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## **Lands Council v. Powell and the Ninth Circuit's Refusal to Blindly Defer to Unreliable Forest Service Science**

Rebecca Smith

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***Lands Council v. Powell* and the Ninth Circuit's Refusal to Blindly  
Defer to Unreliable Forest Service Science**

**Rebecca Smith<sup>1</sup>**

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"The days have ended when the forest may be viewed only as trees and trees viewed only as timber. The soil and the water, the grasses and the shrubs, the fish and the wildlife, and the beauty that is the forest must become integral parts of resource managers' thinking and actions."<sup>2</sup>

- Minnesota Senator Hubert Humphrey

## I. INTRODUCTION

National Forests comprise eight and one half percent of the total land in the United States. Our National Forests are ecological reserves held by the public in order to provide wildlife habitat, clean water, and opportunities for recreation and natural resource extraction.<sup>3</sup> National Forests are managed by the United States Forest Service ("FS"), a federal administrative agency that is a branch of the United States Department of Agriculture.<sup>4</sup> Federal administrative agencies derive their power to regulate from the executive branch of government, which delegates authority to them. Administrative agencies such as the FS generally exercise all three of the powers usually divided among the three branches of federal government: legislative, executive, and judicial.<sup>5</sup> Thus, the FS has the power to promulgate its own regulations, enforce its own mandates and laws, and adjudicate appeals of its own decisions.

Administrative agencies like the FS are inherently biased toward approving their own decisions, because they make their own rules, enforce their own rules, and then adjudicate disputes over their own actions. Moreover, as an administrative agency the FS is "not directly accountable to the people."<sup>6</sup> As founding father James Madison stated, "[t]he accumulation of all powers, legislative, executive, and judiciary, in the same hands...may justly be pronounced the very definition of tyranny."<sup>7</sup>

Because of the lack of direct public accountability, citizen-initiated lawsuits against the FS are currently a critical tool allowing citizens to ensure that ecologically valid science, not administrative fiat, is governing decisions of the FS. Despite the fact that the FS's primary function since its inception has been to provide the logging industry with timber,<sup>8</sup> public opinion now recognizes that National Forests are valuable for collective

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2. *Seattle Audubon Socy. v. Evans*, 771 F. Supp. 1081, 1088-89 (W.D. Wash. 1991) (citing 122 Cong. Rec. 5619 (daily ed. Mar. 5, 1976)).

3. United States Forest Service, *About Us- Meet the Forest Service*, <http://www.fs.fed.us/aboutus/meetfs> (accessed March 29, 2006).

4. United States Forest Service, *Welcome*, <http://www.fs.fed.us> (accessed March 31, 2006).

5. Erwin Chemerinsky, *Constitutional Law* 292-293 (2d ed., Aspen Publishers 2005).

6. *Chevron, U.S.A., Inc. v. Nat. Resources Def. Council*, 467 U.S. 837, 865 (1984).

7. Chemerinsky, *supra* n. 5, at 293 (citing *The Federalist* No. 47, p.301 (Clinton Rossiter ed., 1961)).

8. Jack Tuholske & Beth Brennan, *The National Forest Management Act: Judicial Interpretation of a Substantive Environmental Statute*, 15 Pub. Land L. Rev. 53, 57-58 (1994).

ecological, recreational, aesthetic, and spiritual interests, and are not simply a resource to be exploited for the short-term profit of a few extractive industries.<sup>9</sup> Many citizens do not want the FS to continue to manage National Forests simply as tree farms, but rather as complex ecological systems. To that end, citizen groups have pursued lawsuits against the FS as one avenue to ensure that national forests are properly managed in view of their complex ecological character.<sup>10</sup>

Case law does not mandate that a reviewing court must give blind deference to decisions of administrative agencies.<sup>11</sup> To do so would in effect eliminate any reason for judicial review at all. On the contrary, in the context of FS management, Congress specifically wanted the FS to have limited discretion and enacted statutory law to ensure that FS discretion was checked.<sup>12</sup> In part, these laws encourage reviewing courts to scrutinize an agency's scientific methodology in order to ensure that it is in compliance with substantive scientific mandates.<sup>13</sup> Nonetheless, courts have historically been reluctant to overrule an agency's "scientific" decisions because the science is bad;<sup>14</sup> especially in instances where the courts only superficially apply the "arbitrary and capricious" standard of review of the Administrative Procedures Act.<sup>15</sup>

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9. National Forest Protection Alliance, *Forest Values*, <http://www.forestadvocate.org/values/index.html> (accessed March 31, 2006).

10. *Earth Island v. U.S. Forest Service*, 442 F.3d 1147, 1177 (9th Cir. 2006) (noting "a disturbing trend in the USFS's recent timber-harvesting and timber-sale activities" and listing a number of cases brought by citizen groups where the FS's timber sales were overturned for violating environmental laws). [hereinafter *Earth Island II*]

11. *Infra* Section IV-A-1.

12. *Infra* Section II-A.

13. National Forest Management Act of 1976, 16 U.S.C. §§ 1600 *et seq.* (2000); National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321 *et seq.* (2000); 40 C.F.R. § 1502.24 (2006).

14. See e.g. *Inland Empire Public Lands Council v. U.S. Forest Service*, 88 F.3d 754, 760-63 (9th Cir. 1996); see also *Environmental Protection Information Center v. U.S. Forest Service*, 451 F.3d 1005, 1014 (9th Cir. 2006) (impliedly affirming *Inland Empire* blind deference to the Forest Services' cumulative impacts model).

15. Factual disputes over Forest Service management decisions that implicate agency expertise are reviewed under the deferential standards set forth in the Administrative Procedure Act ("APA"), which states in part that the reviewing court shall "hold unlawful and set aside agency action, findings, and conclusions found to be (A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law" or "(D) without observance of procedure required by law . . ." 5 U.S.C. § 706(2) (2000); *Idaho Sporting Cong., Inc. v. Rittenhouse*, 305 F.3d 957, 964 (9th Cir. 2002). A decision is arbitrary and capricious if the agency "relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise," *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983), or if there has been a clear error of judgment. *Marsh v. Oregon Nat. Resources Council*, 490 U.S. 360, 375 (1989). The reviewing court's inquiry into the agency record must be searching and careful, *Id.* at 378, and the agency's findings must support its decision, and those findings must be supported by substantial evidence – there must be a rational connection between the facts found and the choices made. *Burlington Truck Lines v. United States*, 83 S. Ct. 239, 245-246 (1962). Despite the fact that the APA review standard requires a searching inquiry, courts will sometimes perform only a cursory review of the agency's science and proclaim that the decision was not arbitrary. See *Inland Empire*, 88 F.3d at 760-763.

While some Courts still harbor reluctance to overrule scientific decisions,<sup>16</sup> the Ninth Circuit Court of Appeals has been more willing lately to scrutinize FS scientific methodology to ensure compliance with law.<sup>17</sup> This trend in the Ninth Circuit is important, because of the 155 National Forests in the country, almost one-half of them are located in the geographic area within the Ninth Circuit's jurisdiction.<sup>18</sup> *Lands Council v. Powell* is a pivotal case in the trend away from blind deference to FS scientific methods.<sup>19</sup> In *Lands Council*, the Court thoroughly scrutinized the FS's scientific data and methods, and overturned several of the FS's conclusions. More importantly, the Court announced that the FS's scientific model must meet a standard of "required reliability" in order for projections based upon that model to be upheld as good science.<sup>20</sup> Case law, regulatory mandates, and historical context, as well as acceptance by subsequent courts, support the Court's holding that the FS must demonstrate the reliability of its scientific methodology. However, the Court should have articulated a clearer standard for future courts to utilize when determining whether or not the FS's science is reliable.

