

LEXSEE

**NATURAL RESOURCES DEFENSE COUNCIL; SOUTHEAST ALASKA
CONSERVATION COUNCIL; SIERRA CLUB; NATIONAL AUDUBON SOCIETY;
THE WILDERNESS SOCIETY; CENTER FOR BIOLOGICAL DIVERSITY, Plaintiffs-
Appellants, v. UNITED STATES FOREST SERVICE; U.S. DEPARTMENT OF
AGRICULTURE; MARK REY; DENNIS E. BSCHOR; FORREST COLE, Defendants-
Appellees, STATE OF ALASKA; ALASKA FOREST ASSOCIATION, Defendants-
Intervenors-Appellees.**

No. 04-35868

UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

421 F.3d 797; 2005 U.S. App. LEXIS 16194; 60 ERC (BNA) 2053; 35 ELR 20160

February 15, 2005, Argued and Submitted, Seattle, Washington

August 5, 2005, Filed

PRIOR HISTORY: [**1] Appeal from the United States District Court for the District of Alaska. D.C. No. CV-03-00029-J-JKS. James K. Singleton, Chief Judge, Presiding.

DISPOSITION: REVERSED and REMANDED.

CASE SUMMARY:

PROCEDURAL POSTURE: Plaintiffs environmental groups appealed from an order of the United States District Court for the District of Alaska which held in favor of defendant U.S. Forest Service on claims alleging, inter alia, that a Forest Service error that doubled projected market demand for Tongass timber rendered the land management plan for the Tongass National Forest arbitrary and capricious under the Administrative Procedure Act (APA), 5 U.S.C.S. § 706(2)(A).

OVERVIEW: Plaintiffs argued that the Forest Service's admitted error that doubled the projected market demand for Tongass timber rendered arbitrary and capricious the Forest Service's conclusion that timber goals justified the risks to well-distributed wildlife inherent in the agency's land management plan for the Tongass and further rendered misleading the plan's final environmental impact statement (EIS) in violation of the National Environmental Policy Act (NEPA), 42 U.S.C.S. § 4332. The court of appeals held that the Forest Service's error fatally infected its balance of economic and environmental considerations, rendering its plan for the Tongass arbitrary and capricious in violation of the APA. Moreover, the EIS was misleading because it presented as fact twice the market demand, and economic benefit, attendant to

the Plan and also did not consider an adequate range of alternatives in violation of NEPA. Finally, the court held that the Forest Service did not consider the cumulative impacts of past and reasonably foreseeable future non-federal logging in its EIS, again, in violation of NEPA.

OUTCOME: The district court's order was reversed and remanded.

COUNSEL: Thomas S. Waldo and Eric P. Jorgensen, Earthjustice, Juneau, Alaska, and Nathaniel S.W. Lawrence, Natural Resources Defense Council, Olympia, Washington, for the plaintiffs-appellants.

Thomas L. Sansonetti, Assistant Attorney General, Andrew C. Mergen, Bruce M. Landon, David C. Shilton, and Elizabeth Ann Peterson, Environment & Natural Resources Division, United States Department of Justice, Washington, D.C., for the defendants-appellees.

Steve Silver and Ruth Hamilton Heese, Robertson, Monagle & Eastaugh, Juneau, Alaska, and Gregg Renkes, Attorney General for State of Alaska, and Zachary Falcon, Assistant Attorney General for State of Alaska, for the defendants-intervenors.

JUDGES: Before: Betty Binns Fletcher, M. Margaret McKeown, and Ronald M. Gould, Circuit Judges. Opinion by Judge Gould.

OPINIONBY: Gould

OPINION: [*799] GOULD, Circuit Judge:

Plaintiffs-Appellants Natural Resources Defense Council, Southeast Alaska Conservation Council, Sierra Club, National Audubon Society, The Wilderness Society, and Center for **[**2]** Biological Diversity (collectively "NRDC") appeal the district court's final judgment in favor of Defendants-Appellees United States Forest Service, United States Department of Agriculture, and certain government employees acting in their official capacity, n1 dismissing administrative **[*800]** and environmental law challenges to the 1997 Revision to the Tongass Land Management Plan (Plan). We must decide the legality of the Plan adopted and the process used by the Forest Service.

n1 Intervenor-Appellees State of Alaska and Alaska Forest Association (collectively "Intervenors") successfully moved to intervene on the issue of remedy if NRDC succeeds on the merits of this appeal.

