

FOR PUBLICATION
UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

THE ECOLOGY CENTER,
Plaintiff,

and

WILDWEST INSTITUTE,
Plaintiff-Appellant,

v.

BOB CASTANEDA, in his official capacity as Forest Supervisor for the Kootenai National Forest; ABIGAIL KIMBALL, Regional Forester of Region One of the U.S. Forest Service; UNITED STATES FOREST SERVICE, an agency of the U.S. Department of Agriculture,

Defendants-Appellees,

and

F.H. STOLTZE LAND & LUMBER Co.; FOUSTS INC.; REGEHR LOGGING INC.; PONDERAY VALLEY FIBRE INC.; LINCOLN COUNTY,

Defendant-Intervenors.

No. 07-35054

D.C. No.

CV-06-00024-DWM

ORDER
AMENDING
OPINION AND
DENYING
PETITION FOR
REHEARING AND
PETITION FOR
REHEARING EN
BANC AND
AMENDED
OPINION

Appeal from the United States District Court
for the District of Montana
Donald W. Molloy, Chief District Judge, Presiding

Argued and Submitted
January 20, 2009—Seattle, Washington

Filed April 17, 2009
Amended July 22, 2009

Before: Thomas M. Reavley,* Senior Circuit Judge,
Richard C. Tallman and Milan D. Smith, Jr., Circuit Judges.

Opinion by Judge Tallman

*The Honorable Thomas M. Reavley, Senior United States Circuit Judge for the Fifth Circuit, sitting by designation.

COUNSEL

Thomas J. Woodbury, Missoula, Montana, for the appellant.

John T. Stahr (briefed), and Charles R. Scott (argued), U.S. Department of Justice Environment and Natural Resources Division, Washington, D.C., for the appellees.

ORDER

The opinion filed on April 17, 2009, is amended as follows:

The second paragraph of subsection <E. Population Viability>, appearing at slip op. pages 4450-51, beginning <WildWest first claims the minimum . . .> and ending <. . . at least 134 breeding pairs> is DELETED and REPLACED with the following:

WildWest first claims the minimum viable population for the pileated woodpecker in the KNF is 554 breeding pairs, which represents forty percent of the 1384 pairs the KNF was historically able to support. However, as WildWest notes in its brief, the KNF was historically able to support a *range* of 335 to 1384 pairs. WildWest does not explain why the standard must be forty percent of the range's upper limit. The Forest Service calculated the viability threshold as a range of 335 to 554 breeding pairs, based on historical data. The lower bound of 335 pairs is reasonable. The potential population was at some time reduced to 335 pairs due to natural disturbances. From that nadir, the estimated population has since grown larger. Therefore, the population was necessarily viable at 335 pairs. The upper bound of 554 pairs represents forty percent of the KNF's historical maximum potential, as suggested by the Forest Plan. Therefore, this range of 335 to 554 pairs is a reasonable interpretation of the Forest Plan's provisions for maintaining species viability. The KNF is currently home to 425 breeding pairs of woodpeckers, well within the permissible range, and the Forest Service's determinations in this respect were not arbitrary or capricious.

The panel has voted to deny the petition for panel rehearing. Judges Tallman and M. Smith have voted to deny the petition for rehearing en banc and Judge Reavley so recommends.

The full court has been advised of the petition for rehearing en banc and no judge has requested a vote on whether to rehear the matter en banc. Fed. R. App. P. 35.

The petition for panel rehearing and the petition for rehearing en banc are denied.

OPINION

TALLMAN, Circuit Judge:

WildWest Institute (“WildWest”) challenges the United States Forest Service’s approval of nine timber sale and restoration projects in Montana’s Kootenai National Forest (“KNF”), claiming violations of the National Forest Management Act (“NFMA”), the National Environmental Policy Act (“NEPA”), and Forest Service regulations. WildWest sought declaratory and injunctive relief to prevent environmental injury. The district court granted summary judgment in favor of the Forest Service. We have jurisdiction under 28 U.S.C. § 1291, and we affirm.

I. Facts and Prior Proceedings

The KNF covers over 2.2 million acres in northwest Montana. The Forest Service adopted the Kootenai National Forest Plan (“Forest Plan”) pursuant to NFMA in 1987. It is intended to guide “all natural resource management activities and establishes management standards” for the forest. The Forest Plan establishes 23 Management Areas (“MA”) within the KNF, including one related to Old Growth Timber (“MA 13”).

To implement the Forest Plan, the Forest Service adopts plans and projects for specific areas of the KNF. Over the

course of 2004 and 2005, the Forest Service adopted the nine site-specific projects that are challenged here: the Bristow Area Restoration Project, Fortine Project, West Troy Project, Pipestone Timber Sale and Restoration Project, Lower Big Creek Project, South McSwede Timber Sale and Restoration Project, Alder Creek Project, Cow Creek Project, and McSutten Project. For each project, the Forest Service conducted an extensive environmental analysis, including a draft and final environmental impact statement (“DEIS” and “FEIS”) or an environmental assessment.

WildWest filed this action challenging the nine projects on numerous grounds. The district court denied WildWest’s motion for a preliminary injunction. The parties filed cross-motions for summary judgment, and the district court granted summary judgment in favor of the Forest Service. *Wildwest Inst. v. Castaneda*, 462 F. Supp. 2d 1150, 1163 (D. Mont. 2006). The district court noted that, on many of its claims, WildWest had failed to “establish[] a connection between the challenged forest-wide management practices and the lawfulness of the logging projects.” *Id.* at 1157. Regarding those claims properly raised, the district court concluded the Forest Service had complied with the relevant procedural and substantive legal requirements. *Id.* at 1158-63. WildWest timely appealed.