Section II of this article will examine the context of *Lands Council* on the issue of reliability of the FS's scientific methodology. It will provide an overview of the history of FS management of National Forests, and the role which Congress has played in guiding that management. It will then discuss changes in the case law regarding judicial deference to the FS's scientific methodology. The article will then briefly discuss the current post *Lands Council* state of case law, and reasons that further change is required. Section III of the article will discuss *Lands Council* in detail. It will state the relevant facts, procedural history, and the holding and reasoning applicable to this article. Section IV will discuss the issues. It will examine whether the case law, regulations, and historical context supported the Court's decision. It will also examine whether the Court's reasoning and holding has been followed in subsequent decisions. It will then discuss the need for a clear standard for "methodology review" by the courts, and will suggest for such a standard.

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16. See *Ecology Center v. Austin*, 430 F.3d 1057, 1071-1078 (9th Cir. 2005) (McKeown, M., dissenting), *cert denied*, 2007 WL 36032.

17. *Ecology Center*, 430 F.3d at 1061-1071; *Earth Island II*, 442 F.3d at 1159-1176.

18. United States Forest Service, *History*, <http://www.fs.fed.us/aboutus/history> (accessed March 29, 2006); United States Forest Service, *Recreational Activities: Find a Forest by State*, [http://www.fs.fed.us/recreation/map/state\\_list](http://www.fs.fed.us/recreation/map/state_list) (accessed March 29, 2006); 28 U.S.C. § 41 (2000).

19. *Lands Council v. Powell*, 379 F.3d 738 (9th Cir. 2004), *superceded*, 395 F.3d 1019 (9th Cir. 2005).

20. *Id.* at 1035.

## II. BACKGROUND

### A. *History of National Forest Management*

Congress originally laid the foundation for the National Forest system in 1891 with the passage of the Forest Reserve (Creative) Act ("Creative Act"), which authorized the creation of public forest reserves.<sup>21</sup> This act was one of the country's first steps toward preservation of forest lands, and was mostly a response to the unregulated logging that was deforesting most of the eastern United States and causing large-scale flooding and erosion.<sup>22</sup> Congress followed the Creative Act with the 1897 Organic Administrative Act ("Organic Act").<sup>23</sup> The Organic Act appropriated funds for forest management and provided vague guidance that the forest reserves should be managed primarily for timber production and water control.<sup>24</sup> When Theodore Roosevelt became President at the turn of the century, he expanded upon the foundation laid by the Organic and Creative Acts and elevated the Forest Service to the level of a formal federal agency.<sup>25</sup> Roosevelt expanded the National Forest lands to encompass 132 million acres and appointed Gifford Pinchot as the head of the agency.<sup>26</sup> The FS coordinated fire fighting, established tree nurseries, and distributed seedlings for reforestation. During the Dust Bowl era the FS helped control erosion, and during the Great Depression the FS administered the Civilian Conservation Corps and the Works Progress Administration.<sup>27</sup> But after World War II the goals of the FS changed to support the booming demand for wood products and the industrial method of tree-farming.<sup>28</sup>

The increase in industrial logging methods such as clearcutting and intensive road-building eventually prompted Congress to pass the Multiple-Use Sustained Yield Act ("MUSYA") in 1960.<sup>29</sup> MUSYA purported to broaden the goals of National Forest management by including the protection of recreation, wildlife, fish, and range resources as "equally important" as the goals of timber production and water control.<sup>30</sup> In effect, MUSYA

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21. Tuholske & Brennan, *supra* n. 8, at 57 (citing Act of March 6, 1891, 26 Stat. 1103, repealed by 90 Stat. 2792 (1976)).

22. National Forest Protection Alliance, *Looking Back at Our National Forests*, <http://www.forestadvocate.org/century/usfs.html> (accessed March 29, 2006); Tuholske & Brennan, *supra* n. 8, at 57 (citing David A. Clary, *Timber and the Forest Service* 3, 14 (1986)).

23. Tuholske & Brennan, *supra* n. 8, at 57, (citing 16 U.S.C. §§ 473-481 (repealed in part)).

24. Kristen Potter, *Judicial Review of Forest Service Decisions Made Pursuant to the National Forest Management Act's Substantive Requirements: Time for a Science Court?* 20 J. Nat'l A. Admin. L. Judges 241, 243 (2000); Tuholske & Brennan, *supra* n. 8, at 57 (citing 16 U.S.C. § 475, 477 (2000)).

25. Tuholske & Brennan, *supra* n. 8, at 57-58 (citing 16 U.S.C. § 472 (2000)); *Looking Back at Our National Forests*, *supra* n. 22.

26. *Id.*

27. *Looking Back at Our National Forests*, *supra* n. 22.

28. Tuholske & Brennan, *supra* n. 8, at 57; *Looking Back at Our National Forests*, *supra* n. 22.

29. *Id.*; 16 U.S.C. §§ 528-531 (2000).

30. Potter, *supra* n. 24, at 243; Tuholske & Brennan, *supra* n. 8, at 59 (citing 16 U.S.C. § 528).

did not deflect the agency's focus on industrial logging, and the FS continued to unsustainably and detrimentally log the National Forests.<sup>31</sup>

Throughout the 1960's the public began to loudly decry the FS's unsustainable practices. In 1970, Arnold Bolle, then-Dean of the University of Montana School of Forestry published the *Bolle Report*, which criticized the FS's method and level of timber extraction on the National Forests, specifically clearcutting, on the ground that MUYSA mandated that wildlife, recreation, fish, and range resources must also be considered in the management decisions of National Forests.<sup>32</sup> Following the *Bolle Report*, the U.S. Senate held the 1972 Church Hearings which resulted in Senate-proposed limitations on logging in the National Forests, known as the *Church Guidelines*.<sup>33</sup> Despite these guidelines, clearcutting continued, and in the early 1970's a flood from a clearcut on the Monongahela National Forest in West Virginia wiped out a Senator's hometown. Citizens sued and the 4th Circuit Court of Appeals held that the Organic Act prohibited clearcuts in National Forests.<sup>34</sup>

Congress responded to the *Church Guidelines* and the Monongahela case by enacting the National Forest Management Act ("NFMA") in 1976.<sup>35</sup> NFMA created procedural and substantive mandates for the FS's management of the National Forests.<sup>36</sup> The provisions of NFMA limit the discretion of the FS and give the courts standards to review FS management decisions to make sure they are ensuring multiple uses, and not simply perpetuating timber extraction at the costs of all other interests.<sup>37</sup> Among other mandates, NFMA requires the FS to provide for the diversity of animal and plant communities and ensure that management activities do not irreversibly damage soils.<sup>38</sup> While NFMA remains deferential to the FS in that it gives the FS discretion on how to carry out specific decisions, NFMA has been described as "the most adventurous congressional incursion into the on-the-ground activities of the United States Forest Service."<sup>39</sup>

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31. Potter, *supra* n. 24, at 243, 244; Tuholske & Brennan, *supra* n.8, at 60 (citing generally Clary, *supra* n. 22, at 156-165).

