. 519, 551 (1978).

21. Nat. Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 833 (D.C. Cir. 1972) (citing 115 CONG. REC. 40420 (Dec. 20, 1969)) (discussing language of the Section-by-Section Analysis presented by Senator Jackson, in charge of the legislation and chairman of the Senate

Despite their zeal for alternatives, the CEQ's regulations only generally refer to an alternative as a means to accomplish the agency's goal.[22] This stands in contrast to the CEQ's relatively detailed definition of mitigation measures.[23] Weakness of its definition notwithstanding, CEQ's regulations provide detailed directions on the contents of the alternatives discussion in an EIS. Specifically, agencies shall:

> (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
> (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
> (c) Include reasonable alternatives not within the jurisdiction of the lead agency.
> (d) Include the alternative of no action.
> (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
> (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.[24]

While each of the regulatory requirements for EIS alternatives discussions could be the subject of its own law review article, this section will briefly highlight a few principles related to these provisions. First, the alternatives discussion is procedural. Agencies must discuss alternatives in an EIS, including alternatives not within their jurisdictions,[25] but NEPA does not require an agency

Interior Committee, in explaining and recommending approval of the bill as agreed in conference).

22. 40 C.F.R. § 1508.23 (2016).

23. *See id.* § 1508.20 (2016) (defining mitigation).

24. *Id.* § 1502.14 (2016); *see* 43 Fed. Reg. 55994; *see also* 40 C.F.R. § 1502.16 (2016) ("This section [environmental consequences] forms the scientific and analytic basis for the comparisons under § 1502.14."). The CEQ regulations also provide that an EIS must contain the alternatives discussion required by section 102(2)(E). *See* 40 C.F.R. § 1502.10 (2016) (providing recommended format for EISs and noting that one section should be "[a]lternatives, including proposed action (sections 102(2)(C)(iii) and 102(2)(E) of the Act)"); *see also* 40 C.F.R. § 1502.12 (2016) (providing that the EIS summary should stress "the issues to be resolved including the choice among alternatives").

25. *See* 40 C.F.R. § 1502.16 (2016); Sierra Club v. Lynn, 502 F.2d 43, 62 (5th Cir. 1974), *cert. denied* 421 U.S. 994 (1975); Envtl. Defense Fund, Inc. v. U.S. Army Corps of Eng'rs, 492 F.2d 1123, 1135 (5th Cir. 1974); Nat. Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 834 (1972); *see also* Dubois v. U.S. Dept. of Agric., 102 F.3d 1273 (1st Cir. 1996) (stating

to choose any particular alternative.[26] Agencies, however, are directed to consider modifying the alternatives — including the proposed action — as well as to develop and evaluate alternatives not previously given serious consideration by the agency when responding to comments on the EIS.[27] The court's role is to ensure that the agency took a hard look at the environmental impacts of the proposed action and adequately disclosed those impacts.[28] The court's review is aimed at ensuring compliance with NEPA's procedures, not at "trying to coax agency decision makers to reach certain results."[29]

Another important principle outlined in the CEQ regulations is that all reasonable alternatives must be discussed.[30] This comports with NEPA's central purpose of fostering informed decision-making. Thus, it is not surprising that many NEPA challenges revolve around whether the agency considered a reasonable range of alternatives, with courts holding that the existence of reasonable but unexamined alternatives renders an EIS inadequate.[31]

During rulemaking, many commenters opposed the "all reasonable alternatives" language in 40 C.F.R. § 1502.14 as being "unduly broad."[32] However, the CEQ did not change the language because it reasoned that the phrase "is firmly established in the case law interpreting NEPA."[33] In an attempt, however, to provide boundaries on the regulation's broad language, the CEQ gives guidance on what constitutes "reasonable" alternatives. For example, the CEQ regulations state that reasonable alternatives "would avoid or minimize adverse impacts or enhance the quality of the

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that part of the duty of analyzing reasonable alternatives is to consider significant alternatives suggested by other agencies or public during comment period).

26. *See* Corridor H. Alternatives, Inc. v. Slater, 982 F. Supp. 24, 29 (D.D.C. 1997), *aff'd in part, rev'd in part* 166 F.3d 368 (D.C. Cir. 1999). Agencies must also briefly discuss the reason for eliminating an alternative from detailed study. *See* 40 C.F.R. § 1502.14(a); Utahns for Better Transp. v. Dep't of Transp., 305 F.3d 1152, 1166 (10th Cir. 2002).

27. 40 C.F.R. § 1503(a)(1) and (2) (2016).

28. *See* James E. Brookshire, *Engaging the Future: A Survey of Federal Environmental and Land Management Developments*, 26 URB. LAW. 293, 299 (1994).

29. Northern Crawfish Frog (Rana Areolata Circulosa) v. Federal Highway Admin., 858 F. Supp. 1503, 1506 (D. Kansas 1994). For this reason, NEPA is described as prohibiting "uninformed-rather than unwise-agency action." Custer County Action Ass'n v. Garvey, 256 F.3d 1024, 1034 (10th Cir. 2001); *see also* Habitat Educ. Center, Inc. v. U.S. Forest Service, 603 F. Supp. 2d 1176, 1182 (E.D. Wis. 2009) (citing Highway J Citizens Group v. Mineta, 349 F.3d 938, 952 (7th Cir. 2003)) (noting that a "court is not empowered to examine whether the agency made the 'right' decision, but only to determine whether, in making its decision, the agency followed the procedures prescribed by NEPA").

30. 40 C.F.R. § 1502.14(a) and (c) (2016).

31. 'Ilio'ulaokalani Coal. v. Rumsfeld, 464 F.3d 1083, 1095 (9th Cir. 2005); Westlands Water Dist. v. U.S. Dep't of Interior, 376 F.3d 853, 868 (9th Cir. 2004) (citation omitted).

32. National Environmental Policy Act – Regulations, 43 Fed. Reg. 55978, 55983 (Nov. 29, 1978).

33. *Id.*

human environment."[34] The regulations also require that as part of reasonable decision-making, "[a]gencies [will] not commit resources prejudicing selection of alternatives before making a final decision."[35]

In considering challenges to alternatives analyses, courts apply a rule of reason.[36] In applying this rule of reason, courts consider the feasibility of the alternatives.[37] For example, in *Vermont Yankee*,[38] the Court explained that the Nuclear Regulatory Commission (NRC) was not responsible for considering every conceivable alternative device and consideration when licensing nuclear power facilities. Instead, the Court explained that the NRC's evaluation of alternatives would be "judged by the information then available to it."[39] This focus on feasibility means that agencies are not expected to discuss remote and highly speculative consequences of proposed actions and their alternatives.[40]

Courts also look to the goals, needs, and purposes defined for the project in determining whether the alternatives discussion is reasonable.[41] While giving deference to the agencies,[42] courts are

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34. 40 C.F.R. § 1502.1 (2016).

35. 40 C.F.R. § 1502.2(f) (2016) (citing 40 C.F.R. § 1506.1). *See also* 40 C.F.R. § 1502.2(e) (2016) ("The range of alternatives discussed in environmental impact statements shall encompass those to be considered by the ultimate agency decisionmaker.").

36. *See* California v. Block, 690 F.2d 753, 767 (9th Cir. 1982); Headwaters, Inc. v. Bureau of Land Mgmt., 914 F.2d 1174, 1180 (9th Cir. 1990) (stating that agencies must "set forth only those alternatives necessary to permit a reasoned choice."); *see also* Nat'l Helium Corp. v. Morton, 486 F. 2d 995, 1002 (10th Cir. 1973). While this is generally the standard, some courts have applied the arbitrary and capricious standard when considering an EIS's sufficiency. *See* Sierra Club v. Morton, 510 F.2d 813 (5th Cir. 1975), *rev'd on other grounds*, 96 S. Ct. 2718 (1976); Envtl. Def. Fund, Inc. v. Armstrong, 487 F.2d 814 (9th Cir. 1973); Silva v. Lynn, 482 F.2d 1282 (1st Cir. 1973).

37. High Country Conservation Advocates v. U.S. Forest Serv., 52 F. Supp. 3d 1174 (D. Colo. 2014) (stating that reasonable alternatives are "bounded by some notion of feasibility, and, thus, need not include alternatives which are remote, speculative, impractical, or ineffective."). Many courts have cited to *Vermont Yankee* for the proposition *that* the burden is on the party challenging an agency action to offer feasible alternatives. *See, e.g.,* City of Sausalito v. O'Neill, 386 F.3d 1186 (9th Cir. 2004); Morongo Band of Mission Indians v. FAA., 161 F.3d 569 (9th Cir. 1998); Olmstead Citizens for a Better Cmty. v. U.S., 793 F.2d 201 (8th Cir. 1986); River Rd. Alliance, Inc. v. U.S. Army Corps of Eng'rs, 764 F.2d 445 (7th Cir. 1985).

38. Vermont Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519 (1978).

39. Brookshire, *supra* note 28, at 297-98 (noting that NEPA was not intended to impose an impossible standard on an agency). *See* Miller v. United States, 654 F.2d 513, 514 (8th Cir. 1981) (per curiam); *cf.* 435 U.S. 519 at 551 ("To make an impact statement something more than an exercise in frivolous boilerplate the concept of alternatives must be bounded by some notion of feasibility.").

40. *See, e.g.*, Nw. Coal. for Alts. to Pesticides v. Lyng, 673 F. Supp. 1019, 1025 (D. Or. 1987), *aff'd,* 844 F.2d 588 (finding that alternatives discussion was adequate).

