Can’t See the Trees for the Forest? The Ongoing Controversy Over Assessing the Site Specific Impacts of Comprehensive Forest Management Plans

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Since its enactment in 1976, the National Forest Management Act has clashed with the National Environmental Policy Act. Both are intended to protect the natural environment: The National Forest Management Act requires the Forest Service to create long-term management plans for each national forest, and the National Environmental Policy Act requires federal agencies to assess the environmental impacts of proposed activities before taking action. But where these statutes collide, the Forest Service’s obligations are unclear.

In the series of Pacific Rivers Council v. Forest Service cases, courts once again failed to clarify the agency’s obligations at the intersection of the National Forest Management Act and the National Environmental Policy Act. After almost forty years of litigation between environmental groups and land management agencies, courts still have no clear standard for evaluating whether an agency has adequately assessed the environmental impacts of a planning document.

This Note proposes that analyzing data about activities that took place under previous management plans could provide a principled way for courts to evaluate the adequacy of the Forest Service’s environmental impact analysis for planning documents. Information about activities that took place under past plans could support assertions about the levels of activity and potential impacts that will occur under proposed plans. This would allow courts to determine whether the Forest Service adequately assessed the potential environmental impacts of a proposed plan.

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INTRODUCTION

Lahontan cutthroat trout, one of the largest native trout in the United States, live only in the clear, cool streams and lakes of the Eastern Sierra.¹ There were once millions of Lahontan cutthroat trout, but they were listed as endangered in 1970 due to overfishing; competition with introduced species; and degradation of stream habitat caused by overgrazing, mining, urban development, and logging.² In 1975, the trout were downlisted to threatened and, due to improvements in land use practices, populations are recovering.³

³ See id.
In 2001, the Forest Service adopted a planning framework, for managing the national forests of the Sierra Nevada, which encompasses much of the Lahontan cutthroat trout’s habitat. The 2001 Framework amended existing forest management plans to better protect riparian and aquatic habitat by limiting grazing, road building, and harvesting of large trees. Subsequent research indicated that limiting removal of trees increased the risk of wildfire that could damage habitat for many terrestrial and aquatic species, including trout. The Forest Service amended the framework again in 2004, removing the previously strict limitations and leaving decisions about specific land use practices to the discretion of forest managers.

Environmental groups worried that the new framework would allow increased road construction, grazing, and timber harvesting near streams. These activities erode soils, which wash into streams and lakes and harm aquatic species, like trout, which need clear water to survive and clean gravel to lay their eggs. The National Environmental Policy Act (NEPA) requires federal agencies to analyze the environmental impacts of each major proposed action before deciding whether to proceed. When the Forest Service analyzed the 2004 Framework, it determined that it would have no substantial impact on fish. Pacific Rivers Council, an environmental group, sued the Forest Service for failing to adequately analyze potential impacts on fish species before adopting the framework that allowed increased levels of activity. After almost ten years of litigation, the 2004 Framework and environmental analysis remain intact.

Although agencies routinely analyze the potential environmental impacts of specific projects in specific locations, programmatic environmental analyses, which must be prepared for management plans and planning frameworks, are much more difficult. To prepare programmatic environmental analyses, the agency must consider the potential impacts of a program that guides management of large areas of land and a variety of different resources for several years. Courts, agencies, and environmental groups disagree about the

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5. Id. at *2.
6. Id.
11. See 2004 FRAMEWORK, supra note 7, at 12.
13. The term “environmental analysis” encompasses environmental impact statements and environmental assessments, documents prepared pursuant to NEPA. See 40 C.F.R. § 1501.4 (2013).
amount of detail required in a programmatic environmental impact analysis. When creating a management plan, agencies such as the Forest Service are often unsure exactly which activities will take place under the plan and what the impacts of those activities will be. Requiring an agency to analyze the impacts of a management plan with greater specificity is burdensome and may not contribute significantly to the decision-making process. But if an agency is allowed to analyze the impacts of a management plan too generally, the plan may not adequately protect the natural resources within its scope. This tension leads to frequent litigation, but courts have not identified a clear rule about the level of environmental analysis required for a resource management plan.

This Note suggests that courts should analyze previous management plans. Patterns in the implementation of previous plans could provide the background needed to understand what a plan represents. If courts understand what level of activity is likely to occur under a plan, and the uncertainty inherent in predicting impacts, they will be better prepared to evaluate the agency’s environmental impact analysis. Over time, this should allow courts to develop a practical standard for evaluating the adequacy of environmental analyses.

Using data from past plans to determine the environmental analysis requirements for current and proposed plans has implications beyond the Forest Service, because most resource management agencies use a similar planning system. For instance, the Federal Land Policy and Management Act of 1976 requires resource management plans for lands managed by the Bureau of Land Management (BLM). Similarly, the National Wildlife Refuge System Improvement Act of 1997 requires the U.S. Fish & Wildlife Service to prepare a fifteen-year comprehensive conservation plan for each national wildlife refuge. All of these agencies could benefit from clear rules and less litigation surrounding planning. This Note focuses primarily on the Forest Service, and

14. The plans governing use of national forests are referred to interchangeably as “forest plans,” “Land and Resource Management Plans,” or “LRMPs.”
15. The terms “management plan,” “plan,” and “program” are used interchangeably.
18. For these agencies, a clear rule would do more than just resolve the question of how much detail is required in a programmatic environmental analysis. If courts understand what planning documents represent, they will likely also be able to create clear rules for standing, ripeness, and injury for NEPA challenges to planning decisions. Compare Ohio Forestry Ass’n v. Sierra Club, 523 U.S. 726, 734 (1998) (holding that plans are not ripe for review because they do not authorize any action), with Pacific Rivers II, 689 F.3d at 1022 (holding that the plan authorizes harvest that will be visible to plaintiffs, so plaintiffs have standing to challenge the plan). Determining what plans actually do may also help courts to more predictably and consistently review programmatic biological opinions. Cf. 10 U.S. FOREST SERV., SYNTHESIS OF THE CRITIQUE OF LAND MANAGEMENT PLANNING, at vi–ix (1990) (suggesting a need for a better understanding of the purposes and challenges of planning). For federal activities involving threatened or endangered species, the Fish and Wildlife Service and National Marine Fisheries Service are required to produce biological opinions pursuant to section 7 of the Endangered Species Act of 1973. 16 U.S.C. § 1536. These opinions assess whether the proposed activity will jeopardize the continued existence of the species or result in the destruction or adverse modification of
uses the *Pacific Rivers Council v. U.S. Forest Service* cases to identify ways that data could help resolve conflicting views of the agency’s environmental analysis obligations for planning documents. This Note also discusses barriers to obtaining the necessary data and suggests steps that the Forest Service (and other agencies) could take to overcome these barriers in order to provide courts with the information needed to evaluate the adequacy of programmatic environmental analyses.

I. DEFINING THE PROBLEM

A. Legal Background

The National Forest Management Act of 1976 (NFMA) and NEPA are both intended to require agencies to consider the cumulative environmental impacts of proposed activities and to improve accountability in decisions that impact the natural environment. NFMA requires managers to develop long-term resource management plans for each national forest. In addition to providing substantive requirements, NFMA establishes the process for creating a management plan. NEPA requires federal agencies to systematically consider environmental impacts as part of their decision-making processes. These two pieces of legislation should be compatible because they share the same goals, but agencies and courts struggle to define the level of detail required in impact analyses for management plans developed under NFMA.

1. National Forest Management Act of 1976

The purpose of the NFMA resource management planning process is to sustainably manage entire ecosystems by assessing the cumulative impacts of its habitat, and determine an acceptable level of incidental take. Like environmental impact assessments, biological opinions are well suited for specific projects. They are also required for management plans, but the uncertainty surrounding plans leaves the agencies to defend highly speculative opinions in litigation. Defining what a plan actually does would likely help clarify the agencies’ responsibilities in a programmatic biological opinion. See 50 C.F.R. § 402.12 (biological assessments).


20. “Planning is the gateway to meeting both the spirit and intent of the many laws governing natural resources, particularly the National Forest Management Act and the National Environmental Policy Act.” 1 U.S. FOREST SERV., SYNTHESIS OF THE CRITIQUE OF LAND MANAGEMENT PLANNING, at vii (1990).


22. Furthermore, NFMA requires that planning regulations include “procedures to insure that land management plans are prepared in accordance with [NEPA].” Id. § 1604(g)(1).