32. Tuholske & Brennan, *supra* n. 8, at 61-62 (citing United States Forest Service, Management Practices on the Bitterroot: A Task Force Appraisal, Files 1500, 2470 (May 1969 – April 1970) (available from the Forest Service Region One office, Missoula, Montana).

33. Tuholske & Brennan, *supra* n. 8, at 62.

34. *W. Virginia Div. of the Izaak Walton League of Am. v. Butz*, 367 F.Supp. 422 (D.W.Va. 1973), *aff'd*, 522 F.2d 945 (4th Cir. 1975); Potter, *supra* n. 24, at 243-245; *Looking Back at Our National Forests*, *supra* n. 22.

35. National Forest Management Act of 1976, 16 U.S.C. § 1600 *et seq.* (2000); Tuholske & Brennan, *supra* n. 8, at 64.

36. 16 U.S.C. § 1604.

37. Potter, *supra* n. 24, at 243-244; 16 U.S.C. § 1604 *et seq.*

38. 16 USC § 1604(g)(3)(B); 16 U.S.C. § 1604 (g)(3)(E)(i).

39. Potter, *supra* n. 24, at 245-247 (citing Charles T. Wilkinson & H. Michael Anderson, *Land and Resource Planning in the National Forests*, 64 Or. L. Rev. 1 (1985), reprinted as Charles T. Wilkinson & H. Michael Anderson, *Land and Resource Planning in the National Forests* (1987)).

Along with NFMA's mandates, the procedural mandates of the National Environmental Policy Act ("NEPA")<sup>40</sup> also apply to FS timber sale decisions.<sup>41</sup> Congress passed NEPA to protect the environment by ensuring that federal agencies carefully weigh the environmental impact of their decisions before undertaking major actions.<sup>42</sup> NEPA requires that federal agencies take a "hard look" at the potential environmental impacts of their proposed actions by composing a detailed Environmental Impact Statement ("EIS") for all "major Federal actions significantly affecting the quality of the human environment."<sup>43</sup> The "hard look" is required by NEPA to ensure the agency has detailed information about significant environmental impacts before it makes a decision, and to ensure that the information is available to the public.<sup>44</sup> NEPA does not mandate a particular substantive result, but instead mandates a process.<sup>45</sup>

### B. Changes in Judicial Review of Scientific Methodology

#### 1. *Inland Empire Public Lands Council v. U.S. Forest Service*

Although Congressional intent behind the passage of NFMA was to limit FS discretion, in light of the FS's historical mismanagement of National Forests, the Ninth Circuit initially chose to continue blindly deferring to Forest Service discretion. *Inland Empire Public Lands Council v. U.S. Forest Service* is an oft-cited example of judicial deference given to the FS when plaintiffs raise questions over the adequacy of the FS's scientific methodology.<sup>46</sup> In *Inland Empire*, Plaintiffs asserted that the FS of the Kootenai National Forest ("KNF") in Montana had violated NFMA because it had never examined actual population size, population trends, or opportunities for species interaction in order to ensure the viability of seven sensitive species residing in an area slated for logging. Instead the FS had created a model which estimated how many acres of habitat an individual species needed, and then applied the model to the Forest and concluded that there was enough habitat for all the species (the "habitat-proxy" method). Additionally, Plaintiffs asserted that the FS had violated NFMA by failing to monitor population trends of the KNF's management indicator species ("MIS") for old-growth dependent species (i.e. the pileated woodpecker). Here again, the FS had done no actual monitoring of the species. Instead, the FS simply estimated the amount of habitat which would be destroyed by

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40. National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-4361 (2000).

41. See e.g. *Lands Council*, 395 F.3d, at 1026-1027.

42. *Lands Council*, 395 F.3d at 1026.

43. *Rittenhouse*, 305 F.3d at 963 (internal citation omitted).

44. *Neighbors of Cuddy Mt. v. Alexander*, 303 F.3d 1059, 1063 (9th Cir. 2002) (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989)).

45. *Neighbors*, 303 F.3d at 1063 (citations omitted).

46. *Inland Empire*, 88 F.3d 754.



the timber sale to predict the effect on the MIS and the species it represented (the "proxy-on-proxy" method).<sup>47</sup>

The district court dismissed Plaintiffs' complaints as simply "quibbling" over scientific methodologies, and stated that a reviewing court should defer to the FS's choice of scientific methodologies.<sup>48</sup> On appeal, the Ninth Circuit recognized that NFMA imposed a substantive duty upon the FS to "provide for diversity of plant and animal communities."<sup>49</sup> The Court recognized that NFMA's applicable implementing regulations required "viable populations" of species, and that viable populations were those which have "estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area."<sup>50</sup> The Court also recognized that the regulations required that "habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area."<sup>51</sup> Regarding the sensitive species claim, the Court further recognized that the FS's obligation to maintain species viability applies with "special force" to sensitive species.<sup>52</sup>

Despite its conclusions, the Court stated that the "Service's methodology reasonably ensures such populations [of sensitive species] by requiring that the decision area contain enough of the types of habitat essential for survival."<sup>53</sup> The Court did not scrutinize the FS's habitat modeling methodology, neither in terms of how habitat was actually inventoried, nor how the percentages of necessary habitat had been created. Additionally, assuming the model could accurately predict habitat needs, the court did not discuss how it was possible to ensure viability if the FS had no idea of the actual number of species in the project area.

Regarding the MIS claim, the court again deferred to the FS's decision not to monitor populations, despite the specific regulation language requiring "population trends of the management indicator species [to] be monitored and relationships to habitat determined."<sup>54</sup> The reasoning for this deference seemed to be simply that because the FS had reached a conclusion regarding population predictions, they had complied with NFMA.<sup>55</sup> Or perhaps the reason for the deference was the Court's statement, embedded in a footnote, was that the FS had stated there is no "technically reliable and cost-effective method of counting individual members of the species."<sup>56</sup>

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47. *Inland Empire* at 762-763.

48. *Id.* at 758.

49. *Id.* at 759 (citing 16 U.S.C § 1604(g)(3)(B) (1996)).

50. *Id.* at 759 (citing 36 C.F.R § 219.19 (1995)).

51. *Id.*

52. *Id.* at 759 (internal citation omitted).

53. *Id.* at 761.

54. *Inland Empire* at 763, n. 12 (citing 36 C.F.R. 219.19(a)(6)(1995)).

55. *Id.* at 762-63.

56. *Id.* at 763, n. 12.

Either way, here as with the sensitive species claim, the Court blindly deferred to the FS's choice of methodology without making an in depth inquiry into its reliability.