41. *See e.g.*, Michael C. Blumm & Keith Mosman, *The Overlooked Role of the National Environmental Policy Act in Protecting the Western Environment: NEPA in the Ninth Circuit*, 2 WASH. J. ENVTL. L. & POL'Y 193 (2012) (claiming that the Ninth Circuit cases reflect NEPA's conservation purpose by "accept[ing] a relaxed scope of alternatives in EIS's on agency proposals that have a conservation purpose.").

wary when agencies narrowly define the purpose or scope of an action. For example, when considering the scope of reasonable alternatives in an EIS, the Seventh Circuit stated that "[o]ne obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing 'reasonable alternatives' out of consideration (and even out of existence)."[43]

Courts also look to the complexity of the action in considering whether the amount of detail in the alternatives section is sufficient.[44] Agencies are directed to "present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public."[45] "The touchstone for [a court's] inquiry is whether an EIS's selection and discussion of alternatives fosters informed decision-making and informed public participation."[46]

2. Section 102(2)(E)

The second NEPA alternatives requirement is in section 102(2)(E).[47] Section 102(2)(E) requires agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." By its terms, the section 102(2)(E) alternatives requirement applies more broadly than the section 102(2)(C) requirement. Namely, this alternatives discussion is required for actions that do not trigger an EIS, such as those that would instead require an Environmental Assessment.[48] Thus, even when an EIS is not required, NEPA and the

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42. Citizens for Alts. to Radioactive Dumping v. U.S. Dep't of Energy, 485 F.3d 1091, 1098 (10th Cir. 2007) (judicial deference is "especially strong" where decision involves technical or scientific matters within agency's area of expertise).

43. Simmons v. U.S. Army Corps of Eng'rs, 120 F.3d 664, 666, 670 (7th Cir. 1997) (noting that if "NEPA mandates anything, it mandates this: a federal agency cannot *ram through* a project before first weighing the pros and cons of the alternatives") (emphasis added).

44. Nw. Coal. for Alts. to Pesticides v. Lyng, 844 F.2d 588, 591 (9th Cir. 1988); *see* Wyoming v. U.S. Dept. of Agric., 277 F. Supp. 2d 1197, 1224-25 (D. Wyo. 2003) (finding that the EA was insufficient because the Forest Service only considered two action alternatives in implementing the "most significant land conservation initiative in nearly a century").

45. 40 C.F.R. § 1502.14 (2016). Agencies must also briefly explain why other alternatives, not discussed, have been eliminated. 42 U.S.C. § 4332 (2012); 40 C.F.R. § 1502.14 (2016). Middle Rio Grande Conservancy Dist. v. Babbitt, 206 F. Supp. 2d 1156 (D. N.M. 2000).

46. Westlands Water Dist. v. U.S. Dep't of Interior, 376 F.3d 853, 868 (9th Cir. 2004) (quoting California v. Block, 690 F.2d 753, 767 (9th Cir. 1982)).

47. 42 U.S.C. § 4332 (1970) (this paragraph was numbered 102(2)(D) prior to 1975).

48. *See* Nat. Res. Def. Council v. Callaway, 524 F.2d 79, 93 (2d Cir. 1975) (stating that the section 102(2)(E) requirement is "independent of and of wider scope than the duty to file

CEQ regulations provide that federal agencies must discuss alternatives in NEPA documents.[49]

Environmental Assessments (EAs), which are documents prepared to, among other purposes, explain an agency's decision not to prepare an EIS, "[s]hall include brief discussions of the need for the proposal, of alternatives as required by section 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted."[50]

The section 102(2)(E) alternatives requirement in the CEQ guidelines state that:

> A rigorous exploration and objective evaluation of alternative actions that might avoid some or all of the adverse environmental effects is essential. Sufficient analysis of such alternatives and their costs and impact on the environment should accompany the proposed action through the agency review process in order not to foreclose prematurely options which might have less detrimental effects.[51]

Thus, section 102(2)(E):

> [W]as intended to emphasize an important part of NEPA's theme that all change was not progress and to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.[52]

As with section 102(2)(C), courts apply a rule of reason when applying the section 102(2)(E) requirement. For example, in *Natural Resources Defense Council v. Morton*,[53] the court noted that "[t]he statute must be construed in the light of reason if it is not to demand what is, fairly speaking, not meaningfully possible, given the obvious, that the resources of energy and research – and time – available to meet the Nation's needs are not infinite."[54]

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the EIS"); *see also* Envtl. Def. Fund, Inc. v. Callaway, 497 F.2d 1340, 1341 (8th Cir. 1974); Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 470 F.2d 289, 296 (8th Cir. 1972).

49. 40 C.F.R. § 1507.2(d) (2016); *see* Nat'l Wildlife Fed'n v. Appalachian Reg'l Comm'n, 677 F.2d 883, 889 (D.C. Cir. 1981); Envtl. Def. Fund, Inc. v. Costle, 657 F.2d 275, 297 (D.C. Cir. 1981).

50. 40 C.F.R. § 1508.9(b) (2016).

51. Statements on Proposed Actions Affecting the Environment, 36 Fed. Reg. 7724, 7725 (Apr. 23, 1971); *see Envtl. Def. Fund, Inc.*, 470 F.2d at 296-97.

52. Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 492 F.2d 1123, 1135 (5th Cir. 1974).

53. 458 F.2d 827 (D.C. Cir. 1971).

54. *Id.* at 837.

3. Sections 102(2)(C) & 102(2)(E): The Same or Different?

By their explicit terms, sections 102(2)(C) and 102(2)(E) provide separate and distinct alternatives requirements.[55] However, courts often treat them interchangeably.[56] *Calvert Cliffs* described the two requirements together as achieving NEPA's goals, with no discussion of how the requirements differ.[57] In other cases, the 102(2)(E) requirement is ignored altogether. For example, in *Habitat Educational Center, Inc. v. U.S. Forest Service*,[58] the court emphasized the importance of the alternatives discussion, but only discussed the section 102(2)(C) requirement.[59] This has also happened in administrative decisions. For example, in *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site),[60] the Nuclear Regulatory Commission cited both 102(2)(C) and 102(2)(E) for the proposition that NEPA requires an agency to consider alternatives before deciding whether to take a major federal action significantly affecting the human environment.[61] But as noted, NEPA requires a consideration of alternatives under section 102(2)(E) even if there is no major federal action significantly affecting the human environment.

Other courts recognize distinctions between the two alternatives' requirements. In particular, many early Eighth Circuit decisions found that the section 102(2)(E) requirement is more stringent than the section 102(2)(C) requirement. For example, in *Environmental Defense Fund v. Froehlke*,[62] the court noted that "section 102(2)(E), unlike section 102(2)(C), required an agency to 'explicate fully its course of inquiry, its analysis and its reasoning.'"[63] More recently, the Eighth Circuit reasoned that:

> The "supplemental" and "more extensive" command of section [102(2)(E)] which [the petitioner] draws from *Environmental Defense Fund, Inc. v. Corps of Engineers of the U.S. Army,* 492 F.2d 1123, 1135 (5th Cir. 1974), imposes not a duty to publish an even more thorough explanation than in

55. *See also Envtl. Def. Fund, Inc.*, 492 F.2d at 1135 (describing section 102(2)(E) as supplemental to section 102(2)(C)).

56. DANIEL R. MANDELKER, NEPA LAW AND LITIGATION, SCOPE OF THE ENVIRONMENTAL IMPACT STATEMENT 9:18 (2d ed. 2014).

57. Calvert Cliffs' Coordinating Comm. v. U.S. Atomic Energy Comm'n, 449 F.2d 1109, 1114-16 (D.C. Cir. 1971).

58. 603 F. Supp. 2d 1176 (E.D. Wis. 2009).

59. *Id.* at 1182.

60. 62 N.R.C. 134 (2005).

61. *Id.* at 154 (citing 42 U.S.C § 4332(2)(C)).

62. 473 F.2d 346 (8th Cir. 1972).

63. *Id.* at 351 (quoting Ely v. Velde, 451 F.2d 1130, 1139 (4th Cir. 1971)).

> an impact statement but instead a duty to actively seek out and develop alternatives as opposed to merely writing out options that reasonable speculation suggests might exist. The case proposes, for example, that an agency should consider "shelving the entire project" or "accomplishing the same result by entirely different means."[64]

Similarly, in finding that 102(2)(E) imposed more stringent requirements, another Eighth Circuit court cited CEQ guidance on the provision, which states that "[a] rigorous exploration and objective evaluation of alternative actions that might avoid some or all of the adverse environmental effects is essential."[65] The court stated that the "economic benefits and environmental impact of each alternative [including total abandonment of the project] are developed in great detail"[66] over thirty-seven pages of a 200-page EIS and upheld the alternatives discussion. Even so, the court noted that while 102(2)(E) required detail, an agency is not required to come up with a perfect EIS.[67]

Other circuits have also recognized the stringency distinction between sections 102(2)(C) and 102(2)(E). For example, in *Environmental Defense Fund, Inc. v. Corps of Engineers of the U.S. Army*,[68] the Fifth Circuit agreed with petitioners that section 102(2)(E) requires something different and more stringent than 102(2)(C), before upholding the adequacy of the 102(2)(E) discussion in the Corps' EIS. Petitioners' claimed that the "Corps has violated Section 102(2)([E]) because it has not developed and described alternatives to the waterway system, particularly the alternative of increased reliance on railroads for the movement of goods."[69] The petitioners argued that the section 102(2)(E) requirement contained "a more affirmative duty" than the section 102(2)(C) requirement to describe "such alternatives as might be thought to exist."[70] The court agreed, noting that the section 102(2)(E) requirement was:

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64. Olmsted Citizens for a Better Cmty. v. United States, 793 F.2d 201, 208 (8th Cir. 1986).

65. Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 470 F.2d 289, 297 (8th Cir. 1972).

66. *Id.*

67. *Id.* (citing Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 342 F. Supp. 1211, 1217 (E.D. Ark. 1971) ("Further studies, evaluations and analyses by experts are almost certain to reveal inadequacies or deficiencies. But even such deficiencies and inadequacies, discovered after the fact, can be brought to the attention of the decision makers, including, ultimately, the President and the Congress itself."); *see also* Envtl. Def. Fund, Inc. v. U.S. Army Corps of Eng'rs, 492 F.2d 1123, 1123 (5th Cir. 1974) (upholding the adequacy of the section 102(2)(E) discussion in the Corps' EIS).

68. 492 F.2d 1123 (1974).

69. *Id.* at 1132.

70. *Id.* at 1134.

> [I]ntended to emphasize an important part of NEPA's theme that all change was not progress and to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means."[71]

In addition, at least one court has recognized the differing scope of the alternatives discussion required by the two sections. Specifically, in *City of New York v. U.S. Department of Transportation*,[72] the court noted that the range of alternatives to consider under section 102(2)(E) was narrower because the federal action did not have a significant impact.[73]

Thus, several courts consider the section 102(2)(E) requirement as more affirmative and stringent than the 102(2)(C) requirement. But it is the section 102(2)(C) alternatives requirement – not section 102(2)(E)'s – that is called the heart of an EIS. Given that a section 102(2)(E) discussion is frequently mixed in with an EIS's section 102(2)(C) discussion, it is difficult to tell how much, if at all, the section 102(2)(E) discussion is really the heart of the EIS. Further, NEPA practitioners face challenges in determining what must be included in an alternatives discussion and what will be deemed sufficient if the discussion is challenged.

B. Mitigation Measures

1. Mitigation in Environmental Impact Statements

Unlike alternatives, NEPA itself is silent with respect to mitigation measures.[74] However, shortly after NEPA's enactment, the CEQ promulgated regulations that required an EIS to discuss mitigation.[75] In addition, the CEQ provided guidance that expanded this requirement to include mitigation measures that were outside

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71. *Id.* at 1135.

72. 715 F.2d 732 (1983).

73. *Id.* at 736.

74. 42 U.S.C. § 4332 (2012) (listing the requisite elements for an EIS and omitting "mitigation").

75. *See* 40 C.F.R. § 1508.25(b)(3) (2016) (requiring the scope of an EIS to encompass alternatives, including "mitigation measures"); 40 C.F.R. § 1502.14(f) (2016) (requiring an EIS to include "mitigation measures not already included in the proposed action or alternatives"); 40 C.F.R. § 1502.16(h) (2016) (stating that an EIS must discuss "[m]eans to mitigate adverse environmental impacts"); 40 C.F.R. § 1505.2(c) (2016) (providing that the record of decision must also discuss "whether all practicable means to avoid or minimize environmental harm . . . have been adopted").

the scope of the action agency's authority, in much the same way that agencies must consider alternatives outside the scope of the action agency's authority.[76]

Federal courts followed suit and required an EIS to include extensive discussions of mitigation measures: "An EIS must include a discussion of measures to mitigate adverse environmental impacts of the proposed action."[77] Courts cautioned that a "mere listing" of mitigation measures would be insufficient.[78] Rather, an adequate EIS must discuss the mitigation measures in sufficient detail to reveal their efficacy.[79] Thus, these courts found that a fully developed mitigation plan was a necessary component of an EIS because mitigation measures could not be "properly analyzed and their effectiveness explained when they have yet to be developed."[80] And, the same courts frequently suggested that mitigation measures were a critical element of a substantive component to NEPA and frequently held "so long as significant measures are undertaken to 'mitigate the project's effects,' they need not completely compensate for adverse environmental impacts."[81] Unsurprisingly, these courts frequently found EIS mitigation discussions inadequate.[82]

In *Robertson v. Methow Valley Citizens Council*,[83] the Supreme Court provided the defining statement on mitigation measures in an EIS. Notably, this statement departed significantly from the earlier case law. The Court first affirmed that mitigation measures are "one important ingredient of an EIS."[84] While NEPA does not explicitly mention mitigation measures, the Court found that the requirement flowed from NEPA's requirement that an adequate EIS discuss "any adverse environmental effects which cannot be avoided should the proposal be implemented."[85] More fundamentally, the Court found that a discussion of mitigation measures is necessary to accurately describe the impacts of the proposed action. "An adverse effect that can be fully remedied by, for example, an inconsequential public expenditure is certainly not as serious as a similar effect that can only be modestly ameliorated through the

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76. Forty Questions, *supra* note 18, at 18,031.

77. Oregon Nat. Res. Council v. Marsh, 832 F.2d 1489, 1493 (9th Cir. 1987) (citing 40 C.F.R. § 1502.16(h)), *rev'd on other grounds*, 490 U.S. 360 (1989).

78. Nw. Indian Cemetery Protective Ass'n v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986).

79. *Marsh*, 832 F.2d at 1493.

80 *Id.*

81. Friends of Endangered Species, Inc. v. Jantzen, 760 F.2d 976, 987 (9th Cir. 1985).

82. *E.g., Peterson*, 795 F.2d at 697; *Marsh*, 832 F.2d at 1494.

83. 490 U.S. 332 (1989).

84. *Id.* at 351.

85. *Id.* at 352.

commitment of vast public and private resources."[86] Thus, discussing mitigation measures preserves the "action-forcing function of NEPA" because it allows the public and decision makers to meaningfully comprehend the likely impacts of the proposed action.[87]

As a result, the Court determined that mitigation must "be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated."[88] However, the Court cautioned that this does not mean that agencies must provide a fully-developed mitigation plan within the EIS, a result that "would be inconsistent with NEPA's reliance on procedural mechanisms – as opposed to substantive, result-based standards."[89] Consequently, the Supreme Court overturned the Ninth Circuit's opinion that NEPA required the EIS to include a "detailed explanation of specific measures which *will* be employed to mitigate adverse impacts of the proposed action."[90]

A few aspects of the Court's decision in *Methow Valley* deserve further unpacking. First, while the Court understood NEPA to contain a requirement to discuss mitigation, it tethered that requirement to the larger obligation to disclose the environmental impacts in sufficient detail to inform agency decision makers and the public of the impacts of the proposed action. In doing so, the Court appears to have consciously rejected much of the old mitigation case law, which required elaborate discussions of mitigation measures as a stand-alone element of an EIS. By linking mitigation to the environmental impacts of the proposed activity, the Court presumably intended for the discussion of mitigation measures to be evaluated as part of the normal test for evaluating analyses of environmental impacts – the "hard look" review.[91] Rather than study mitigation measures for their own sake, a hard look review must simply account for "all foreseeable direct and indirect impacts," discuss adverse impacts without "improperly minimiz[ing] negative side effects," and not rely on "[g]eneral statements about possible effects and some risk . . . absent a justification regarding why more definitive information could not be provided."[92]

86. *Id.*

87. *Id.*; *see also* 40 C.F.R. § 1508.20 (2016) (defining mitigation in terms of reducing environmental impacts).

88. *Methow Valley*, 490 U.S. at 352.

89. *Id.* at 353.

90. *Id.*

91. Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976). This also suggests that CEQ erroneously linked mitigation to alternatives in earlier, as well as later, guidance.

92. League of Wilderness Defenders-Blue Mountains Biodiversity Project v. U.S. Forest Serv., 689 F.3d 1060, 1075 (9th Cir. 2012).

Second, *Methow Valley* rests on the assumption that a complete mitigation plan is not necessary for an informed understanding of the impacts of a proposed project. This conclusion undermines the reasoning of earlier opinions, which found that a "complete mitigation plan" was necessary to arriving at an "informed judgment" of the project's environmental impact.[93] Despite the clarity of *Methow Valley*'s holdings, some courts continue to impose a heightened, and arguably more substantive, requirement for mitigation measures – a requirement that is far closer to the standard for alternatives than the one envisioned for mitigation measures in *Methow Valley*. As discussed below, this error may stem from the long-standing confusion over the difference between mitigation and alternatives in NEPA.

2. Mitigation Measures in Environmental Assessments

As an additional matter, when an agency relies on mitigation measures to avoid preparing an EIS, courts may impose heightened requirements. NEPA only requires agencies to prepare an EIS for "major Federal actions significantly effecting the human environment."[94] As noted above, for those actions that the agency finds will not have a significant impact on the environment, the agency may prepare a shorter document, called an Environmental Assessment (EA) that explains the basis for the agency's determination of no significant impact.[95] Although NEPA does not provide any further details on this significance determination,[96] the CEQ's early NEPA guidance recognized the possibility that agencies could rely on mitigation measures to lower the impacts of the action beneath the threshold for preparing an EIS.[97] Later cases have firmly established this principle.[98]

However, these courts have cautioned that agencies should only rely on such mitigation measures to make a finding of no significant impact (a so-called mitigated finding of no significant impact or FONSI) when the mitigation measures are required by statute, regulation, or part of the original proposal. Agencies may not use speculative mitigation measures as an excuse to avoid preparing

93. Oregon Nat. Res. Council v. Marsh, 832 F.2d 1489, 1494 (9th Cir. 1987) *rev'd on other grounds* 490 U.S. 360 (1989).

94. 42 U.S.C. § 4332 (2012).

