

ARTICLES

The Important Role of Standards in National Forest Planning, Law, and Management

by Martin Nie and Emily Schembra

Martin Nie is Professor of Natural Resources Policy in the College of Forestry and Conservation at the University of Montana. Emily Schembra is an Associate at the Center for Natural Resources and Environmental Policy, University of Montana. The authors wish to thank the McIntire-Stennis Cooperative Forestry Research Program for its generous grant support.

Summary

A focal point in conflict over U.S. national forest management is the writing of regulations and forest plans pursuant to the National Forest Management Act. One of the most contested questions in forest planning is what role standards play and ought to play in the process. Standards are legally enforceable, binding, and mandatory requirements and constraints that are found in planning regulations or individual unit-level national forest plans. Case law and public comments reveal key issues, questions, and concerns related to the use of standards in forest planning and law.

Much of the controversy surrounding U.S. national forest management has centered on the writing of forest planning regulations pursuant to the National Forest Management Act (NFMA) of 1976.¹ These regulations shape how national forests throughout the United States are managed. The issue of how standards should be used in forest planning is a focal point in this debate. While some interests believe that enforceable standards promote accountability and ensure environmental protection, others view them as too cumbersome, onerous, and inflexible.² We observed that missing from this debate was a shared understanding of the term and how standards have actually been used by the U.S. Forest Service (USFS) in the past. We also noticed that little attention has been given to the issue of how standards might be used in a more effective fashion in the future.

This Article sets out to clarify how forest planning standards have been used in the past and how they might be used more effectively in the future. It begins by placing the issue of standards in its complicated legal and regulatory context. This background helps explain why the issue of standards will become increasingly important as roughly one-half of the national forests throughout the United States soon begin revising their land and resource management plans (forest plans), as required by the NFMA.³ We then summarize some of the key lessons to be drawn from the case law surrounding forest-planning standards. This brief review provides additional context for readers and helps explain some of the issues that are raised in subsequent sections. Following the methods section is a typology of what standards are most typically found in our sample of forest plans. This is followed by a summary of common arguments and counterarguments pertaining to standards. We finish the Article with a number of observations and recommendations.

I. Background

The U.S. National Forest System (NFS) is governed by three core laws: the Organic Act (1897),⁴ the Multiple-Use Sustained-Yield Act (MUSYA 1960),⁵ and the NFMA 1976. The latter created a three-tiered regulatory approach to planning.⁶ At the highest level, national-level NFMA

-
1. 16 U.S.C. §§1600-1687, ELR STAT. NFMA §§2-16.
 2. See *infra* Part III.
 3. National Forest System Land Management Planning, 77 Fed. Reg. 21162; 21164 (Apr. 9, 2012).
 4. Organic Administration Act of 1897 (Organic Act), Act of June 4, 1897, ch. 2, 30 Stat. 11, 34-36 (codified as amended at 16 U.S.C. §§473-482, 551 (2000)).
 5. Multiple-Use Sustained-Yield Act of 1960, 16 U.S.C. §§528-531 (2000).
 6. For a more elaborate explanation of this tiered approach, see *Citizens for Better Forestry v. U.S. Dep't of Agric.*, 341 F.3d 961, 33 ELR 20263 (9th Cir. 2003).

regulations govern the development and revision of second-tier forest plans. Site-specific projects make up the third tier of planning, and they must be consistent with the NFMA regulations and their forest plan.⁷ Forest plans typically make zoning and suitability decisions and limit and regulate various activities within a forest area, therefore acting as a gateway through which subsequent project-level proposals must pass.⁸ They do not, however, authorize or mandate site-specific projects. Instead, plans address issues such as the prioritization of various multiple use goals, the determination of which land is suitable for timber cutting along with the allowable volume of timber that could be harvested, and the choice of harvesting and regeneration methods.⁹

Born out of the clear-cutting controversies of the 1960s and 1970s, the NFMA was passed in order to better balance timber management, resource use, and environmental protection.¹⁰ Unlike the highly discretionary Organic Act and MUSYA 1960, the NFMA provides substantive and procedural planning requirements, goals, and constraints on the agency. The NFMA requires the writing of land and resource management plans by every national forest and grassland in the NFS. The law requires the incorporation of “standards and guidelines” in these unit-level plans, as applied to such things as wildlife diversity, watershed protection, and timber harvesting and silvicultural practices.¹¹

There has been considerable controversy and litigation over the writing of the NFMA planning regulations.¹² The USFS rewrote its 1982 NFMA regulations in 2000,¹³ 2005,¹⁴ and 2008.¹⁵ The George W. Bush Administration considered the 2000 regulations unworkable because of

their detailed analytical requirements and purported lack of flexibility, so these regulations were revised in 2005 and 2008.¹⁶ But these regulations were enjoined by the courts because of their failure to meet legal requirements.¹⁷ New planning regulations were then promulgated under the Barack Obama Administration in 2012.¹⁸

There are currently 127 land management plans being used in the NFS, with 68 of these plans past due for revision.¹⁹ This means that more than one-half of the national forests in the system will soon begin the process of writing revised “second-generation” forest plans. One of the most contested parts of this process will be focused on how standards are defined and applied in individual “unit-level” forest plans. As defined in the 2012 NFMA regulations: “A standard is a mandatory constraint on project and activity decisionmaking, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.”²⁰ A guideline, on the other hand, is “a constraint on project and activity decisionmaking that allows for departure from its terms, so long as the purpose of the guideline is met.”²¹

The 2012 NFMA regulations require the use of standards and guidelines in every forest plan and that they are applied to a range of resources and uses.²² But the 2012 rule also leaves some discretion to individual national forests in determining how standards will be defined and applied on the ground. How standards are used in revised forest plans will be politically contested. Our review of public comments, as discussed below, confirms that this was one of most controversial parts of the 2012 NFMA rulemaking process.²³ We also believe that there will be ample confusion regarding the role that standards have historically played in forest planning. Part of the confusion stems from the very different ways that standards have been defined and used by the USFS in the past. Some national forests, for example, used standards as simple mandatory constraints on particular uses of the forest, while others defined them in more vague and discretionary fashion.

There is a surprising lack of academic and legal literature focused on the role that standards play in forest planning. The political and legal dimensions of the NFMA, and the problems and challenges of forest planning, are covered in detail,²⁴ and some of this literature makes reference to

7. 16 U.S.C. §1604(i).
8. See Scott W. Hardt, *Federal Land-Use Planning and Its Impact on Resource Management Decisions*, 4-7 to 4-32, ROCKY MTN. MIN. L. FOUNDATION, PUBLIC LAND LAW SPECIAL INSTITUTE (Nov. 1997).
9. See generally CHARLES F. WILKINSON & H. MICHAEL ANDERSON, LAND AND RESOURCE PLANNING IN THE NATIONAL FORESTS (1987) (providing an authoritative review of NFMA's planning history and requirements); Michael J. Gippert & Vincent L. DeWitte, *The Nature of Land and Resource Management Planning Under the National Forest Management Act*, 3 ENVTL. LAW 149, 153-55 (1996) (discussing the various planning processes under the NFMA).
10. See *id.*; and MARTIN NIE, THE GOVERNANCE OF WESTERN PUBLIC LANDS: MAPPING ITS PRESENT & FUTURE (2008).
11. 16 U.S.C. §1604(c).
12. See, e.g., Courtney Schultz et al., *Wildlife Conservation Planning Under the United States Forest Service's 2012 Planning Rule*, 77(3) J. WILDLIFE MGMT. 428 (2013); Nathaniel S.W. Lawrence, *A Forest of Objections: The Effort to Drop NEPA Review for National Forest Management Act Plans*, 39 ELR 10651 (July 2009); Alyson Flournoy et al., *Regulations in Name Only: How the Bush Administration's National Forest Planning Rule Frees the Forest Service From Mandatory Standards and Public Accountability* (Center for Progressive Reform, White Paper No. 508, June 2005); and Barry R. Noon et al., *Conservation Science, Biodiversity, and the 2005 U.S. Forest Service Regulations*, 19(5) CONSERVATION BIOLOGY 1359 (2005); George Hoberg, *Science, Politics, and U.S. Forest Service Law: The Battle Over the Forest Service Planning Rule*, 44 NAT. RESOURCES J. 1 (2004); and Roger A. Sedjo, *Mission Impossible*, 97 J. FORESTRY 6 (May 1999) (part of special issue focused on the Committee of Scientists' Report).
13. National Forest System Land and Resource Management Planning, 65 Fed. Reg. 67514 (Nov. 9, 2000).
14. National Forest System Land Management Planning, 70 Fed. Reg. 1023 (Jan. 5, 2005).
15. National Forest System Land Management Planning, 73 Fed. Reg. 21468 (Apr. 21, 2008).

16. The 2008 planning regulations were necessitated by a decision holding the 2005 planning regulations in violation of the APA, NEPA, and the ESA. *Citizens for Better Forestry v. U.S. Dep't Agric.*, 481 F. Supp. 2d 1089 (N.D. Cal. 2007).
17. *Citizens for Better Forestry v. U.S. Dep't Agric.*, 632 F. Supp. 968 (N.D. Cal. 2009).
18. National Forest System Land Management Planning, 77 Fed. Reg. 21162 (Apr. 9, 2012).
19. *Id.* at 21164.
20. 36 C.F.R. §219.7.
21. 36 C.F.R. §219.7.
22. 77 Fed. Reg. 21162; 21206.
23. See *infra* Part III.
24. See, e.g., WILKINSON & ANDERSON, *supra* note 9; U.S. FOREST SERV., SYNTHESIS OF THE CRITIQUE OF LAND MANAGEMENT PLANNING (1990) (part of multi-volume collection focused on problems of forest planning); DONALD J. ELLIS & JO ELLEN FORCE, NATIONAL FOREST PLANNING AND THE NA-

particular regulations and the conflicts and controversies associated with them.²⁵ There is also a lot of literature focused on the scientific dimensions of a particular standard, such as the controversial wildlife viability standard.²⁶ But there is little literature focused on the more general role played by standards in national forest law, planning, and management.

This background helps explain three main objectives of this Article: (1) to analyze how standards have been used by the USFS in the past; (2) to create a typology of the most common forms of forest plan standards; and (3) to describe the most common arguments for and against the use of standards in forest planning. By doing so, we hope the research will provide a more common understanding and reference point for forthcoming debates over the topic. We finish with a more subjective analysis, making a number of recommendations in how we believe standards should be used in future forest planning endeavors.

A. Methods

We analyzed a purposive sample of national forest plans and plan amendments, a total of 25 plans (see Table 1). Within this sample are 19 original and revised plans and six plan amendments and strategies covering multiple national forests. The sample includes three different administrative regions of the USFS, though there is an emphasis on forests in Region 1 of the agency. This is because many of these national forests have been legally challenged on the basis of their implementation of planning standards and because of geographic proximity to the authors. This litigation provides a legal record where we could examine the differ-

ing interpretations and arguments pertaining to standards in forest planning. All of the plans cover national forests found within the jurisdiction of the U.S. Court of Appeals for the Ninth Circuit, an appellate court that hears a disproportionate share of national forest management cases, including those focused on standards. We reviewed each plan to assess how standards were defined and operationalized. From this sample, we created a typology of the most common types of standards found in forest planning, as discussed below.

We next analyzed official public comment letters submitted in response to the revising of NFMA planning regulations. We first obtained two databases of public comment, one from the 2008 NFMA planning rule, and one from the 2012 rulemaking process. The latter was filtered by the phrase “standards and guidelines,” so that we could focus on those 1,310 comments specific to this topic. We performed a similar “standards and guidelines” search using the 2008 database. These searchable databases allowed us to focus on those comments specific to the issue of standards. From these two databases, we identified and organized the most common issues, ideas, and arguments made about standards in planning. We also studied these public comments to ensure that we were not missing an important component of this debate or a recommendation with which we were not already familiar.

This research was then supplemented with interviews with forest planning participants. We identified interviewees through our reading of case law and associated materials, forest planning documents, and public comment letters. We conducted a total of 15 personal and telephone interviews in 2012 with interest group representatives, attorneys, scientists, and USFS planners and interdisciplinary team members responsible for implementing standards at the project level. We asked questions about how participants evaluated the role of standards in forest planning and how they believe standards should be used in future forest plans. We also identified people that were very familiar with a particular standard in one of the forest plans we reviewed, thus providing a reference point for our interviewees, while also allowing us to ask more specific questions.