## 2. *Idaho Sporting Congress v. Thomas*

*Idaho Sporting Congress v. Thomas* represented an incremental change in the Court's review of FS scientific methodology.<sup>57</sup> In *Thomas*, plaintiff conservation groups challenged two proposed timber sales in the Targhee National Forest in Idaho ("TNF").<sup>58</sup> One of Plaintiffs' claims was that the FS failed to monitor trout populations, in violation of NFMA regulations and the guidelines in the TNF's Forest Plan.<sup>59</sup> Although the court recognized that both NFMA and the TNF Forest Plan expressly provided for population monitoring, it stated that the FS's decision to substitute the habitat proxy method was an issue of scientific methodology. Citing *Inland Empire*, the Court held that the habitat proxy method was not arbitrary and capricious, and that it would defer to the FS's expertise.<sup>60</sup> Although it did not undertake any kind of scrutiny of the FS's habitat as proxy method, it did go a step further than the *Inland Empire* court. The Court stated that the FS must address the adequacy of fish habitat and demonstrate that there would be no appreciable habitat disturbance in the streams from the proposed timber harvest.<sup>61</sup>

In *Thomas*, Plaintiffs also brought a NEPA claim that the FS had failed to take a "hard look" at the proposed timber sales' effects on water quality.<sup>62</sup> On this claim, the Court refused to defer to the Forest Service's scientific determination that the sales would have no significant effect on water quality because the determination relied upon unreliable incomplete scientific methodology.<sup>63</sup> Unlike with the NFMA claim, on this claim the Court undertook a more scrutinizing look at the FS's methodology. Specifically, the Court asserted that in order to review the FS's decision, the scientific and environmental hard data and methodologies underlying the FS expert's opinion must be available to the public so that a plaintiff can challenge the agency action, and a court may review that challenge, by analyzing the methods and data itself, instead of being forced to simply second-guess the agency.<sup>64</sup>

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57. *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146 (9th Cir. 1998).

58. *Id.* at 1148.

59. *Id.* at 1153. In addition to providing substantive mandates, NFMA also sets forth procedural requirements. Specifically, NFMA requires that the agency create a Land Resource Management Plan for each National Forest. This Forest Plan guides specific on-the-ground activities by setting limitations and scientific standards for those actions. See *Lands Council*, 395 F.3d at 1030-31; 16 U.S.C. §§ 1604(a)(e).

60. *Idaho Sporting* at 1153-1154.

61. *Id.* at 1154.

62. *Id.* at 1150.

63. *Id.* at 1150-1151.

64. *Id.* at 1150.

In its analysis, the Court first pointed out that the Forest Service's reliance on a 1990 scientific study which only consisted of an expert opinion based on the natural topography of the sale area – with no supporting hard data – was inadequate to meet NEPA's requirements for the public disclosure of underlying hard data.<sup>65</sup> In response, the Forest Service pointed to a 1985 monitoring and sampling report – conducted in the general area by the same scientist – to provide technical support for the scientific conclusion that there would be no impact on water quality.<sup>66</sup> The court found that although the 1985 report did contain sampling of one of the affected creeks, it did not cover a second affected creek, and the report itself cautioned against being used to represent water quality for the whole area.<sup>67</sup> Additionally, the logging done before the 1985 report was significantly different than the logging proposed for the sales at issue. The court concluded that the 1985 scientific report was unreliable as supporting data for the conclusion that water quality would not be affected.<sup>68</sup> Thus the court held that because the FS had relied upon incomplete data and unreliable methodology, the Forest Service had not complied with NEPA's requirement that the agency take a "hard look" at environmental effects.<sup>69</sup>

### 3. *Idaho Sporting Congress v. Rittenhouse*

*Thomas* represented a shift in the Court's willingness to scrutinize the FS's methods more thoroughly, at least as to underlying data and methods in the NEPA context.<sup>70</sup> In *Idaho Sporting Congress v. Rittenhouse* the Court demonstrated an even stronger willingness to thoroughly scrutinize the FS's methods by expanding the scrutiny into the NFMA context.<sup>71</sup> In *Rittenhouse*, plaintiff conservation groups challenged two timber sales in the Boise National Forest ("BNF") in Idaho. They argued that the BNF violated NFMA by failing to ensure species viability.<sup>72</sup> In this case, the Court refused to defer to the FS's scientific determination that the viability of old-growth and management indicator species was not threatened in the Boise National Forest because the FS's determination was based on unreliable inaccurate scientific data.<sup>73</sup> The court stated that the amount of old growth habitat mandated by the BNF's Forest Plan was insufficient to maintain viability, and that even if it was sufficient, the FS had not ensured that that amount existed. Undisputed evidence showed that none of the alleged acres of old-growth habitat which had been designated by aerial photogra-

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65. *Id.*

66. *Id.*

67. *Idaho Sporting* at 1150.

68. *Id.*

69. *Id.*

70. *Id.*

71. *Rittenhouse*, 305 F.3d at 968.

72. *Id.* at 966.

73. *Id.* at 970-71.

phy in "Management Area 35" actually existed upon ground verification surveys of the areas. Forty percent of the old-growth habitat which had been so designated had been lost to fire. Even some of the FS's own scientists believed that the amount of old-growth habitat preserved by the Forest Plan, and the FS's approach to sustaining old-growth dependent species' viability, was invalid.<sup>74</sup> Thus, because the FS had used incorrect data in its old-growth habitat inventory the Court determined that the FS's habitat proxy methodology was erroneous, unsound, arbitrary, and "so inaccurate" that it failed to satisfy NFMA's substantive mandates to ensure wildlife viability in the Forest.<sup>75</sup>

### C. Current State of Law Governing Review of Scientific Methodology

One of the most recent Ninth Circuit cases to decide on issues of reliability of FS scientific methodology is *Earth Island Institute v. U.S. Forest Service*.<sup>76</sup> Plaintiff conservation groups challenged two timber sales on the El Dorado National Forest ("EDNF") in California. Under NEPA, Plaintiffs argued that the FS's scientific method of analyzing tree mortality was unreliable, and therefore the FS was not ensuring scientific integrity nor taking a "hard look" at environmental effects of the proposed sales.<sup>77</sup> Under NFMA, Plaintiffs argued that the FS's population and habitat data on three species was unreliable and inadequate to ensure viability.<sup>78</sup> The Court found for Plaintiffs on these and other related claims, and reversed the district court's denial of a preliminary injunction for Plaintiffs because it found that Plaintiffs had shown a "strong likelihood of success on the merits of their case."<sup>79</sup> For both claims the Court scrutinized the underlying scientific data and methodology, and based its decision on the integrity and reliability of the FS's methodology.<sup>80</sup>

Regarding the NEPA claim, the Court undertook an in-depth analysis of the scientific evidence provided by Plaintiff's expert and the FS scientist. After a six page analysis on the merits of each scientific argument, the Court held that even if the tree mortality model did not over predict mortality, the FS abused its discretion because it either misunderstood and misapplied the model, or understood the model's true meaning but concealed and misrepresented it in the EIS. In either case the Court held that the FS's use of the tree mortality model violated NEPA because it either failed to consti-

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74. *Rittenhouse* at 967-970.

75. *Id.* at 972.

76. *Earth Island Inst. II*, 442 F.3d at 1147.

77. *Id.* at 1152, 1161-1167.

78. *Id.* at 1152-53, 1174-1176.

79. *Id.* at 1153.