24. According to Professor Oliver Houck, “Planning was not incidental to NEPA. It was seen by all involved in the enactment of the statute to be what was going wrong, and needed fixing. . . . The principle players in the enactment of NEPA were not concerned with planning in the abstract. They were concerned with forests.” Oliver A. Houck, *How’d We Get Divorced?: The Curious Case of NEPA and Planning*, 39 Envtl. L. Rep. (Envtl. Law Inst.) 10,645, 10,646 (2009).
activities and determining where certain activities are most suitable. 25 Congress enacted NFMA after finding that a sustainable resource management program “must be based on a comprehensive assessment of present and anticipated uses . . . .” 26 Comprehensive assessment is necessary because when an agency evaluates each proposed project independently, there is no opportunity to determine what level of use is optimal and what uses are compatible with each other. 27 Analyzing each project separately also makes it difficult to adequately assess cumulative impacts. 28 Additionally, the project-by-project approach provides no basis for determining which applicants should reap the benefits of exploiting resources and which should bear the burdens of conservation for the public good. This leaves the agency to approve projects on a “first come, first served” basis, allowing ecosystem-level environmental impacts to accumulate unsustainably.

To counter this problem, federal land management agencies use a tiered planning system. 29 The Forest Service evaluates impacts at a broad, general scale in the planning process and then analyzes impacts of each proposed project individually in more detail. 30 To avoid the pitfalls of project-by-project assessment, 31 NFMA requires each national forest to form a single, integrated plan “reflecting proposed and possible actions.” 32 The Council on

26. Id. § 1600(3).
27. See U.S. FOREST SERV., supra note 20, at v (“To take advantage of [the national forests’] bounty and to ensure that it will be available for future generations require[s] foresight and vision, hence the need for planning.”).
28. “[A]ctions viewed in isolation at the project level may seem reasonable, but when viewed within the broader context of the national forest or LRMP may seem questionable.” Michael Laurence Nisengard, Examining the 2005 U.S. Forest Service Planning Rule: How to Improve a Document Which Does Nothing but Means Everything, 14 BUFF. ENVTL. L.J. 65, 105 (2006).
29. Tiering is defined as “cover[ing] general matters in broader [EISs], . . . with subsequent narrower statements or environmental analyses . . . incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared,” when “the sequence of statements or analyses is [f]rom a program, plan, or policy [EIS] to a . . . site-specific statement or analysis.” 40 C.F.R. § 1508.28 (2013). Therefore, “[f]orest management plans under NFMA required the creation of at least two EISs – one for the [plan] which committed the Forest Service to a ten year comprehensive integrated resource management program, and another for project level actions that had actual on-the-ground effects implementing the [plan].” Nisengard, supra note 28, at 74–76.
30. The Forest Service’s NEPA procedures require environmental analysis and public involvement for each proposed project even when it is consistent with the LRMP. See U.S. FOREST SERV., NATIONAL ENVIRONMENTAL POLICY ACT HANDBOOK – FSH 1909.15_10 ENVIRONMENTAL ANALYSIS 15–16 (2012) [hereinafter FOREST SERVICE NEPA HANDBOOK].
31. “NEPA still applies to individual projects, . . . [e]nvironmental review at that time can question siting and other decisions for projects that are included in a plan, but this is not the comprehensive review that would occur if the plan were covered by NEPA at the time it was adopted.” Daniel R. Mandelker, The National Environmental Policy Act: A Review of its Experience and Problems, 32 WASH. U. J. INT’L. & POL’Y 293, 300 (2010).
Environmental Quality (CEQ), which administers NEPA, encourages tiering from broader environmental impact statements, such as those prepared for a land use plan or planning framework, to “subsequent narrower statements.” All activities implemented in a national forest must be consistent with the management plan to ensure coordination and sustainable levels of use. Proposed activities also require an environmental impact analysis, which must document detailed consideration of issues specific to the proposal.


NEPA is a broad, procedural statute that applies to all federal agencies, not just the Forest Service. NEPA requires agencies to consider the environmental impacts of a proposed action before determining how to proceed. The two goals of NEPA are to prevent or eliminate damage to the environment by “ensuring that agencies will take a ‘hard look’ at environmental consequences,” and to allow public oversight of agency activities through broad dissemination of relevant information. NEPA implicitly requires agencies to consider, in their analyses, the extent to which environmental impacts can be avoided and mitigated. Accordingly, federal agencies must complete an environmental impact statement (EIS) evaluating the impacts of any “major [federal action] significantly impacting the quality of the human environment.” An agency must prepare an EIS before it makes an irreversible commitment of resources in order to ensure that it has considered environmental impacts as part of the decision-making process. The EIS must contain “a detailed statement” of the action’s environmental consequences, necessary resource commitments, and alternatives.

Since the enactment of NFMA in 1976, there has been confusion about how to apply NEPA’s procedural requirements to a management plan.

35. 40 C.F.R. § 1508.28.
38. Id.
40. Metcalf v. Daley, 214 F.3d 1135, 1143 (9th Cir. 2000).
42. In 1990, experts reviewing the success of forest planning noted the confusion and the litigation spawned by NFMA and recommended that to improve forest planning, the agency needed to differentiate programmatic and project-level environmental impact statements and understand the requirements for each. 4 U.S. FOREST SERV., SYNTHESIS OF THE CRITIQUE OF LAND MANAGEMENT
Whereas plans and projects are both considered “major federal actions” under NEPA, in practice they are very different. Plans cover a broad range of possible management actions that could occur in a national forest over ten to fifteen years, while projects are site specific. NEPA’s procedural requirements are clearer for an agency proposing a single, specific action in a defined location. But at the intersection of forest planning and NEPA, the procedural requirements are less clear. The Forest Service believes that a plan does not actually authorize any action. Each proposed activity must still be independently evaluated and authorized. Consequently, the Forest Service believes that a plan has no significant environmental impact and therefore should not require an EIS. This reasoning is controversial: many interested parties believe that plans actually do create significant impacts that need to be analyzed before the plan is approved.

B. Two Views of Plans; Two Views of Environmental Analysis

The disagreement about how NEPA should be applied to management plans appears to be based on interested parties’ ideological views. Regarding a 2013 forest plan amendment, the Forest Service stated “the forest plan does not result in direct, physical impacts to the environment, but it may constrain where and how projects or activities can occur.” Because the Forest Service believes that a plan merely defines the outer limits of what could happen, but encompasses many activities that will not ever occur, it believes that a detailed programmatic EIS is impractical and unnecessary. Unlike the Forest Service, many environmental groups and the timber industry view plans as defining a target level of activity. Because they believe that a plan represents what will happen, environmental groups argue that a more detailed EIS should be required as part of the decision-making process.

PLANNING 28 (1990). See also Kleppe, 427 U.S. at 406 (explaining that a test imposed by a lower court created uncertainty about an agency’s procedural duties under NEPA).
44. U.S. FOREST SERV., supra note 18, at 44.
46. The Forest Service’s NEPA procedures require environmental analysis and public involvement for each proposed project even when it is consistent with the LRMP. See FOREST SERVICE NEPA HANDBOOK, supra note 30, at 15–16.
47. See, e.g., Pacific Rivers II, 689 F.3d at 1026–27.
49. See, e.g., Pacific Rivers III, 942 F. Supp. 2d at 1027 (explaining that Pacific Rivers Council assumed that the adoption of the 2004 Sierra Nevada Planning Framework would result in increased activity because the plan allowed more activities). See also LAKE TAHOE BASIN MGMT. UNIT, supra note 48, at 1 (“Some members of the public may believe that the effects analysis . . . is still too general,” leading the Forest Service to attempt to “explain why a more detailed effects analysis is not practical.”).
50. See Metcalf v. Daley, 214 F.3d 1135, 1142 (9th Cir. 2000).
1. Pacific Rivers Council v. U.S. Forest Service: A Case Study

*Pacific Rivers Council v. U.S. Forest Service* (*Pacific Rivers I*) is a recent example of conflict arising between different perspectives of what a forest plan represents. The complex procedural history of this case highlights the confusion surrounding forest planning and NEPA obligations. *Pacific Rivers I* concerned the EIS that the Forest Service prepared for the 2004 Sierra Nevada Framework. The 2004 Framework contained a series of amendments, relaxing existing restrictions on resource use in eleven national forests in the Sierra Nevada. *Pacific Rivers Council* brought suit against the Forest Service under NEPA for adopting the amendments without adequately considering their environmental impacts.

The 2004 Framework permitted more road construction, grazing, and timber harvesting than the plans previously allowed, and *Pacific Rivers Council* noted that the EIS did not indicate any additional impacts to trout, other fish, or amphibians, even though authorizing more of these activities would increase erosion in watersheds.