95. 40 C.F.R. § 1508.9 (2016).

96. Peter J. Eglick & Henryk J. Hiller, *The Myth of Mitigation Under NEPA and SEPA*, 20 ENVTL. L. REV. 773, 777 (1990).

97. Forty Questions, *supra* note 18, at 18,037-38.

98. Davis v. Mineta, 302 F.3d 1104, 1125 (10th Cir. 2002).

an EIS.[99] Moreover, courts frequently require an EA to include a discussion of mitigation measures that is similar in detail to the mitigation discussion in an EIS.[100] Commenters have generally noted that while application of this rule varies from circuit to circuit, overall the standards for mitigation discussion in an EA are quite high.[101]

The heightened standard in this context is logical. By invoking mitigation measures to forego preparing an EIS, the agency assures the public that an EIS will not serve a valuable function because the impacts of the project will be minimal. But, if the mitigation measures never materialize, then the project may have significant impacts, but contrary to NEPA, those impacts will never be discussed in an EIS. Therefore, when an EA relies on mitigation measures to support a finding of no significant impact, the discussion of mitigation should be at least as detailed as the discussion of mitigation measures in an EIS.

III. CONFUSION OF THE HEART: THE TREATMENT OF ALTERNATIVES & MITIGATION

Alternatives and mitigation measures are both important aspects of an EIS, and mitigation measures can even be used to avoid preparing an EIS. However, both courts and CEQ describe the alternatives discussion as the linchpin or heart of a NEPA analysis.[102] The linchpin idea has taken hold in the Ninth Circuit, where courts have held that the "existence of a viable but unexamined alternative renders an environmental impact statement inadequate."[103] In some cases, alternatives-based challenges have even resulted in the agency action being set aside.[104] This gives credence

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99. *Id.* (*quoting* Forty Questions, *supra* note 18, at 18,039). Indeed, recent CEQ guidance encourages agencies to track the effectiveness of such mitigation measures. COUNCIL ON ENVIRONMENTAL QUALITY, APPROPRIATE USE OF MITIGATION AND MONITORING AND CLARIFYING THE APPROPRIATE USE OF MITIGATED FINDINGS OF NO SIGNIFICANT IMPACT (Jan. 14, 2011).

100. Nat'l Parks & Conservation Ass'n v. Babbitt, 241 F.3d 722, 734 (9th Cir. 2001).

101. *See* Eglick & Hiller, *supra* note 96, at 782-83.

102. *See* Natural Res. Def. Council, Inc. v. Callaway, 524 F.2d 79, 92 (2d Cir. 1975).

103. Res. Ltd. v. Robertson, 35 F.3d 1300, 1307 (9th Cir. 1993), *as amended on denial of reh'g* (quoting Idaho Conservation League v. Mumma, 956 F.2d 1508, 1519 (9th Cir. 1992)).

104. Soda Mountain Wilderness Council v. Norton, 424 F. Supp. 2d 1241, 1263-65 (E.D. Cal. 2006) (agency action should be set aside when agency failed to adequately select and analyze a reasonable range of alternatives in its EA, as required by NEPA); *see* California v. Block, 690 F.2d 753, 767-79 (9th Cir. 1982) (holding that EIS considering eleven alternatives to the proposed action did not embrace an "adequate range" because some "obvious" alternatives were omitted and those considered were not sufficiently diverse); *see also* Nat. Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 834-35 (D.C. Cir. 1972) (holding EIS inadequate for failure to consider reasonably foreseeable alternatives requiring interagency cooperation); Karkkainen, *supra* note 11, at 903.

to the idea that alternatives are truly the crux of an EIS. However, a review of the case law shows that this heart is treated rather carelessly, with courts often conflating the alternatives requirements or merging alternatives with mitigation measures. Likewise, there is confusion in academia, with noted environmental law scholars parsing between types of alternatives and potentially blending alternatives with mitigation. As discussed below, this confusion is understandable.[105]

A. Confusion in Case Law: When Alternatives & Mitigation Are Confused

The courts appear to confuse alternatives and mitigation measures. For example, in *Dubois v. Department of Agriculture*,[106] the First Circuit reviewed a proposal that appeared to be a mitigation measure (another source of water for snow making at a ski resort) as an alternative and found it inadequate. In *Dubois*, a petitioner challenged the Forest Service's approval of an expansion plan for a ski resort.[107] The Forest Service adopted an alternative that appeared for the first time in the final EIS. Therefore, the selected alternative had never before been considered or disseminated for public comment.[108] The court framed the issue as:

> whether the Forest Service in the instant case should have considered an alternative *means* of implementing the expansion of the Loon Mountain Ski Area — a particular means of operation that would do less environmental damage — without changing the site to another state or another mountain.[109]

The court stated that based on comments provided, the agency was on notice of a different alternative and the "environmental concern that alternative might address."[110] Specifically, the court pointed out "that commenters thought the agency should consider some

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105. *See infra* Section III.C (noting that it is understandable that alternatives and mitigation measures are conflated, as CEQ's regulations describe mitigation as a type of alternative).

106. Dubois v. U.S. Dep't of Agric., 102 F.3d 1273, 1289 (1st Cir. 1996).

107. An environmental group and the owner of the facility intervened. *Id.* at 1277.

108. *Id.* at 1292. *Dubois* also ruled on a supplementation issue under *Marsh*. In particular, the First Circuit held that under these circumstances the agency was required to submit a SEIS. For a discussion of the need to supplement EIS's under *Marsh* based on new and significant information, see Maxwell C. Smith & Catherine E. Kanatas, *Acting with No Regret: A Twenty-Five Year Retrospective of* Marsh v. Oregon Nat. Res. Defense Council, 32 UCLA J. ENVTL. L. & POL'Y 329 (2014).

109. *Dubois*, 102 F.3d at 1290.

110. *Id.* at 1291.

alternative source of water other than Loon Pond and some alternative place to discharge the water after it had gone through the snowmaking pipes."[111] The court stated that the commenters "argued that such an alternative would reduce the negative environmental impact on Loon Pond from depleting the pond's water and from refilling the pond with polluted water either from the East Branch or from acidic snowmelt."[112] In fact, one commenter explicitly suggested "the possibility of new man-made storage units to accomplish these goals."[113] Therefore, the court reasoned that the comments provided sufficient notice to alert the agency to the alternative being proposed and the environmental concern the alternative might address."[114] The court emphasized that it was then the agency's duty to examine reasonable alternatives and to "try on its own to develop alternatives that will 'mitigate the adverse environmental consequences' of a proposed project."[115]

Thus, the *Dubois* court's analysis of alternatives, which focused on ways to minimize the harm of the proposed project as opposed to other projects that would have met the project's purpose, appears to have equated alternatives with proposals to mitigate the adverse environmental consequences of a proposed action. As an additional complication, the court cited *Methow Valley's* discussion of mitigation measures in support of its holding. Further, the confusion in *Dubois* has spread to other cases. Other courts cite to *Dubois* as an alternatives case, when it appears it is actually a case about mitigation.[116]

Likewise, the court confused alternatives and mitigation in *Froehlke*, an early NEPA case wherein petitioners challenged an alternatives discussion as insufficient. In particular, the Corps of Engineers filed an EIS associated with the Cache River-Bayou DeView Channelization Project.[117] This project involved "clearing, realigning, enlarging, and rechanneling approximately one hundred forty miles of the Cache River upstream from its junction with the White River, fifteen miles of its upper tributaries, and seventy-seven miles of its principal tributary-the Bayou DeView,

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111. *Id.*; *see also id.* at 1290 ("Here, the Forest Service was alerted by commenters to the alternative of using artificial storage ponds instead of Loon Pond for snowmaking; but even without such comments, it should have been 'reasonably apparent' to the Forest Service, not 'unknown,' that such an alternative existed.") (internal citations omitted).

112. *Id.* at 1291.

113. *Id.*

114. *Id.*

115. *Id.* (*citing Methow Valley*, 490 U.S. at 351).

116. Oceana, Inc. v. Evans, 384 F. Supp. 2d 203, 240-41 (D.D.C. 2005) (calling *Dubois* an alternatives case but discussing how the agency "ignored a discrete and obvious proposal for *mitigating* environmental harm").

117. Envtl. Defense Fund v. Froehlke, 473 F.2d 346, 348 (8th Cir. 1972).

for flood control and drainage purposes."[118] Petitioners claimed that the alternative of acquiring land to mitigate the loss of natural resources should have been described in more detail. As an initial matter, the alternative itself appeared to be more of a mitigation measure in that the acquisition of land was to mitigate the impact of a loss of natural resources. Moreover, the court itself appears to have perpetuated the conflation of mitigation measures and alternatives. Specifically, the court stated that the agency's analysis was contrary to CEQ guidance, which states that "[s]ufficient analysis of such *alternatives* and their costs and impact on the environment should accompany the proposed action through the agency review process *in order not to foreclose prematurely options* which might have less detrimental effects."[119]

This guidance relates to alternatives and ensures that *alternatives* are not prematurely foreclosed. However, after citing this guidance, the court stated that in this case:

> [n]either agency decision-makers, such as the Chief of Engineers or the Secretary of the Army, nor the Congress were presented in the impact study with sufficient information to make an intelligent decision about proceeding with the project or awaiting the effectuation of a mitigation plan. Thus, the statement did not insure that the *option of mitigation* would not be prematurely foreclosed.[120]

The *Froehlke* court further confused the issue in its discussion of other mitigation measures the EIS should have covered. In particular, the court noted that the EIS should have considered other mitigation measures, because commenters and government agencies had raised them.[121] But in the next breath, the court noted that this was not an instance "where a previously unthought of or implausible *alternative* suddenly becomes practical because of the development of new sources of information or new technology."[122] Thus, the court appeared to be saying that the mitigation measures discussed by commenters were plausible alternatives.