II. Standard of Review

We review the district court’s grant of summary judgment *de novo*. *McFarland v. Kempthorne*, 545 F.3d 1106, 1110 (9th Cir. 2008).

The Administrative Procedure Act (“APA”) provides the authority for our review of decisions under NEPA and NFMA. *Lands Council v. McNair (Lands Council II)*, 537 F.3d 981, 987 (9th Cir. 2008) (en banc). Under the APA, an agency decision will be set aside only if it is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance

with law.” 5 U.S.C. § 706(2)(A); *see Ecology Ctr., Inc. v. Austin*, 430 F.3d 1057, 1062 (9th Cir. 2005). “Review under the arbitrary and capricious standard ‘is narrow, and [we do] not substitute [our] judgment for that of the agency.’ ” *Lands Council II*, 537 F.3d at 987 (quoting *Earth Island Inst. v. U.S. Forest Serv.*, 442 F.3d 1147, 1156 (9th Cir. 2006)) (alterations in original). “Rather, we will reverse a decision as arbitrary and capricious only if the agency relied on factors Congress did not intend it to consider, ‘entirely failed to consider an important aspect of the problem,’ or offered an explanation ‘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.’ ” *Id.* (quoting *Earth Island Inst.*, 442 F.3d at 1156).

III. Background

A. Governing Provisions

[1] The National Forest Management Act, 16 U.S.C. §§ 1600 *et seq.*, provides both procedural and substantive requirements. Procedurally, it requires the Forest Service to develop and maintain forest resource management plans. *Id.* § 1604(a). After a forest plan is developed, all subsequent agency action, including site-specific plans like the nine projects challenged here, must comply with NFMA and the governing forest plan. *Id.* § 1604(i); *see Lands Council II*, 537 F.3d at 989.

[2] Substantively, NFMA requires that forest plans “provide for diversity of plant and animal communities based on the suitability and capability of the specific land area.” 16 U.S.C. § 1604(g)(3)(B). Forest plans must also ensure that timber will be harvested only where “soil, slope or other watershed conditions will not be irreversibly damaged,” and provide protection for streams from “detrimental” deposits of sediment “where harvests are likely to seriously and adversely affect water conditions or fish habitat.” *Id.* § 1604(g)(3)(E).

[3] The National Environmental Policy Act, 42 U.S.C. §§ 4321 *et seq.*, contains additional procedural requirements. Its purposes are to ensure the decision-maker will have detailed information on environmental impacts and to provide that information to the public. *Inland Empire Pub. Lands Council v. U.S. Forest Serv.*, 88 F.3d 754, 758 (9th Cir. 1996). The Forest Service must prepare an EIS, which identifies environmental effects and alternative courses of action, when undertaking any management project. *Id.*; 42 U.S.C. § 4332(c). “In contrast to NFMA, NEPA exists to ensure a process, not to mandate particular results.” *Neighbors of Cuddy Mountain v. Alexander*, 303 F.3d 1059, 1063 (9th Cir. 2002). The agency must only take a “hard look” at its proposed action. *Id.* at 1070.

[4] Two Forest Service regulations also apply here. The “1982 Rule” requires the Forest Service to identify and monitor management indicator species (“MIS”) and directs that “fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species.” 47 Fed. Reg. 43048 (Sept. 30, 1982). The KNF Forest Plan incorporated this and several other provisions of the 1982 Rule.

[5] The 1982 Rule was partially superceded in 2000 (the “2000 Rule”). The 2000 Rule’s substantive provisions did not apply to site-specific decisions made between 2000 and 2005. 69 Fed. Reg. 58,055-58 (Sept. 29, 2004). The “transition” portions of the rule, which did apply during this time, required the responsible officials to consider the “best available science” when implementing existing land and resource management plans. 36 C.F.R. § 219.35(a) (2001); 69 Fed. Reg. 58,057 (Sept. 29, 2004). The requirements of the superceded 1982 Rule apply only to the extent they were incorporated into the Forest Plan.¹ *See generally Citizens for Better For-*

¹The Department of Agriculture promulgated another regulation in 2005, which focused on forest-level planning. 70 Fed. Reg. 1022 (Jan. 5,

estry v. U.S. Dep't of Ag., 341 F.3d 961, 966-68 (9th Cir. 2003) (discussing in detail the provisions of the 1982 and 2000 Rules).

B. The Forest Plan

The Forest Plan establishes twenty-four long-term goals, including “provid[ing] a sustained yield of timber volume responsive to national and regional needs” and “construct[ing] the minimum number of roads necessary to permit the efficient removal of timber and mineral resources.” With respect to old-growth management, the goals also include “maintain[ing] diverse age classes of vegetation for viable populations of all existing native, vertebrate, wildlife species,” and “manag[ing] for sufficient snags and snag replacement trees to maintain viable populations of snag-dependent species.” With respect to fisheries and aquatic habitat, the Forest Plan goals include “maintain[ing] or enhanc[ing] fisheries habitat.” The Forest Plan also designates eight MIS that are monitored as a barometer of change for a particular habitat. The pileated woodpecker is the MIS for old-growth dependent species.