The claims about impacts to fish and amphibians in *Pacific Rivers I* resurrected the debate over the analysis NEPA requires in the EIS for a plan or planning framework. The Forest Service argued that a management framework, like a management plan for an individual forest, “does not itself make final decisions . . . .” The Forest Service claimed it was erroneous to assume that activity levels would increase, because the 2004 Framework did not authorize any actual timber harvest, road construction, or grazing. Because it could only speculate about activities that would take place under the amended forest plan, the Forest Service believed that a detailed analysis of impacts would be of little value.

The Forest Service advocated that it would be more appropriate to defer the detailed analysis until a project is proposed, when more

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53. *Pacific Rivers II*, 689 F.3d at 1020.
54. *Id.*
55. *Pacific Rivers III*, 942 F. Supp. 2d at 1026.
56. *Id.*
58. See *U.S. Forest Service Petition for Writ of Certiorari*, supra note 57, at 185–86.
59. See *id.* at 187.
information about the potential impacts to fish and amphibians would be available.  


Federal agencies, including the Forest Service, argue that a detailed analysis of environmental impacts prepared at the planning stage has little practical value.  

In their view, including more detail in a programmatic EIS does not improve decision making or increase transparency. Even for a project-level EIS, “more information is not always better.” For a programmatic EIS, the agency must predict what activities will take place and what the impacts of those activities will be. Because there is a high level of uncertainty at the planning stage, more information may in fact be misleading for the public. Many of the activities that are possible will never take place, and the original analysis for activities that do occur under the plan may become obsolete if conditions change before implementation. The Forest Service explained:

60. See id. at 186–87; see also Pacific Rivers II, 689 F.3d at 1026 (discussing the issue of evaluating site-specific impacts at the plan level).

61. In 1990, the Forest Service estimated that it made about 40,000 project decisions each year, averaging about three hundred decisions per national forest unit. U.S. FOREST SERV., supra note 18, at vii. “Those who would have the forest plan attempt to make project-level decisions,” the agency stated, “ignore the simple mathematics of the situation . . . . How could each forest plan expressly consider and disclose the environmental consequences of more than 3,000 individual decisions [over ten years]?” Id. The Sequoia National Forest LRMP is “[seven] inches thick, 1,500 pages long, and weighs 11 ¾ pounds,” the Forest Service noted, and it was still challenged by Sierra Club and the California Attorney General “on the grounds that the environmental impact statement was inadequate.” 11 U.S. FOREST SERV., SYNTHESIS OF THE CRITIQUE OF LAND MANAGEMENT PLANNING 11 (1990).

62. Bradley Karkkainen, Whither NEPA?, 12 N.Y.U. ENVTL. L.J. 333, 346 (2004). “Over-inclusiveness may dilute the overall quality of information, as good information is swamped by bad. The EIS itself, then, turns out not to be a particularly good device for informing anyone—not key agency decision-makers, and certainly not the public.” Id.

63. “Forest plans cover broad geographic areas for a period of [fifteen] years or more. As a result, the environmental impacts resulting from forest plans are removed in time and space because projects or activities guided by the plan occur throughout the [fifteen] year period.” LAKE TAHOE BASIN MGMT. UNIT, supra note 48, at 0-1. “Since future events and influences are largely unpredictable, the environmental analysis for forest plans is by its nature somewhat speculative.” Id.; see also Bradley Karkkainen, BOTTLENECKS AND BASELINES: TACKLING INFORMATION DEFICITS IN ENVIRONMENTAL REGULATION, 86 TEX. L. REV. 1409, 1409 (2008).

64. See LAKE TAHOE BASIN MGMT. UNIT, supra note 48, at 5. “Any attempt to portray effects in more detail would be highly speculative and misleading to the public.” Id. The Forest Service wanted to avoid “convey[ing] a level of certainty regarding environmental effects that was illusory.” Id. at O-5.

65. See id. at 2 (providing that “[t]he effects predicted in the environmental analysis are unlikely to unfold exactly as predicted” due to environmental uncertainty, political priorities, and funding). See also U.S. FOREST SERV., supra note 18, at vii (“Many of the activities that can occur in a particular management area are initiated by forest users and not the Forest Service. The relationship of projects initiated by others and projects planned by the Forest Service is continuously changing. In addition, new information regarding the relationship and effects of actions within any given ecosystem is constantly being developed. The appropriate time to forecast the environmental consequences with a proposed project is at the time of the project decision.”).
There is no way to know at [the planning stage] whether the agency will mitigate or eliminate any potential harm of a particular project by restricting its location (e.g., distancing it from a stream) or by tailoring or limiting its scope or effect. For example, it is possible that the agency would never approach a particular logging cap in a forest plan after examining site-specific projects in greater detail, or that the agency would impose protective measures on a project beyond what the plan might set out in general terms.66

Because a detailed EIS would be so speculative, it would add little to the agency’s decision-making process or to the public’s understanding of the plan’s environmental impacts. Increasing the level of detail required in an EIS for a management plan, according to the Forest Service, does not advance the purposes of NEPA.

An EIS is necessarily somewhat speculative: it represents an agency’s prediction about what the environmental impacts of a proposed activity will be.67 Professor Bradley Karkkainen writes that “[s]uch ex ante predictions are inevitably inexact and contestable” and “[t]o safeguard against litigation challenging the adequacy of the [EIS], agencies often substitute quantity for quality, producing large, costly, and uninformative documents.”68 When creating an EIS for a management plan, as opposed to an individual project, agency managers must identify the impacts associated with a broad range of possible activities, making the EIS even more expensive and time consuming to produce.69

The Forest Service believes that documenting all possible environmental impacts for all of the possible activities that could take place under a

67. Karkkainen, supra note 63, at 1409.
68. Bradley Karkkainen, Toward a Smarter NEPA: Monitoring and Managing Government’s Environmental Performance, 102 Colum. L. Rev. 903, 903 (2002). “For the risk averse agency manager, . . . the safer course is to err on the side of providing too much information, so as to produce a ‘litigation proof’ or ‘bullet proof’ document capable of withstanding any conceivable legal challenge.” Id. at 918. Professor Karkkainen writes that “[t]he consequence of open ended information production requirements enforceable through relatively easy access to judicial review, then, is that the effective standard for the quantity of information that must be produced in an EIS is set extremely high, and the process is painfully slow and costly.” Id. at 919. He adds that “[d]ue to the time it takes to produce, the EIS will . . . typically arrive too late in the process to inform and influence the agency’s decision.” Karkkainen, supra note 62, at 346. By the time the agency has invested the time and resources to complete a detailed EIS, it has likely already determined that it will adopt the plan. See id. “A 1997 United States General Accounting Office study found that the Forest Service spent approximately $250 million per year for environmental studies to support individual projects, and inefficiencies within the process at the project level alone cost up to an additional $100 million per year. Furthermore, this report stated that ‘by the time the agency has completed its decision-making, it often finds that it is unable to achieve the plans’ objectives or implement planned projects because of new information . . . changes in funding and natural conditions.’” Nisengard, supra note 28, at 77–78.
69. Each management plan takes the Forest Service several years to produce at a cost of about $1 million per year. National Forest System Land Management Planning, 77 Fed. Reg. 21,162, 21,177 (Apr. 9, 2012) (to be codified at 36 C.F.R. pt. 219). The Forest Service released a new planning rule in 2012 that is anticipated to reduce the time required to prepare a plan from five to seven years to three to four years. Id.
management plan is an unnecessary expense. Preparing a forest plan is already costly and can take several years. The more resources the Forest Service has to devote to analyzing and litigating the speculative impacts of plans, the fewer resources it has for environmentally beneficial management activities, including monitoring and evaluating environmental conditions. Furthermore, each proposed activity still requires its own environmental analysis and authorization even if it was anticipated in the management plan. According to the Forest Service, analyzing the environmental impacts at the planning level, when there is less information available about the activities that will take place, is burdensome and likely to be irrelevant or at least redundant.

The Forest Service finds legal justification for its position that programmatic environmental impact analysis is of little practical value under NEPA. NEPA requires analysis only for federal actions that significantly impact the environment. The Forest Service relies on case law as authority that a management plan authorizes no action. In Ohio Forestry Association v. Sierra Club, environmental groups challenged a management plan for the Wayne National Forest, alleging that it allowed too much logging and too much clear-cutting. The Sierra Club claimed that the plan relied on “erroneous

70. “Given the uncertainty of future events, attempts to provide greater detail will not result in any better prediction of environmental effects. Spending more public money on data and analysis would do little to improve effects predictions since more money cannot improve prediction of the inherent variables in the system.” Lake Tahoe Basin Mgmt. Unit, supra note 48, at O-2. See also U.S. Forest Service Petition for Writ of Certiorari, supra note 57, at 40–41 (noting that potential mitigation measures are similarly unpredictable at the planning stage).