80. *Id.* at 1161-1167, 1174-1176.

tute a "hard look," or put forward a misleading document in violation of the mandate for scientific integrity.<sup>81</sup>

Regarding the NFMA claim, the Court reviewed the FS's underlying habitat and population data to determine whether it was reliable. It found that the EDNF's Forest Plan specifically required monitoring for two bird species, but instead of monitoring the FS had unreasonably relied upon a generalized and weak bird survey, in violation of NFMA.<sup>82</sup> Additionally, the Court found that the FS's failure to monitor black-backed woodpeckers populations and instead employ the habitat proxy method was a violation of NFMA, because the habitat analysis was inadequate. Specifically the Court found that there was no indication that the FS had consulted accurate or current field studies, and the FS had not identified the methodology it used to determine suitable habitat. The Court stated that FS methods must be reasonably reliable and accurate, and here there was no factual basis regarding quantity and quality of habitat that could satisfy NFMA.<sup>83</sup>

#### *D. Need for Further Development of "Methodology Review" Rule*

As the trend discussed above demonstrates, the Ninth Circuit seems to be scrutinizing the FS's methodology more carefully under both NFMA and NEPA claims. This trend fits squarely with the APA review standard which requires a searching inquiry<sup>84</sup> into whether the agency has "entirely failed to consider an important aspect of the problem,"<sup>85</sup> "offered an explanation for its decision that runs counter to the evidence before the agency,"<sup>86</sup> committed a "clear error of judgment,"<sup>87</sup> and/or made findings supported by substantial evidence, which in turn supported the agency's decision.<sup>88</sup> But the Court has not yet articulated a clear test for how to determine whether the FS's methodology is reliable. Instead, it simply applies a sort of common sense approach, which does now and will continue to vary from panel to panel. The Court should proactively recognize that a clear test for methodology review that may be applied in future cases would ensure more consistency in judicial opinions in this area, as well as allowing the judiciary to feel more comfortable in their role as arbiter of scientifically-based disputes.

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81. *Id.* at 1161-1168.

82. *Id.* at 1174-1176.

83. *Id.* at 1175-1176 (citing *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1250 (9th Cir. 2005); *Ecology Ctr.*, 430 F.3d at 1068).

84. *Marsh*, 490 U.S. at 378.

85. *Motor Veh. Mfrs.*, 463 U.S. at 43.

86. *Id.*

87. *Marsh*, 490 U.S. at 378.

88. *Burlington Truck Lines*, 83 S. Ct. at 245-246.

## III. STATEMENT OF THE CASE

A. *Relevant Facts*

*Lands Council* was a pivotal case in the development of the Ninth Circuit's trend toward methodology review. In *Lands Council*, Plaintiff conservation groups challenged the Iron Honey Project (the "Project") proposed by the FS for the Idaho Panhandle National Forest ("IPNF") in Idaho. Although the FS officially called the Project an "aquatic, vegetative and wildlife habitat improvement" project, the Project was mostly a timber sale that would produce 17.5 million board feet of timber.<sup>89</sup> The project area was located on 21,600 acres at the headwaters of the Little North Fork of the Coeur D'Alene River, 30 miles upstream from the confluence of the North and South Forks of the Coeur D'Alene Rivers, and 72 miles upstream from Lake Coeur D'Alene.<sup>90</sup>

Prior to the Project proposal, the FS had heavily logged the area. Within the analysis area for the Project, the FS had previously allowed 3,750 acres of clearcuts, 2,736 acres of overstory removal, 1,400 acres of commercial thinning, 1,221 acres of salvage logging, and 1,063 acres of selective harvest.<sup>91</sup> The FS had created an extensive road network to facilitate logging which averaged 8.6 miles of road per square mile of land, and extensively fragmented the remaining forest.<sup>92</sup> As a result of the intensive timber harvest, water quality and aquatic species were imperiled. Of the 14 creeks in the project area, four of the creeks were identified by the FS as non-functioning, eight were identified by the FS as functioning at risk, and only two were identified as properly functioning.<sup>93</sup> Furthermore, the Bull Trout was recognized as a threatened species under the Endangered Species Act ("ESA"), and the Westslope Cutthroat Trout was recognized by the FS as a "species of concern," and both of these fish species were indicator species for the management decisions of the FS of the IPNF.<sup>94</sup>

The Project proposed by the FS called for logging 1,408 more acres in the area by the "shelterwood" logging method, which is similar to clearcutting, but leaves a certain percentage of trees for shade to facilitate new growth. The logging would provide 17.5 million board feet of timber, and the Project would allow the reconstruction of 29 miles of road, the construction of two miles of "temporary" road, and the construction of 0.2 miles of new road to facilitate logging.<sup>95</sup>

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89. Appellant's Opening Br. at 5, *Lands Council v. Powell*, 395 F.3d 1019 (9th Cir. 2005).

90. *Id.* at 5, 8.

91. *Id.* at 9 (citing FEIS at III-2).

92. *Id.* (citing FEIS F-2).

93. *Id.* (citing FEIS, App. D-3-10).

94. *Id.* at 11.

95. *Id.* at 10 (citing FEIS at AG-17; ROD-2).

### B. *Procedural History*

The FS began soliciting public comments on the project in 1996 as part of the NEPA process known as "scoping." In April of 2000, the FS released the Draft EIS ("DEIS") for the Project, and Plaintiffs submitted comments to the FS. In December 2001, the FS released the Final EIS ("FEIS") and in February 2002, the IPNF Supervisor signed the Record of Decision ("ROD") for the Project. Plaintiffs filed an administrative appeal of the Project with the Regional Forester and it was denied in May 2002.<sup>96</sup> Plaintiffs filed suit in October 2002 against the FS and the Regional Forester in the United States District Court for the District of Montana, Missoula Division, and the case was transferred to the District of Idaho. Both parties moved for summary judgment and the district court granted summary judgment to the FS. Plaintiffs then appealed to the Ninth Circuit Court of Appeals.<sup>97</sup> The Court heard oral argument in March 2004, and filed its original judgment in August 2004. The Court filed an amended judgment, which made only minor corrections, in January 2005.<sup>98</sup>

### C. *Holding and Reasoning*

The Ninth Circuit's decision reversed the district court's grant of summary judgment for the FS and held that the FS had violated both NFMA and NEPA for various reasons. Among other claims, Plaintiffs argued that the Project's impact on soils and species viability violated NFMA, and that the EIS's water quality analysis and fish habitat analysis violated NEPA. After analyzing FS methodology, the Court refused to defer to the FS's scientific determinations regarding fish impact analysis, water quality analysis, soil quality, and species viability because it found that the underlying scientific data or methodology was unreliable.<sup>99</sup>

Regarding fish impact analysis, the Court found that the FS used Westslope Cutthroat Trout habitat data which was too outdated to be accurate and therefore could not be relied upon to make an accurate assessment of the proposed project's impact on habitat and population of the Westslope Cutthroat Trout in violation of NEPA's "hard look" requirement.<sup>100</sup> Regarding water quality analysis, the Court found that the FS had used a flawed scientific methodology in determining water quality effects because the "WATSED" model that was used lacked important relevant variables, and the Forest Service had failed to address its faults, in violation of NEPA.<sup>101</sup> The Court also addressed NFMA claims: the Court found that the scientific

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96. *Lands Council*, 395 F.3d at 1025.

97. *Id.* at 1025-1026; Appellant's Opening Br. at 7.

98. *Lands Council*, 395 F.3d at 1019.

99. *Id.* at 1031-32, 1035, 1037.

100. *Id.* at 1031.