Under the Forest Plan, the KNF is managed for two kinds of old growth: undesignated and designated. Undesignated old growth consists of naturally-occurring stands in nondevelopmental areas such as wilderness and primitive recreation areas. Designated old growth, on the other hand, consists of “existing old growth and some mature stands” in areas that the Forest Service actively manages. Each category of old growth—undesignated and designated—is sub-categorized into “effective” old growth and “replacement” old growth.

2005). On March 30, 2007, a district court issued a nationwide injunction prohibiting application of the rule. *Ctr. for a Better Forestry v. U.S. Dep't of Ag.*, 481 F. Supp. 2d 1059 (N.D. Cal. 2007). Three of the projects challenged here were implemented while the 2005 rule was still in effect, but WildWest does not claim the Forest Service violated any part of the 2005 Rule.

Effective old growth presently meets the needs of old-growth species; replacement old growth does not presently meet those needs, but may do so in the future as trees grow and the habitat ages.

Old growth areas that have been designated are assigned for management purposes to MA 13, which describes substantive and procedural guidelines for the care of old growth. The Forest Plan requires that “[a] minimum of 10 percent of the Forest acreage below 5,500 feet elevation will provide old-growth habitat at any given time in a combination of undesignated and designated old growth in well distributed and sufficiently large stands.” The MA 13 guidelines reiterate this ten percent goal.

C. Connection to Site-Specific Projects

As a preliminary matter, we note that we are precluded from reviewing a number of WildWest’s allegations because, as the district court properly found, they are not tied to site-specific challenges. Forest-wide management practices and monitoring efforts, or lack thereof, are generally not amenable to suit under the APA because they do not constitute final agency actions. *Neighbors of Cuddy Mountain*, 303 F.3d at 1067 (citing *Lujan v. Nat’l Wildlife Fed’n*, 477 U.S. 871, 891 (1990); *Ecology Ctr.*, 192 F.3d at 925-26); see 5 U.S.C. § 704. Challenges to forest-wide management practices or claims that the Forest Plan does not comply with NFMA must be made in the context of site-specific actions. *Ohio Forestry Ass’n, Inc. v. Sierra Club*, 523 U.S. 726, 734 (1998). The plaintiff must allege a “specific connection” between the challenged site-specific action and the general practice. *Id.*

The district court noted that “[t]o the extent [WildWest] attempts to challenge forest-wide management practices on the coattails of the nine challenged logging projects, its suit is generally permitted.” *Wildwest Inst.*, 462 F. Supp. 2d at 1157. However, the court concluded the suit failed to estab-

lish connections between the general management practices and the lawfulness of the logging projects. Many of WildWest's myriad arguments and allegations on appeal suffer the same defect. We address only those claims that WildWest has plausibly connected to a site-specific action.

IV. NFMA Claims

A. Best Available Science

WildWest's first claim relates to the 2000 Rule's "best available science" requirement. This claim argues the best available science undermines the assumption that ten percent old-growth forest levels are sufficient to ensure species viability. WildWest claims that a 1995 study (the "Lesica study") demonstrated that historic levels of old growth in the KNF were "magnitudes of order" higher than the ten percent level established under the Forest Plan. WildWest claims that study's estimate that "20-50% of low and mid-elevation forests were in old-growth condition prior to European settlement" represents the best available science and must be reflected in the Forest Plan. WildWest also claims the Forest Service's own experts acknowledge historical conditions "probably provided" a higher level of old-growth habitat, though no such statement appears on the cited page of the record. WildWest ties this general complaint only to the Lower Big Creek Project.

[6] We grant considerable discretion to agencies on matters "requir[ing] a high level of technical expertise." *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 377 (1989). Though a party may cite studies that support a conclusion different from the one the Forest Service reached, it is not our role to weigh competing scientific analyses. *Lands Council II*, 537 F.3d at 988 (noting that we do not "act as a panel of scientists that instructs the Forest Service how to validate its hypotheses regarding wildlife viability, chooses among scientific studies in determining whether the Forest Service has complied with

the underlying Forest Plan, and orders the agency to explain every possible scientific uncertainty”); *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1333 (9th Cir. 1992) (“To set aside the Service’s determination in this case would require us to decide that the views of Greenpeace’s experts have more merit than those of the Service’s experts, a position we are unqualified to take.”).

[7] The 1982 Rule, as incorporated into the Forest Plan, requires only that the Forest Service maintain habitat capable of supporting “viable populations” of old-growth dependent species. Relying on the best available science, as required by the 2000 Rule, the Forest Service determined that maintaining old-growth levels of ten percent below 5500 feet was sufficient to support such species. The Forest Service’s analysis of the scientific basis and reasoning for the ten percent standard are set forth in the Old Growth Habitat Characteristics and Management Guidelines (the “Old Growth Guidelines”) and the Forest Plan FEIS. These documents discuss various characteristics of old-growth dependent species and their habitat, citing numerous scientific studies, along with competing interests and practical concerns. The Old Growth Guidelines conclude that “[a] review of applicable literature on wildlife species and their habitat needs indicated that a minimum of 8-10 percent of available wildlife habitat should provide old growth conditions.” We hold the Forest Service met the best available science requirement when it initially established the ten percent old growth standard.