72. Regarding a recent LRMP amendment, the Forest Service acknowledged that “[w]hile some members of the public would like to see more detailed effects analysis . . . that is not its purpose.” Lake Tahoe Basin Mgmt. Unit, supra note 48, at O-5. “Specific and detailed effects analyses . . . of projects and activities that comply with this plan will be subject to NEPA analysis when and where subsequent projects are proposed.” Id.

73. Alternatively, requiring agencies to increase specificity in management plans to reduce uncertainty about the activities that will take place limits their flexibility to address changing conditions, and over fifteen years conditions will inevitably change. “[P]lans are not collections of [ten] to [fifteen] years’ worth of project decisions (irretrievable commitments of natural resources). Such a view would create plans that would become administrative straightjackets inhibiting the use of new information, adjustment to changes in demands and needs, improvements in technology, and evidence from monitoring.” U.S. Forest Serv., supra note 18, at 18. Preventing agencies from adapting to changing environmental conditions, technology, and scientific understanding of environmental issues would likely create unnecessary environmental impacts. See id.


76. Id. at 728.
The Court was persuaded that a land and resource management plan for a national forest represents only a “ceiling” on the total amount of timber that can be cut and held that “[a]lthough the [p]lan sets goals, selects areas of the forest that are suited to timber production . . . and determines which ‘probable methods of timber harvest,’ are appropriate, . . . it does not itself authorize the cutting of any trees.” This decision supports the Forest Service’s position that management plans cause no significant environmental impacts and therefore do not require NEPA analysis.


Environmental groups disagree with the Forest Service’s view of management plans. They are concerned because plans do guide agency action and do include decisions about activities that have significant environmental impacts. These groups rightly point out that inadequate analysis at the planning stage can lead to irreparable environmental harm. In practical terms, it appears that when an agency develops a management plan, it is committing resources to a particular course of action, and that by postponing assessment, the agency is not fully considering environmental impacts before making its decision. In Pacific Rivers II, although the opinion has been vacated and is no longer binding precedent, the majority of the three-judge panel held that an agency cannot satisfy its NEPA obligations by promising to analyze the impacts of an action in greater detail in the future.

77. Id. at 731 (explaining that Sierra Club’s complaints were premised on the understanding that clear-cutting would result from the Forest Service’s approval of clear-cutting in the Wayne National Forest management plan). The opinion did not reach the erroneous analysis issue because it determined that the claim was not ripe for review. Id. at 739.

78. Id. at 729.


80. See, e.g., Pacific Rivers II, 689 F.3d at 1026–27 (expressing concerns about the impacts to fish and amphibians resulting from the Forest Service’s 2004 Planning Framework).

81. “The obvious difficulty with court decisions and statutes exempting agency plans from NEPA review is that decisions made in these plans determine how the federal agency will make project funding decisions later . . . .” Mandelker, supra note 31, at 300.

82. The Forest Service and other agencies “would not bother to plan, and Congress would not bother to require them to, if plans did not represent a critical step in their decisionmaking.” Houck, supra note 24, at 10,649. Professor Karkkainen argues that because producing an EIS is time consuming and costly, “[t]ypically, agencies will commit resources to producing an EIS only if they have already determined that it is unavoidable; that is, . . . after the agency has already decided to proceed despite the adverse environmental consequences.” Karkkainen, supra note 62, at 346. Including an activity in a long-term management plan may be a similar indication that the agency has already decided to proceed with the activity. See id. Furthermore, many forest plans contain “timber sale action plans” and “average annual targets” for timber harvest. See, e.g., SEQUOIA NAT’L FOREST, LAND AND RESOURCE MANAGEMENT PLAN app. at C (1988); PLUMAS NAT’L FOREST, LAND AND RESOURCE MANAGEMENT PLAN app. at C (1988). This language indicates that the agency has committed to the course of action proposed in the plan.

83. See Pacific Rivers II, 689 F.3d at 1026 (quoting Kern v. Bureau of Land Mgmt., 284 F.3d 1062, 1072 (9th Cir. 2002)).
Service’s approach to be problematic because “NEPA is not designed to postpone analysis of an environmental consequence . . . . It is designed to require such analysis as soon as it can reasonably be done.”

Environmental groups are also concerned about accountability. If the Forest Service does not prepare a detailed programmatic EIS, it is difficult for the public to participate in resource management in a meaningful way or for a court to review the planning process. Some groups feel that the Forest Service does not take NEPA seriously and are skeptical that the agency will prepare a proper environmental impact analysis for activities that are anticipated under an approved plan. To increase accountability and minimize environmental degradation, environmental groups generally want to require federal agencies to consider the environmental impacts in greater detail before committing to a resource management plan.

Environmental groups also have a financial incentive to push for greater procedural requirements at the planning stage. Plans govern the approval of many projects. It is burdensome for interest groups to challenge each individual activity that is authorized under a poorly conceived plan. Challenging a flawed plan is a more efficient way for interested parties to prevent many harmful activities from taking place. Just as the Forest Service wishes to avoid the high transactional costs of creating a more detailed EIS for each management plan, environmental plaintiffs wish to avoid the high transactional costs of litigating every project. Requiring environmental groups to raise enough

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84. Id.
85. For example, Professor Oliver Houck believes that the Forest Service avoids preparing informative planning EISs specifically to prevent environmentalists from interfering with agency decision making. Houck, supra note 24, at 10,649. In his opinion, “when an EIS finally comes out on . . . a timber sale, meaningful participation is too little and too late.” Id.
86. Id.
87. This distrust of the Forest Service is evident in the amount of litigation surrounding management plans and categorical exclusions. See, e.g., Ohio Forestry Ass’n v. Sierra Club, 523 U.S. 726, 728 (1998) (describing Sierra Club’s concern that under the proposed plan the Forest Service would allow too much logging and too much clear-cutting); Sierra Forest Legacy v. Sherman, 646 F.3d 1161, 1169 (9th Cir. 2011) (describing several environmental groups’ concern that the Forest Service ignored its NEPA obligations in passing the 2004 Sierra Nevada Framework); Citizens for Better Forestry v. U.S. Dep’t of Agric., 481 F. Supp. 2d 1059, 1063 (N.D. Cal. 2007) (describing environmental groups’ concern about categorical exclusion exempting Forest Service from preparing EISs for management plans).
88. See, e.g., Ohio Forestry, 523 U.S. at 736 (alleging that the Forest Service did not adequately evaluate the impacts of clear-cutting before approving a management plan); SUWA, 542 U.S. at 61 (alleging that BLM failed to take a “hard look” at the impacts of a management plan that permitted off-road vehicles in a wilderness study area); Pacific Rivers II, 689 F.3d at 1015 (claiming that the Forest Service did not “sufficiently analyze the environmental consequences of the [2004 Framework] for fish and amphibians” in the EIS that it prepared).
89. See, e.g., Ohio Forestry, 523 U.S. at 734 (“Sierra Club [says] that it will be easier, and certainly cheaper, to mount one legal challenge against the [p]lan now, than to pursue many challenges to each site-specific logging decision to which the plan might eventually lead.”).
90. This would also save the Forest Service from incurring many of the costs associated with litigation.
money to challenge each project individually creates a barrier to judicial review.

C. Courts Have Not Resolved the Uncertainty

1. Agencies Must Prepare a Programmatic EIS

Courts, like litigants, disagree over the role of NEPA in the planning process. Although courts have determined that an EIS is required for a plan, the question of how much detail to include remains unanswered. An EIS is required for “major federal actions” and must be completed during the decision-making process, before an irreversible commitment of resources is made.\footnote{42 U.S.C. § 4332(2)(C) (2006); see Metcalf v. Daley, 214 F.3d 1135, 1143 (9th Cir. 2000).} The Supreme Court has held that a management plan is “major federal action,” and, although plans do not authorize any commitment of resources, an EIS is required.