101. *Id.* at 1032.

methodology the FS was using to inventory old growth habitat to ensure species viability was unsound, and thus unreliable, because the FS's main tool for old growth calculation was the timber stand management reporting system database ("TSMRS"), which contained data that was too old, inaccurate for canopy closure estimates, and insufficient for snag inventory. These failures were not rehabilitated by "spot surveys" of actual populations on the ground, so the use of the data to support "proxy on proxy" species viability analysis was unsound and in violation of NFMA.<sup>102</sup>

Perhaps most important was the Court's treatment of Plaintiffs' NFMA soils claim. Like the other claims, the Court analyzed the underlying methodology to determine whether it was reliable; but unlike ever before the Court expressly *articulated* that the FS must demonstrate that its scientific models meet a standard of "required reliability."<sup>103</sup> The FS had based its soils determinations on a spreadsheet model which used aerial photographs and soil samples taken throughout the forest (including in the activity area for the Project) to predict soil quality in the proposed activity area units, and those predictions were not verified with actual field monitoring.<sup>104</sup> The Court refused to "trust the internal conclusions of the reliability of the spreadsheet model when the Forest Service did not verify the predictions of the spreadsheet model" because there was no way for the Court to know whether the FS's predictions were "dead on or dead wrong."<sup>105</sup> The Court held that under those circumstances, "the Forest Service's basic scientific methodology, to be reliable, required that the hypothesis and prediction of the model be verified with observation."<sup>106</sup> Because the predictions and hypothesis were not verified, the methodology was unreliable, and thus the Court held that the FS was not ensuring soil quality in violation of NFMA.<sup>107</sup>

#### IV. ANALYSIS

##### A. *Correct Decision*

The Court's implicit and explicit holding in *Lands Council* that the FS is required to demonstrate the reliability of its scientific methodology was correct. It is a proper interpretation of case precedent, regulatory mandates, and the historical context of National Forest management. Additionally, the correctness of the decision is further demonstrated by the manner in which

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102. *Id.* at 1036-1037; *see also* Appellee's Br. at 42, *Lands Council v. Powell*, 395 F.3d 1019 (9th Cir. 2005).

103. *Lands Council*, 395 F.3d at 1035.

104. *Id.* at 1034-35; *see also* Appellee's Br. at 49 n. 18.

105. *Lands Council*, 395 F.3d at 1035 (internal citations omitted).

106. *Id.*

107. *Id.*



subsequent courts have embraced the concept of requiring the FS to use reliable scientific methodology.

### 1. *Consistency with Case Precedent*

While expert discretion is vital to the administrative process, the U.S. Supreme Court has refused to give unlimited discretion to agency experts. In *Burlington Truck Lines v. U.S.*, the Court stated that "unless we make the requirements for administrative action strict and demanding, expertise, the strength of modern government, can become a monster which rules with no practical limits on its discretion."<sup>108</sup> And in *State of N.Y. v. U.S.*, the Supreme Court stated that "[a]bsolute discretion, like corruption, marks the beginning of the end of liberty."<sup>109</sup> The Ninth Circuit has accordingly ruled that "[t]he deference accorded an agency's scientific or technical expertise is not unlimited,"<sup>110</sup> thus even if an agency bases its decision on its own scientific expertise, a court may refuse to defer to the agency expertise if the decisions are not well reasoned.<sup>111</sup> Other courts have similarly held that courts will not blindly defer to agency expertise,<sup>112</sup> and that agencies may not use "expertise as a cloak for fiat judgment."<sup>113</sup> A reviewing court is not invading the agency's expertise by refusing to accept the agency's pronouncement without question.<sup>114</sup>

Prior to *Lands Council*, courts in the Ninth Circuit had already recognized that they were not bound to blindly accept an agency's scientific determinations, and accordingly had determined that NFMA's substantive mandates and NEPA's procedural mandates are violated when the agency relies upon conclusions reached through unreliable scientific methodology. Methodology which used incorrect data, incomplete data, or stale data had been deemed to be unreliable.<sup>115</sup> Additionally, science based upon unverified data or models had also been deemed to be unreliable.<sup>116</sup>

In *Rittenhouse*, the Ninth Circuit Court refused to defer to the FS's unreliable scientific determination that the viability of old-growth and management indicator species was not threatened by proposed logging, because the FS's determination was based on inaccurate scientific data, which had

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108. *Burlington Truck Lines v. U.S.*, 371 U.S. 156, 167 (1962) (internal citations omitted).

109. *N.Y. v. U.S.*, 342 U.S. 882, 884 (1951).

110. *Natl. Wildlife Fedn. v. Natl. Marine Fisheries Serv.*, 422 F.3d 782, 798 (9th Cir. 2005) (internal citations omitted).

111. *Brower v. Evans*, 257 F.3d 1058, 1067 (9th Cir. 2001) (citing *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 679 (D.D.C. 1997)).

112. *N. Spotted Owl v. Hodel*, 716 F. Supp. 479, 482 (W.D. Wash. 1998).

113. *TN Gas Pipeline Co. v. FERC*, 926 F.2d 1206, 1211 (D.C. Cir. 1991).

114. *U.S. v. F/V Alice Amanda*, 987 F.2d 1078, 1087 (4th Cir. 1993).

115. See *Rittenhouse*, 305 F.3d at 967-972; *Thomas*, 137 F.3d at 1150-1151; *Seattle Audubon Socy. v. Espy*, 998 F.2d 699, 703-704 (9th Cir. 1993) [hereinafter *Seattle Audubon II*].

116. *Kettle Range Conservation Group v. U.S. Forest Serv.*, 148 F. Supp. 2d 1107, 1125-1127 (E.D. Wash. 2001).

grossly misrepresented actual habitat conditions in the forest.<sup>117</sup> In *Thomas*, the Ninth Circuit Court refused to defer to the FS's unreliable scientific determination that proposed logging would have no significant effect on water quality, because the determination was based upon incomplete scientific data that completely lacked important monitoring data.<sup>118</sup> Additionally, to make the issue even clearer, *Thomas* further announced that the FS may not simply rely on its expert opinion without hard data, and it must disclose the hard data relied upon by the FS to the public so that citizens may properly challenge the action in court based on that underlying data, and not simply based on second-guessing an agency's scientific conclusions.<sup>119</sup> In *Seattle Audubon Society v. Espy* the Ninth Circuit Court refused to defer to the FS's unreliable scientific determination that the Interagency Scientific Committee (ISC) conservation strategy for the Spotted Owl was adequate to ensure viable populations of the Spotted Owl because the determination relied upon stale scientific data, which had been superseded by a more recent scientific study.<sup>120</sup> In *Kettle Range Conservation Group v. U.S. Forest Service*, a district court refused to defer to the FS's unreliable scientific determination of soil conditions in the Colville National Forest and Idaho Panhandle National Forest because the determination relied upon unverified speculative scientific methodology and data, which did not provide any actual accounting of real soil conditions in the forest.<sup>121</sup>

These cases demonstrate that prior to *Lands Council*, the Ninth Circuit courts were already in the practice of overturning FS decisions that depended upon unreliable scientific methodology. *Lands Council* simply continued this trend by requiring the FS to meet a standard of scientific reliability before its scientific determinations would be judicially upheld. Specifically, *Lands Council* rejected inaccurate habitat modeling like in *Rittenhouse*, rejected incomplete data on water quality like in *Thomas*, rejected stale scientific data like in *Seattle Audubon Society*, and rejected unverified soil projections like in *Kettle Range*.<sup>122</sup>

## 2. Consistency with Federal Regulation

In addition to the case precedent which preceded and cumulated in the *Lands Council* decision, federal regulation supports the Court's holding. NEPA's implementing regulations state that "[a]gencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any meth-

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117. *Rittenhouse*, 305 F.3d at 968, 970-971.

118. *Thomas*, 137 F.3d at 1150-1151.

119. *Id.* at 1150.

120. 998 F.2d at 703-705.

121. 148 F. Supp at 1125-1127.

122. *Lands Council*, 395 F.3d at 1031-1032, 1035-1037; see also *Lands Council v. Vaught*, 198 F. Supp. 2d 1211, 1239 (E.D. Wash. 2002) (also invalidating the FS's water quality model).

odologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement."<sup>123</sup> *Lands Council's* requirement for reliable scientific methodology fits squarely with this regulation because if an agency is depending upon unreliable science for its conclusions, it cannot be said to be insuring "scientific integrity."