In other cases, courts have focused on the mitigation *contained in* alternatives when determining whether the EIS is sufficient. For example, in *Natural Resources Defense Council, Inc. v. Ev-*

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118. *Id.*

119. *Id.* at 352 (citing Interim CEQ guidelines section 7(a)(iii) and section 6(a)(iv)) (emphasis added).

120. *Id.*

121. *Id.*

122. *Froehlke*, 473 F.2d at 352 (emphasis added).

ans,[123] the court considered challenges to an EIS prepared by NMFS and the Navy regarding the Navy's use of low frequency sonar system. Several environmental groups claimed that the EIS did not consider reasonable alternatives. The challenged EIS considered three alternatives: the no action alternative, full deployment with no mitigation or monitoring,[124] and the Navy's preferred alternative, which included mitigation measures.[125] The court held that the full deployment with no mitigation or monitoring was a "phantom option."[126] Likewise, in the "Roadless Rule" litigation, the district court ruled that the Forest Service violated CEQ regulations because it did not, among other things, "include appropriate mitigation measures in the proposed alternatives."[127] These cases further demonstrate the interconnected nature of mitigation and alternatives and underscore the potential for confusion involving the two requirements.

B. Confusion in Academia: Primary & Secondary Alternatives

Academics have also introduced confusion based on how they discuss alternatives and mitigation. For example, noted environmental law scholar Daniel Mandelker talks about alternatives in terms of primary and secondary alternatives.[128] Dr. Mandelker remarked that the "Supreme Court's formulation of the duty to consider alternatives [in *Vermont Yankee*] would eliminate most alternatives that have not yet been fully studied. This holding undercuts NEPA's environmental decision-making responsibilities, at least as applied to *primary* alternatives. Whether the Court would apply its holding to *secondary* alternatives is not clear."[129] Mandelker describes primary alternatives as "a substitute for agency action that accomplishes the action in another manner."[130] This idea of primary alternatives tracks the language Congress used to describe alternatives in section 102(2)(C). Most alternatives cases relate to primary alternatives.[131]

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123. 279 F. Supp. 2d 1129 (N.D. Cal. 2003).

124. *Id.* at 1166.

125. *Id.* at 1164; *see, e.g., id.* at 1160 (discussing the exclusion zone around the ship).

126. *Id.* at 1166.

127. Wyoming v. U.S. Dep't of Agric., 277 F. Supp.2d 1197, 1224-25 (D. Wyo. 2003) (citing 40 C.F.R. § 1502.14(f)), *vacated and remanded by* 414 F.3d 1207.

128. DANIEL R. MANDELKER, ENVIRONMENT AND EQUITY 120 (1981).

129. MANDELKER, *supra* note 56, at § 9:18 (emphasis added).

130. MANDELKER, *supra* note 128, at 120.

131. MANDELKER, *supra* note 56, at § 9:18; *see id.* (noting that *Morton*, 458 F.2d at 827 and *Vermont Yankee*, 435 U.S. at 519 are two decisions that dominate the case law on alternatives and that both discuss primary alternatives).

In contrast, Mandelker describes secondary alternatives as "a means of carrying out a proposed action in a different manner."[132] For example, a secondary alternative could be the proposed project implemented at a different location, or the proposed project, but with modifications that mitigate harmful environmental impacts.[133] Thus, Mandelker's secondary alternatives are akin to mitigation measures. They also track the CEQ regulations' conception of alternatives, which describes mitigation measures as a type of alternative and also requires a discussion of mitigation that is not already included in the proposed action or alternatives. Given that both the academic literature and the CEQ regulations discuss mitigation and alternatives in the same breath, it is not surprising that the courts frequently confuse the two concepts.[134]

C. Confusion in the CEQ Regulations

Finally, the CEQ regulations contribute to the confusion between alternatives and mitigation measures by blurring the two concepts. In particular, CEQ's regulations require an alternatives analysis to consider mitigation in two ways. First, 40 C.F.R. § 1502.14 provides that an alternatives analysis should "[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives." As explained in the regulation, this helps "define the issues and provide a clear basis for choice among options by the decisionmaker and the public."[135] This regulation appears to presume that the proposed action and other alternatives have some, but not all, mitigation measures "baked" into them. This flows from the CEQ regulations description of reasonable alternatives as those that "would avoid or minimize adverse impacts or enhance the quality of the human environment."[136]

Second, section 1508.25(b) also requires that an agency consider three types of alternatives, which include "mitigation measures."[137] Thus, the regulations treat mitigation measures as a type of alternative.[138] As discussed below, this confusion has poten-

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132. MANDELKER, *supra* note 56, at 10:32.

133. MANDELKER, *supra* note 128, at 120.

134 As discussed above, cases cited as secondary alternatives cases sometimes confuse mitigation and alternatives. *See supra* Section 3.A.

135. 40 C.F.R. § 1502.14 (2016).

136. 40 C.F.R. § 1502.1 (2016).

137. 40 C.F.R. § 1508.25(b)(3) (2016); *see also* Richards, *supra* note 11, at 221 (discussing these requirements). Mitigation must also be considered in the context of "environmental consequences." *See* 40 C.F.R. § 1502.16 (2106); *see also supra* Section II.A (for a complete discussion of this aspect of mitigation).

138. There are several other instances where alternatives and mitigation measures are discussed together. *See, e.g.*, 40 C.F.R. § 1502.16(e), (f) and (h) (2016) (noting that an EIS must discuss "[e]nergy requirements and conservation potential of various alternatives and

tially led to a vastly different approach to mitigation in the circuit courts than envisioned by the Supreme Court in *Methow Valley*.

IV. MITIGATION MEASURES: ALTERNATIVES BY ANOTHER NAME?

As shown above, NEPA case law fails to clearly define and adhere to a particular scope of alternatives and mitigation analyses in an EIS. In the case of mitigation measures, this confusion appears to have contributed to a string of cases that require a greater mitigation analysis than *Methow Valley* would require by analyzing whether those mitigation analyses contained many of the elements of an alternatives analysis.[139] These cases find that an EIS is inadequate when it fails to contain an expansive discussion of mitigation, even if the discussion is sufficient to understand the true impacts of the action, which is all *Methow Valley* requires. In turn, the courts frequently uphold an EIS that provides far more mitigation information than needed to apprehend the impacts of a project. As a result, notwithstanding *Methow Valley*, practitioners would be well advised to consider mitigation to be a major component of the alternatives analysis, at least as important to the durability of an EIS as the alternatives' impacts analysis.

A. The Wandering Heart: Ninth Circuit Decisions Following Methow Valley

The Ninth Circuit has decided the majority of mitigation measures cases since *Methow Valley*. The most influential of these cases has been *Neighbors of Cuddy Mountain v. U.S. Forest Service*.[140] In that case, the court considered the adequacy of an EIS prepared by the Forest Service for a proposed timber sale in the Cuddy Mountain area of the Payette National Forest.[141] As part of its NEPA discussion on the environmental impacts on the redband trout, the Forest Service succinctly described mitigation measures for impacts to the trout arising from potential sedimentation increases to three creeks impacted by the sale:[142]

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mitigation measures," "[n]atural or depletable resource requirements and conservation potential of various alternatives and mitigation measures," and "[m]eans to mitigate adverse environmental impacts (if not fully covered under § 1502.14(f))").

139. *See infra,* Section IV.C.

140. 137 F.3d 1372 (9th Cir. 1998).

141. *Id.* at 1375.

142. *Id.* at 1380.

> [s]mall increases in sedimentation and other effects of logging and road construction in Grade and Dukes creeks would be mitigated by improvements in fish habitat in other drainages. . . . Even minor improvements in other drainages, such as Wildhorse River or the Weiser River, would affect more fish habitat than exists in Grade and Dukes creeks. (See Forest Plan, page IV-38 for a list of offsetting mitigation projects.)
>
> Offsetting mitigation would include such projects as riparian enclosures (fences around riparian areas to keep cattle out) and fish passage restoration (removing fish passage blockages). These activities can be effective but cannot be quantified with present data.[143]

The Ninth Circuit found that this "perfunctory description of mitigation measures [was] inconsistent" with NEPA's hard look requirement.[144] Specifically, the court determined that the Forest Service inappropriately declined to consider methods to directly mitigate the increase in sediment levels in the three affected creeks.[145] Moreover, the Ninth Circuit concluded that the discussion was insufficiently detailed, failed to indicate whether any entity would actually adopt the mitigation measures, and did not provide a reasonable explanation for why the effectiveness of the activities could not be quantified.[146]

But this conclusion appears inconsistent with *Methow Valley's* core insight that the function of a mitigation discussion is to provide for a fair evaluation of impacts,[147] not to provide a robust discussion of mitigation for its own sake as though it were another alternative to the proposed action.[148] The purpose of the challenged

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143. *Id.*

144. *Id.*

145. Neighbors of Cuddy Mountain v. U.S. Forest Serv., 137 F.3d at 1381.

146. *Id.*

147. *See supra* Section II.B.1. The definition of mitigation in CEQ's regulations also reflects the connection between mitigation measures and the impact sought to be mitigated. 40 C.F.R. § 1508.20 (2016) (defining mitigation as "[a]voiding the impact altogether," "[m]inimizing the impacts," "[r]ectifying the impact," "[r]educing or eliminating the impact," or "[c]ompensating for the impact").