In Norton v. Southern Utah Wilderness Alliance (SUWA), an environmental group challenged a BLM management plan for a wilderness study area in Utah.\footnote{SUWA, 542 U.S. at 60–61.} Although the Supreme Court had previously determined in Ohio Forestry that a forest management plan did not actually authorize any activity,\footnote{Ohio Forestry, 523 U.S. at 69.} in SUWA it held that “the ‘[a]pproval of a [land use plan]’ is a ‘major Federal action’ requiring an EIS.”\footnote{SUWA, 542 U.S. at 73.} In the same decision, the Court held that a plan is not a binding commitment—unless the agency clearly indicates that it is.\footnote{Id. at 69.}

In response to SUWA and Ohio Forestry, the Forest Service created a categorical exclusion, which exempted forest plans from NEPA requirements.\footnote{Blumm & Bosse, supra note 79, at 111–12. “Categorical Exclusion means a category of actions which do not individually or cumulatively have a significant effect on the human environment . . . and for which, therefore, neither an environmental assessment nor an environmental impact statement is required.” 40 C.F.R. § 1508.4 (2013).} Although CEQ defines both projects and plans as “major federal action[s],”\footnote{40 C.F.R. § 1508.18.} regulations allow agencies to define and exclude categories of actions that do not individually or cumulatively have a significant effect on the human environment.\footnote{40 C.F.R. § 1508.4.} Case law seemed to justify the Forest Service’s view that management plans have no significant effect on the environment: SUWA held that a management plan is not a binding commitment to particular activities, and earlier, in Ohio Forestry, the Court held that a management plan authorizes no action.\footnote{Ohio Forestry Ass’n v. Sierra Club, 523 U.S. 726, 729 (1998); SUWA, 542 U.S. at 72.} Based on these conclusions, the Forest Service determined that,
consistent with CEQ regulations, management plans could be excluded from NEPA’s procedural requirements.\textsuperscript{100}

The Forest Service’s categorical exclusion for planning documents did not go unchallenged for long. In 2007, the District Court for the Northern District of California rejected the categorical exclusion in \textit{Citizens for Better Forestry v. U.S. Department of Agriculture}.\textsuperscript{101} The Forest Service argued that the categorical exclusion was appropriate for “procedural rules as opposed to ground-disturbing activities,” but the court disagreed, holding that “NEPA does indeed contemplate preparation of [an EIS] in the case of programmatic rules and changes.”\textsuperscript{102} The court quoted CEQ regulations as authority that “[a]gencies shall prepare statements on broad actions so that they are relevant to policy and are timed to coincide with meaningful points in agency planning and decision-making.”\textsuperscript{103} The Forest Service rescinded the categorical exclusion without appealing the decision. Although the Forest Service now prepares an EIS for each forest plan, it retains the view that management plans do not authorize any activities and therefore do not have significant environmental impacts.\textsuperscript{104}

2. How Much Detail Must a Programmatic EIS Include?

Separate from determining when an EIS is needed is the problem of determining how much detail a programmatic EIS should include. This question continues to frustrate litigants as well as courts, which appear conflicted about what plans represent. To date they have provided no test to determine whether a programmatic EIS is adequate.\textsuperscript{105}

\begin{itemize}
  \item \textsuperscript{100} Blumm & Bosse, supra note 79, at 151–52.
  \item \textsuperscript{102} Id.
  \item \textsuperscript{103} Id. at 1085.
  \item \textsuperscript{104} The most recent planning rule adopted by the Forest Service states that “[a]ny commitment of resources takes place only after . . . the Forest Service proposes projects or activities, analyzes their effects in the appropriate NEPA process, determines consistency with the applicable land management plan, and authorizes the final projects or activities.” National Forest System Land Management Planning, 77 Fed. Reg. 21,162, 21,172 (Apr. 9, 2012) (to be codified at 36 C.F.R. pt. 219).
  \item \textsuperscript{105} Compare Kleppe v. Sierra Club, 427 U.S. 390, 401–02 (1976) (stating that “[a] regional plan would define fairly precisely the scope and limits of the proposed development of the region,” which would allow the agency to produce a “detailed statement of the expected adverse environmental consequences of an action, the resource commitments involved, and the alternatives to it”), and Pac. Rivers Council v. Thomas, 30 F.3d 1050, 1053 (9th Cir. 1994) (finding that forest management plans “have an ongoing and long-lasting effect even after adoption” and “represent ongoing agency action”), with Friends of Yosemite Valley v. Norton, 348 F.3d 789, 800 (9th Cir. 2003) (stating that a programmatic EIS must include enough detail to inform decision making, but “site-specific impacts need not be fully evaluated until a critical decision has been made to act on site development” (quoting N. Alaska Envtl. Ctr. v. Lujan, 961 F.2d 886, 890–91 (9th Cir. 1992))), Idaho Sporting Cong. v. Rittenhouse, 305 F.3d 957, 974 (9th Cir. 2002) (stating that the determination of whether an agency action is arbitrary or capricious must be made “in the context of site specific actions, if and when they actually arise”), and Wyo. Outdoor Council v. U.S. Forest Serv., 165 F.3d 43, 50 (D.C. Cir. 1999) (finding that it is acceptable to defer NEPA obligations until the site-specific decision stage).
The question of how to deal with uncertainty in an EIS first came before the Supreme Court in 1989 with *Robertson v. Methow Valley Citizens Council.* In this case, an environmental group challenged the EIS for a proposed ski area, claiming that the Forest Service failed to adequately assess potential impacts to mule deer and air quality. In the EIS, the Forest Service explained that “due to uncertainty,” it was unable to evaluate “site specific” impacts. The Court noted that CEQ no longer required a “worst case analysis,” and explained that although prior regulations included such a requirement, “the Act itself does not mandate that uncertainty in predicting environmental harms be addressed exclusively in this manner.” CEQ replaced the “worst case analysis” rule with a requirement that when information relevant to reasonably foreseeable significant adverse impacts is not available, a federal agency must evaluate “such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.” This rule also applies to land and resource management plans, which involve even greater uncertainty than the proposed development in *Methow Valley.* Aside from its ruling on “worst case analysis,” *Methow Valley* offered little guidance to determine whether an EIS adequately addresses uncertain impacts.

In 1998 the issue of forest planning came directly before the Supreme Court in *Ohio Forestry.* The Court held that plans do not actually authorize any activities. However, the Court acknowledged that “the [p]lan’s promulgation nonetheless makes logging more likely in that it is a logging precondition; in its absence logging could not take place.” Although the Court indicated that it supported the Forest Service’s position that a programmatic EIS should require less detail than a project-level EIS, *Ohio Forestry* still left lower courts with no clear standard for determining the necessary level of detail. In sum, courts have provided very little guidance for evaluating the adequacy of a programmatic EIS.


After a decade of litigation over the EIS for the 2004 Sierra Nevada Framework, a clear rule for analyzing the impacts of a plan remains elusive. In *Pacific Rivers I,* the District Court for the Eastern District of California was persuaded that it is appropriate to defer detailed analysis until projects are

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107. *Id.* at 345–46.
108. *Id.* at 339.
109. *Id.* at 354.
110. *Id.* at 355 (quoting 40 C.F.R. § 1502.22(b)(4) (2013)).
111. See *id.*
112. See *id.*
114. *Id.* at 730.
115. See *id.*
proposed, and granted summary judgment for the Forest Service.\textsuperscript{116} On appeal, the Ninth Circuit rejected this argument, citing \textit{Kern v. Bureau of Land Management} as authority that “NEPA requires that an EIS analyze environmental consequences of a proposed plan as soon as it is ‘reasonably possible’ to do so,” whether the EIS is for a programmatic framework or site-specific plan.\textsuperscript{117} The majority of the three-judge panel viewed the management framework as a target, finding that the broad guidance of the 2004 Framework authorized more road construction, substantially increased the total acreage to be logged, and increased the amount of logging that would occur near streams.\textsuperscript{118} Therefore, the majority held that the Forest Service violated NEPA by failing to analyze impacts to trout and other fish species caused by the increased activity levels.\textsuperscript{119} This decision was later vacated and has no binding effect.\textsuperscript{120}

Neither the dissenting opinion in the Ninth Circuit, nor the district court, on remand, viewed the 2004 Framework as a target.\textsuperscript{121} The dissent in the Ninth Circuit stated that “the majority ignore[d] the tiering framework created by NEPA” and “fail[ed] to differentiate between a site-specific [EIS] and a programmatic EIS that focuses on high level policy decisions.”\textsuperscript{122} The district court found that Pacific Rivers Council’s attempt to prove irreparable harm based on an alleged increase in management activity under the 2004 Framework “founders on the fact that the record since 2004 does not reflect the vast increase in activities [it] assumed.”\textsuperscript{123} The Forest Service was able to document decreased grazing levels in the Sierra Nevada “measured both by acres grazed and Animal Unit Months” and a reduction in total miles of road, despite the increased allowance in the 2004 Framework.\textsuperscript{124} The district court found that “these facts . . . undermine[d] [Pacific Rivers Council]’s core assumption that the adoption of the 2004 Framework has and will result in increased grazing and road-building.”\textsuperscript{125} Therefore, the court held that “to the extent that there is a deficit in analysis of impacts to fish, additional analysis can be contemplated at the site-specific level before any ground-disturbing actions take place that could harm fish.”\textsuperscript{126}