B. Case Law

This section reviews how the judiciary generally views the use of standards in forest planning. Unless the U.S. Congress writes new forest management legislation, this case law will shape how standards are used and implemented in the future, as the 2012 regulations, like the 1982 regulations before them, continue to view standards as mandatory constraints on projects and activities.²⁷

Standards are typically understood as legally enforceable, binding, and mandatory requirements placed on the agency through either NFMA planning regulations (covering all national forests) or individual forest plans. The

TIONAL FOREST MANAGEMENT ACT OF 1976: AN ANNOTATED BIBLIOGRAPHY, 1976-1986 (Society of American Foresters, 1988); George Cameron Coggins, *The Developing Law of Land Use Planning on the Federal Lands*, 61 U. COLO. L. REV. 307, 309 (1999); Richard W. Behan, *The RPA/NFMA: Solution to a Nonexistent Problem*, 88 J. FORESTRY 20 (1990); Andy Stahl, *The Broken Promises of Forest Planning*, 15 WESTERN WILDLANDS 28 (1990); Jack Tuholske & Beth Brennan, *The National Forest Management Act: Judicial Interpretation of a Substantive Environmental Statute*, 15 PUBLIC LAND L. REV. 53 (1994); Federico Cheever, *Four Failed Forest Standards: What We Can Learn From the History of the National Forest Management Act's Substantive Timber Management Provisions*, 77 OR. L. REV. 601, 705 (1998); Michael J. Gippert & Vincent L. DeWitte, *The Nature of Land and Resource Management Planning Under the National Forest Management Act*, 3 ENVTL. LAW. 149, 153-55 (1996); Charles F. Wilkinson, *The National Forest Management Act: The Twenty Years Behind, The Twenty Years Ahead*, 68 U. COLO. L. REV. 659, 665 (1997).

25. See, e.g., Nell Green Nylen, *To Achieve Biodiversity Goals, the New Forest Service Planning Rule Needs Effective Mandates for Best Available Science and Adaptive Management*, 38 ECOLOGY L.Q. 241 (2011); Hoberg, *supra* note 12; W. Hugh O'Riordan & Scott W. Horngren, *The Minimum Management Requirements of Forest Planning*, 17 ENVTL. L. 643 (1987).

26. See, e.g., Schultz et al. and Noon et al. *supra* note 12; Barry Noon et al., *Conservation Planning for the U.S. National Forests: Conducting Comprehensive Biodiversity Assessments*, 53(12) BIOSCIENCE 1217 (2003); Michael A. Padilla, *The Mouse That Roared: How the National Forest Management Act Diversity of Species Provision Is Changing Public Timber Harvesting*, 15 UCLA J. ENVTL. L. & POL'Y 113 (1996-1997); and STEVEN R. BEISSINGER & DALE R. MCCULLOUGH (EDS.), *POPULATION VIABILITY ANALYSIS* (2002). See also F. Al Espinosa Jr. et al., *The Failure of Existing Plans to Protect Salmon Habitat in the Clearwater National Forest in Idaho*, 49 J. ENVTL. MGMT. 205 (1997) (examining why forest management plans failed to protect salmon habitat).

27. See *supra* note 18.

courts generally view standards in this fashion, and most often emphasize that “resource plans and permits, contracts, and other instruments for the use and occupancy of NFS lands shall be consistent with the land management plans.”²⁸ In other words, if a plan has standards, then subsequent actions must be consistent with that forest plan. Standards, as articulated by the court in *Swan View Coalition v. Turner*,²⁹ “operate as parameters within which all future development must take place.” Courts also make a distinction between standards and guidelines, viewing the former as “mandatory requirements” and the latter as discretionary.³⁰ We suspect that this interpretation may change in the future. This is because the 2012 regulations view both standards and guidelines as mandatory, though the latter “allows for either strict adherence to the terms of the guideline, or deviation from the specific terms of the guideline, so long as the purpose for which the guideline was included in the plan is met.”³¹

Several courts emphasize the mandatory nature of standards in the context of the Endangered Species Act (ESA).³² One of the five factors to be considered by the National Oceanic and Atmospheric Administration (NOAA) Fisheries and the U.S. Fish and Wildlife Service (FWS) in making ESA listing decisions is “the inadequacy of existing regulatory mechanism[s].”³³ Vague, voluntary, speculative, and unenforceable measures found in plans are generally not considered a sufficient “regulatory mechanism.”³⁴ On several occasions, the courts have viewed forest plan standards as constituting an “adequate regulatory mechanism” because of their binding and enforceable nature.³⁵

Also key to the courts is the exact language used in defining a standard in a forest plan. Courts assess whether a standard is defined in mandatory or discretionary terms and whether exceptions and latitude are afforded in their implementation. Whether a standard “is cast in suggestive (i.e., ‘should’ and ‘may’) rather than mandatory (e.g., ‘must’ or ‘only’) terms” is significant to the courts.³⁶

Projects proposed by a national forest can be enjoined if that forest cannot demonstrate it is in compliance with a plan standard.³⁷ This means that some standards can be written to serve as a sort of gateway through which subse-

quent projects must pass.³⁸ In some situations, the USFS may have to demonstrate that it is in compliance with a plan standard, but only when there is a clear link between the planning standard in question and the project being challenged.³⁹ This is because forest plans, according to the U.S. Supreme Court, are generally not ripe for judicial review.⁴⁰ Generally speaking, instead of challenging a plan, citizens have to wait until more site-specific projects implementing the plan are initiated by the agency. This means that plaintiffs must wait to challenge a particular project’s consistency with a plan standard.⁴¹

The legal enforceability of standards must also be considered in the context of *Norton v. Southern Utah Wilderness Ass’n (SUWA)*.⁴² In this decision, the Supreme Court ruled that “a land use plan is generally a statement of priorities; it guides and constrains actions, but does not (at least in the usual case) prescribe them.”⁴³ This decision makes it difficult to enforce some commitments made in a land use plan, like the commitment that an area “will be monitored and closed if warranted” due to motorized recreational use.⁴⁴ This sort of statement, said the Court, is not a “sufficiently discrete” action warranting judicial review.⁴⁵ The USFS has used the *SUWA* decision to “successfully insulate from judicial review a wide variety of federal actions as well as inactions.”⁴⁶ Nevertheless, the Court also states in *SUWA*, “an action called for in a plan may be compelled . . . when language in the plan itself creates a commitment binding on the agency.”⁴⁷ We believe that forest planning standards fall into this category because they represent a “clear indication of binding commitment in the terms of the plan.”⁴⁸

The case law also reveals the traditional tendency of the judiciary to defer to the USFS in how to best achieve and implement a particular standard. This is especially so in cases involving scientific uncertainty. The courts are likely to defer to the USFS in how best to implement a standard if that standard is defined in broad, aspirational, and suggestive terms. Unless clearly stated in a plan, the courts will also likely defer to the USFS in determining the methods used to implement a standard.⁴⁹ But if defined with preci-

28. 16 U.S.C. §1604(i); *Lands Council v. McNair*, 537 F.3d 981 (9th Cir. 2008).

29. 824 F. Supp. 923, 935, 24 ELR 20318 (D. Mont. 1992).

30. *Greater Yellowstone Coalition v. Servheen*, 672 F. Supp. 2d 1105 (D. Mont. 2009), citing *Miller v. United States*, 163 F.3d 591, 594 (9th Cir. 1998); *The Wilderness Society v. Bosworth*, 118 F. Supp. 2d 1082 (D. Mont. 2000).

31. 77 Fed. Reg. 21162; 21206 (Apr. 9, 2012).

32. 16 U.S.C. §§1531-1544, ELR STAT. ESA §2-18.

33. 16 U.S.C. §1533.

34. *See Oregon Natural Resources Council v. Daley*, 6 F. Supp. 2d 1139, 1153-56, 29 ELR 20514 (D. Ore. 1998).

35. *See Schultz et al.*, *supra* note 12, for a review of relevant cases; *Greater Yellowstone Coalition v. Servheen*, 665 F.3d 1015, 41 ELR 20347 (9th Cir. 2011).

36. *The Ecology Center v. Castaneda*, 574 F.3d 652 (9th Cir. 2009).

37. *Native Ecosystems Council v. U.S. Forest Service*, 418 F.3d 953 (9th Cir. 2005).

38. *Hapner v. Tidwell*, 621 F.3d 1239 (9th Cir. 2010); *Neighbors of Cuddy Mountain v. Alexander*, 303 F.3d 1059 (9th Cir. 2002).

39. *Neighbors of Cuddy Mountain v. Alexander*, 303 F.3d 1059 (9th Cir. 2002); *The Wilderness Society v. Bosworth*, 118 F. Supp. 2d 1082 (D. Mont. 2000).

40. *Ohio Forestry Ass’n v. Sierra Club*, 523 U.S. 726, 733-38, 28 ELR 21119 (1998). According to the Court, plans are “tools for agency planning and management” that “do not command anyone to do anything or to refrain from doing anything; they do not grant, withhold, or modify any formal legal license, power, or authority; they do not subject anyone to any civil or criminal liability; they create no legal rights or obligations.”

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

42. 542 U.S. 55 (2004).

43. *Id.* at 71.

44. *Id.* at 68.

45. *Id.* at 72.

46. Michael C. Blumm & Sherry L. Bosse, *Norton v. SUWA and the Unraveling of Federal Public Land Planning*, DUKE ENVTL. L. & POL’Y F. 18, 105 (2007).

47. 542 U.S. 55, 72 (2004).

48. *Id.* at 69.

49. *Lands Council v. McNair*, 537 F.3d 981 (9th Cir. 2008); *The Ecology Center v. Castaneda*, 562 F.3d 986 (9th Cir. 2009).

sion and specificity, the courts are more likely to ensure that the agency is in compliance with the standard. And if that standard is no longer considered scientifically valid by the USFS, then the appropriate path is to amend the forest plan with a new standard.⁵⁰

II. Typology of Forest Planning Standards

At the broadest level, we found three general categories of standards in the selected forest plans. Each should be considered on a continuum, with examples ranging from one end to the other.

Mandatory and Discretionary Standards. The first major distinction is between mandatory and discretionary standards. This is a confusing way to begin, because standards, as discussed above, are commonly assumed to be cast in mandatory language. But our review reveals that standards are occasionally defined in ways allowing for varying levels of discretion. Some standards, for example, encourage or discourage particular uses or activities. “Trees *should* be felled away from streams”⁵¹ and “ORV [off-road vehicle] use is not encouraged but *may* be permitted where it is currently occurring”⁵² are examples of discretionary standards.

Contrast discretionary standards to those defined in a more mandatory and restrictive fashion: “No commercial timber harvest is allowed within 100ft horizontal distance either side of Class I streams and Class II streams which flow directly into a Class I stream”⁵³ and “prohibit cutting of snags for firewood within 300 feet of any river, lake, or reservoir.”⁵⁴ These types of standards clearly prohibit and constrain certain uses and activities. Other mandatory standards require that certain lands and values, such as old growth and wildlife habitat needs, be “maintained” in specific ways.

Somewhere between these two categories are default standards that allow for exceptions. A plan, for example, can close an area for winter elk range habitat, while allowing for some undefined exceptions for access.⁵⁵ Exceptions can also be more fully articulated, explaining in more detail what sorts of exceptions can be made to a default standard and the process that must be used to make them. For example, the Inland Native Fish Strategy, which is amended to several national forest plans, requires specified buffer zones around lakes, streams, and wetlands where logging might occur.⁵⁶ However, the USFS can alter these

buffers if based on recommendations from a watershed analysis, stream reach, or site-specific review data that support the change.⁵⁷

Forest(s)-Wide and Management Area Standards. The second broad category is between standards applying to an entire national forest, or multiple national forests, and those applying to a specific management area or zone as drawn in a forest plan. The Beaverhead Forest plan, for example, uses a forest-wide prohibition on tractor yarding on slopes exceeding 45%, with some exceptions allowed.⁵⁸ Though more rare, standards can also apply to multiple forests, such as a soil quality standard that applies to all Region 1 national forests.⁵⁹ Even more broadly applied to all national forests is NFMA’s wildlife diversity standard, as defined in the law’s implementing regulations.⁶⁰

Often times, however, a standard applies to a singular management area as defined in a plan. “Chemical herbicides and pesticides will not be used within the Ashley Creek Watershed” is an example of a relatively simple and mandatory management area standard.⁶¹ Prohibiting the issuance of livestock grazing permits in a specific management area provides another example.⁶² Some management areas are also defined via plan amendments applicable to a particular species, such as the standards used by the USFS in predefined “Lynx analysis units”⁶³ or the “primary conservation area” delineated for grizzly bear recovery.⁶⁴ These types of standards help distinguish how one management area is managed in contrast to others.