148. *See supra* Section II.A. In contrast, a number of courts have more clearly-linked the discussion of mitigation measures to the impacts at issue. For example, the Second Circuit in *Southeast Queens Concerned Neighbors, Inc. v. Fed. Aviation Admin.* opined that a mitigation plan was adequate when the exact details were not "so important to the ultimate question of whether" the application should be granted. 229 F.3d 387 (2d Cir. 2000). In a similar vein, the Fourth Circuit has noted that when an EIS insufficiently discloses the environmental impacts of a project, the discussion of mitigation measures is necessarily also invalid because it will not be based on an accurate assessment of impacts. Nat'l Audubon Soc'y v. Dep't of the Navy, 422 F.3d 174, 200 (4th Cir. 2005). Likewise, the Tenth Circuit has stated that where an EIS did not find significant impacts on the environment, it did not

mitigation discussion in *Cuddy Mountain* was to provide a complete understanding of the impacts of the timber sale on a specific species, the redband trout. There, the Forest Service noted that the impact on the species would occur through a small increase in sedimentation in some habitats but that the negative effects of that increase could be more than offset by minor but effective improvements to more important habitats.[149] Thus, in *Methow Valley*'s terms, the discussion provided sufficient information to identify the impact as small and show that it could likely be easily and effectively offset in its entirety. Additional requests for detail beyond this level, for a quantification of the plan's effectiveness, and for indications of who would adopt it, appear to lead to precisely the type of "detailed mitigation plan" that *Methow Valley* rejected.[150]

Cuddy Mountain is not an isolated example of the Ninth Circuit's insistence on an expansive analysis of mitigation measures in the wake of *Methow Valley*. In *League of Wilderness Defenders-Blue Mountains Biodiversity Project v. Forsgren*,[151] the court again found a mitigation analysis inadequate because it was more akin to a listing of potential measures than a thorough discussion. In that proceeding, environmental groups challenged the Forest Service's development of an insecticide spraying program designed to prevent a moth outbreak, similar to an outbreak in the early 1970's that defoliated over 700,000 acres in the Pacific Northwest.[152] The Forest Service noted that the insecticide could harm "moths and butterflies in adjacent wilderness areas," and developed measures to mitigate those impacts.[153] Specifically, the Forest Service adopted a one-mile buffer zone, in which spraying would be prohibited adjacent to wilderness areas, and mandated the use of less hazardous pesticides if there was a chance that the spraying could drift into wilderness areas.[154] Additionally, the Forest Service's Record of Decision referred to the project guidelines as additional mitigation measures, and those guidelines required ces-

need to discuss mitigation measures for such impacts. Holy Cross Wilderness Fund v. Madigan, 960 F.2d 1515, 1526 (10th Cir. 1992).

149. *Cuddy Mountain*, 137 F.3d at 1381.

150. *Methow Valley*, 490 U.S. at 353. Other cases in the Ninth Circuit take a similar approach to considering the adequacy of mitigation measures relied on by Federal agencies to forego preparing a full EIS in favor of an EA. Nat'l Parks & Conservation Ass'n v. Babbitt, 241 F.3d 722, 733-34 (9th Cir. 2001). Because the agencies rely on these mitigation measures to forego preparing an EIS, as opposed to simply accounting for the impacts of a project within an EIS, a more rigorous review of mitigation measures in EAs may be appropriate.

151. League of Wilderness Defenders-Blue Mountains Biodiversity Project v. U.S. Forest Serv., 689 F.3d 1060 (9th Cir. 2012).

152. *Id.* at 1183.

153. *Id.* at 1191.

154. *Id.*

sation of spraying when wind speeds exceeded eight miles an hour or the spraying would drift into "non-target" areas.[155] Thus, the EIS concluded that the spraying would have no impact on the butterfly and moth species.[156]

The court determined that this "documentation [did] not amount to a reasonably complete discussion of possible mitigation measures"[157] but was instead a "mere listing."[158] The court reasoned that while the mitigation measures addressed the effects of spray drift into wilderness areas, the EIS did not discuss the effect of drift into non-wilderness areas.[159]

Again, the Ninth Circuit did not indicate how the challenged mitigation measures' discussion did not satisfy *Methow Valley*'s charge to fully consider the impacts at issue. The opinion conceded that the impact the Forest Service sought to mitigate was "harm to moths and butterflies in adjacent *wilderness* areas."[160] Thus, the Forest Service's decision to focus on mitigation measures pertaining to wilderness spraying was reasonable in the EIS, to the extent the Forest Service sought to limit harm to species in those areas. However, the court's insistence on also discussing mitigation measures for areas in which the impact could not occur echoes *Cuddy Mountain*'s insistence on considering mitigation measures in their own right, as courts routinely require for alternatives.

The Ninth Circuit largely faulted the Forest Service's EIS for failing to discuss "how far the pesticide might drift, in what direction, or of the effect of spraying or not spraying at different wind speeds."[161] Therefore, the mitigation analysis in *League of Wilderness Defenders* should have satisfied *Methow Valley's* core requirement that mitigation be discussed in sufficient detail to provide a sufficient understanding of the identified impacts. The court's critique appears to again rest on a misapprehension that mitigation is itself a separate component of an EIS that must be discussed separate from the impact analysis.

Notably, in a similar case, *Okanogan Highlands Alliance v. Williams*,[162] the Ninth Circuit acknowledged that "the line between an EIS that contains an adequate discussion of mitigation measures and one that contains a 'mere listing' is not well defined."[163] In that proceeding, the court considered the adequacy of

155. *Id.* at 1191-92.
156. *Id.* at 1191.
157. *Id.* at 1192 (quoting *Methow Valley*, 490 U.S. at 352).
158. *Id.*
159. *Id.* at 1191.
160. *Id.* (emphasis added).
161. *Id.* at 1192.
162. 236 F.3d 468 (9th Cir. 2000).
163. *Id.* at 476.

the Forest Service's EIS for an application from the Battle Mountain Gold Company to construct and operate a gold mine near Buckhorn Mountain in Washington.[164] The proposed operations would create a mine pit that would ultimately fill with water, leaving a forty-acre lake.[165] The EIS found significant uncertainties with respect to the quality of the water that would accumulate in the lake and the impact that run-off from the lake would have on groundwater.[166] The EIS noted that if the impacts exceeded the limits required by state and federal permits, various monitoring measures would be required.[167]

The court acknowledged that the mitigation measures were listed in "bullet form" in the EIS but found that this was not necessarily deficient.[168] Because the Forest Service did not know what the exact water quality impacts from the project would be, the court determined that the flexible approach provided by the list of mitigation measures was reasonable, in that it could be used to respond to a wide range of potential water quality projects that could develop.[169] In evaluating the adequacy of the mitigation discussion, the court compared the analysis to the mitigation discussions considered in *Cuddy Mountain* and *Methow Valley*.[170] The Ninth Circuit extensively summarized the holdings in *Cuddy Mountain* and *Methow Valley* and concluded that the "difference between the discussion of proposed mitigation measures in *Methow Valley* and that in *Cuddy Mountain* appears to be one of degree."[171]

Having established this framework, the Ninth Circuit sought to distinguish its prior holding in *Cuddy Mountain* from the instant case. Once more, the Ninth Circuit observed that the EIS at issue in *Cuddy Mountain* was inadequate because it did not consider ways to mitigate the impacts on the affected creeks.[172] The Ninth Circuit found that this reasoning was favorable to the EIS at issue, which generally discussed mitigation measures related to water quality, the impact at issue.[173]

The Ninth Circuit also upheld the general nature of the mitigation discussion in *Okanogan Highlands Alliance* on the grounds that the potential impacts were uncertain because the action had

164. *Id.* at 470.
165. *Id.* at 471.
166. *Id.* at 473-75.
167. *Id.*
168. *Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 476 (9th Cir. 2000).
169. *Id.*
170. *Id.* at 476-77.
171. *Id.* at 476.
172. *Id.*
173. *Id.*

yet to be undertaken.[174] As a result, the court found that the case was "closer to *Methow Valley*" than *Cuddy Mountain*.[175] But again, this analysis seems to rest on a misunderstanding of *Cuddy Mountain's* underlying facts – in *Cuddy Mountain* the court, as is typical in NEPA cases, considered an action that had yet to be undertaken: the proposed sale of timber.[176] Therefore, the court did not provide a convincing explanation of how *Okanogan Highlands Alliance* differed from *Cuddy Mountain*. This suggests that, as the court noted, the line between a successful and unsuccessful mitigation analysis after *Methow Valley* is unclear. It also indicates that if the court actually squarely applied the *Methow Valley* test in *Cuddy Mountain*, the results in that case would have been different.