[8] Moreover, WildWest has not cited any scientific studies that indicate the Forest Service’s analysis is outdated or flawed. *See Oregon Trollers Ass’n v. Gutierrez*, 452 F.3d 1104, 1120 (9th Cir. 2006) (rejecting best science claim where “[t]here [was] no evidence in the record the [agency’s] 1986 and 1988 studies [were] outdated or flawed”) (citations omitted). WildWest cites repeatedly to the Lesica study, which was published after the Forest Service adopted the Forest Plan. However, Lesica’s conclusion does not bear directly

on the “viable population” standard. The fact that levels of old-growth forest were significantly higher prior to European settlement in no way disproves the conclusion that ten percent is enough to support “viable populations.”

[9] The Forest Service reviewed its management situation in 1993, proposing several changes based on new scientific data from the intervening years. That review acknowledges that recent research had shown “certain forest cover types are not as well represented as they were historically,” a conclusion similar to the one reached in the Lesica study. The Forest Service’s 1993 review suggested several changes to the management strategy. However, alteration of the ten percent standard was not one of them. The Forest Service has carefully considered the relevant scientific studies released since the Forest Plan was adopted. We will not second guess the Forest Service’s scientific analysis. *See Lands Council II*, 537 F.3d at 988.

In short, the Forest Service established the ten percent standard based on reasoned analysis of the best available science. The Forest Service has also considered new relevant scientific data since the Forest Plan was adopted in 1987. WildWest has failed to indicate any scientific information directly undermining the conclusion that ten percent old-growth levels are insufficient to support “viable populations” of dependent species. Accordingly, we conclude that the best available science supports the ten percent standard, and that the standard is therefore not arbitrary or capricious.

B. Designation of Old Growth: Stand Size

WildWest next challenges the designation of tree stands smaller than fifty acres as old-growth habitat. WildWest argues that the Forest Plan requires stands of no less than fifty acres and encourages blocks of one hundred acres or more. It claims roughly one-third of the blocks of old growth currently

designated in Pipestone, Bristow, and South McSwede are smaller than fifty acres.

WildWest draws the fifty-acre requirement from the Old Growth Guidelines, which appear as Appendix 17 to the Forest Plan. Ordinarily, such a document would not have the force and effect of binding law. *See Western Radio Servs. Co., Inc. v. Espy*, 79 F.3d 896, 901 (9th Cir. 1996); *Chrysler Corp. v. Brown*, 441 U.S. 281, 301 (1979) (holding a Forest Service Manual and Handbook were not binding on the agency because they did not constitute substantive law and were not issued pursuant to the procedural requirements of the APA).

[10] However, where an otherwise advisory document has been clearly incorporated into a Forest Plan or other binding document, its requirements become mandatory. *See Swan View Coal., Inc. v. Barbouletos*, No. 07-35065, 2009 WL 118056, at *1 (9th Cir. Jan. 6, 2009) (noting Interagency Grizzly Bear Guidelines were incorporated into the Flathead Forest Plan and treating such guidelines as binding); *Res., Ltd. v. Robertson*, 35 F.3d 1300, 1304 (9th Cir. 1993) (finding a violation of Interagency Grizzly Bear Guidelines because project approval was explicitly conditioned on compliance with the guidelines). In this case, it appears that the Guidelines were incorporated into the binding Forest Plan. The Forest Plan states: “Specific Forest Guidelines exist and will be applied for . . . Old growth habitat and dependent species (Appendix 17).”

[11] However, even though the Old Growth Guidelines were incorporated into the Forest Plan, the language at issue here does not create a mandatory standard. We have repeatedly noted that “the presence of a few, isolated provisions cast in mandatory language does not transform an otherwise suggestive set of guidelines into binding agency regulations.” *Terbush v. United States*, 516 F.3d 1125, 1139 n.7 (9th Cir. 2008) (quoting *Sabow v. United States*, 93 F.3d 1445, 1453 (9th Cir. 1996)); *see Chamberlin v. Isen*, 779 F.2d 522, 525

(9th Cir. 1985) (reviewing Manual of Patent Examining Procedures and concluding that while “[i]t is true that the MPEP contains some mandatory language,” for the most part, “the MPEP only suggests or authorizes procedures for patent examiners to follow”).

The Old Growth Guidelines state:

[U]nits of 50-100 acres are the smallest acceptable size While units of a minimum of 50 acres may be acceptable in some circumstances, *50 acres should be the exception rather than the rule*. Efforts should be made to provide old growth habitat in blocks of 100 acres or larger. If, due to past fires or management activities, the only remaining old growth blocks are less than 50 acres, they may still be useful habitat provided that several small blocks are clustered together or are surrounded by mature habitat.

We cannot conclude that this language creates a mandatory rule that strictly limits designation of old growth to blocks larger than 50 acres. The section is cast in suggestive (i.e., “should” and “may”) rather than mandatory (e.g., “must” or “only”) terms. *See Sabow*, 93 F.3d at 1452. It suggests how old growth should be managed, not how it must be designated. As the district court correctly concluded, the Forest Plan does not mandate stands of fifty acres or more; “rather, such a practice is merely recommended when possible.” *Wildwest Inst.*, 462 F. Supp. 2d at 1161.

Our review is confined to the question of whether the Forest Service violated NFMA. If the guideline language underlying the plaintiff’s claim is merely advisory or aspirational, the answer must be “no.” *See Or. Natural Res. Council v. Lowe*, 109 F.3d 521, 527 (9th Cir. 1997) (holding Forest Service did not violate NFMA in attaining only the minimum levels of protection required by law, though “the Forest Ser-

vice itself recommends that forest planning alternatives should adopt management guidelines above the [minimums]”). The language of Appendix 17 is not mandatory. Moreover, Appendix 17 plainly contemplates that blocks of less than fifty acres will be treated as relevant to forest management decisions. Therefore, regardless of whether the Forest Service has or has not designated stands smaller than fifty acres, it has not acted arbitrarily or capriciously.