\textsuperscript{117} \textit{Pacific Rivers II}, 689 F.3d at 1027 (citing Kern v. Bureau of Land Mgmt., 284 F.3d 1062, 1072 (9th Cir. 2002)).
\textsuperscript{118} Id. at 1019.
\textsuperscript{119} Id. at 1030.
\textsuperscript{120} U.S. Forest Serv. v. Pac. Rivers Council, 133 S. Ct. 2843 (2013).
\textsuperscript{121} See \textit{Pacific Rivers II}, 689 F.3d at 1034 (Smith, J., dissenting); \textit{Pacific Rivers III}, 942 F. Supp. 2d at 1021 (“The 2004 Framework itself does not directly authorize any ground disturbing activities.”).
\textsuperscript{122} \textit{Pacific Rivers II}, 689 F.3d at 1034.
\textsuperscript{123} \textit{Pacific Rivers III}, 942 F. Supp. 2d at 1027.
\textsuperscript{124} Id.
\textsuperscript{125} Id.
\textsuperscript{126} Id. at 1019.
When the Supreme Court granted the Forest Service’s petition for certiorari, the Forest Service hoped the issue of applying NEPA to management plans would finally be resolved. A clear rule would spare the parties decades of litigation over future management decisions. But Pacific Rivers Council moved to vacate the Ninth Circuit’s decision, even though the opinion appeared to be in its favor. The Supreme Court granted the motion and dismissed the case as moot. It seems unlikely that the Supreme Court would have agreed with the Ninth Circuit’s analysis, which may explain why after almost ten years of advocacy, Pacific Rivers Council moved to vacate instead of continuing to litigate its claim. The EIS for the 2004 Framework remains intact, but the question remains: how much detail about the impacts to fish and amphibians should the Forest Service have included?

II. AFTER FORTY YEARS OF UNCERTAINTY, THE FOREST SERVICE NEEDS A SOLUTION

A. Data About Past Plans Should Tell Us How Plans Are Used in Practice

At their intersection, the NFMA planning process and the NEPA planning process collide, producing acrimony between the Forest Service and other interested parties. Courts need to set clear rules in order to end the uncertainty that has produced decades of litigation, wasting everyone’s time and inhibiting effective management of the national forests. The fundamental disagreement over the level of detail required in a programmatic EIS appears to rest on different perspectives of the role of forest management plans. This Note proposes that records of management activities from past plans could provide a principled way to evaluate the adequacy of a programmatic EIS.

Contrary to the beliefs of many environmental groups, such as Pacific Rivers Council, the Forest Service asserts that many activities that could take place under a forest management plan will not actually take place, and that at the planning stage, it is impossible to know which activities will take place. The Forest Service has attempted to use the language and structure of plans to

129. Id.
130. The Supreme Court granted certiorari based on the Forest Service’s petition, which provided multiple reasons for hearing the case, including that “[t]he Ninth Circuit has repeatedly held that NEPA challenges to programmatic decisions are ripe even when they do not authorize any site-specific project,” which “conflicts with the rule applied in the District of Columbia Circuit and is in considerable tension with the decisions of this Court,” and “the Ninth Circuit’s holding that NEPA requires an agency to analyze every potential environmental effect at the first stage of a tiered decision-making process if it is reasonably possible to do so has no basis in NEPA or its implementing regulations.” U.S. Forest Service Petition for Writ of Certiorari, supra note 57, at 24.
131. See LAKE TAHOE BASIN MGMT. UNIT, supra note 48, at O-2.
show that they have no on-the-ground impacts, with mixed success.\textsuperscript{132} Data would help support their argument. Without supporting data in the record, a court has no way to objectively evaluate the accuracy of the parties’ assertions about the activities that will take place under a plan.\textsuperscript{133} If a court understands what the proposed plan represents, it will be able to objectively determine whether a detailed EIS would be feasible or valuable.\textsuperscript{134} There is currently no reliable basis for choosing between the two viewpoints.\textsuperscript{135} To settle this disagreement, or at least to end the litigation, the parties need to be able to show courts how plans are actually used.\textsuperscript{136}

Comparing the level of activity that occurred under past plans to the level of activity those plans allowed could provide a basis for determining whether a proposed plan represents a target activity level or merely defines the range of possibilities.\textsuperscript{137} Each management plan places quantifiable limits on potential activities, such as the total acres and permissible volume of timber harvesting and grazing; allowable timber harvest by tree species, size, and total sales; maximum numbers of visitor use days and recreational vehicle days per year; and miles of road that can be constructed to allow these activities to take place.\textsuperscript{138} If parties could compare the quantities specified in previous plans to the actual activities that occurred, they could identify trends showing the level

\begin{itemize}
\item \textsuperscript{132} Compare Ohio Forestry Ass’n v. Sierra Club, 523 U.S. 726, 729 (1998) (holding that the language of a forest plan did not authorize any timber harvesting), with Pacific Rivers II, 689 F.3d at 1017–18 (holding that although “frameworks are written in general terms, rather than addressing specific sites at which the logging . . . will take place,” the 2004 Framework “substantially increases the total acreage to be logged”).
\item \textsuperscript{133} In the briefing for Pacific Rivers III, the Forest Service was able to use data about levels of grazing activity and road construction to persuade the district court that the level of activity described in the 2004 Sierra Nevada Framework was not a target and that therefore the plan should not be enjoined. Pacific Rivers III, 942 F. Supp. 2d at 1034. But the Forest Service was not able to provide sufficient data to persuade the majority of the Ninth Circuit that it had adequately assessed the environmental impacts of the plan. Pacific Rivers II, 689 F.3d at 1030. This shows both that data is valuable in litigation and that more data is needed to definitively decide how much detail is required in a programmatic EIS. See id.
\item \textsuperscript{134} See Karkkainen, supra note 68, at 927 (“Most of the time we do not know the actual consequences of the action or whether the EIS predictions turn out to be accurate.”).
\item \textsuperscript{135} Compare Ohio Forestry, 523 U.S. at 729 (holding that plans do not authorize any activities), with Pac. Rivers Council v. Thomas, 30 F.3d at 1050, 1053 (9th Cir. 1994) (holding that forest management plans represent ongoing agency action).
\item \textsuperscript{136} Ultimately, data likely will not change the parties’ viewpoints on what a plan should represent. See Dan Kahan, Forward: Neutral Principles, Motivated Cognition, and Some Problems for Constitutional Law, 125 HARV. L. REV. 1, 2 (2011) (“[I]ndividuals are predisposed to fit their perceptions of policy-relevant facts to their group commitments.”). But at least data would allow courts to create a clear standard defining when a programmatic EIS is adequate, so that parties know what is required and can avoid unnecessary litigation.
\item \textsuperscript{137} Even the Forest Service relied on information from the first few plans implemented to define exactly what a forest plan does. U.S. FOREST SERV., supra note 20, at 2.
\item \textsuperscript{138} For example, the 1986 Sierra National Forest Proposed LRMP projected the average annual activities for the first decade under the LRMP to include 2,096,000 Recreation Visitor Days; 38,000 Animal Unit Months of grazing; 125,000,000 board feet of an Allowable Sale Quantity of timber; 3800 acres of regeneration harvesting, clear-cutting, and shelterwood; and thirty-eight miles of new road construction. SIERRA NAT’L FOREST, supra note 34.
\end{itemize}
of use that results under a plan. These trends would show either that a plan represents target levels of use, or that a plan merely defines a range of possibilities, many of which are not likely to occur.  

For example, the Forest Service publishes annual “Cut and Sold” reports for each national forest. Timber harvest is a key consideration in most forest plans, so this data should begin to show how forest plans are implemented. Cut and Sold reports, as the name suggests, document total revenues of timber sales and thousands of board feet harvested on each national forest each year. Forest management plans include the allowable sale quantity (ASQ) of timber. ASQ is defined as “the volume of timber that may be sold from lands identified as suitable for timber production.” The ASQ could be compared to the “sold” data from the Cut and Sold reports.

Management records from previous plans could also show courts the factors that influence actual activity levels. For example, budgetary constraints and changes in physical conditions due to fire or other natural processes could limit the activities that take place; biological research or site-specific surveys could reveal the presence of previously unknown endangered or sensitive species, further constraining allowable activities; economic factors could influence the volume of project proposals submitted to the forest supervisor; and public participation and the forest supervisor’s best judgment could also affect the authorization of projects.

For many activities, the Forest Service claims that it is impossible to predict the location or volume that will occur, but some forest plans do predict annual timber sales and include a tentative timber sale action plan. Cut and Sold reports could also be used to compare the tentative timber sales predicted in previous plans to the actual timber cut. Patterns in implementation could allow courts to evaluate the feasibility of predicting the activities and impacts that will actually result under a proposed management plan. If courts understand the level of uncertainty inherent in predicting which activities will be authorized, they will be able to determine the level of detail appropriate for a programmatic environmental analysis to satisfy the purposes of NEPA.