NRDC claims that a Forest Service error that doubled the projected market demand for Tongass timber n2 rendered the Plan for the Tongass National Forest arbitrary and capricious, in violation of the Administrative Procedure Act (APA), 5 U.S.C. § 706(2)(A), and rendered arbitrary and capricious the Forest Service's conclusion **[**3]** that timber goals justified the risk that the Plan may not ensure viable, well-distributed populations of wildlife, as required by former 36 C.F.R. § 219.19 (2000). n3 NRDC also claims that the market-demand error rendered misleading the Plan's final Environmental Impact Statement (EIS), in violation of the National Environmental Policy Act (NEPA), 42 U.S.C. § 4332. NRDC further challenges the EIS on grounds that the Forest Service did not consider an adequate range of alternatives and failed to consider the cumulative impacts of "highgrading." n4

n2 The Forest Service admitted this error in its briefs and at oral argument.

n3 The regulations in 36 C.F.R. § 219 have since been supplanted. 65 Fed. Reg. 67,514-81 (Nov. 9, 2000). However, the former regulations are applicable here because they were in effect when the plan revisions challenged in this lawsuit were prepared.

n4 "Highgrading" is the practice of logging disproportionately in high-volume old-growth areas. High-volume old growth areas are superior habitat for many wildlife species, including wolves, the American marten, and marbled murrelets.

[4]**

The government Appellees argue that under section 335 of the 2003 Omnibus Appropriations Act, we lack jurisdiction to review the Forest Service's decision to adopt the Plan. Alternatively, they contend that the Plan was not arbitrary because the inflated market demand projections did not influence the Forest Service's decision to adopt the Plan. The Intervenor-Appellees argue that, if NRDC prevails on the merits, injunctive relief is inappropriate in this case because NRDC cannot show irreparable harm to its interests, while the interests of the Intervenor-Appellees will be irreparably harmed if an injunction is in place.

We have jurisdiction under 28 U.S.C. § 1291, and we reverse.

I

Created in 1907 by President Theodore Roosevelt, n5 the Tongass National Forest is an immense forest located in Southeast Alaska comprised of mainland and many islands within the Alexander Archipelago. The Tongass is the nation's largest national forest, and the largest unspoiled and intact temperate rainforest in the world, containing almost seventeen million acres and occupying about seven percent of Alaska's area. n6

n5 Known primarily in modern times for his political achievements, President Theodore Roosevelt was also an occasional "man of letters" who wrote essays on varied topics including the need for conservation of wildlife. See, e.g., Theodore Roosevelt, *The Conservation of Wildlife*, in 12 *The Works of Theodore Roosevelt* 423, 425-26 (Charles Scribner's Sons 1926) (Jan. 20, 1915).

[5]**

n6 According to its website, the Forest Service seeks to "balance multiple uses of the forest resources," which include "healthy fish and wildlife populations, clean water, trees to support local industry, recreation opportunities unique to Alaska, and plenty of unspoiled beauty and solitude." U.S. Dep't of Ag., Forest Service, at http://www.fs.fed.us/r10/tongass/forest_facts/forest_facts.shtml (last visited May 10, 2005).

[*801] *The National Forest Management Act* (NFMA) requires the Forest Service to "develop, maintain, and, as appropriate, revise land and resource management plans for units of the National Forest System." 16 U.S.C. § 1604(a). As we have explained, NFMA embraces concepts of "multiple use" and "sustained yield of products and services," obligating the Forest Service to "balance competing demands on national forests, in-

cluding timber harvesting, recreational use, and environmental preservation." *Lands Council v. Powell*, 379 F.3d 738, 742 n.2 (9th Cir. 2004) (quoting 16 U.S.C. § 1607 and citing 16 U.S.C. §§ 528 [**6] -31), amended and superseded by 395 F.3d 1019 (9th Cir. 2005).

The original plan for the Tongass was approved in 1979, and has since been amended twice, once in 1986 and again in 1991. By law, forest plans must be revised at least every fifteen years, or sooner if changed conditions warrant a revision. 16 U.S.C. § 1604(f)(5) (2004). The Record of Decision (ROD) for the revised Plan at issue in this appeal was adopted in May 1997. The initial "paper version" of the Plan's EIS was released in January 1997. The EIS was updated in May 1997.