C. Designation of Old Growth: Effective vs. Replacement

WildWest next challenges the Forest Service’s inclusion of some replacement old growth in its analyses, arguing that habitat which does not presently meet the needs of old-growth species should not count toward the ten percent minimum. WildWest does not refer to any specific project in this section of its brief, but does in various other sections refer to the levels of old growth habitat in each project area. We treat the claim as properly raised with respect to all nine site-specific projects.

[12] The general requirements of the Forest Plan state only that “10% of the Kootenai National Forest land base below 5,500 feet in elevation will be in an old-growth timber condition.” The Forest Plan does not address whether replacement old growth may be included in the Forest Service’s calculation to attain the ten percent level. Therefore, the Forest Service is not clearly precluded from designating effective old growth or including effective old growth in its analyses.

[13] Assuming the Forest plan leaves some ambiguity as to whether replacement old growth should be included, we defer to the Forest Service’s reasonable interpretation of the Forest Plan’s requirements. *Lands Council v. Powell (Lands Council I)*, 395 F.3d 1019, 1034 (9th Cir. 2005); *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1154 (9th Cir. 1998) (deferring to the Forest Service’s expertise in interpreting its Land Man-

agement Plan), *overruled on other grounds by Lands Council II*, 537 F.3d at 997.

The Forest Service’s interpretation of the ten percent standard is reasonable for two reasons. First, the Forest Plan FEIS provides: “Long-term management, [as opposed to existing, natural old-growth], includes recognition of existing old growth, but *also includes designation of future old growth . . .*” (emphasis added). This language plainly indicates that the Forest Service may include replacement old growth in its analyses.

Second, as the district court highlighted in a prior related case, the KNF did not meet the ten percent standard based on existing old growth alone at the time the Forest Plan was adopted. *Ecology Ctr., Inc. v. Castaneda*, No. CV 02-200-M-DWM, 2003 WL 25548017, at *4 (D. Mont. June 27, 2003). Designation of areas not yet possessing all the characteristics of old growth was necessary to meet the ten percent standard, and to ensure careful preservation of these areas for the future. It is therefore reasonable to interpret the Forest Plan as permitting designation of replacement old growth to meet the ten percent standard. Accordingly, the Forest Service did not act in an arbitrary or capricious manner by including replacement old growth in its statistics or analyses for purposes of meeting the ten percent standard.

D. Failure to Meet Ten Percent Standard

The Forest Plan requires that at least ten percent of land below 5500 feet in elevation be in old-growth condition. Additionally, old growth must be “spread evenly through most major drainages, and will represent the major forest types in each drainage.” WildWest claims the KNF as a whole, and the challenged project areas individually, fall below the ten percent minimum. It also claims the Forest Service failed to disclose the relevant data. WildWest has prop-

erly raised this argument with respect to all nine site-specific projects.

The latest available data, which appears in the Monitoring and Evaluation Report for Fiscal Years 2003-2004, indicates that 10.5% of total KNF lands below 5500 feet are designated effective old-growth. This alone would be sufficient to meet the standard set forth in the Forest Plan. When replacement old growth is included in the analysis, it reveals that 15.7% of the forest is in old-growth condition. The number would be higher still if undesignated old growth were included in this analysis.² The Monitoring and Evaluation Report concludes: “the Forest is meeting its Forest Plan requirement for designating 10% [] old growth habitat well distributed across KNF lands below 5,500 feet elevation.”

[14] This conclusion is also true for the nine challenged projects. Counting only designated old growth, the record reveals that five of the nine site-specific projects—Pipestone, South McSwede, West Troy, McSutten, and Lower Big Creek—meet the ten percent standard based on effective old growth alone. The other four—Bristow, Fortine, Alder Creek, and Cow Creek—exceed the ten percent standard when both effective and replacement old growth are included. Again, the numbers are higher still when undesignated old growth areas are considered. Because we conclude that designation of replacement old growth is proper under the Forest Plan, then all nine projects were in compliance with the ten percent standard as of the date of the project studies.

The projects authorize no commercial harvesting of designated effective old growth, and only limited amounts of harvesting in undesignated areas. Completion of these projects would therefore have no impact on whether the KNF as a

²WildWest does not apparently challenge the inclusion of undesignated areas in the Forest Service’s statistics, though under the Forest Plan the Forest Service may properly include them.

whole meets the ten percent standard. Therefore, approval of these projects was lawful under the Forest Plan.

E. Population Viability

[15] WildWest next argues the KNF has insufficient habitat to support a viable population of pileated woodpeckers, the MIS for old growth habitat. The Forest Plan requires the Forest Service to measure “[p]opulation levels of old-growth dependent species” in order to “[m]aintain viable population[s] of old-growth dependent species.” A viable population is defined as a one that is at least forty percent of the potential population for any given species in the KNF.