139. This is not to say that a mathematical calculation would allow managers to predict the actual activity level that will occur. But managers could use data to show whether plans tend to determine activity levels or whether other, future factors determine actual outcomes.
141. Id.
Courts and parties could then evaluate more objectively whether an EIS for a proposed forest plan is adequate.\textsuperscript{145} Ultimately, the Forest Service could reduce needless litigation by using historical records to support assertions of uncertainty. Including data from past plans in the administrative record would allow courts to rule on the adequacy of an EIS in a more consistent way. When evaluating the Forest Service’s conclusions, a court could rely on the supporting data to determine whether the agency’s assumptions and analysis of uncertainty are reasonable.\textsuperscript{146} Records of management activities could also assist a court in determining, functionally, when an irreversible commitment of resources has been made.\textsuperscript{147} This would allow courts to create clear rules about when a detailed EIS must be completed and the requirements for analyzing the environmental impacts of a forest plan, making outcomes more consistent and predictable for litigants.

Like the Forest Service, interested parties, including environmental and industry advocates, would likely be better off if courts provided a clear rule, based on a practical understanding of management plans, for evaluating a programmatic EIS.\textsuperscript{148} Currently, interested parties expend large sums of money and effort to attack plans that they view as defining target levels of development.\textsuperscript{149} Increased understanding about how plans are actually used may alleviate some of the interested parties’ concerns. More importantly, clarifying the standard for determining if a programmatic environmental impact assessment is adequate would allow interested parties to choose whether to focus their efforts on litigation to ensure that the agency is fulfilling its obligations, or to use the political process to change the rule. This would likely decrease time and resources spent on fruitless litigation by all parties involved, and, optimistically, the remaining litigation could ultimately improve the quality of environmental analyses of management plans.


\textsuperscript{147} Understanding functionally when an irreversible commitment of resources is made would enable courts to determine when the EIS must be complete. See Kleppe v. Sierra Club, 427 U.S. 390, 406 (1976); see also Metcalf v. Daley, 214 F.3d 1135, 1143 (9th Cir. 2000).

\textsuperscript{148} “Forest users expect the forest plans to serve many different, and even conflicting, purposes . . . [including] establish[ing] production levels for all resources.” 2 U.S. FOREST SERV., SYNTHESIS OF THE CRITIQUE OF LAND MANAGEMENT PLANNING 3 (1990). “Because timber harvesting has such extensive effects on other resources of a national forest, the allowable sale quantity established in the forest plan becomes the focal point for both industry and conservation interests. Unreliability and wide margins of error in Forest Service estimates lead interests to do their own calculations . . . [t]his has accentuated conflict between the various interests.” at 45–46.

\textsuperscript{149} See id. at 45–46.
1. Records of Management Activities are Difficult to Obtain

Data about activities that took place under past plans would be very useful to all parties involved, but unfortunately, such data is difficult to find. NFMA requires continuous monitoring and assessment to evaluate the effects of “each management system to the end that [they] will not produce substantial and permanent impairment of the productivity of the land.”150 But despite the monitoring and evaluation anticipated when the plans were written,151 information about the activities that take place under each plan is not readily available. Even where information is available, it is not always in a format that allows accurate comparison with quantities specified in the plans.

While some forests have produced comprehensive monitoring and evaluation reports documenting the activities that took place,152 it appears that many national forests do not produce these reports at all, do not produce reports on a regular basis, or do not make the reports public.153 Since 2006, Cleveland National Forest has made annual reports available online,154 but other national forests in Region 5 have not. It is understandable that some early reports are not available electronically.155 But even newer electronic reports are not always accessible.156 Because there is no centralized or consistent way to find these documents, obtaining them is tedious and time consuming.157

In specific cases, the Forest Service has tracked data for certain activities. In Pacific Rivers III, the agency was able to provide information on actual grazing activities and road miles constructed to compare to the level of activity

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150. 16 U.S.C. § 1604(g)(3)(C) (2012). The first forest plans developed pursuant to NFMA were completed in 1983. History of Forest Planning, U.S. FOREST SERV., http://www.fs.usda.gov/main/planningrule/history (last visited Nov. 9, 2013). By 1995, each national forest had completed a land and resources management plan. Id. There are 155 national forests in the United States. About Us, U.S. FOREST SERV., http://www.fs.fed.us/aboutus/meetfs.shtml (last visited Oct. 11, 2013). This means there are hundreds of management plans that have been implemented and could help inform future management decisions. Similar management plans from other agencies such as BLM or the Fish and Wildlife Service may also provide useful insight into planning and implementation.

151. “Continued monitoring and evaluation will ensure that the intent of the plan is carried out and that future public needs can be accommodated.” SIERRA NAT’L FOREST, supra note 34.


153. Working with two reference librarians from the U.C. Berkeley School of Law, three reference librarians from the U.C. Berkeley Valley BioSciences Library, and one reference librarian from UCLA, I was unable to find reports for most of the national forests in Region 5. This does not mean they do not exist, but it indicates that they are not readily accessible.


155. See, e.g., SHASTA-TRINITY NAT’L FORESTS, supra note 152.

156. See, e.g., Lassen Nat’l Forest, Forest Plan Monitoring & Evaluation (2003). According to the University of California Libraries Catalog, this document was to be made permanently available at http://www.fs.fed.us/r5/lassen/projects/monitorreport in November 2003. It is no longer available through this link or on the Lassen National Forest website.

157. In a phone conversation on September 23, 2013, the Forest Service’s Pacific Southwest Regional Office in Vallejo, California, suggested that the information is probably recorded at each national forest, but confirmed that it is not compiled or made accessible to the public.
allowed by the 2004 Framework. Records of use supported the claim that it was erroneous to assume that more of these activities would be authorized just because the planning framework allowed higher levels of activity. If resource management records were more accessible, they could be used more often to provide support for these kinds of legal claims.

2. Management Records are Difficult to Compare to Planning Documents

Even where systematic monitoring data is available, such as from the annual Cut and Sold reports for timber harvests, it can be difficult to compare the actual activities to the quantities in the plans. Forest plans set limits on the size and species of trees that can be harvested, and on the location and number of acres where harvest can occur. These quantities are not captured in Cut and Sold reports. Furthermore, some plans quantify the planned sales and ASQ in cubic feet, while Cut and Sold reports use board feet. The formula to convert cubic feet to board feet differs based on the species and diameter of the tree. Since these values are not documented in Cut and Sold reports, without additional information, it is impossible to accurately compare the predicted harvest with the actual harvest where plans document timber sales in cubic feet. To complicate comparison further, some plans cap annual timber harvest, while others cap the annual average by decade. The Forest Service attempted some standardization of ASQ calculations in the 2012 Planning Rule. Standardized planning documents and records could help with evaluation of activities that take place under future plans, but current data sets are not well suited for efficient comparison.

159. Id.
163. At least one critic has accused the Forest Service of using unit conversions to allow an increase in harvest to slip past the public unnoticed. Randal O’Toole, REVIEW OF THE KLAMATH NATIONAL FOREST PLAN 17 (1983). Even if the use of cubic feet instead of board feet is not intended to deceive, it is problematic for comparing the harvest anticipated in the plan with the actual harvest.
164. For example, Plumas National Forest projected and capped timber harvest for each year. PLUMAS NAT’L FOREST, LAND & RESOURCE MANAGEMENT PLAN app. at C (1988). Compare this with nearby Tahoe National Forest, which placed no absolute cap on timber harvest each year, instead capping the average annual timber output. TAHOE NAT’L FOREST, LAND AND RESOURCE MANAGEMENT PLAN app. at V (1990).
B. Improvements for the Future

1. Invest in the Search For Existing Data

It would be worthwhile for the Forest Service to invest in the search for information about the activities that took place under previous plans and management strategies. Even though the search will be time consuming and tedious, it will probably be less costly overall than another forty years of litigation. Additionally, the data would likely lead to more effective resource management. The Forest Service can use the results of previous plans to improve goal setting and refine limitations in future plans to achieve desired management outcomes. If the Forest Service makes the monitoring data from previous plans accessible in a centralized database, each national forest

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166. See U.S. FOREST SERV., supra note 148, at 46 (“Collecting data is an expensive and time-consuming task, and finding the money is a problem.”). But in 1990, the Forest Service recognized that increased controversy and litigation had increased the cost of preparing timber sales, led to lost sales, and forced the agency to “increase the amount of timber land” in preparation for sales. 9 U.S. FOREST SERV., SYNTHESIS OF THE CRITIQUE OF LAND MANAGEMENT PLANNING, at viii (1990). Legal challenges created uncertainty for the agency as it tried to meet its legislatively imposed obligations. Id. at 16. The agency recognized that, while “[c]ontroversy over how much to cut and the timber harvest practices is not new,” litigation did not occur at the planning level before NFMA. Id. at 11, 13. Most of the claims the agency faced were “allegations of insufficiency of NEPA compliance.” Id. at 15. To address concerns about timber supply disruption, the report recommended simplifying and clarifying the directions so that managers could produce adequate NEPA documents for forest plans. Id. at ix–x. However, the report acknowledges that “[i]t may not be possible for agency leaders to provide clear guidance until there have been enough appeals and lawsuits to determine just what the courts’ interpretations are of the requirements of NEPA.” U.S. FOREST SERV., supra note 148, at 57. Adding supporting data to an EIS to facilitate evaluation could help courts to create a clear, reasonable rule for applying NEPA’s requirements to management plans.