Simple and Complex. Our review found standards ranging from the simple to the complex. On the simple end of the spectrum are management area standards stating that “the commercial harvest of camas is prohibited”⁶⁵ or that “livestock grazing permits will not be issued” in a management area.⁶⁶ We found numerous standards stated in similar straightforward fashion.

At the other end of the spectrum are relatively complicated and detailed standards pertaining to such things as tree snag-retention, required elk cover, and bird habitat requirements. Some of the more complicated standards pertain to managing habitat for the needs of a specific

50. Native Ecosystems Council v. U.S. Forest Service, 418 F.3d 953 (9th Cir. 2005).

51. U.S. FOREST SERV., FOREST PLAN: FLATHEAD NATIONAL FOREST II-53 (2001) (emphasis added) [hereinafter FLATHEAD PLAN 2001].

52. U.S. FOREST SERV., FOREST PLAN: CLEARWATER NATIONAL FOREST II-37 (1987) (emphasis added) [hereinafter CLEARWATER PLAN 1987].

53. U.S. FOREST SERV., TONGASS NATIONAL FOREST: LAND AND RESOURCE MANAGEMENT PLAN 4-54 (1997) [hereinafter TONGASS PLAN 1997].

54. FLATHEAD PLAN 2001, *supra* note 51, at II-36.

55. U.S. FOREST SERV., FOREST PLAN: HELENA NATIONAL FOREST II-18 (1986) [hereinafter HELENA PLAN 1986].

56. U.S. FOREST SERV., INLAND NATIVE FISH STRATEGY ENVIRONMENTAL ASSESSMENT: DECISION NOTICE AND FINDING OF NO SIGNIFICANT IMPACT (1995) [hereinafter INFISH 1995].

57. *Id.* at 3.

58. U.S. FOREST SERV., BEAVERHEAD NATIONAL FOREST PLAN: FINAL ENVIRONMENTAL IMPACT STATEMENT II-36.

59. U.S. FOREST SERV., REGION 1, FOREST SERV. MANUAL, Ch. 2500, WATERSHED AND AIR MANAGEMENT (2010).

60. 16 U.S.C. §1604(g)(3)(B); 36 C.F.R. §219.9.

61. U.S. FOREST SERV., THE LOLO NATIONAL FOREST PLAN III-4 (1986) [hereinafter LOLO PLAN 1986].

62. *Id.*

63. U.S. FOREST SERV., NORTHERN ROCKIES LYNX MANAGEMENT DIRECTION: RECORD OF DECISION (2007) [hereinafter LYNX AMENDMENT 2007].

64. U.S. FOREST SERV., FOREST PLAN AMENDMENT FOR GRIZZLY BEAR HABITAT CONSERVATION FOR THE GREATER YELLOWSTONE AREA NATIONAL FORESTS: RECORD OF DECISION (2006) [hereinafter GRIZZLY BEAR AMENDMENT 2006].

65. U.S. FOREST SERV., BEAVERHEAD-DEERLODGE NATIONAL FOREST: LAND AND RESOURCE MANAGEMENT PLAN 83 (2009) [hereinafter BEAVERHEAD-DEERLODGE PLAN 2009].

66. LOLO PLAN 1986, *supra* note 61, at III-4.

species, such as lynx and goshawks. They can be complicated because the plans often specify how the standard is to be measured and operationalized on the ground. A good example of this is provided by the standards used to conserve the northern goshawk (Queen Charlotte subspecies) on the Tongass National Forest. This standard specifies what is to be considered in determining confirmed or probable nest sites, the types of old growth nesting habitat that shall be maintained on the Tongass, and several specific requirements for timber harvests (pertaining to stand structural characteristics) depending on their size and location.⁶⁷

Within these three broad categories fall several different types of standards that are most commonly found in forest plans. They include the following.

Prioritization Standards. Several plans use standards that help prioritize some values over others. Consider, for example, two prioritization standards: “Conflicts between grazing by livestock and mountain goat in cirque basins will be resolved in favor of mountain goat”⁶⁸; and “on big game winter range and key big game summer habitat, priority will be given to big game needs.”⁶⁹ Both provide guidance to managers while allowing for some interpretation and discretion. Also within this category is what might be called a “compatibility standard.” These types of standards make clear what values and resources are most important in a management area, such as stating that “all management prescriptions will be compatible with the needs of grizzly bear . . . ,” but leave some discretion to managers in making this determination.⁷⁰

Threshold-Based Standards. Standards are sometimes defined by using quantitative thresholds that may not be crossed. We found examples ranging from water quality⁷¹ and the amount of soil disturbance allowed⁷² to the amount of forest cover required for big game.⁷³ A good example of this is provided by the standards used for lynx conservation across multiple national forests in the Northern Rockies. Some of these standards limit precommercial thinning in winter snowshoe hare habitat. One standard, for example, prohibits vegetation treatment projects “[i]f more than 30 percent of the lynx habitat in an LAU [lynx analysis unit] is currently in a stand initiation structural stage that does not yet provide winter snowshoe hare habitat,” while another prohibits timber projects on “more than 15 percent of lynx habitat on [USFS] lands within [an LAU] in a ten-year period.”⁷⁴

Mitigation Standards. Standards often require or encourage the mitigation of various actions. A soil standard, for example, may require mitigation and restoration in an activity area where existing conditions of detrimental disturbance to soil exceed 15%.⁷⁵ “Logging in sensitive areas requires special considerations and mitigating measures” is an example of a more discretionary and open-ended standard.⁷⁶ Standards may also require development of mitigation measures prior to project approval. For example, a management area project proposal “will be analyzed and evaluated to determine the potential water quantity and quality impacts. Mitigation measures will be developed to minimize adverse effects. If the unacceptable effects can not be adequately mitigated, the project will be redesigned or abandoned.”⁷⁷

Process-Based Standards. One of the most common types of standards used in planning regards how decisions must or ought to be made by the agency. This type of standard may require consultation with wildlife agencies “whenever conflicts between wolves and livestock arise,”⁷⁸ or to consult with tribal governments regarding various management decisions. They may also require the USFS to coordinate or cooperate with other agencies or landowners. There are also some information-generating standards that are procedural in nature, such as requiring cultural resource inventories or certain types of economic analyses before certain decisions can be made.

Management Method Standards. Several plans we reviewed use standards as a way to define the methods and protocols that must or should be used by the USFS in various situations, such as the methods to be used to prevent the spread of noxious weeds⁷⁹ or the size of mesh most appropriate for intake hoses.⁸⁰ A plan, for example, may require fences in antelope range to have a “smooth bottom wire which is at least 18 inches above the ground.”⁸¹

III. Arguments and Counterarguments

We read and organized public comments submitted as part of the 2008 and 2012 NFMA planning rulemaking processes and supplemented this with personal interviews with planning participants.⁸² Our research revealed significant differences of opinion regarding the role standards ought to play in forest planning. As expected, standards often served

67. TONGASS PLAN 1997, *supra* note 53, at 4-89.

68. U.S. FOREST SERV., LAND AND RESOURCE MANAGEMENT PLAN FOR THE SAWTOOTH NATIONAL FOREST IV-49 (1987) [hereinafter SAWTOOTH PLAN 1987].

69. U.S. FOREST SERV., FOREST PLAN: IDAHO PANHANDLE NATIONAL FORESTS II-31 (1987) [hereinafter IDAHO PANHANDLE PLAN 1987].

70. LOLO PLAN 1986, *supra* note 61, at III-30.

71. CLEARWATER PLAN 1987, *supra* note 52, app. K.

72. U.S. FOREST SERV., SAWTOOTH NATIONAL FOREST: LAND AND RESOURCE MANAGEMENT PLAN III-21 (2003) [hereinafter SAWTOOTH PLAN 2003].

73. HELENA PLAN 1986, *supra* note 55, at II-17.

74. LYNX AMENDMENT 2007, *supra* note 63, att. 1, p. 3.

75. U.S. FOREST SERV., PAYETTE NATIONAL FOREST: LAND AND RESOURCE MANAGEMENT PLAN III-21 (2003).

76. FLATHEAD PLAN 2001, *supra* note 51, at II-45.

77. HELENA PLAN 1986, *supra* note 52, at III-65.

78. U.S. FOREST SERV., NEZ PERCE FOREST PLAN II-19 (1987).

79. SAWTOOTH PLAN 2003, *supra* note 72, at III-36.

80. U.S. FOREST SERV., BOISE NATIONAL FOREST LAND AND RESOURCE MANAGEMENT PLAN II-14 (2003).

81. SAWTOOTH PLAN 1987, *supra* note 72, at PR134348.

82. See methods review, *supra* Part I.A.; and National Forest System Land Management Planning, 76 Fed. Reg. 8480 (proposed Feb. 14, 2011) (to be codified at 36 C.F.R. pt. 219); National Forest System Land Management Planning, 72 Fed. Reg. 48514 (proposed Aug. 23, 2007) (to be codified at 36 C.F.R. pt. 219).

as a surrogate for more inclusive issues and controversies, with some groups using the standards issue as an opportunity to provide more general feedback and criticism regarding national forest management. On a very simplified level there is a pro-standards camp and a critical-of-standards camp. Of course, there is important nuance within each argument, and we cannot do justice to the details here. Instead, our goal is to place the issue of standards in its more political context, outlining the broad contours of the debate. We generalize and simplify each argument in turn below. Some of the arguments and themes introduced here are revisited in the following section.

The pro-standards argument is that standards ought to play an essential role in planning because they promote political and legal accountability and help protect national forests from various commodity and recreational uses that could cause environmental harm. Commonly argued is that standards can be measured,⁸³ legally enforced,⁸⁴ and that they provide more certainty about future management actions.⁸⁵ Without meaningful standards, some interests believe that environmental protections will give way to other agency pressures and priorities.⁸⁶

This side is generally skeptical of providing increased discretion to the USFS in how to implement NFMA planning regulations and associated forest plans.⁸⁷ Instead, it advocates for more specific and environmentally protective standards,⁸⁸ and for these standards to apply to multiple resources and uses of the national forests, from watershed/riparian protection to route (road and motorized trail) density.⁸⁹ This camp generally views standards as a way to prevent or mitigate environmental harm and as a means to achieve other planning objectives, such as restoring watersheds,⁹⁰ increasing resilience,⁹¹ or providing ecosys-

tem services.⁹² To ensure these constraints work and objectives are met, there is also widespread support for more certain and rigorous monitoring by the agency.⁹³

Also commonly argued is that standards should be applied at multiple levels of planning, from NFMA regulations to individual management areas. Several groups, for example, sought a NFMA planning rule that would include various national-level standards that would apply throughout the NFS.⁹⁴ Some groups, for example, advocated for numerous default standards that would apply to watershed protection, such as mandatory buffer widths for water bodies and route-density standards to achieve sediment reduction.⁹⁵

Such baseline standards, it is said, promote national consistency and prevent some units in the NFS from opting out and disregarding national-level planning direction. The concern is that without national baseline standards, some forests will write plans lacking any meaningful safeguards at all.⁹⁶

At the same time, many groups also advocate that standards be applied at the forest level because of the unique attributes of individual national forests and the variation among them.⁹⁷ Another common argument is to have more standards being applied to more resources in particular management areas of a forest. Many people see this as an important way to distinguish one management zone from another, and perhaps with greater specificity than when standards are applied only at the forest level.⁹⁸

On the other side of the debate are those people generally skeptical of planning standards because of the difficulties and inefficiencies often associated with writing and then applying them on the ground. Many commenters on the 2012 planning rule focused on what they view as a complex, cumbersome, and expensive planning process that would bog the agency down in endless analysis.⁹⁹

Standards are often viewed as a legal weapon used by environmental groups to stop various activities on the

83. See, e.g., Notice of Intent to Prepare an Environmental Impact Statement for a National Forest System Land Management Planning Rule, 74 Fed. Reg. 67165 (Dec. 18, 2009) (statement of Earthjustice) [hereinafter 2009 NOI] (letter on file with authors).