During the public process of revising the Tongass Plan, Congress passed the *Tongass Timber Reform Act* (TTRA), which imposed additional planning requirements for the Tongass. Among the requirements, Congress imposed a unique duty on the Forest Service to consider the "market demand" for timber: n7

Subject to appropriations, other applicable law, and the requirements of the National Forest Management Act of 1976 (Public Law 94-588), except as provided in subsection (d) of this section, the Secretary shall to the extent consistent with providing for the multiple use and sustained yield of all renewable [**7] forest resources, seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber from such forest and (2) meets the market demand from such forest for each planning cycle.

16 U.S.C. § 539d(a). The exception in subsection (d) provides that "the Secretary need not consider economic factors in the identification of lands not suited for timber production." *Id.* § 539d(d).

n7 This required duty, to assess market demand for timber, can be seen as a refinement of the general requirement under NFMA that the Forest Service consider timber harvest as one of the goals to be balanced with environmental preservation and recreational use.

During the planning process for the 1997 Revision to the Tongass Land Management Plan, the Forest Service used the analysis of economists David Brooks and Richard Haynes to determine the market demand for Tongass timber, and to assess whether the Plan would sup-

ply enough timber to meet that demand, [**8] in accord with the Forest Service's statutory obligations. Over an eight-year period, Brooks and Haynes prepared four reports with projections of the market demand for Tongass timber.

The updated 1997 Brooks and Haynes report was the most recent demand study available to the Forest Service. The report gives three scenarios—low, medium, and high—to display a range of future average demand for Tongass timber during the upcoming decade. The alternate scenarios are predicated on variations in Alaskan timber's competitiveness, Alaskan timber's share of the Japanese market, and Alaskan mills' share of the U.S. domestic market.

The 1997 Brooks and Haynes report projected a low scenario of 68 million board feet per year (MMBF/year), a medium scenario of 110 MMBF/year, and a [**802] high scenario of 154 MMBF/year. Prior reports projected nearly double this demand, but were revised downward due to changed circumstances, such as the closing of local pulp mills, a weaker Japanese market, and a decline in Alaska's competitive position.

The Forest Service misinterpreted the 1997 Brooks and Haynes market demand projection within the published ROD and EIS. The Forest Service incorrectly thought that [**9] the projection numbers refer only to "sawlogs suitable for producing lumber," when they actually refer to "total National Forest harvest, including both net sawlog and utility volume." n8 Because of the Forest Service's error, the ROD and EIS project an average market demand for Tongass timber nearly double that which Brooks and Haynes projected. The projected demand scenarios used by the ROD and EIS are 130 MMBF/year (low), 212 MMBF/year (medium), and 296 MMBF/year (high).

n8 "Sawlog" is the "portion of a tree that is suitable in size and quality for the production of dimension lumber, collectively known as sawtimber." "Utility volume" refers to other types of wood. A figure that included only demand for "sawlog" would therefore be significantly less than a figure that included demand for both "sawlog" and "utility volume."

The ROD and EIS examined ten alternatives in detail. The Forest Service adopted Alternative 11 n9 because it "best responds to multiple needs, including ensuring a healthy forest habitat [**10] and providing a sustainable supply of goods and services including timber." Alternative 11 allocates 3.9 million acres to development land use designations (LUDs) that allow logging,

and 60% of this allocation (2.4 million acres) is currently roadless area. Alternative 11 also establishes an average "Allowable Sale Quantity" (ASQ) of 267 MMBF/year for the next decade. Although the ASQ represents a ceiling on allowable timber sales, the ROD states that "the public can expect the amount of timber to be offered annually to vary between 200 MMBF or less and 267 MMBF."

n9 The ROD originally examined in detail 11 Alternatives, but omitted Alternative 8 from detailed consideration because of its similarity to Alternative 1 in environmental effect. However, the Forest Service retained the same numbering system, hence the tenth alternative considered is called

Alternative 11.

n10 The ASQ represents the "upper decadal limit on the amount of timber that may be offered for sale from suitable timberland on the Tongass National Forest as part of the regularly scheduled timber sale program." The ASQ applies to sawlog and utility log volumes.