167. Data showing how past plans were implemented in practical terms could help the Forest Service improve its planning practices by identifying inaccurate assumptions and refining its predictive capabilities. “Monitoring and evaluation are excellent tools. They are being used to validate data and assumptions in the forest planning process and are leading us toward making better decisions,” the Forest Service claims. 8 U.S. FOREST SERV., SYNTHESIS OF THE CRITIQUE OF LAND MANAGEMENT PLANNING 9–10 (1990). “However, many forests developed unreasonable monitoring plans and/or have not done the job that was promised to the public.” Id. The Forest Service has acknowledged that effective planning is an iterative process, as, for example, in the Sierra National Forest Reader’s Guide, which explains that “[monitoring and evaluation] shows how progress in the implementation of the [plan] will be followed, and, if revision or amendment is necessary, how this is to be determined and accomplished.” SIERRA NAT’L. FOREST, supra note 34. The Forest Service also states that “[m]uch was learned during the first-round planning that can serve as the basis for improving data, procedures, and public participation in the decision[-]making process.” U.S. FOREST SERV., supra note 61, at 47.

168. In 1990, after more than a decade of planning pursuant to NFMA, the Forest Service published a synthesis of recommendations made by experts on how to improve land management planning. U.S. FOREST SERV., supra note 20, at 1. Of the 232 recommendations generated, ninety advised the Forest Service to “[t]ake steps to build on what [it] learned over the last decade to ensure that planning is conducted to consistently high-quality standards.” Id. at ix. Seven experts also recommended “[f]inding ways to broadly disseminate the results of quality control and management reviews, and decisions from appeals and litigation.” Id. at x. The report states that “the results of monitoring and evaluation can trigger changes in management if an action is not producing the desired result, or they can trigger changes in the plan itself.” U.S. FOREST SERV., supra note 148, at 60. The Forest Service now has over three decades of experience with NFMA planning to build on, but appears not to have broadly disseminated the results of reviews. Both recommendations remain relevant.
would be able to use the records to develop predictions, a necessary component of long-term resource management planning. Or, forest managers could use the data to support assertions about uncertainty and their inability to predict what will happen. Centralized access to data would decrease the cost and time commitment required for each national forest to prepare new management plans and accompanying EISs.\(^{169}\) Supporting the claims in an EIS with documentation of trends or distinguishing current circumstances from those that produced undesirable impacts in the past would further the purposes of NEPA by improving informed decision making and by improving public access to the information used in decision making.\(^{170}\) Ultimately, using supporting data to add legitimacy to management decisions could reduce litigation.\(^{171}\) The upfront costs may appear burdensome, but it seems that it would be in the Forest Service’s best interest to gather information about the impacts of past management plans.

Although there would be many benefits of gathering and analyzing data about activities implemented under past forest plans, realistically, with current budget shortages, it seems unlikely that any federal agency will voluntarily invest in the research. Perhaps a private party could help compel the Forest Service to find the data. Assuming the reports exist and are just difficult to find, an interested party with sufficient resources may be able to use the Freedom of Information Act to compel the Forest Service to compile all of the monitoring reports and annual reports maintained by each national forest.\(^{172}\) A well-financed litigant in a NEPA case may be able to use discovery to obtain the same information. Whether collecting the data is voluntary or compelled, the benefits to the Forest Service of reduced litigation and improved predictive capabilities for resource management would be great.

2. **Systematize Data Management**

The Forest Service should improve its monitoring and reporting practices for the benefit of future management and litigation. The agency should be documenting the activities taking place under current management plans in a way that is consistent, searchable, and accessible.\(^{173}\) If the data currently

169. “The systemic failure to archive resource management and environmental documents, a task that should be relatively easy given modern electronic tools, is a major leak in the information supply pipeline . . . Among other things, this particular leak forces resource managers to repeatedly re-invent the wheel, makes retrospective evaluations of prior actions virtually impossible, . . . and keeps forecasting techniques from advancing.” Holly Doremus, *Data Gaps in Natural Resource Management: Sniffing for Leaks along the Information Pipeline*, 83 Ind. L.J. 407, 438 (2008).


173. Professor Holly Doremus suggests archiving information in accessible places and useable forms, writing: “Too often, resource managers find themselves reinventing the wheel or unable to
available is insufficient to show a court what a management plan really represents, it could take years to establish a persuasive record, but if the Forest Service does not start now, the litigation may never end. Continuing blindly is not a good strategy for managing natural resources, for responsibly spending the Forest Service’s limited funds, or for avoiding future litigation.\textsuperscript{174} Even if data from previous plans can be located, it would be beneficial for the Forest Service to improve and systematize the way that it collects and manages data so the information is more accessible and useful. For example, the Forest Service should be sure to use the same units in reports as in management plans, and to provide sufficient information in the reports to allow accurate comparisons. If the Forest Service can learn nothing else from its past activities, it can at least learn the value of systematic recordkeeping.\textsuperscript{175}

\textbf{CONCLUSION}

NEPA and NFMA were both created to prevent unnecessary environmental impacts and to increase agency accountability. Unfortunately, it has never been clear how the two statutes should interact or specifically how much detail is required when an agency is analyzing the environmental impacts of a plan. Caught in between are the Sierra Nevada watersheds, the trout that depend on them, and all of the other natural features the statutes were intended to protect. After forty years of gathering data and refining the process, agencies such as the Forest Service should have found the optimal level of detail about environmental impacts necessary to make sound management plans. The Forest Service claims that it is unnecessary to analyze all possible environmental impacts of a proposed plan. But in litigation, instead of presenting analyses of real data and real impacts supporting their position, agencies and interested parties have presented ideological claims about what a plan should represent. Evaluate the success of similar management actions because information that has been gathered is not made available, or is not in a standardized format. Given modern information management and distribution tools, relatively small investments ought to be able to make a big dent in that problem.”

Doremus, \textit{supra} note 169, at 461. Forest managers also recognize the importance of maintaining information from past plans; in a 1990 survey asking whether the Forest Service had the information necessary to produce quality forest management plans, “some respondents expressed concern that current regulations imply that the plan revisions need to be zero-based or start from a position where current plans and previous participation and work are ignored.” U.S. FOREST SERV., \textit{supra} note 42, at 8.

\textsuperscript{174} Professor Karkkainen advocates going beyond mere recordkeeping improvements and “retool[ing] NEPA by requiring follow-up monitoring.” Karkkainen, \textit{supra} note 68, at 903. Recordkeeping would improve the agency’s predictive capabilities for future projects, but Karkkainen points out that sometimes, improvements are needed in existing projects. Id. at 929. “NEPA does not generally require . . . ongoing monitoring, reevaluation, or project adjustments or adaptations in response to new information or changing conditions,” Karkkainen writes, “If the preproject EIS turns out to have been mistaken about the environmental consequences of an action, the interested parties ordinarily have little recourse.” Id. at 927.

\textsuperscript{175} Despite the benefits of analyzing past data, current regulations may not provide the right incentives for the Forest Service to improve its recordkeeping. Id. at 932. To improve agency accountability and environmental protection, it may be necessary for the president or CEQ to require improved monitoring and assessment of activities on national forests.
This has left courts unsure of what management plans achieve in practice. Consequently, courts have been unable to develop clear rules for reviewing programmatic EISs to determine, for example, whether the agency adequately considered impacts to trout. To eliminate continuing legal uncertainty and to improve resource management, the Forest Service should go back to the data to develop factually supported claims about the activities and environmental impacts likely to occur under each management plan it produces. Hopefully when the next amendment to the Sierra Nevada forest plans is proposed, we will all be better prepared to evaluate and address the impacts to Lahontan cutthroat trout and the watersheds that sustain them.