84. See, e.g., U.S. FOREST SERV. DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT: NATIONAL FOREST SYSTEM LAND MANAGEMENT PLANNING (2011) (statement of Defenders of Wildlife) [hereinafter USFS DEIS 2011] (public comment database on file with authors).

85. See, e.g., USFS DEIS 2011 (statement of California Attorney General's Office) (suggesting that flexibility may result in uncertainty, which is "unacceptable" when "restoration and sustainability of one of our nation's greatest natural resources is at stake").

86. See, e.g., USFS DEIS 2011 (statement of Richard Spotts) (stating, "history has shown that they [Forest Supervisors] are overall too subject to local commodity interests and political pressure," and "by making forest planning standards more specific, measurable, and enforceable it would . . . give forest supervisors a much improved ability to say 'no' when necessary to local commodity interests and political pressure").

87. See, e.g., USFS DEIS 2011 (statement of Oregon Wild).

88. See, e.g., USFS DEIS 2011 (statement of The Wilderness Society) (advocating for specific standards for fire management).

89. *Id.* (arguing, "... it is essential that the agency require responsible officials to establish route density standards for all management areas including . . . priority watersheds, riparian areas, and important wildlife areas").

90. See, e.g., USFS DEIS 2011 (statement of Portland Water Bureau) (advocating in favor of watershed standards for biological and biophysical connectivity of key watersheds, limits on road densities, and other protections).

91. See, e.g., USFS DEIS 2011 (statement of American Rivers) (discussing the importance of standards in "maintaining, protecting, and restoring healthy, resilient watersheds").

92. See, e.g., USFS DEIS 2011 (statement of Restore Mt. Hood Campaign) (suggesting that clear standards are necessary to ensure conservation objectives are met, such as "well-distributed ecological functions and ecosystem services").

93. See, e.g., USFS DEIS 2011 (statement of Center for Biological Diversity) (explaining that "protective, objective, and enforceable" standards can help ensure that monitoring objectives are carried out).

94. See, e.g., USFS DEIS 2011 (statement of Southern Environmental Law Center).

95. See, e.g., USFS DEIS 2011 (statement of Defenders of Wildlife) (joining many organizations to advocate for a national minimum default riparian buffer width and other national-level protections).

96. See, e.g., USFS DEIS 2011 (statement of World Temperate Rainforest Network).

97. See, e.g., USFS DEIS 2011 (statement of Ruffed Grouse Society) (refuting calls for a national minimum default riparian buffer and discussing the need for spatial and temporal management flexibility).

98. See, e.g., USFS DEIS 2011 (statement of The Wilderness Society) (explaining, "The delineation of standards and guidelines by management area provides an effective method for targeting specific standards and guidelines to specific geographic areas, rather than having to rely on generic standards and guidelines in a more one-size-fits-all approach.").

99. See, e.g., USFS DEIS 2011 (statement of American Forest and Paper Association) (urging the agency to consider costs prior to placing cumbersome requirements on itself that may not be financially achievable).

national forests.¹⁰⁰ This is a key reason, for example, why there has been so much acrimony over the wildlife viability standard, as this provision has been extensively used as a way to challenge USFS decisions and projects.¹⁰¹ This argument also explains why many groups critical of standards are also opposed to treating guidelines, which have historically been viewed as discretionary, as mandatory constraints that can be legally enforced.¹⁰² Associated with this argument is that standards are essentially “de facto regulations” that are not subject to congressional review. Testimony provided on behalf of the American Forest Resource Council and Federal Forest Resource Coalition provided language that we found repeatedly in the public comment:

By creating Forest Plan “standards,” a planning team is able to impose significant, costly, and unsupported restrictions on resource management that have the effect of regulations (i.e., the force of law) . . . Compliance with forest plan standards is the centerpiece of many lawsuits challenging projects that implement a forest plan . . . So if there is a dispute over whether a particular project complies with a forest plan standard such as providing for “ecological sustainability” then it ends up in the courts where the judges decide what the standard means and whether a project violates the standard.¹⁰³

It is also commonly argued that the national forests are too variable for national “one-size-fits-all” planning standards. Such constraints, it is said, limit the ability of professional resource managers to adapt to new circumstances, such as changed environmental and market conditions.¹⁰⁴ If standards are used, some groups want them applied at the most local level possible, so that they can be tailored to fit particular places and projects. Some believe that it is far more useful to have project-specific environmental analysis rather than spending time developing forest-level standards that are often more generic in nature.¹⁰⁵

Several groups also question the logic behind the 2012 rule’s requirement that the responsible official “shall use the best available scientific information to inform the planning

process. . . .”¹⁰⁶ We discuss this provision in more detail below. But the general concern here is that the agency’s use of standards will get mired in the “science wars” that have come to characterize disputes related to the ESA.¹⁰⁷ Within this theme are also questions and skepticism about monitoring and how scientific uncertainty can be used to prevent any management actions on the national forests.¹⁰⁸

Administrative discretion is another large part of the critical-of-standards argument. Many groups complain that the USFS is unwisely ceding the discretion it has in managing the national forests. Several groups, for example, asked why the agency would impose on itself the requirement to use standards or guidelines in ways that go beyond the minimal requirements imposed by the NFMA.¹⁰⁹ This is especially bewildering to some commenters, and legal counsel, who believe that the USFS is abandoning significant legal victories that have secured greater discretion for the agency.¹¹⁰

Though discretion is a major part of the critical-of-standards narrative, for some groups, it does not apply to all uses of the national forests. We found, for example, that many of those groups critical of standards asked for more certainty (and *less* discretion) in the management of particular resources and uses of forests.¹¹¹ Accountability and specific metrics were needed, according to some public commenters, but they should be applied to multiple use objectives such as how many board feet of timber will be cut per year.¹¹²

Stepping back, it is easy to see how the debate over the appropriate use of standards parallels other long-running debates over forest management. First, is the ever-present tension between legal prescription and administrative discretion, a theme dating back to the writings and politics of the first Chief of the USFS, Gifford Pinchot.¹¹³ This is a foundational tension in federal lands management of which the debate over standards perfectly exemplifies. The standards debate also brings to the fore, once again, tensions between national versus more localized decisionmaking.¹¹⁴ On the one hand are those advocating the virtues of

100. See, e.g., USFS DEIS 2011 (statement of Blue Ribbon Coalition) (describing the wildlife viability standard as a “litigation magnet” and describing other planning requirements as “legal nightmares”).

101. See Schultz et al., *supra* note 12; Anna M. Seidman & Douglas S. Burdin, *Forest Wildlife Management: A Legal Battleground for a Scientific Dilemma*, 20 NAT. RES. & ENV’T 40, 41 (2005).

102. See, e.g., USFS DEIS 2011 (statement of Blue Ribbon Coalition) (asserting that “Courts have taken numerous opportunities to reject arguments that the Forest Service was under a legal obligation to follow a plan guideline and the Agency should not take this opportunity to throw away the precedence that guidelines are discretionary where standards are mandatory.”).

103. Forest Service Regulatory Roadblocks to Productive Land Use and Recreation: Proposed Planning Rule, Special-Use Permits, and Travel Management: Oversight Hearing Before the House Comm. on Natural Resources, Subcomm. on National Parks, Forests and Public Lands, 112th Cong. (2011) (statement of Scott W. Horngren, Attorney, American Forest Resource Council and Federal Forest Resource Coalition).

104. See, e.g., USFS DEIS 2011 (statement of Council of Western State Foresters).

105. See, e.g., USFS DEIS 2011 (statement of state of Alaska) (explaining that standards and other requirements “should be determined by local conditions and the objectives of the plan for a particular forest”).

106. 36 C.F.R. §219.3.

107. See Eugene H. Buck et al., *The Endangered Species Act and “Sound Science,”* Congressional Research Service Report RK32992 (2007); Holly Doremus, *The Purposes, Effects, and Future of the Endangered Species Act’s Best Available Science Mandate*, 34 ENVTL. L. 397 (2004); J.B. Ruhl, *The Battle Over Endangered Species Act Methodology*, 34 ENVTL. L. 555 (2004).

108. See, e.g., USFS DEIS 2011 (statement of Minnesota Mining Association) (insisting, “the process [to determine what is best available science] will be rife with controversy, confusion, and . . . fertile ground for litigation”).

109. See, e.g., USFS DEIS 2011 (statement of American Forest and Paper Association).

110. See, e.g., USFS DEIS 2011 (statement of Blue Ribbon Coalition) (arguing that the proposed forest planning rule disregards the legal ground gained in *Lands Council v. McNair*, 537 F.3d 981 (9th Cir. 2008)).

111. See, e.g., USFS DEIS 2011 (statement of Sustainable Northwest).

112. See, e.g., USFS DEIS 2011 (statement of Minnesota Forest Industries).

113. See, e.g., Federico Cheever, *The United States Forest Service and National Park Service: Paradoxical Mandates, Powerful Founders, and the Rise and Fall of Agency Discretion*, 74 DENV. U. L. REV. 625-48 (1997); PAUL W. HIRT, *A CONSPIRACY OF OPTIMISM: MANAGEMENT OF THE NATIONAL FORESTS SINCE WORLD WAR II* (1994); and NIE, *supra* note 10.

114. See, e.g., Robert B. Keiter, *Public Lands and Law Reform: Putting Theory, Policy, and Practice in Perspective*, 2005 UTAH L. REV. 1127 (2005) (reviewing the prevalence of this theme in federal lands management).

national consistency and federal baseline standards versus those who would rather see management devolve as much as possible to localized levels, especially when those local levels are perceived to be more amenable to commodity production. This tension is visible in several high-profile forest conflicts, from the national level roadless rule to the writing of planning regulations.

Some political context is worth noting at this point as well. Clearly evident in several comment letters, and our interviews, is a considerable amount of mistrust in the USFS. Part of this stems from the NFMA planning rules that were promulgated in 2005 and 2008. These regulations were very controversial, partly because they failed to incorporate the use of standards and other environmental protections and were seen by some interests as providing an unlawful amount of discretion to the USFS.¹¹⁵ These regulations stalled in the courts, and were eventually replaced by the 2012 regulations, but some cynicism and mistrust still linger.

IV. Analysis and Recommendations

A. Why Standards?

Before proceeding with recommendations, we must ask an important question: why would the USFS impose on itself binding and enforceable standards? As discussed earlier, the agency has some discretion in deciding how standards or guidelines will be applied in forest plans. Several national forests have also faced numerous appeals and lawsuits that were based on projects and activities being inconsistent with plan standards. Why, then, would the USFS willingly constrain itself in the future?

The first response to this question is a legal one. The NFMA requires that standards and guidelines be used to “insure” the protection of various resources such as soil, watershed conditions, and wildlife diversity.¹¹⁶ Merriam Webster defines the term “insure” as “to make certain especially by taking necessary measures and precautions.”¹¹⁷ Standards are the only planning component that can adequately insure such protection because of their binding and enforceable nature. Other planning components, such as objectives and desired future conditions, are important but cannot insure protection because of the discretion they afford in implementation.

In writing the 1982 regulations, the agency limited the scope of the environmental impact statement to standards and guidelines “because those are the only elements . . . that could significantly affect the environment.” In response to questions asked of the decision, the agency

responded in the preamble, “[a]ny other planning guidance not reflected in standards and guidelines would have no predictable effect on the environment, but would simply add additional procedural direction.”¹¹⁸

Similar logic should be applied to the 2012 planning regulations. The regulations make clear that every forest plan must include standards as one of five plan components.¹¹⁹ They also require every plan to provide for social, economic, and ecological sustainability. To do so, the regulations require standards or guidelines be used “to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area,” with more specific requirements pertaining to such things as water resources and riparian areas.¹²⁰ The regulations also require that plan components “must ensure” the protection of various resources and values in the context of timber harvesting and the management of recommended wilderness areas and wild and scenic rivers.¹²¹ Standards are the only plan component that can ensure that the planning mandates found in the 2012 NFMA regulations are satisfied.