### 3. Consistency with Historical Context

In addition to being grounded in case precedent and regulatory guidance, the *Lands Council* decision was also grounded in historical context. As discussed in Section II-A, Congress passed NFMA because the FS's previous exercises of discretion had resulted in the desecration of the National Forests by over harvesting, which had in turn resulted in massive erosion and flooding. Congress did not want the FS to have unlimited management discretion any longer. Instead, Congress wanted the FS's discretion to be reined in and guided by NFMA's implementing regulations, which had been created by a specially appointed scientific committee.<sup>124</sup> And Congress expected that the remaining discretion that the FS retained would be executed in light of contemporary scientific knowledge.<sup>125</sup>

Although Congress passed statutes such as NEPA and NFMA to neutralize the FS's institutional bias towards approving timber sales at the expense of all other interests, courts recognize that the FS still retains that taint. In the early 1990's the FS was repeatedly taken to court for its role in failing to protect the Spotted Owl, and instead pandering to the timber industry. The timber industry was infuriated when the courts held that all logging in Spotted Owl habitat in the Pacific Northwest must be enjoined until the FS could come up with a plan to avert the extinction of the Spotted Owl.<sup>126</sup> At an initial hearing on the controversy a FS research wildlife biologist conceded that "there was a considerable – I would emphasize considerable – amount of political pressure to create a plan which was an absolute minimum. That is, which had a very low probability of success and which had a minimum impact on timber harvest."<sup>127</sup> Additionally, the team leader of the FS research team, Dr. Jack Ward Thomas, also testified that "[a]fter the initial release of the report [on owl habitat conservation], there was a political decision made by the administration to appoint a cabinet-level review team that would examine the report...with the idea of seeing if there was some alternative course of action that would be less dramatic economically

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123. 40 C.F.R. § 1502.24 (2006).

124. Potter, *supra* n. 24, at 243-47.

125. *Id.* at 246.

126. *Seattle Audubon Socy. v. Evans*, 952 F.2d 297 (9th Cir. 1991); *Seattle Audubon Socy. v. Evans*, 771 F. Supp. at 1088-1096 (W.D. Wash. 1991) [hereinafter *Seattle Audubon I*]; *Seattle Audubon Socy. v. Espy*, 798 F. Supp. 1473 (W.D. Wash. 1992); *Seattle Audubon II*, 998 F.2d at 699.

127. *Seattle Audubon I*, 771 F. Supp. at 1089.

and socially."<sup>128</sup> The court reviewing this testimony found that there was a "deliberate and systematic refusal by the Forest Service and the FWS [Fish and Wildlife Service] to comply with the laws protecting wildlife."<sup>129</sup>

The Ninth Circuit has continued to recognize this institutional bias of the FS. In one recent case, a concurring judge stated:

"I write separately to state my belief that the Forest Service, because of its financial interest in the sale, may be disqualified from approving the sale of timber from the Eldorado [sic] Forest...A preliminary survey of the public information available on the budget of the Forest Service suggests that timber sales by the Forest Service generate many millions of dollars and that, to an extent not immediately determinable, the sales create a budget for the Forest Service that, in the conduct of more sales, make it independent of the normal appropriation process. Any governmental agency would put a premium on an operation that gives it a perpetual revolving fund not dependent on Congress."<sup>130</sup>

In an even more recent case the majority opinion continued to recognize the bias of the FS:

"We have noticed a disturbing trend in the USFS's recent timber-harvesting and timber-sale activities...[citing cases]...It has not escaped our notice that the USFS has a substantial financial interest in the harvesting of timber in the National Forest. We regret to say that in this case, like the others just cited, the USFS appears to have been more interested in harvesting timber than in complying with our environmental laws."<sup>131</sup>

*Lands Council's* refusal to blindly accept all scientific determinations made by the FS is consistent with the NFMA Congress's mistrust of the FS's management discretion, and judicial mistrust of the FS's impartiality. And *Lands Council's* requirement that the FS use reliable scientific methodology is consistent with the congressional intent behind NFMA that FS management decisions be grounded in contemporary scientific knowledge, and is one way to fairly counteract the FS's institutional bias toward approving logging at the expense of environmental considerations.

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128. *Id.* at 1090.

129. *Id.*

130. *Earth Island Inst. v. U.S. Forest Serv.*, 351 F.3d 1291, 1309-1310 (9th Cir. 2003) (Noonan, J., concurring) [hereinafter *Earth Island I*].

131. *Earth Island II*, 442 F.3d at 1177.

#### 4. Acceptance by Subsequent Courts

In addition to being consistent with case precedent, regulatory guidance, and historical context, the appropriateness of *Lands Council's* requirement for reliable scientific methodology has been illustrated by its acceptance by subsequent courts. In two recent key cases, the Ninth Circuit examined the FS's underlying data and methods and found them to be too unreliable to satisfy legal mandates.

As discussed above, the Ninth Circuit followed *Lands Council* in *Earth Island II*, which was a case challenging logging in the El Dorado National Forest. In that case the Court found that the FS had violated NEPA and NFMA by using unreliable scientific data and methodology because (1) the FS's habitat analysis was inadequate for the black-backed woodpecker, (2) the FS's population monitoring data was too generalized for two other bird species, and (3) the FS's tree mortality model was either incorrect, misapplied, or intentionally misleading.<sup>132</sup>

Another recent case which follows *Lands Council* is *Ecology Center v. Austin*, which was a case challenging logging in the Lolo National Forest in Montana.<sup>133</sup> In *Ecology Center*, the Ninth Circuit found that the FS had violated NFMA and NEPA in part by using unreliable data and methodology because it (1) relied upon an unverified scientific hypothesis that logging in old-growth forest would restore old-growth habitat, and (2) assumed that soil quality would be ensured without actually testing the soil conditions in the activity units.<sup>134</sup> Notably, the dissent in *Ecology Center* argued that the holding of the case could not be "reconciled with [the] case law requiring deference to an agency's technical expertise and experience."<sup>135</sup> This dissenting opinion resulted in the timber industry publicly denouncing *Ecology Center* as the "death of deference decision."<sup>136</sup> The timber industry (who had intervened in the case) requested and was denied a rehearing en banc in the Ninth Circuit.<sup>137</sup> The timber industry then petitioned for a writ of certiorari to the U.S. Supreme Court, and was denied.<sup>138</sup>

Several district courts in the Ninth Circuit have also required that the FS's scientific methodology be reliable. In *Native Ecosystems Council v. Bosworth*, the district court found that the FS had violated NFMA in its approval of logging in the Targhee National Forest in Idaho because the FS had depended upon an unreliable old-growth habitat inventory which was

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132. *Id.* at 1166-1167, 1174-1176.

133. *Ecology Ctr.*, 430 F.3d at 1057.

134. *Id.* at 1065, 1071.

135. *Id.* at 1077 (McKeown, J., dissenting) (internal quotations omitted).

136. John Q. Murray, *Supreme Court to Vote Friday on Lolo Post-Burn Case*, Clark Fork Chronicle (Jan. 4, 2007) (internal quotations omitted).

137. See Appellant's Pet. for Writ of Cert. at viii, *Mineral County, Mont. v. Ecology Ctr., Inc.*, 127 S. Ct. 931 (2006).