[**11]

n11 The ASQ, the development LUD acreage, and the allocated roadless area acreage for each considered Alternative is as follows:

Alternative	ASQ	Development LUDs	Roadless Area
1	0	.24 million acres	.12 million acres
2	463	5.3 million acres	3.6 million acres
3	256	4.4 million acres	2.9 million acres
4	130	5.3 million acres	3.6 million acres
5	122	5.0 million acres	3.3 million acres
6	309	5.0 million acres	3.3 million acres
7	640	8.1 million acres	6.2 million acres
9	549	6.3 million acres	4.7 million acres
10	300	4.4 million acres	2.9 million acres
11	267	3.9 million acres	2.4 million acres

Regulations in force when the Plan was adopted required the Forest Service to "maintain viable populations of existing native and desired non-native vertebrate species [*803] in the planning area." 36 C.F.R. § 219.19 (2000). The Forest Service enlisted panels of specialists to rate the degree of risk to wildlife viability posed by each of the Alternatives assessed by the ROD and EIS. The level of risk was gauged for several species by placement [**12] into one of five "Outcome" scenarios. n12 The Forest Service determined that placement of a species into Outcomes I or II would always meet the concept of "viable and well distributed" as required by NFMA regulations, and that placement of a species into Outcome III may, for some species, sometimes meet the regulatory requirement. n13 Thus, the likelihood of maintaining a species' viability is "expressed as being greater than the sum of likelihood scores for Outcomes I and II, but less

than the sum of likelihood scores for Outcomes I, II, and III." n14 The ROD concluded that [*804] the Plan presented an acceptable level of risk to wildlife viability when balanced against other multiple-use goals, such as "providing a sustainable supply of goods and services including timber."

n12 Outcome I indicated that habitat would be "of sufficient quality, distribution, and abundance to allow the species to maintain well distributed, breeding populations across the Tongass." Outcome II indicated a similar result as Outcome I, but with low density populations, and the possibility of temporary gaps occurring. Outcome III indicated that permanent gaps in species distribution were likely. Outcome IV indicated that habitat would allow continued species existence only with strong limitations on interactions among local populations. Outcome V indicated that habitat conditions would result in species extinction.

[**13]

n13 The Forest Service, and most panels, initially determined that placement of a species only into Outcomes I and II would indicate a "likelihood that viable populations will remain distributed across the Forest." This conclusion was modified in Appendix N of the EIS, published four months after the "paper version" of the EIS, wherein the Forest Service determined that placement of a species into Outcome III may, for some species, meet the concept of "viable and well distributed" as required by NFMA regulations.

NRDC takes issue with the Forest Service's motive for modifying its standard. We do not; we defer to the Forest Service's judgment on the standard used to gauge wildlife viability as it necessarily involves scientific and technical expertise, in

the context of predicting how various timber programs would affect the viability and distribution of species populations. See *Nat'l Wildlife Fed'n v. United States Army Corps of Eng'rs*, 384 F.3d 1163, 1174 (9th Cir. 2004) ("Where scientific and technical expertise is necessarily involved in agency decision-making, especially in the context of prediction . . . , the Supreme Court has held that a reviewing court must be highly deferential to the judgment of the agency. *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 103, 76 L. Ed. 2d 437, 103 S. Ct. 2246 (1983).").

[**14]

n14 The panel results included the following viability ranges:

Species	Alt. 1	Alt. 2	Alt. 5	Alt. 9	Alt. 11
Northern Goshawk	100%	>20%, <61%	>85%, <100%	>10%, <61%	>71%, <97%
American Marten	>93%, <100%	>19%, <83%	>66%, <95%	>13%, <66%	>36%, <91%
Alexander Archipelago Wolf	>94%, <97%	>63%, <97%	>84%, <97%	>48%, <92%	>83%, <97%
Brown Bear	>94%, <100%	>49%, <90%	>65%, <98%	>16%, <74%	>68%, <93%
Widely Distributed Mammals	>69%, <96%	>3%, <18%	>39%, <92%	>0%, <9%	>38%, <82%
Endemic Mammals	>40%, <71%	>0%, <8%	>10%, <55%	>0%, <8%	>18%, <55%

Pursuant to the 1997 Plan, the Forest Service has authorized new timber sale projects that allow logging in roadless areas, and which NRDC challenges in this appeal. NRDC contends that the Forest Service's admitted error in interpreting the market demand for Tongass timber (1) renders arbitrary and capricious the decision to adopt the Plan, (2) renders arbitrary and capricious the Plan's conclusion that its risk to [**15] wildlife was ac-

ceptable, (3) makes the EIS misleading due to exaggerated estimates of the Plan's economic effects, and (4) makes the range of alternatives considered by the EIS inadequate under NEPA because no alternative reflected the actual market demand. NRDC also argues that the EIS failed to consider the cumulative impacts of State and private logging of high-volume old-growth forest, which NRDC contends is particularly important to certain wildlife.