Nonetheless, one significant difference between *Okanogan Highlands Alliance* and *Cuddy Mountain* is the length of the mitigation discussion in *Okanogan Highlands Alliance.* As opposed to the succinct discussion in *Cuddy Mountain*, the Forest Service in *Okanogan Highlands Alliance* provided a lengthy analysis regarding mitigation for water discharge. It observed that if the discharges exceeded the requirements of water quality permits, water treatment would be required. It then defined water treatment as precipitation and settling using lime, sulfide, ferricion, and/or flocculents; filtration; ion exchange; reverse osmosis; electrodialysis; air stripping; biological precipitation; or, passive wetlands.[177]

It stated that "[w]ater quality problems may also be addressed by diverting discharges to the tailings facility (during operations only), or special cap design and construction on waste rock disposal areas or tailings pond embankments."[178] Finally the EIS concluded that, "[i]f water quality problems develop, then several steps would be taken to achieve compliance."[179] These steps are:

1. Review of environmental impacts with the possibility of additional or increased frequency of monitoring;
2. Implement an interim (emergency or long term) water management plan to stabilize the situation;

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174. *Okanogan Highlands Alliance*, 236 F.3d at 477. When an agency prepares a programmatic EIS, the Ninth Circuit allows the agency to defer "development of more specific mitigation measures" to the development of site-specific EIS's under the EIS, in light of the "uncertainty regarding which sites would eventually be developed." N. Alaska Envtl. Ctr. v. Kempthorne, 457 F.3d 969, 979 (9th Cir. 2003).

175. *Id.*

176. *Cuddy Mountain*, 137 F.3d at 1375.

177. *Okanogan Highlands Alliance*, 236 F.3d at 474.

178. *Id.*

179. *Id.*

> 3. Develop a conceptual engineering design of water treatment system alternatives that would be available to remedy the situation and select the most appropriate design for more detailed engineering;
> 4. The Proponent would prepare a detailed engineering design of the selected alternative; the agencies would review and revise, as appropriate, the environmental protection performance security required from the Proponent;
> 5. Undertake appropriate permitting of the selected water treatment system (conduct NEPA/SEPA review as appropriate);
> 6. Construct the selected water treatment system;
> 7. Operate and maintain the water treatment system to meet design goals;
> 8. Monitor the water treatment system for compliance; and
> 9. Achieve a demonstrated "clean closure" or maintain long term (permanent) treatment.
>
> Goal: Protect ground and surface water quality in case of unacceptable water discharges.
>
> Effectiveness: High[180]

The court then noted that the EIS contained a similar discussion for water quality within the lake.[181]

Therefore, the type of analysis the court upheld in *Okanogan Highlands Alliance* was, in fact, a very detailed plan that provided for many mitigation measures that could be required, depending on how events unfolded. Arguably, this level of detail goes well beyond the information needed to fully understand the impacts of the project on water and ground water. As the court acknowledged, the impacts on the water quality would be monitored by state and federal permits, which would presumably have methods for ensuring that their limits were met. Thus, in light of *Methow Valley*, the reader of the EIS could logically expect that the impacts on ground water would be limited based on that information alone. As a result, the length and detail of the mitigation plan in *Okanogan Highlands Alliance*, which the Ninth Circuit ultimately found adequate, is the type of more detailed mitigation analysis that discusses mitigation measures in their own right, rather than

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180. *Id.* at 474-75.
181. *Id.* at 475.

relating the detail of the discussion to the level of environmental impact.[182]

In more recent years, the Ninth Circuit has continued to require more extensive discussions of mitigation measures in an EIS than required under *Methow Valley*. For example, in *South Fork Band Council of Western Shoshone of Nevada v. Department of the Interior*,[183] the Ninth Circuit again considered the adequacy of an EIS for a gold mine project.[184] The court took issue with the treatment of measures to mitigate the impacts of mine dewatering, which would lead to an "extensive removal of groundwater" that would "cause some number of local springs and streams to dry up."[185] The Ninth Circuit acknowledged that the EIS listed several mitigation measures but found the discussion inadequate because the EIS only noted that "[f]easibility and success of mitigation would depend on site-specific conditions and details of the mitigation plan."[186] Because this statement did not indicate whether any of the mitigation measures would actually be effective, the court found the mitigation analysis deficient.[187]

But if the touchstone of *Methow Valley* is whether the discussion of mitigation measures is sufficient to facilitate informed decision making, then the court appeared to once again ask for too much.[188] An acknowledgement that the effectiveness of the mitigation measures would vary based on the specific spring or stream informs the decision maker and the public that some of the impacts may be unavoidable, while other may perhaps be ameliorated.[189] Given the number of springs and streams affected, a reader could reasonably conclude that the results would be a mix of impacts. Thus, the impact could be weighted accordingly. Additionally, the court's argument appears to contradict the analysis in *Okanogan Highlands Alliance*, which noted that when the impacts of a

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182. A number of recent Ninth Circuit cases have upheld similarly detailed-mitigation discussions. *E.g.,* Alaska Survival v. Surface Transpt. Bd., 705 F.3d 1073, 1089 (9th Cir. 2013) ("The FEIS contains a lengthy discussion of measures to mitigation impacts on water resources, which includes removing debris from wetlands as soon as practicable and constructing the railroad to maintain natural water flows by installing bridges or using equalization culverts. Further, [the board's] authorization of the exemption was conditional to [the applicant's] adoption of one hundred mitigation measures . . . Nothing about the discussion of mitigation measures is perfunctory."); Rock Creek Alliance v. U.S. Forest Serv., 703 F. Supp. 2d 1152, 1179 (D. Mont. 2010) (noting that EIS discussed mitigation measures in "great detail" and providing lengthy quotations).

183. 588 F.3d 718 (9th Cir. 2009).

184. *Id.* at 722.

185. *Id.* at 726-27.

186. *Id.* at 727 (internal quotations omitted).

187. *Id.*

188. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989).

189. *See* Theodore Roosevelt Conservation P'ship v. Salazar, 616 F.3d 497, 517 (D.C. Cir. 2010) (allowing "adaptable mitigation measures is a responsible decision in light of the inherent uncertainty of environmental impacts, not a violation of NEPA.").

project are inchoate, NEPA permits a less detailed discussion of mitigation measures.[190] Therefore, the Ninth Circuit appears to still be influenced by a theory of mitigation measures that is contrary to *Methow Valley* and more in line with an alternatives analysis. Namely, the Ninth Circuit regularly seeks a fuller discussion of mitigation measures in their own right, like NEPA's alternatives requirements, instead of the mitigation discussion suggested by *Methow Valley*, which merely suffices to reveal the true scope of the impacts of a project.

B. Other Circuits' Approaches to Methow Valley

While other circuits have infrequently found discussions of mitigation measures inadequate under NEPA,[191] the EISs that are upheld nonetheless typically discuss mitigation in considerable detail. For example, in *Webster v. Department of Agriculture*,[192] the Fourth Circuit upheld a mitigation analysis that was highly detailed and included "a map with wetland areas marked on it and, using that map, described how it would attempt to avoid certain marked areas."[193] Likewise, the Fifth Circuit has found that a "serious and thorough evaluation of environmental mitigation options" meets "NEPA's process-oriented requirements," even when the probability that the mitigation measures will be implemented is contested.[194] Similarly the Tenth Circuit has determined that a mitigation analysis, which "identified nearly 150 project-specific mitigation measures, and, as evidenced by numerical effectiveness ratings, separately analyzed and evaluated each," was reasonable under NEPA.[195] Therefore, while these circuits do not explicitly hold that the discussion of mitigation measures must go beyond providing sufficient information to understand the impacts of the problem, it appears that, like the Ninth Circuit, these courts routinely encourage lengthy, resource-intensive analyses that go far beyond the basic requirements set forth in *Methow Valley*.

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190. Okanogan Highlands Alliance v. Williams, 236 F.3d 468, 477 (9th Cir. 2000).

191. *See, e.g.,* Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 536 (8th Cir. 2003) (finding an EIS inadequate when the mitigation analysis did not consider a full-range of methods to ameliorate horn noise from passing trains in affected areas, specifically by insulating buildings).

192. 685 F.3d 411 (4th Cir. 2012).

193. *Id.* at 432.

194. Miss. River Basin Alliance v. Westphal, 230 F.3d 170, 177 (5th Cir. 2000).

195. Colo. Envtl. Coal. v. Dombeck, 185 F.3d 1162, 1173 (10th Cir. 1999).

C. Conclusion

Methow Valley acknowledged that NEPA's requirement to discuss mitigation measures in an EIS does not flow directly from the text of that statute, but the court held that agencies must nonetheless discuss mitigation in order to provide a complete understanding of the project's impacts. A number of cases in the Ninth Circuit appear to have gone well beyond this requirement and found mitigation analyses insufficiently detailed, even when they appeared to provide enough information to understand the impacts at issue. As a corollary, mitigation analyses that provide a great deal of information, potentially far more than is needed to understand the environmental impacts of a project, find success in the Ninth Circuit, as well as other courts.

While some may attribute this to an expansive judiciary, the more likely source for the insistence on an alternatives-like level of detail in a mitigation analysis is the wide-spread confusion, arising from CEQ's implementing regulations, case law, and scholarly material, regarding mitigation measures and alternatives. Unlike mitigation measures, alternatives must be fully discussed in their own right to enable a meaningful evaluation of whether the project should go forward.[196] In practice, the courts' approaches toward mitigation measures are far closer to the standard for alternatives than they are to the standard for mitigation measures provided in *Methow Valley*: that providing sufficient information to understand environmental impacts is all that NEPA requires. Courts have typically upheld mitigation analyses that, like an adequate alternative analysis under CEQ regulations, encompass a wide range of reasonable proposals.[197] Courts have also upheld agencies' mitigation analyses that thoroughly evaluate those measures as they would do for alternative analyses.[198] Additionally, courts uphold agencies that consider mitigation measures beyond the jurisdiction of the lead agency, which is also a requirement for alternatives analyses.[199] In contrast, those EISs that only provide sufficient information to "properly evaluate the severity of adverse effects,"[200]

196. *See supra* Section II.A.