138. *Mineral County, Mont. v. Ecology Ctr., Inc.*, 127 S. Ct. 931 (2007), cert. denied.

based upon inaccurate and unverified scientific data.<sup>139</sup> In *Environmental Protection Information Center v. Blackwell*, the district court found that the FS had violated NFMA in its approval of logging in the Mendocino National Forest in California because the FS had depended upon an unreliable habitat model which had not been verified with a comparison to monitoring data which reflected current conditions.<sup>140</sup> In *Idaho Conservation League v. Bennett*, the district court found that the FS had violated NEPA in its approval of logging on National Forest and Bureau of Land Management lands in central Idaho because the FS had depended upon an unreliable determination of existing fish habitat conditions which did not quantify or analyze key variables.<sup>141</sup>

In the above mentioned cases, the courts conducted an in-depth inquiry into whether the FS had utilized reliable scientific methodology in its decisions to allow logging projects to proceed. This acceptance of *Lands Council's* pronouncement that the FS must use reliable scientific methodology demonstrates that the Court's announcement of that rule was correct.

#### B. Standard for Reliability

While the Court in *Lands Council* did correctly state that the FS must demonstrate the reliability of its scientific methodology, it left future courts without an articulated standard by which to measure whether methodology is in fact reliable. Because of the court's recent history giving the FS blind deference, it is understandable that some judges might be confused and uncomfortable applying the required reliability rule. For example, the *Ecology Center* dissent claimed that the majority decision "represents an unprecedented incursion into the administrative process and ratchets up the scrutiny we apply to the scientific and administrative judgments of the Forest Service" and that the majority was engaging in "flyspeck[ing] the agency's analysis."<sup>142</sup> The dissent's position, though refuted by case precedent, congressional intent, and historical context, as noted above, is understandable in light of the historical judicial hesitancy to adequately review FS decisions.

The articulation of a clear standard for methodology review would be helpful for future courts to have a consistent understanding of the law and to issue consistent opinions. One acceptable standard would be one that is based upon the scientific expert reliability test articulated in *Daubert v. Merrill Dow Pharmaceuticals* and Federal Rule of Evidence 702.<sup>143</sup> In

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139. *Native Ecosystems Council v. Bosworth*, 2005 WL 2387594 (D. Idaho 2005).

140. *Env'tl. Protec. Info. Ctr. v. Blackwell*, 389 F. Supp. 2d 1174, 1213-1214 (N.D. Cal. 2004).

141. *Idaho Conserv. League v. Bennett*, 2005 WL 1041396, 10 (D. Idaho 2005).

142. *Ecology Ctr.*, 430 F.3d at 1072, 1077 (McKeown, J., dissenting).

143. *Daubert v. Merrill Dow Pharm.*, 509 U.S. 579 (1993). For a more exhaustive discussion on the applicability of *Daubert* standards to Forest Service science, see Erin Madden, *Seeing the Science for*

*Daubert*, the U.S. Supreme Court announced that it was confident that federal judges were competent enough to review scientific testimony and determine whether it was reliable enough to be admitted as evidence in trial.<sup>144</sup> Upon examination of the language of Federal Rule of Evidence 702 -- which explicitly allowed expert testimony when based upon "scientific knowledge" -- the Court found that "[t]he adjective 'scientific' implies a grounding in the methods and procedures of science. Similarly, the word 'knowledge' connotes more than subjective belief or unsupported speculation."<sup>145</sup> Thus the Court held that before a judge should allow expert scientific testimony in a trial, the judge should first determine whether "the reasoning or methodology underlying the testimony is scientifically valid and... whether that reasoning or methodology properly can be applied to the facts in issue."<sup>146</sup>

Further, the *Daubert* Court outlined various factors that a judge could consider when determining whether a scientific methodology is reliable evidence: whether the methodology can and has been tested to see if it can be falsified, whether the methodology has been subjected to peer review and publication, what the known or potential rate of error is for the methodology, and whether the methodology had been generally accepted.<sup>147</sup> Post *Daubert*, courts adopted additional factors to consider: whether the testimony was specifically created for litigation, whether extrapolation was unjustified, whether the expert has accounted for obvious alternative explanations, whether the expert's work meets her own professional intellectual standards, and whether the expert's field is a reliable one.<sup>148</sup> Additionally post-*Daubert*, Rule 702 was amended to reflect the *Daubert* decision, and now requires that in order for a scientific expert to testify the court must first determine that "(1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case."<sup>149</sup>

Because the FS is required by NEPA regulations to ensure the scientific integrity of its methodology, and because the Ninth Circuit already conducts reviews of FS scientific methodology to determine whether it is reliable, a standard for FS methodology review which incorporates Rule 702 and the

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*the Trees: Employing Daubert Standards to Assess the Adequacy of National Forest Management Under the National Forest Management Act*, 18 J. Envtl. L. & Litig. 321 (2003).

144. *Daubert*, 509 U.S. at 593.

145. *Id.* at 590.

146. *Id.* at 592-594.

147. *Id.* at 593-594.

148. F. R. Evid. 702 (citing *Daubert*, 43 F.3d at 1317; *General Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997); *Claar v. Burlington N. R.R.*, 29 F.3d 499 (9th Cir. 1994); *Sheehan v. Daily Racing Form, Inc.*, 104 F.3d 940, 942 (7th Cir. 1997); *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 149-154 (1999); *Moore v. Ashland Chem., Inc.*, 151 F.3d 269 (5th Cir. 1998); *Sterling v. Velsicol Chem. Corp.*, 855 F.2d 1188 (6th Cir. 1988)).

149. F. R. Evid. 702.

*Daubert* factors would work well here.<sup>150</sup> Upon presentation of complaints that the FS's science is unreliable, the reviewing court should first determine whether the FS's conclusions and methods are based upon sufficient data. Then the court should determine whether the methodology used by the FS is reliable and was reliably applied to the data. In order to determine whether the methods and application were reliable, the courts should use *Daubert* factors such as whether the methodology has been tested and not falsified through testing, whether extrapolation was unjustified, whether the expert accounted for obvious alternative explanations, whether the conclusions were specifically created for litigation, etc. This procedure would result in a more consistent and appropriate body of law that restrains the absolute discretion of the FS, and ensures that the FS is applying valid scientific methodologies in its management of the National Forests.

#### V. CONCLUSION

The *Lands Council* Court's holding which requires that FS scientific methodology be reliable was a correct restatement of case precedent, federal regulation, and the historical context surrounding National Forest management, and the holding has been embraced by subsequent courts, but the Court should have articulated a clear test for future courts to utilize when determining whether FS science is reliable. A clear standard would reinforce the requirement for scientific reliability, and allow courts to consistently continue the trend of thorough scrutiny that the public and Congress want them to engage in when reviewing FS management decisions. Changing times have brought changing demands from a public citizenry that is increasingly aware of the FS's mismanagement of their National Forests. In light of these demands, the courts can no longer allow the FS to hide behind an incantation that the courts must defer to an agency's scientific decisions. As the Supreme Court in *Daubert* stated regarding review of the validity of scientific methodology: "[w]e are confident that federal judges possess the capacity to undertake this review."<sup>151</sup> Not only is the federal judiciary competent to do this type of review, but in the context of National Forest management, federal environmental laws and the public interest mandate that they do so.

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150. 40 C.F.R. § 1502.24 (2006).

151. *Daubert*, 590 U.S. at 593.