Planning efficiency is a second reason why national forests should embrace the use of standards when writing future plans. This may sound counterintuitive to some readers who believe that standards inevitably lead to “analysis paralysis” and planning inefficiencies. We are sympathetic to this critique, and in no way wish to add to what is already a time-consuming and complicated planning process, but our research and interviews did not identify standards as being the cause of this problem. To the contrary, standards can actually facilitate the implementation of forest plans. This is because a forest plan standard, applied at the forest or management area level, eliminates the need for interdisciplinary (ID) planning teams to write project-specific standards—over and over again. In fact, some of the most pro-standard arguments we heard in our interviews came from USFS planning team members who saw standards as facilitating project implementation because ID teams did not have to constantly negotiate the application of project-specific rules and constraints.

Standards can also lead to efficiencies in forest management outside of the planning process, especially as they apply to ESA consultation. Section 7 of the ESA requires federal agencies to undergo consultation with the federal wildlife agencies to ensure their projects will not cause jeopardy to a listed species.¹²² Courtney Schultz and others review several cases in which NOAA Fisheries and the FWS made no-jeopardy determinations because a forest plan contained sufficient standards and other regulatory mechanisms to protect the species.¹²³ In some cases, moreover, the courts have allowed particular wildlife standards to serve as a surrogate approach to ESA consultation. With lynx standards, for example,

115. See, e.g., 2009 NOI (statement of Sierra Club et al.) (joining with a coalition of 30 environmental organizations to explain: “Recent rulemaking efforts failed, in large part, because they sought to move away from this robust statutory mandate for prescriptive forest plans and to replace it with standardless ‘aspirational’ documents.”).

116. 16 U.S.C. §1604.

117. “insure.” [Def. 2] Merriam Webster Online Dictionary (2013), <http://www.merriam-webster.com/dictionary/insure> (last visited Feb. 25, 2014).

118. 47 Fed. Reg. 43026.

119. 36 C.F.R. §219.7.

120. 36 C.F.R. §219.8.

121. 36 C.F.R. §219.10-11.

122. 16 U.S.C. §1536(a)(2).

123. See Schultz et al., *supra* note 12.

the USFS does not need to engage in consultation on a project-by-project basis if those projects comply with the USFS' lynx standards.¹²⁴ Similarly, we found NOAA Fisheries equating Aquatic Conservation Strategy consistency with no-jeopardy findings, a practice that has satisfied the courts.¹²⁵ This is not an endorsement of the surrogate approach, but it shows one possible way that standards can facilitate §7 consultation.

Standards can also create efficiencies by either eliminating the need for additional resource-specific planning processes or by reducing the scope of analysis required by these processes. Consider some of the recently litigated travel management plans prepared by the USFS.¹²⁶ Some of the issues addressed in these travel plans could have been dealt with by using forest plan standards. The Lolo Forest plan provides an example. Because the Lolo utilized forest planning standards to restrict motorized use, "a forest-wide travel management plan was not necessary."¹²⁷

Politics provides the third reason why the USFS should employ standards when writing future forest plans. Our interviews and analysis of public comment make clear that many planning participants want a greater degree of certainty and predictability in forest plans and view standards as a means to this end. Of course, plans, by their very nature and context, can never provide the degree of certainty that some political actors desire. Uncertainty is inherent in all planning endeavors. But standards can provide increased certainty because participants understand, a priori, the fundamental rules of the game.

Also worth considering in this context is the deep level of dissatisfaction that many actors have in the forest planning process. Such frustrations were particularly evident when the 2005 and 2008 planning regulations were in effect, as these regulations viewed plans not as decisionmaking documents, but rather as "strategic and aspirational" in nature.¹²⁸ Standards were not required in these rules, and the USFS generally emphasized that other planning components were not "commitments or final decisions."¹²⁹ This emphasis on discretion, and the resulting dissatisfaction, is one reason why so many interests are pursuing "place-based" forest legislation and more formalized agreements with the USFS, as they are searching for increased certainty and "zones of agreement" as applied to such things as environmental protection, restoration,

and timber supply.¹³⁰ For instance, a common characteristic of several collaborative agreements focused on forest management is their use of specific management areas and the rules associated with what can and cannot happen in each one of them.¹³¹ Some of these rules perform the role of standards by constraining activities such as providing definitive sideboards for restoration activities (e.g., old growth protections and road density standards). These developments show that standards, or standard-like rules, resonate with a cross-section of interests who participate in forest management.

The ESA provides our final answer as to why the USFS should impose on itself binding and enforceable standards. Forest plan standards play a significant role in decisions to list or delist a species under the ESA. One of the five factors to be considered by NOAA Fisheries and the FWS in making ESA listing decisions is "the inadequacy of existing regulatory mechanism[s]."¹³² Vague, voluntary, speculative, and unenforceable measures found in plans are generally not considered a sufficient regulatory mechanism.¹³³ Instead, federal wildlife agencies and the courts typically assess whether a plan contains specific and legally enforceable standards having regulatory force.

Schultz and others provide several examples where forest plan standards, or the lack thereof, played significant factors in decisions to list or not list a species under the ESA.¹³⁴ In some cases, for example, a species was listed in part because a forest plan failed to provide sufficiently certain, binding, and detailed protection to a species to count as an adequate regulatory mechanism (e.g., Canada lynx [*Lynx canadensis*] and the greater sage grouse [*Centrocercus urophasianus*]). While in other cases, a species was not listed because of specific standards found in a forest plan (e.g., Queen Charlotte goshawk [*Accipiter gentilis laingi*]). And in more rare cases, a species was delisted, or proposed for delisting, partly because of species-specific standards incorporated into governing forest plans (e.g., Robbin's cinquefoil [*Potentilla robbinsiana*] and Yellowstone distinct population segment of grizzly bears [*Ursus arctos horribilis*]).

On the national forests, there are currently 430 species that are listed under the ESA as threatened or endangered and an additional 60 species that are candidates for listing.¹³⁵ The number of ESA listing decisions will significantly increase in the future, given a 2011 settlement between the FWS and environmental groups which

124. *Friends of the Wild Swan v. U.S. Forest Serv.*, CV 11-125-M-DWM (D. Mont. 2012).

125. *Pacific Coast Federation v. National Marine*, 265 F.3d 1028, 1034-35 (9th Cir. 2001).

126. See, e.g., *Idaho Conservation League v. Guzman*, 766 F. Supp. 2d 1056, 41 ELR 20090 (D. Idaho 2011); *Montana Wilderness Association v. McAllister*, 666 F.3d 549, 41 ELR 20352 (9th Cir. 2011); and *Russell Country Sportsman v. U.S. Forest Serv.*, 668, F.3d 1037, 41 ELR 20314 (9th Cir. 2011).

127. U.S. Forest Serv., Lolo National Forest, *Motor Vehicle Use Map Available at Ranger Districts* (News Release, Oct. 14, 2013). See also *Montana Snowmobile Ass'n v. Wildes*, 103 F. Supp. 2d 1239, 30 ELR 20381 (D. Mont. 2000).

128. 70 Fed. Reg. 1023, 1032 (Jan. 5, 2005).

129. *Id.* at 1057.

130. Martin Nie, *Place-Based National Forest Legislation and Agreements: Common Characteristics and Policy Recommendations*, 41 ELR 10229 (Mar. 2011).

131. *Id.*

132. 16 U.S.C. §1533.

133. See, e.g., *Oregon Natural Resources Council v. Daley*, 6 F. Supp. 2d 1139, 1153-56, 29 ELR 20514 (D. Ore. 1998). See generally Courtney Schultz & Martin Nie, *Decision-Making Triggers, Adaptive Management, and Natural Resources Law and Planning*, 52 NAT. RESOURCES J. 443 (2012) (reviewing related case in the context of adaptive management).

134. Schultz et al., *supra* note 12.

135. U.S. Forest Serv., Biological Assessment of the U.S. Department of Agriculture National Forest System Land Management Planning Rule for Federally Listed Endangered and Threatened Species, Species Proposed for Federal Listing, Species That Are Candidates for Federal Listing on National Forest System Lands (Wash., D.C. 2011), 14.

require the agency to make listing decisions for over 800 species, including 262 candidate species.¹³⁶ Altogether, it is possible that another 1,000 listing decisions will have to be made by 2020.¹³⁷ For these reasons, we believe that the ESA will figure more prominently in national forest management in the future. This context provides further incentive for the USFS to use wildlife-based standards as they will likely factor in future decisions to list or not list species in the future.

B. Recommendations

In this section, we offer some recommendations in how we believe standards ought to be used when writing second-generation forest plans. We also raise a number of issues and questions that we hope will be considered in future planning endeavors. It is beyond the purview of this Article, and our professional capabilities, to offer science-based recommendations regarding what standards ought to apply to specific values, resources, and species, such as the most effective standards for riparian protection, road density, or elk security. Instead, we focus on more policy, planning, and process-based issues that we hope will be considered in the future.

I. On Writing Standards

The first recommendation pertains to how standards should be written and not written in the future. Our review of forest plans shows some inconsistent and sometimes problematic writing of standards. As shown above, some forests used standards as they are commonly understood, as clear-cut binding constraints on agency actions. But some forests used standards in more curious ways, such as writing standards that were merely suggestive or discretionary in nature. This inconsistency explains why there has been some disagreement and misunderstanding of the term by planning participants. Some of this inconsistency stems from the lack of national-level guidance provided to planning teams during the writing of first-generation forest plans.¹³⁸ We believe such guidance is necessary for the writing of plan revisions and that this guidance could be provided in the agency's Directive System or via more informal ways. However accomplished, some national, or even regional-level, direction pertaining to standards could facilitate the writing of plan revisions while providing greater consistency among them. For example, USFS Region 2 national forests maintain consistency by following a regional guide that provides a "menu of standards and guidelines" for use during plan revisions.¹³⁹

To be considered in this context is a recommendation to not use discretionary standards. In our view, a discretionary standard is an oxymoron. Discretionary language is more appropriately used in other plan components, such as stating desired future conditions. It also makes little sense to write standards in a way that simply restate preexisting legal or regulatory requirements. Instead, standards should be written so that they serve as a link and clearly assist the agency in achieving its legal mandates, such as ESA §7 consultation requirements,¹⁴⁰ Clean Water Act (CWA)¹⁴¹ §404 regulations, or maintenance of wilderness characteristics pursuant to the Wilderness Act (1964).¹⁴² A standard, for example, can be written so that it serves as a clear linkage to protecting the characteristics of an area that is recommended for wilderness designation. The Kootenai National Forest, for example, links the goal of "retaining the wilderness characteristics and values . . ." of a recommended wilderness area¹⁴³ with a standard stating all rehabilitation projects will protect wilderness values by "using only native species for revegetation."¹⁴⁴ Using standards in this fashion—as a means to an end—will also explain to the public why a particular standard is being used and what purpose it serves.

We also recommend that special attention be paid to how the measurement and analysis of particular standards will be accomplished at the project level. This will be most necessary when writing relatively complex standards, and especially when thresholds are used. Much of the case law we reviewed hinges on how a standard applied to a resource is measured by the USFS, spatially and temporally. Measuring compliance with elk, road density, and soil standards provide examples. In *Native Ecosystems Council v. USFS*,¹⁴⁵ the court found the agency's measurement of an "elk herd unit" impermissible because it measured hiding cover by excluding private and nonfederal lands from the elk herd's range and hiding cover calculations. In a similar case, the court described the agency's methods to measure compliance with elk standards as "numerical acrobatics."¹⁴⁶

Measuring a road density standard is similarly contingent upon the spatial definition of a landscape, especially if the base from which a road density standard is measured includes large roadless areas. For example, a management area standard may require a certain "average road density" or "net density." In the "average road density" scenario, the impact of a project overlapping several management areas

140. 16 U.S.C. §1536(a)(2); see Gippert & DeWitte, *supra* note 24 (explaining how consultation is one mechanism that may harmonize NFMA and ESA requirements).

141. 33 U.S.C. §§1251-1387, ELR STAT. FWPCA §§101-607.