197. *Compare* Alaska Survival v. Surface Transp. Bd., 705 F.3d 1073, 1088-89 (9th Cir. 2013) (upholding an EIS that discussed over 100 mitigation measures), *with* 40 C.F.R. § 1502.14 (a) (2106) (requiring EISs to evaluate "all reasonable alternatives").

198. *Compare Colo. Envtl. Coal.*, 185 F.3d at 1173, *with* 40 C.F.R. § 1502.14(b) (2016) (requiring EIS's to devote "substantial treatment to each alternative").

199. *Compare* Ctr. for Biological Diversity v. Fed. Highway Admin., 290 F. Supp. 2d 1175, 1188 (S.D. Cal. 2003), *with* 40 C.F.R. § 1502.14(c) (2016) (requiring EIS's to consider "reasonable alternatives not within the jurisdiction of the lead agency").

200. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989).

without including a detailed discussion of the mitigation measures themselves, are much less likely to be upheld.[201] Therefore, pronouncements in *Methow Valley* aside, it appears that in practice mitigation measures function as much to supplement the alternatives analysis as they do to inform the impact analysis. This invites the question: are mitigation measures the true heart of the NEPA analysis, notwithstanding the lip service paid to alternatives?

V. A SILVER LINING: THE UPSIDE TO AN EXPANDED MITIGATION MEASURES ANALYSIS

In practice, mitigation measures function more like a "mini-alternatives" analysis than the limited inquiry envisioned by the Supreme Court in *Methow Valley*. While these analyses may expand the requirements of NEPA, as interpreted by the Supreme Court, they may also produce some of the most useful information to members of the public by providing a systematic discussion of pragmatic measures the action agency, or other decision makers, can undertake to ameliorate the environmental impacts of the proposed action. Therefore, the circuit courts' approach to mitigation measures following *Methow Valley* may have unintentionally created a new heart to NEPA, or greatly reshaped its existing heart.

Critics allege that the alternatives analysis in an EIS often appears to have little direct impact on an agency's final decision.[202] In contrast, mitigation measures discuss modest options that can produce significant environmental benefits while still allowing the action agency to pursue its preferred alternative. Such options can include acquiring in-kind land to offset environmental impacts on wetlands,[203] reductions in off-site noise,[204] and use of "best management practices" to minimize impacts on water quality.[205] Moreover, agencies frequently adopt mitigation measures discussed in an EIS.[206]

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201. *E.g. Cuddy Mountain*, 137 F.3d at 1375. Thus, early commenter's fears that *Methow Valley* signaled the end of mitigation measures as a critical component of EIS's have not fully materialized. *See* Richards, *supra* note 11, at 1230-33.

202. Kelly Wittorff, *A Call to Revitalize the Heart of NEPA: The Alternatives Analysis*, 12 U. FLA. J.L. & PUB. POL'Y 361, 372-74 (2001). Of course, the expectation of preparing an alternatives analysis may funnel an agency's decision-making toward environmentally-preferable, or at least reasonable, alternatives.

203. Miss. River Basin Alliance v. Westphal, 230 F.3d 170, 177 (2000).

204. Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 534 (8th Cir. 2003).

205. San Juan Citizens Alliance v. Stiles, 654 F.3d 1038, 1055 (10th Cir. 2011).

206. *E.g.* Webster v. Dep't of Agric., 685 F.3d 411, 432 (4th Cir. 2012) (noting that the EIS discussed measures the agency intended to implement to mitigate impacts on wetlands, including creating new wetlands in other locations).

Additionally, in *Methow Valley*, the Court noted that while NEPA does not require substantive results, it does serve an "action-forcing" function by ensuring that agency decision makers will "carefully consider, detailed information concerning significant environmental impacts; [and guaranteeing] that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking [sic] process and the implementation of that decision."[207] Thus, a robust discussion of mitigation measures may also spur public demand that agencies or other decision makers undertake particularly cost-effective or beneficial mitigation measures.

As a result, the more expansive approach to mitigation undertaken by the circuit courts, while generally not needed to fully understand the impacts of a project under NEPA, may ultimately provide the agency and public with the most pragmatic information not only for informed decision making, but also for environmental protection. As a result, mitigation, rather than alternatives, may be the true heart of NEPA.

VI. WHAT TO DO GOING FORWARD

While there is confusion in the case law, academia, and CEQ regulations regarding alternatives and mitigation, the authors recommend that NEPA practitioners do the following to prepare a NEPA analysis that adequately considers alternatives and mitigation. With respect to alternatives, practitioners would be wise to not ignore the section 102(2)(E) requirement or conflate it with the section 102(2)(C) requirement, as some courts do. First, they are separate and distinct requirements and should be treated as such. Second, some courts do make distinctions in what is required under each section in terms of scope and depth of analysis. Practitioners would also be wise to include mitigation measures in each alternative, as the CEQ regulations require this and courts have found alternatives unreasonable when mitigation measures are not included or sufficient.

With regard to mitigation measures in general, practitioners should approach *Methow Valley* cautiously. While the natural reading of the case may suggest that an EIS may briefly discuss mitigation measures, mitigation in practice is not so simple. A successful EIS typically provides a detailed discussion of mitigation measures that fully discusses the mitigation, provides an estimate of how successful the plan will be, and often provides a significant level of quantification to support these results. Therefore, practi-

207. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989).

tioners should recognize that courts will often demand more from a mitigation analysis than the Supreme Court suggested in *Methow Valley*, and should proceed accordingly. The result may be more resource intensive and less efficient, but practitioners will stand a better chance of being upheld and may ultimately provide documents that are more useful to the public. The resulting EIS will contain not only a complete discussion of large-scale alternatives to the project, but also a thorough discussion of more modest but potentially easier-to-implement approaches to completing the action. This more thorough discussion of mitigation measures may have more of a pragmatic benefit in that it encourages decision makers to pursue unobtrusive but efficacious ways to moderate impacts on the environment.

VII. CONCLUSION

The promise of NEPA was that it would help "control, at long last, the destructive engine of material 'progress.'" [208] But critics allege that it is primarily a paper tiger.[209] And while the case law and regulations provide grandiose statements about alternatives serving as the linchpin or heart of an EIS, the true heart of a given NEPA analysis is not always clear. Alternatives sometimes get short shrift as courts confuse or ignore the separate and distinct alternatives requirements. Furthermore, both the CEQ regulations and the courts conflate alternatives and mitigation measures, making it unclear what exactly is being discussed (an alternative? a mitigation measure?) and what aspect(s) of the analysis is (or are) deficient.

Moreover, in many cases or at least those cases where the agency proceeds with the proposed action, the consideration of mitigation measures may influence the agency's efforts to protect the environment more than the alternatives discussion. And while a discussion of alternatives fits neatly into the procedural framework of NEPA, mitigation measures seem to skirt the substantive line in practice. Because mitigation measures frequently reduce the environmental impact of major federal actions, it could certainly be argued that mitigation is the true linchpin of an environmental analysis.

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208. *See* Calvert Cliffs' Coordinating Comm., Inc. v. Atomic Energy Comm., 449 F.2d 1109, 1111 (D.C. Cir. 1971).

209. *See* Jason J. Czarnezki, *Revisiting the Tense Relationship Between the U.S. Supreme Court, Administrative Procedure, and the National Environmental Policy Act*, 25 STAN. ENVTL. L.J. 3, 12 (2006) ("[The Supreme Court] must provide some mechanism for NEPA to be more than a 'paper tiger'."). However, projects can be stopped until NEPA compliance occurs. *See, e.g.*, Alaska Ctr. for Env't v. Browner, 20 F.3d 981, 986 (9th Cir. 1994); *see also* N. Cheyenne Tribe v. Norton, 503 F.3d 836, 843 (9th Cir. 2007).

Nevertheless, the limits of a mitigation analysis under NEPA, as interpreted by *Methow Valley*, remain murky. Perhaps due to the confusion over the difference between mitigation measures and alternatives, courts routinely go beyond *Methow Valley's* simple requirement that the limited purpose of mitigation in an EIS is to provide a complete picture of a project's impacts. These courts have found mitigation analyses that do precisely that inadequate and have approved mitigation analyses that are far more elaborate and akin to the complete discussion of alternatives explicitly mandated by NEPA.

Thus, NEPA practitioners should consider providing more detail on mitigation measures than *Methow Valley* would suggest. This includes providing a wide range of mitigation measures, discussing them in great detail and quantifying their effectiveness if possible, and even discussing some mitigation measures beyond the lead agency's authority. While such detail may appear to go beyond the strict requirements of NEPA, it may also end up among the most useful information to the public and decision makers because ultimately, mitigation may be the most action-forcing portion of an EIS.[210] Thus, while the courts approach to mitigation may rest on an errant interpretation of *Methow Valley*, the mistake may ultimately be one that serves as the true heart of NEPA. By knowing how to mitigate environmental impacts, decision makers and the public can choose to move forward in a way that best protects the environment and humanity.

210. *See Methow Valley*, 490 U.S at 352.