[16] WildWest first claims the minimum viable population for the pileated woodpecker in the KNF is 554 breeding pairs, which represents forty percent of the 1384 pairs the KNF was historically able to support. However, as WildWest notes in its brief, the KNF was historically able to support a *range* of 335 to 1384 pairs. WildWest does not explain why the standard must be forty percent of the range’s upper limit. The Forest Service calculated the viability threshold as a range of 335 to 554 breeding pairs, based on historical data. The lower bound of 335 pairs is reasonable. The potential population was at some time reduced to 335 pairs due to natural disturbances. From that nadir, the estimated population has since grown larger. Therefore, the population was necessarily viable at 335 pairs. The upper bound of 554 pairs represents forty percent of the KNF’s historical maximum potential, as suggested by the Forest Plan. Therefore, this range of 335 to 554 pairs is a reasonable interpretation of the Forest Plan’s provisions for maintaining species viability. The KNF is currently home to 425 breeding pairs of woodpeckers, well within the permissible range, and the Forest Service’s determinations in this respect were not arbitrary or capricious.

WildWest also claims seven of the nine challenged projects—McSutten, Fortine, West Troy, Lower Big Creek, Bristow,

Alder Creek, and Cow Creek—will adversely affect the KNF’s ability to support a viable number of pileated woodpeckers. Its main argument is that any alteration to the old growth habitat resulting from the approved projects will impair the viability of the pileated woodpecker. We have already rejected this general proposition. As we noted in *Lands Council II*, “[a] habitat disturbance does not necessarily mean that a species’ viability will be threatened.” 537 F.3d at 997.

[17] Though they may have adverse effects on the woodpecker, there is no indication the nine challenged projects would force the woodpecker population below thresholds of viability. The facts in this case are similar to those in *Lands Council II*. There, the record included studies “describing the quality and quantity of habitat necessary to sustain the viability” of the MIS. *Id.* The Forest Service had analyzed the suitability of the habitat for the MIS before and after the proposed project. *Id.* We concluded, “[t]hat a proposed project involves some disturbance to the forest does not prohibit the Forest Service from assuming that maintaining a sufficient amount of suitable habitat will maintain a species’ viability.” *Id.*

The result is the same here. The Forest Service has carefully described both the quantity and quality of habitat that is necessary to sustain a viable population of the pileated woodpecker and has explained its methodology for measuring old-growth habitat. *See Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1250 (9th Cir. 2005). It conducted extensive analysis for each project area, considering the effects on indicator species, such as impact on nesting and feeding habitat. It concluded that although the nine projects may affect old-growth species, they do not threaten species viability. For eight of the nine projects, the EIS explicitly addresses the likely effects on the pileated woodpecker and concludes the project will not impair the bird’s viability. The only project for which the EIS does not specifically address the effects on the pileated woodpecker is the Pipestone proj-

ect. However, the Forest Service did engage in extensive analysis of the effects on three other old-growth dependent birds, and concluded there would be no loss of viability. It also found the project design criteria would “insure management for sufficient snags and snag replacement trees to maintain viable population of snag dependent species.” Snags are one of the pileated woodpecker’s listed habitats. This is the sort of scientific prediction to which we give great deference to the agency. *See Lands Council II*, 537 F.3d at 993 (citations omitted).

Based on this extensive analysis, the Forest Service concluded that the challenged projects would leave sufficient old growth to support a viable population of pileated woodpeckers. Therefore, the decision to approve the challenged projects was not arbitrary or capricious.

F. Use of Habitat Proxies

WildWest next raises several challenges to the Forest Service’s use of habitat proxies. Once again, WildWest fails to cite to the record for any specific project in this section of its brief. However, because it has elsewhere challenged measurement of and compliance with the standards for old growth, we treat this claim as properly raised with respect to all nine projects.

Where data on the MIS is incomplete or difficult to collect, the Forest Service monitors the habitat of the MIS, which is mature and old growth forest in the case of the pileated woodpecker. By studying the result of a timber sale on the habitat of the pileated woodpecker, the Forest Service attempts to estimate its effects on all old growth species. *See Idaho Sporting Cong. v. Rittenhouse*, 305 F.3d 957, 971-72 (9th Cir. 2002) (describing this approach).

[18] WildWest apparently claims that both parts of the measurement have failed—i.e., both the population target and

the designation of old-growth habitat for the pileated woodpecker are improper. As discussed above, neither of these claims has merit. To the extent that WildWest challenges the proxy-on-proxy approach generally, the argument is foreclosed by our case law. We have repeatedly approved “the Forest Service’s use of the amount of suitable habitat for a particular species as a proxy for the viability of that species.” *Lands Council II*, 537 F.3d at 996 (finding “eminently reasonable” the conclusion that the challenged project would maintain a viable MIS population because it would not decrease MIS habitat in the short-term and would promote the long-term viability of MIS habitat); *id.* at 996 n.10 (noting “[w]e have also allowed the Forest Service to use habitat as a proxy to measure a species’ population, and then to use that species’ population as a proxy for the population of other species (proxy-on-proxy approach)”); *Inland Empire*, 88 F.3d at 761 (approving Forest Service’s “habitat as a proxy approach”).