142. PETER LANDRES ET AL., U.S. DEPT OF AGRIC. FOREST SERV., GEN. TECHNICAL REP. NO. RMRS-GTR-212, KEEPING IT WILD: AN INTERAGENCY STRATEGY TO MONITOR TRENDS IN WILDERNESS CHARACTER ACROSS THE NATIONAL WILDERNESS PRESERVATION SYSTEM 4 (2008) (explaining legal requirements related to wilderness character).

143. U.S. FOREST SERV., KOOTENAI NATIONAL FOREST PLAN, VOLUME 1 III-33 (1987) [hereinafter KOOTENAI PLAN 1987].

144. *Id.* at III-34.

145. *Native Ecosystem Council v. USFS*, 418 F.3d 953, 963 (9th Cir. 2005).

146. *Helena Hunters and Anglers v. Tidwell*, 841 F. Supp. 2d 1129, 1143 (D. Mont. 2009).

136. Center for Biological Diversity, *Historic 757 Agreement: One Year Later*, EARTH ONLINE, <http://www.biologicaldiversity.org/publications/earthonline/endangered-earth-online-no625.html> (last visited Feb. 25, 2014).

137. Jason C. Rylander, *Recovering Endangered Species in Difficult Times: Can the ESA Go Beyond Mere Salvage?*, 42 ELR 10017, 10018 (Jan. 2012).

138. 36 C.F.R. §219.1 (1982).

139. U.S. Forest Serv., Region 2, Regional Desk Guide (2003) (unpublished guide, on file with authors).

may not be accounted for unless the average road density standard is exceeded in an entire individual management area.¹⁴⁷ Similarly, if a forest is limited to “no net increase” in permanent road or trail density, the forest has latitude to build temporary roads or increase density in some locations without affecting overall net density.¹⁴⁸

There is also a temporal dimension to some standards deserving attention and finer detail. Conflicts have emerged, for example, when a threshold or mitigation-type standard or guideline is not specified in a forest plan. Consider the following standard: “Manage land treatments to limit the sum of . . . detrimentally compacted . . . land to no more than 15% of any land unit.”¹⁴⁹ The question here, and before the court in *Rocky Mountain Wild v. Vilsack*, is one of timing: when must reclamation occur if compaction levels exceeding the standard are identified?¹⁵⁰ Also tied to this issue are the details necessary in explaining how the agency will bring soil compaction levels back in compliance with the standard.¹⁵¹ Some of this confusion, and possible litigation, could be avoided in revised plans if more attention was paid to these sorts of measurement issues.

As with the soil case, we suspect that threshold and mitigation standards will continue to be used in some contexts. To recall, these standards are defined by the use of quantitative metrics that should not or shall not be crossed, such as the amount of permitted soil disturbance or pre-commercial thinning that is allowed in an area. In no way should the use of threshold standards in planning be tied to biological or ecological-based thresholds. These are the sorts of thresholds that cannot be so easily reversed. If used in the future, we recommend that threshold standards are defined and explained in greater detail. In some cases, it would be advantageous to link management actions that are triggered if a threshold standard is crossed.¹⁵² These trigger mechanisms could provide an added degree of certainty and accountability by specifying, in advance, what must happen upon the crossing of a threshold.¹⁵³

2. Standards That Constrain and/or Compel

One issue emerging from our research is the difference of opinion regarding whether standards can and should be used to compel agency actions rather than just constrain them. Some forest planners we interviewed, for example,

felt strongly that standards should be used solely as restrictions, such as requiring an amount of stream buffer or old growth when harvesting timber. Part of the logic here is that implementing standards should not be contingent on agency budgets, and standards that might compel certain activities would be inherently subject to adequate funding. And if not funded, the USFS would not be in compliance with a plan standard and would likely face litigation as a result. Others, however, believe that standards could be used in a more proactive fashion, as a way, for example, to achieve various restoration and biological conservation goals.¹⁵⁴ There is a fear that such goals will not be achieved if they are stated as discretionary planning objectives or desired future conditions.¹⁵⁵

Our view is that standards are most appropriately used as constraints, but could also be used to achieve other planning goals that are stated in the 2012 rule. Consider the 2012 rule’s focus on watershed protection and restoration.¹⁵⁶ Future forest plans could be written so that once a watershed is restored, a maintenance standard is used to keep the watershed in a certain condition class.¹⁵⁷ This example demonstrates why the line between standards that constrain and compel is not always so bright. After all, a standard requiring mitigation or reclamation is compelling the USFS to do something after all, which will inherently be contingent upon funding.

Standards should also be linked to the proactive recovery and conservation of threatened, endangered, proposed, and candidate species as defined by the ESA. The 2012 planning rule emphasizes the connections between forest planning and the ESA more than previous regulations. The agency “anticipates that plan components, including standards or guidelines, for the plan area would address conservation measures and actions identified in recovery plans relevant to T&E [threatened and endangered] species.”¹⁵⁸ One way in which the USFS can actively contribute to species conservation and recovery is by providing wildlife- and habitat-based standards in forest plans. We recommend that more study, and guidance, be provided in how synergies might be developed in writing forest plans that

147. *Habitat Education Center v. Bosworth*, 363 F. Supp. 2d 1070, 1088 (D. Mont. 2005).

148. See, e.g., *BEAVERHEAD-DEERLODGE PLAN* 2009, *supra* note 65, at 145.

149. *Rocky Mountain Wild v. Vilsack*, 843 F. Supp. 2d 1188, 1195 (D. Colo. 2012).

150. *Id.* at 1196-97.

151. *Id.* at 1197-98.

152. See Martin Nie & Courtney Schultz, *Decision-Making Triggers in Adaptive Management*, 26(6) *CONSERVATION BIOLOGY* 1137, 1143 (2012) (summarizing how management triggers could be used to prevent the crossing of ecological and regulatory thresholds that correspond with irreversible ecological variables).

153. See *id.* (discussing the use of triggers in an adaptive management system) (noting at 1142, however, that “if . . . adaptive management plans fail to make the link between management actions, monitoring information, and learning, the opportunity to reduce uncertainty about the ecosystem likely is lost”).

154. See, e.g., USFS DEIS 2011 (statement of Wyoming State Division of Forestry) (suggesting that standards be used to manage suitable timber lands towards desired future conditions or reduce fuels around the wildland-urban interface).

155. See, e.g., USFS DEIS 2011 (statement of Lands Council).

156. The 2012 planning rule summary states, for example:

The planning rule is designed to ensure that plans provide for the sustainability of ecosystems and resources; *meet the need for forest restoration and conservation, watershed protection*, and species diversity and conservation; and assist the Agency in providing a sustainable flow of benefits, services, and uses of NFS lands that provide jobs and contribute to the economic and social sustainability of communities.

National Forest System Land Management Planning, 77 Fed. Reg. 21162, 21162 (Apr. 9, 2012).

157. See U.S. FOREST SERV., *WATERSHED CONDITION FRAMEWORK: A FRAMEWORK FOR ASSESSING AND TRACKING CHANGES TO WATERSHED CONDITION* (2011), available at http://www.fs.fed.us/publications/watershed/Watershed_Condition_Framework.pdf.

158. National Forest System Land Management Planning, 77 Fed. Reg. 21162, 21215 (Apr. 9, 2012).

are better synced with ESA recovery, from critical habitat determinations to species' recovery plans.

One possible way to bridge the issue of using standards to compel or constrain is by choosing to write more specific and measurable proactive planning "objectives." An objective is defined in the NFMA regulations as "a concise, measurable, and time-specific statement of a desired rate of progress toward a desired condition or conditions."¹⁵⁹ Some lessons can be drawn from the writing of Comprehensive Conservation Plans (CCPs) for units within the National Wildlife Refuge System (NWRS).¹⁶⁰ Though the legal and planning context differs, the NWRS has the clearest mandate to manage for ecosystem restoration and ecological integrity,¹⁶¹ which are two values emphasized in the 2012 NFMA planning rule.¹⁶² In order to meet these and other legal requirements, the FWS provides specific guidance in how to write refuge objectives that are (1) specific, (2) measurable, (3) achievable, (4) results-oriented, and (5) time-fixed. Several units within the refuge system have incorporated these "SMART" objectives into their CCPs, with varying levels of success.¹⁶³ This initiative—replete with policy guidance, refuge plans, and outside evaluation—provides the USFS with an opportunity to learn lessons from another federal land agency. In some cases, it could be advantageous to use standards to constrain agency activities while opting to use SMART-like objectives to achieve the stated goals of the 2012 planning rule.

3. Standards and Science

The writing and application of standards demonstrates a few long-standing challenges at the policy-science interface. On one hand are the inherent complexities, uncertainties, and probabilities involved in science, while on the other is the demand for legal accountability via generally applicable and enforceable rules. Part of the challenge is that standards, like other enforceable legal and policy instruments, are sometimes stated as regulatory thresholds that cannot be crossed. A standard, in other words, may be dichotomous so that the agency can proceed as long as it does not cross line X. But sometimes a regulatory-science mismatch is evident because highly variable ecosystems and resources

are often better characterized and managed on a continuum.¹⁶⁴ Consider old growth standards, for instance. Some planning standards mandate a specified percentage of old growth be maintained on a national forest. But much of the scientific literature on the topic use several different definitions of old growth,¹⁶⁵ with some experts calling for using an index of "old-growthness" that "would allow the threshold for identifying old-growth to be moved depending on the management objective."¹⁶⁶ The challenge, then, is how to better align planning standards with this sort of scientific nuance and complexity.

Such complexity, however, should not be used as an excuse for not using standards where they could be used notwithstanding the scientific uncertainty associated with them. Of course, the amount of scientific uncertainty associated with a standard will vary depending on the value and resource. In some cases, for example, the science will be more consensual and easier to apply, such as the relationship between route density and sediment delivery to waterways. As Jamie Goode, Charles Luce, and John Buffington confirm: "Forest roads are widely recognized to increase sediment supplied to forest streams by altering hillslope hydrology and sediment flux."¹⁶⁷ There is a considerable amount of scientific literature on this topic that could be drawn from in writing future plans, with Hermann Gucinski et al. providing the most influential synthesis.¹⁶⁸

In other cases, the science will be more uncertain and more difficult to incorporate as a standard. In these cases, the agency will face the classic administrative dilemma in how to respond in the face of scientific uncertainty, from a posture emphasizing administrative discretion to one invoking the precautionary principle.¹⁶⁹ The choice will likely mean that a political judgment and assessment of risk must be made. As discussed below, we believe such political choices, including the agency's use of science, and other factors considered in the decisionmaking process, should be clearly explained to the public. If the choice to use or not use a particular standard is based on factors going beyond science, it should be clearly stated as such.

Our sample of forest plans revealed differences in how science was used in the writing and application of planning standards. Some standards emerged out of processes in which the use of science was clearly evident. Lynx standards, for example, can be readily traced back to the sci-

159. 36 C.F.R. §219.7(e).

160. See U.S. Fish & Wildlife Serv., *Comprehensive Conservation Planning Process* (2000), available at <http://www.fws.gov/policy/602fw3.pdf>.

161. See, e.g., Robert L. Fischman, *National Wildlife Refuge System and the Hallmarks of Modern Organic Legislation*, 29 *ECOLOGY L.Q.* 457, 563 (2002) (discussing the unique ecological criteria contained in the wildlife refuge system's organic act).

162. See, e.g., National Forest System Land Management Planning, 77 Fed. Reg. 21162, 21260 (Apr. 9, 2012) (explaining that one purpose of the rule "is to guide the collaborative and science-based development, amendment, and revision of land management plans that promote the ecological integrity of national forests and grasslands and other administrative units of the NFS").

163. See Vicky J. Meretsky et al., *New Directions in Conservation for the National Wildlife Refuge System*, 56.2 *BIOSCIENCE* 135 (2006); Richard L. Schroeder, *Evaluating the Quality of Biological Objectives for Conservation Planning in the National Wildlife Refuge System*, 26 *GEO. WRIGHT F.* 22 (2009); Richard L. Schroeder, *A System to Evaluate the Quality of Restoration Objectives Using National Wildlife Refuge Comprehensive Conservation Plans as a Case Study*, 14 *J. NAT. CONSERVATION* 200 (2006).

164. Malcolm L. Hunter et al., *Thresholds and the Mismatch Between Environmental Laws and Ecosystems*, 23 *CONSERVATION BIOLOGY* 1053 (2009).