WildWest relies heavily on three cases in which management decisions based on the proxy-on-proxy approach were invalidated. *See Earth Island Inst. v. U.S. Forest Serv.*, 442 F.3d 1147 (9th Cir. 2006), *cert. denied*, 549 U.S. 1278 (2007); *Lands Council I*, 395 F.3d at 1036; *Idaho Sporting Cong. v. Rittenhouse*, 305 F.3d at 970. Such reliance is misplaced. In each of those cases, the Forest Service failed to accurately identify and measure the relevant habitat. *See Lands Council II*, 537 F.3d at 997-98 (“[W]hen the Forest Service decides, in its expertise, that habitat is a reliable proxy for species’ viability in a particular case, the Forest Service nevertheless must both describe the quantity and quality of habitat that is necessary to sustain the viability of the species in question and explain its methodology for measuring this habitat.”). We held that reliance on habitat proxies was invalid because the essential data underlying the decision was flawed. For instance, in *Lands Council I*, the Forest Service’s database, its “main tool for old growth calculation,” contained data that was fifteen years old, inaccurate, and insufficient on many variables. 395 F.3d at 1036.

No such defect exists here. WildWest does not challenge the Forest Service's identification of old growth as the woodpecker's habitat or its measurement of old-growth habitat for purposes of the proxy. As discussed above, the Forest Service's designations of old growth were proper, and it engaged in extremely thorough analysis of habitat impact before approving the projects. The record contains detailed data on the location, condition, and amount of old growth habitat in the affected areas. Therefore, the Forest Service's use of the proxy-on-proxy approach was not arbitrary or capricious.

G. Use of Best Management Practices

WildWest makes several allegations related to the Forest Service's management of watersheds and aquatic habitat in the KNF.³ Though not listed in the Issues on Appeal, WildWest's Opening Brief complains at length of the Forest Service's use of Best Management Practices ("BMPs") to protect fisheries. It claims BMPs have "clearly failed to adequately protect and maintain riparian areas in acceptable condition" in watersheds impacted by all nine of the challenged projects. We understand WildWest's argument to be that because BMPs have proved inadequate to protect watersheds thus far, it is arbitrary and capricious to use BMPs to evaluate and approve the new site-specific projects.

We have not specifically addressed whether use of BMPs is a reasonable management strategy. Rather, we review BMPs according to the same standard by which we review all agency choices with respect to models, methodologies, and

³WildWest fails to connect three of the four arguments to the challenged site-specific projects, and we therefore do not address them. Additionally, much of WildWest's argument on these issues appears to conflate NFMA's substantive requirements with NEPA's procedural requirement that agencies conduct cumulative impact analyses. *See* 40 C.F.R. § 1508.7. To the extent these arguments challenge the Forest Service's consideration and disclosure of the cumulative effects of long-term management decisions, they are addressed below.

weighing scientific evidence: their choices must be supported by reasoned analysis. For instance, we noted in *Environmental Protection Information Center v. United States Forest Service*, 451 F.3d 1005 (9th Cir. 2006), that references to detailed BMPs supported the conclusion the Forest Service had taken the requisite “hard look” at a project’s environmental consequences. *Id.* at 1015-16; *see also Res. Ltd., Inc. v. Robertson*, 35 F.3d 1300, 1306 (9th Cir. 1993) (noting use of BMPs to ensure maintenance of water quality in action challenging general planning strategies). Additionally, we reviewed the substance of BMPs in *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208 (9th Cir. 1998). There, we found that disclosure of mitigation measures was inadequate because the Forest Service relied on BMPs developed for significantly different circumstances from those existing in the disputed project areas. *Id.* at 1214.

[19] Here, the Forest Service reasonably used and relied on BMPs. The record reveals the BMPs used in the KNF are carefully considered and tailored to the projects for which they are used. For instance, the Pipestone EIS, which contains an extensive appendix of BMPs to be applied, recommends specific practices and the results to be obtained by those practices. Unlike in *Blue Mountains*, the BMPs here were developed for the precise circumstances at hand. So long as BMPs are supported by reasonable scientific assumptions, reasonably appropriate for the circumstances at hand, the Forest Service is not acting in an arbitrary and capricious fashion in relying on them.

[20] Moreover, the Forest Service points to specific evidence indicating implementation of BMPs has been quite successful in improving some watersheds. WildWest has not proven that the poor conditions of which they complain are a direct result of the BMPs used in the site-specific project analyses. Nor have they proven the poor conditions can be attributed to BMPs generally, as opposed to historical practices, other management practices, or assumptions. In light of this

evidence, the Forest Service did not act in an arbitrary and capricious fashion in relying on BMPs in evaluating and approving the challenged projects.

V. NEPA Claims

A. Failure to Consider and Disclose Cumulative Effects

[21] WildWest next argues the Forest Service has failed to adequately consider and disclose the cumulative effect on water quality and fish resulting from “chronic failure” to implement BMPs. NEPA requires the Forest Service to perform a cumulative impact analysis in approving projects. *Kern v. BLM*, 284 F.3d 1062, 1075-76 (9th Cir. 2002). This analysis requires the EIS to analyze the impact of a proposed project in light of that project’s interaction with the effects of past, current, and reasonably foreseeable future projects. 40 C.F.R. § 1508.7; see *Lands Council I*, 395 F.3d at 1027.

WildWest complains the cumulative impact statements do not contain discussion of prior projects on an individual basis. “[T]he general rule under NEPA is that, in assessing cumulative effects, the Environmental Impact Statement must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment.” *Lands Council I*, 395 F.3d at 1028. In *Lands Council I*, we found an EIS insufficient because “the prior harvests from different projects were not separately discussed, neither as to their method of harvest, nor as to the consequences of each.” *Id.* We have repeatedly held that general statements about prior projects affecting environmental conditions are insufficient; “quantified or detailed data” about the effects of specific projects is necessary. *Or. Natural Res. Council Fund v. Brong*, 492 F.3d 1120, 1134 (9th Cir. 2007); see also *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 993 (9th Cir. 2004).