165. See generally THOMAS A. SPIES & SALLY L. DUNCAN (Eds.), *OLD GROWTH IN A NEW WORLD: A PACIFIC NORTHWEST ICON REEXAMINED* (2009).

166. Thomas A. Spies, *Ecological Concepts and Diversity of Old-Growth Forests*, *J. FORESTRY* 14 (Apr./May 2004).

167. Jamie R. Goode et al., *Enhanced Sediment Delivery in a Changing Climate in Semi-Arid Mountain Basins: Implications for Water Resource Management and Aquatic Habitat in the Northern Rocky Mountains*, 139 *GEOMORPHOLOGY* 1 (2012) (reviewing literature focused on linkages between roads and increased sedimentation).

168. HERMANN GUCINSKI, *FOREST ROADS: A SYNTHESIS OF SCIENTIFIC INFORMATION* (Pacific Northwest Research Station, General Technical Report No. 509, 2001).

169. See J.B. Ruhl, *The Battle Over Endangered Species Act Methodology*, 34 *ENVTL. L.* 555, 576-99 (2004).

ence used in writing the species' conservation plan,¹⁷⁰ and a considerable body of science was used in the writing of the Aquatic Conservation Strategy.¹⁷¹

Standards found in the Tongass National Forest Plan provide a more unusual and intriguing example. The 1997 Plan was written using an innovative process whereby scientists within the Pacific Northwest Research Station (an independent research arm of the USFS) were assembled into risk assessment panels "to assist decisionmakers in interpreting and understanding the available technical information and to predict levels of risk for wildlife and fish, old growth ecosystems, and local socioeconomic conditions resulting from different management approaches."¹⁷² In this case, "science consistency checks" were used as a type of audit to ensure that the policy and management branch writing the Tongass Plan could not misrepresent or selectively use information in ways not supported by the best available science. The process, at the very least, facilitated the consideration of best available science when writing the Tongass Plan, even if parts of the Tongass Plan were based on factors going beyond science.¹⁷³

In other cases, the linkages between standards and science are less clear. The case law we reviewed demonstrates that environmental plaintiffs and the USFS sometimes question the lack of science behind a particular standard or guideline. Environmental plaintiffs, for example, argued that a 10% old growth guideline was insufficient to ensure species viability,¹⁷⁴ and the USFS tried to amend a plan's road density and elk habitat standard because the Supervisor found the restriction "not scientifically supportable or logical."¹⁷⁵ Other times, *all* parties seem to question the scientific validity of a standard. This currently seems to be the case in implementing controversial elk security standards as found in several national forest plans, with the USFS and environmental plaintiffs questioning the efficacy of these relatively dated standards.¹⁷⁶

Some standards apparently get used because of their administrative and operational simplicity. This is similar to

use of "policy-driven" rather than "evidence-based" conservation, such as the politically convenient, though biologically questionable, target of setting aside 10% of lands for conservation purposes.¹⁷⁷ One of the most common standards is the use of "fixed-width buffers" for protecting freshwaters and their riparian areas from timber harvesting. John Richardson and others trace the lineage of riparian buffers and show how the approach used by the Forest Ecosystem Management Assessment Team (FEMAT) in the Pacific Northwest of the United States was quickly replicated throughout the United States and Canada.¹⁷⁸ They conclude, however, "requirements for narrow, fixed-width buffers usually originated for administratively simple but scientifically untested reasons."¹⁷⁹ Their review of the literature finds that typically mandated widths are often insufficient to protect some riparian functions, while others suggest that minimum widths are insufficient in conserving riparian organisms.¹⁸⁰ Of course, measuring effectiveness ultimately depends on plan objectives, but these are often vaguely stated.¹⁸¹

The 2012 planning regulations state that national forests "shall use the best available scientific information to inform the planning process," which includes a requirement to determine and document "what information is the most accurate, reliable, and relevant to the issues being considered."¹⁸² This new provision provides planning teams an excellent opportunity to explain the science that was used to write new standards. We recommend that the USFS document the rationale for plan standards, describing necessary background, assumptions, sources of information, and technical details so that the public can understand why a particular standard was used or not used. This sort of documentation is to be used when writing SMART planning objectives for national wildlife refuges, as discussed above. Such documentation, according to the FWS, "promotes informed debate on the objective's merits, continuity in management through staff turnover, and reevaluation of the objective as new information becomes available."¹⁸³ We believe that a more transparent and documented use of science when writing plan standards will generate trust in the writing of plans and improve their overall effectiveness. As discussed in more detail below, we also believe that this type of documentation and transparency could facilitate more adaptive forest planning.

170. See LYNX AMENDMENT 2007, *supra* note 63.

171. Gordon H. Reeves et al., *The Aquatic Conservation Strategy of the Northwest Forest Plan*, 20(2) CONSERVATION BIOLOGY 319 (2006).

172. KENT R. JULIN & CHARLES G. SHAW III, SCIENCE MATTERS: INFORMATION FOR MANAGING THE TONGASS NATIONAL FOREST 2 (1999).

173. For a review of this process, see Douglas A. Boyce Jr. & Robert C. Szaro, *An Overview of Science Contributions to the Management of the Tongass National Forest, Alaska*, 72 LANDSCAPE & URB. PLAN. 251 (2005); FRED H. EVEREST ET AL., EVALUATION OF THE USE OF SCIENTIFIC INFORMATION IN DEVELOPING THE 1997 FOREST PLAN FOR THE TONGASS NATIONAL FOREST (Pacific Northwest Research Station, General Technical Report 415, 1997); Charles G. Shaw III et al., *Working With Knowledge at the Science/Policy Interface: A Unique Example From Developing the Tongass Land Management Plan*, 27 COMPUTERS & ELECTRONICS AGRIC. 377, 378 (2000); Charles G. Shaw III et al., *Independent Scientific Review in Natural Resources Management: A Recent Example From the Tongass Land Management Plan*, 73 NORTHWEST SCI. 58, 60 (1999); and Martin Nie, *Governing the Tongass: National Forest Conflict and Political Decision Making*, 36 ENVTL. L. 385 (2006).

174. The Ecology Center v. Castaneda, 574 F.3d 652 (9th Cir. 2009).

175. Hapner v. Tidwell, 621 F.3d 1239 (9th Cir. 2010).

176. See *id.*; Helena Hunters & Anglers v. Tidwell, 841 F. Supp. 2d 1129 (D. Mont. 2009); Island Range Chapter of the Montana Wilderness Association v. U.S. Forest Service, 117 F.3d 1435 (9th Cir. 1997); and Native Ecosystems Council v. Weldon, 848 F. Supp. 2d 1207 (D. Mont. 2012).

177. Leona K. Svancara et al., *Policy-Driven Versus Evidence-Based Conservation: A Review of Political Targets and Biological Needs*, 55(11) BIOSCIENCE 989 (2005).

178. John S. Richardson et al., *How Did Fixed-Width Buffers Become Standard Practice for Protecting Freshwaters and Their Riparian Areas From Forest Harvest Practices?*, 31(1) FRESHWATER SCI. 232 (2012).

179. *Id.* at 237.

180. See Laurie Marczak et al., *Are Forested Buffers an Effective Conservation Strategy for Riparian Fauna? An Assessment Using Meta-Analysis*, 20 ECOLOGICAL APPLICATIONS 126 (2010).

181. See Richardson et al., *supra* note 178.

182. 36 C.F.R. §219.3.

183. U.S. FISH & WILDLIFE SERVICE & U.S. GEOLOGICAL SURVEY, WRITING REFUGE MANAGEMENT GOALS AND OBJECTIVES: A HANDBOOK (2004), at 10.

4. Standards and Adaptive Management

One of the most difficult challenges in writing and implementing standards, and forest plans in general, is making them responsive, adaptive, and consistent with best available science. A common argument made against standards is that they can be inflexible and that such rigidity makes adaptive planning more difficult. Climate change is also often invoked in this context, with increasing calls to “plan for uncertainty.”¹⁸⁴ We believe that standards do not have to be an impediment to adaptive management. This is because standards have frequently been changed in the past, and the 2012 regulations provide a framework in which to keep plans and standards more dynamic and contemporary. In writing some standards in the future, it will be necessary for the USFS to try to anticipate possible changes to a standard and to provide mechanisms for their adjustment. How to incorporate possible changes to a standard should be considered early in the planning process.

We found that amending or exempting standards for particular projects as amendments to a plan is commonplace. These numerous exemptions and amendments demonstrate that standards have been modified or exempted in the past and could be so in the future. Standards need not be static and difficult to improve upon. Some of the plans in our sample provide a framework in which standards can be modified or exempted in the future. For example, the lynx standards amended to multiple national forest plans require that fuel treatment projects within the wildland urban interface that do not meet particular standards shall occur on no more than 6% of lynx habitat on each national forest.¹⁸⁵ On the Tongass National Forest, marbled murrelet nest buffer protections may be removed if monitoring shows that nesting sites were “inactive for two or more nesting seasons.”¹⁸⁶ Another approach is to create a generally applicable default standard that allows for modification upon satisfying certain analytical requirements. The Inland Native Fish Strategy (INFISH) provides an example. The INFISH standards pertaining to required stream buffers can be adjusted from default widths based on recommendations from a watershed analysis, stream reach, or site-specific review supporting the change.¹⁸⁷ Default standards can provide an important presumption that standards will be followed, but also provide foresight and a framework allowing for change when necessary.

In general, standards should provide boundaries to prevent volatility (altering decisions too substantially, too soon) and drift (too many small adjustments over time that send agencies far off the original course of action) in an adaptive system.¹⁸⁸ Such standards, or “objective boundar-

ies,” allow decisionmakers to adjust decisions in a transparent and accountable manner, which allows the adaptive management strategy to be monitored by the public and policed by the courts.¹⁸⁹

One challenge likely to arise if standards are changed or exempted is the process used by the USFS to do so and whether the changes trigger legal requirements imposed by the National Environmental Policy Act (NEPA)¹⁹⁰ or ESA consultation. These and other laws are sometimes viewed as impediments to adaptive management because of their time-consuming analytical requirements.¹⁹¹ This issue emerged in some of the case law we reviewed. In one decision, for example, the court required the USFS to subject changes to maps of LAUs, and the standards associated with them, to NEPA analysis and to consult with the FWS under §7 of the ESA.¹⁹²

The tiering of projects to plans provides one way in which this challenge can be addressed in the future. Tiering is a process whereby project-level NEPA analysis may reference more broad NEPA analyses that have already been completed. J.B. Ruhl and Robert Fischman find that the courts have upheld several adaptive management plans, including the Northwest Forest Plan, when project-level changes were anticipated and analyzed in more general resource management plans.¹⁹³ These plans anticipated the emergence of new information and provided mechanisms for adjustment. When changes to standards are not anticipated in a forest plan, the courts may likely ask for supplemental analysis as required by NEPA.¹⁹⁴

The 2012 planning rule provides an ideal framework in which to revisit planning standards upon the finding of new information or science or changed conditions. We concur with the agency that the rule’s framework, including a biennial evaluation and report of monitoring information,¹⁹⁵ “provides a scientifically supported process for decisionmaking in the face of uncertainty and particularly under changing conditions.”¹⁹⁶ Fundamental to this process will be a funded and scientifically credible monitoring program. Political and legal questions about monitoring are beyond the scope of this Article. Generally speaking, the courts are very reluctant to force agencies to conduct monitoring, especially in the context of land use planning, and they are often deferential when it comes to how monitoring is conducted by an agency.¹⁹⁷ The 2012

189. *Id.* at 55.

190. 42 U.S.C. §§4321-4370h, ELR STAT. NEPA §§2-209.

191. See Nie & Schultz, *supra* note 152.

192. Native Ecosystems Council & Alliance v. U.S. Forest Service, 866 F. Supp. 2d 1209 (D. Idaho 2012).

193. J.B. Ruhl & Robert L. Fischman, *Adaptive Management in the Courts*, 95 MINN. L. REV. 424 (2010).

194. See Klamath Siskiyou Wildlands Center v. Boody, 468 F.3d 549 (9th Cir. 2006).

195. 36 C.F.R. §219.12.