[22] However, in *League of Wilderness Defenders—Blue Mountains Biodiversity Project v. United States Forest Service*, 549 F.3d 1211 (9th Cir. 2008), we provided two important clarifications of this standard. First, we held that the Forest Service “may aggregate its cumulative effects analysis pursuant to 40 C.F.R. § 1508.7,” the regulation defining “cumulative impact.” *Id.* at 1218; *see, e.g., WildWest Inst. v. Bull*, 547 F.3d 1162, 1173 (9th Cir. 2008) (holding Forest Service’s analysis of cumulative impacts of past timber harvests and other historical events satisfied “hard look” standard). Second, we noted that *Lands Council I* “merely reaffirms the general rule that NEPA requires adequate cataloguing of *relevant* past projects in the area.” *Id.* (internal quotation marks omitted). The Forest Service need not catalogue events that are not “truly significant to the action in question.” *See id.*; 40 C.F.R. § 1500.1(b); *NW Env’tl Advocates v. Nat’l Marine Fisheries Serv.*, 460 F.3d 1125, 1140 (9th Cir. 2006) (noting *Lands Council I* required a detailed catalogue of projects in order to “inform analysis,” and concluding that cataloguing is not required where other projects would have no related effects). We reiterate that an aggregated cumulative effects analysis that includes *relevant* past projects is sufficient.

[23] The Forest Service met this standard here. Generally, the Forest Service explained in each EIS what the effects of the project would be, including the existing condition of each area along several variables. The Pipestone EIS explicitly notes there have been no previous timber harvests in this area, and there will therefore be no cumulative impacts. Although the cumulative effects section of the West Troy EIS merely refers generally to “past and proposed activities,” without listing details about those activities, other parts of the EIS give extensive history about past actions in the area, dating all the way back to the early 1900s. Bristow’s EIS provides data on the cumulative effects with other pending proposals and mitigation in areas with previous harvests. The South McSwede EIS discusses past management practices and specific details of planned projects. Lower Big Creek’s EIS refers to a table

of Current and Reasonably Foreseeable Actions, and states past actions were considered in the Existing Conditions section; it also notes two related plans and concludes there would be no cumulative effects. The McSutten EIS concludes there would be no cumulative effects from past actions or when coupled with current and reasonably foreseeable actions. The Fortine EIS contains a detailed aggregated discussion of existing conditions.

We conclude the Forest Service adequately considered and disclosed the cumulative effects for purposes of NEPA. The record includes extensive evidence that the Forest Service considered the relevant prior and related actions and took the requisite hard look before approving the challenged projects.

B. Failure to Meaningfully Disclose Old Growth Data

WildWest next contends the data upon which the Forest Services bases its conclusions about the locations and distribution of old-growth habitat is inaccessible. It claims that “[i]n order to be verifiable (replicable) methodology, the underlying ‘hard data’ for each polygon should reveal how that polygon meets the relevant old-growth criteria for the particular habitat type.” The Forest Service has claimed there is no more user-friendly way to format the data.

[24] NEPA requires that the Forest Service disclose the hard data supporting its expert opinions to facilitate the public’s ability to challenge agency action. *See Idaho Sporting Cong. v. Thomas*, 137 F.3d at 1150, *overruled on other grounds by Lands Council II*, 537 F.3d at 997. We defer to an agency’s choice of format for scientific data. *See League of Wilderness Defenders—Blue Mountains*, 549 F.3d at 1218 (“It is not for this court to tell the Forest Service what *specific* evidence to include, nor how *specifically* to present it.”). WildWest does not contend the data is actually unavailable, and the format of the data has not apparently impaired WildWest’s ability to bring legal challenges. Therefore, the Forest

Service has fulfilled its obligations under *Idaho Sporting Congress*.

C. Failure to Disclose Inadequacy of Old-Growth Habitat

Finally, WildWest argues that the Forest Service violated NEPA by failing to disclose in NEPA documents that the KNF no longer has adequate habitat to support a viable population of pileated woodpeckers. This is a variation of its argument that the Forest Service failed to disclose and respond to the Lesica study, which concluded a higher level of old growth existed prior to European settlement.

[25] Both formulations of this argument fail. As discussed above, the Forest Service has provided a rational basis for its choice of a ten percent old growth minimum. Moreover, an agency need not respond to every single scientific study or comment. *See Lands Council II*, 537 F.3d at 1001-02. WildWest claims that *Center for Biological Diversity v. United States Forest Service*, 349 F.3d 1157 (9th Cir. 2003), requires the Forest Service to disclose and respond to the Lesica study because the evidence “directly challenge[d] the scientific basis upon which the Final EIS rest[ed].” *Id.* at 1167. As discussed above, however, the Lesica study did not “directly challenge” the Forest Service’s conclusion that ten percent old growth was sufficient to sustain viable populations of old-growth species. The record reveals the Forest Service took the requisite hard look at and disclosed the relevant available information in setting the ten percent standard.

VI. Conclusion

For the reasons explained above, we conclude that the Forest Service complied with the substantive requirements of NFMA and the Forest Plan. The Forest Service also took the requisite “hard look” at the environmental effects of the proj-

ects before approving them. The district court properly entered summary judgment in favor of the Forest Service.

AFFIRMED.