196. National Forest System Land Management Planning, 77 Fed. Reg. 21162, 21194 (Apr. 9, 2012).

197. See, e.g., Eric Biber, *The Problem of Environmental Monitoring*, 83 U. COLO. L. REV. 1 (2011); Blumm & Bosse, *supra* note 46; Lands Council v. McNair, 537 F.3d 981 (9th Cir. 2008); Norton v. Southern Utah Wilderness Alliance, 542 U.S. 55, 124 S. Ct. 2372, 159 L. Ed. 2d 137 (2004).

184. See, e.g., Linda A. Joyce et al., *Managing for Multiple Resources Under Climate Change: National Forests*, 44 ENVTL. MGMT. 1022 (2009); Jordan M. West et al., *U.S. Natural Resources and Climate Change: Concepts and Approaches for Management Adaptation*, 44 ENVTL. MGMT. 1001 (2009).

185. LYNX AMENDMENT 2007, *supra* note 63, at 2.

186. TONGASS PLAN 1997, *supra* note 53, at 4-115.

187. INFISH 1995, *supra* note 56, at 3.

188. See J.B. Ruhl, *Regulation by Adaptive Management—Is It Possible?*, 7 MINN. J. L. SCI. & TECH. 21, 55 (2006).

planning rule also states that the rule's monitoring requirements "are not a prerequisite for making a decision to carry out a project or activity."¹⁹⁸

This context notwithstanding, monitoring commitments can be made binding and enforceable by the USFS. Martin Nie and Schultz find that "enforceability increases if the details and timelines of the monitoring and mitigation responses are prespecified" and that "[i]t is necessary to identify what will be monitored and when, how and when monitoring information will trigger a change in management action, and what activities can continue while monitoring or mitigation decisions are ongoing."¹⁹⁹ The enforceability of monitoring is also increased if a plan requires some sort of monitoring before a discrete agency action can be taken. In these cases, monitoring compliance with a standard essentially serves as a precondition or gateway to future agency actions. We found some cases where the courts asked the USFS to demonstrate, with some reliable monitoring information, that it was in compliance with a particular planning standard, such as maintaining a certain percentage of old growth.²⁰⁰ The key in these cases and others is having clear connections between the particular standard, monitoring requirement, and specific agency actions or projects. When linked in such fashion, the courts' inquiry is whether the project at hand is "consistent" with the land management plan, as required by NFMA.

We found other examples where monitoring or assessment serves as a precondition or gateway to future agency actions. This approach varies in levels of restriction. On the strict end are the survey and management requirements under the Northwest Forest Plan that requires that some species be surveyed before ground-disturbing activities can proceed.²⁰¹ INFISH provides a less restrictive example as it requires watershed analyses be completed before proposed projects and activities can be considered by the agency in riparian habitat conservation areas and key watersheds.²⁰²

We also found several instances where standards were linked to monitoring requirements, and in some cases, decisionmaking triggers were used so that monitoring information could be tied into the decisionmaking process. Management of the Christ's Indian paintbrush (*Castilleja christii*) provides a recent example. The plant was removed from the list of ESA candidate species after the Sawtooth National Forest "successfully implemented numerous conservation actions" that ameliorated threats to the species and established a "long-term monitoring program to docu-

ment their effectiveness."²⁰³ The forest developed a Candidate Conservation Agreement with the FWS that tiers from a forest plan management area standard directing managers to "maintain habitat and populations of Christ's Indian paintbrush consistent with the conservation strategy."²⁰⁴ Under the conservation agreement, the forest must perform annual monitoring and use monitoring data to "determine the effectiveness of Conservation Agreement actions taken on behalf of the species."²⁰⁵ All conservation actions address a specific threat, and align with discrete tasks, performance metrics, and a trigger that results in a management response if "pulled." For example, in order to address threats from livestock use, the forest must monitor for unauthorized livestock within the Christ Indian paintbrush's habitat area. If unauthorized livestock are observed, a trigger is pulled and the forest must contact the permittee and remove the livestock "as quickly as possible."²⁰⁶

5. Standards and Management Areas

Standards are often applied to particular management areas as delineated in a forest plan. A management area standard, for instance, can prohibit an activity such as grazing or the application of herbicides. Standards provide an essential way of distinguishing how one area of a forest will be managed in contrast with another. There is not much use in designating a management area if no rules are associated with what can and cannot be done in each one of them.

Sometimes related to management area designations are "suitability determinations" that are required by the NFMA and its regulations. The NFMA requires "identification of the suitability of lands for resource management."²⁰⁷ This mandate goes beyond timber, though most of the law's guidance on the matter pertains to the Act's requirement to determine an area's suitability for timber harvesting. The 1982 regulations also required suitability determinations be made for other resources such as recreation and grazing.²⁰⁸ The 2012 regulations also require that specific lands be identified as suitable and not suitable for various multiple uses or activities, but "the suitability of lands need not be identified for every use or activity."²⁰⁹ Also required by the regulations is the designation of management or geographic areas.²¹⁰ These provisions leave discretion to the USFS in identifying lands as suitable for various activities and the extent to which management areas will be used in a plan.

198. 36 C.F.R. §219.12.

199. Nie & Schultz, *supra* note 46, at 1142.

200. *Neighbors of Cuddy Mountain v. Alexander*, 303 F.3d 1059 (9th Cir. 2002); *The Wilderness Society v. Bosworth*, 118 F. Supp. 2d 1082 (D. Mont. 2000).

201. U.S. FOREST SERV. & BUREAU OF LAND MGMT., RECORD OF DECISION FOR AMENDMENTS TO FOREST SERV. AND BUREAU OF LAND MGMT. PLANNING DOCUMENTS WITHIN THE RANGE OF THE NORTHERN SPOTTED OWL (1994).

202. INFISH 1995, *supra* note 56 at A9.

203. Endangered and Threatened Wildlife and Plants; Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions; Proposed Rule, 77 Fed. Reg. 69994 (Nov. 21, 2012).

204. SAWTOOTH PLAN 2003, *supra* note 72, at III-300.

205. U.S. FOREST SERV. & U.S. FISH AND WILDLIFE SERV., CANDIDATE CONSERVATION AGREEMENT FOR *CAASTILLEJA CHRISTII* (CHRIST'S INDIAN PAINTBRUSH) (2005), 26.

206. *Id.* at 52.

207. 16 U.S.C. §1604.

208. 36 C.F.R. §219.20-21.

209. 36 C.F.R. §219.7.

210. 36 C.F.R. §219.7.

We believe that the designation of management areas, especially when tied to suitability determinations, can provide a more efficient way of protecting some resources than by relying upon overly complicated standards that can be time-consuming to write and difficult to implement. In some cases, for example, it would make more sense to outright prohibit grazing in a particular area rather than write several detailed grazing-based standards, from fencing requirements to riparian area protections. Suitability determinations also make sense for management areas containing inventoried roadless, recommended wilderness, and other protected lands. For example, the Kootenai National Forest designated a management area with the goal of “protection and enhancement of areas of roadless recreation.”²¹¹ However, instead of classifying all lands within the management area as unsuitable for motorized use, some existing roads remain open to various forms of use. Several management area standards related to recreation, wildlife, and fish are therefore required to constrain motorized use.²¹² As another example, the Clearwater National Forest designated one management area containing recommended wilderness as an “exclusion area for potential utility corridors.”²¹³ Contrast this simple suitability standard to a management area in the Sawtooth National Forest also consisting of inventoried roadless and recommended wilderness areas. The management area permits utility and communication sites, thus requiring standards and guidelines determining how and where sites may be built.²¹⁴

V. Conclusion

The writing of forest planning regulations, and individual forest plans, has become a primary venue for conflict over national forest management. One of the most contested parts of forest planning is the use of standards, with some interests viewing them as enforceable, and therefore essential constraints on agency actions, and others viewing them as overly prescriptive, burdensome, and inflexible. As this debate goes on, there has been confusion regarding how standards have actually been used by the USFS in the past. Some of this confusion stems from the very different ways in which standards have been used by the agency. Our review of case law and public comment provides legal and political context for readers, explaining the significance of what might otherwise seem like a rather arcane policy debate. We also hope that our review of national forest plans, and our typology of standards, will provide a common language and reference point for the writing of future forest plan revisions.

We recommend that the USFS embrace the use of standards when writing second-generation forest plans. Not only do law and regulation require standards, but they can

also lead to efficiencies in forest planning. They can also be advantageous from a political perspective, as they resonate with a cross section of planning participants, most of whom want a greater degree of certainty, structure, and predictability in forest management. Standards also play a significant role in ESA decisionmaking, of which we believe will become an even more important part of forest management in the future.

To summarize, we hope that the USFS and planning participants consider the following recommendations as forest plans are revised in the future:

1. The USFS should provide national- or regional-level guidance in how to use and write standards in plan revisions.
2. Standards should not be written in a discretionary way. Other planning components should be used when discretion is warranted.
3. Some standards should be written so that they serve as a regulatory link and assist the USFS in achieving its legal mandates.
4. Attention should be paid to how certain standards will be measured, spatially and temporally, and what actions must be taken by the USFS if a standard is breached.
5. Standards should be linked to the proactive recovery and conservation of threatened, endangered, proposed, and candidate species as defined by the ESA.
6. When standards that compel an agency action are not warranted or feasible, the USFS should consider writing more specific, measurable, and proactive planning objectives.
7. The USFS should clearly document the scientific rationale for plan standards describing necessary background, assumptions, sources of information, and technical details so that the public can understand why a particular standard was used or not used.
8. The USFS should be transparent and explain to the public the science, and factors going beyond science, that were considered in using or not using a standard.
9. In cases where adaptive management is necessary, the USFS should try to anticipate possible changes to standards and provide mechanisms for their adjustment. In these cases, the question of how to plan for uncertainty should be considered early in the process. The use of default standards and tiering are two possible approaches to planning for uncertainty. Key to any adaptive management strategy in this context will be a funded and scientifically credible monitoring program in which monitoring information is tied back into the decisionmaking process.

211. KOOTENAI PLAN 1987, *supra* note 143, at III-2.

212. *Id.* at III-3 to III-7.

213. CLEARWATER PLAN 1987, *supra* note 52, at III-38.

214. SAWTOOTH PLAN 2003, *supra* note 72, at III-51.

10. In some cases, the designation of management areas, especially when tied to suitability determinations, can provide a more efficient way of protecting resources than by relying upon standards.

Though necessary, we acknowledge the challenges that will be posed in writing standards in future plan revisions. Planning has undoubtedly become more complicated since first-generation plans were written in the 1980s. Issues like motorized recreation, oil and gas development, and fire

management, among others, present a suite of issues that were not as dominant when NFMA was enacted in 1976. But there is also a lot that can be learned from the writing and application of standards in first-generation plans. We believe that our recommendations and list of considerations can facilitate the writing of plan revisions and alert planners and the public about possible opportunities, problems, and pitfalls associated with the use of standards in forest planning.

Table 1—Forest Plans, Amendments, and Strategies Included in Study Sample

Plan, Amendment, or Strategy	FS Region(s)	Year
Beaverhead Forest Plan	1	1986
Deerlodge Forest Plan	1	1987
Beaverhead-Deerlodge Forest Plan	1	2009
Boise Forest Plan	4	1990, 2003
Clearwater Forest Plan	1	1987
Flathead Forest Plan	1	1985
Gallatin Forest Plan	1	1987
Helena Forest Plan	1	1986
Idaho Panhandle Forest Plan	1	1987
Kootenai Forest Plan	1	1987
Lolo Forest Plan	1	1986
Nez Perce Forest Plan	1	1987
Payette Forest Plan	4	1988, 2003
Sawtooth Forest Plan	4	1987, 2003
Tongass Forest Plan	10	1979, 1997
Final Conservation Strategy for the Grizzly Bear in the Yellowstone Area	1, 2, 4	2007
Grizzly Bear Access Amendment (Selkirk/Cabinet-Yaak)	1	2011
Grizzly Bear Habitat Conservation Amendments (Greater Yellowstone)	1, 2, 4	2006
Inland Native Fish Strategy	1, 4, 6	1995
Northwest Forest Plan Aquatic Conservation Strategy	5, 6	1994
Northern Rockies Lynx Management Direction	1, 2, 4	2007
Region 1 Soil Quality Standards	1	1999