The district court bifurcated the merits of the case from the relief. The district court issued first a tentative decision, and after receiving objections and comment, a fi-

nal decision in favor of the government Appellees because the district court concluded that the market demand report "was not significant to the planning process" and that "the Forest Service did not rely on the [market demand] report." n15 The district court also ruled against NRDC's NEPA claims, stating that "the Government adequately considered the range of alternatives and adequately justified its decisions."

n15 The district court concluded that the "short-term projections were irrelevant to the long-term, programmatic goals of the revised [Tongass Plan]" and that "the uncertainty of the projections" undermined the market demand report's utility.

[**16]

During litigation in district court, the Forest Service announced its intent to begin construction of a road into a roadless area pursuant to one of the Plan's authorized timber sales. NRDC sought a preliminary injunction and an injunction pending appeal in the district court, which the district court denied. NRDC then sought an injunction pending appeal in the Ninth Circuit, which was granted by a motions panel because "NRDC has shown a likelihood of success on the merits" and because the planned timber sale "will cause irreparable injury." Order at 2-3 (filed Oct. 18, 2004) (per curiam). n16

n16 The motions panel included Judges Kleinfeld, Tashima, and Gould. Judge Kleinfeld dissented from the order granting an injunction pending appeal.

II

We must first determine whether we have jurisdiction to review the 1997 Revision to the Tongass Land Management Plan. In 2003, Congress passed the Omnibus Appropriations Act, Pub. L. 108-7 (Feb. 20, 2003), stating in part that:

The Record of Decision for the [**17]
2003 Supplemental

Environmental Impact Statement for the
1997 Tongass Land Management Plan shall
not be reviewed under any Forest Service ad-
ministrative appeal process, and its adequacy
shall not be subject to judicial review by any
court of the United States.

149 Cong. Rec. H707-01, H779 (2003). The 2003 Supplemental Environmental Impact Statement (SEIS) was a response [**805] to a court order holding that the

1997 ROD violated NEPA and NFMA because it failed to consider in the EIS alternatives that would have recommended more wilderness areas on the Tongass. *Sierra Club v. Rey*, J00-009 (D. Alaska, Order of Mar. 30, 2001).

After completing the court-ordered SEIS, the Forest Service issued a ROD adopting Alternative 1, the "No-Action Alternative," which represented "the 1997 Forest Plan Revision land allocations and standards and guidelines." The 2003 ROD thus recommended the creation of no wilderness areas on the Tongass, other than those already recommended by the 1997 Plan. By its terms, section 335 of the 2003 Appropriations Act precludes judicial review of the 2003 ROD.

The government Appellees argue that Congress understood that the 2003 ROD adopted or readopted the [**18] entire Tongass Plan, and that Congress intended to insulate the entire 1997 Plan from judicial review. We are not persuaded. The 2003 Appropriations Act does not by its terms clearly preclude judicial review of challenges to the 1997 Plan. *See Robertson v. Seattle Audubon Soc'y*, 503 U.S. 429, 440, 118 L. Ed. 2d 73, 112 S. Ct. 1407 (1992) ("Congress . . . may amend a substantive law in an appropriations statute, as long as it does so clearly.").

The 2003 ROD and SEIS were the Forest Service's response to a court order to reassess *only* the wilderness component of the 1997 Plan. As the SEIS explains: "The purpose and need for this SEIS is, therefore, narrow in focus and has been developed to specifically respond to the March 2001 Court order." There is no indication that the Forest Service intended the 2003 court-ordered response to be an entirely new plan, or that it readopted the 1997 Plan; n17 there is, however, unambiguous language indicating that the SEIS was limited in scope:

As indicated by the U.S. District Court for Alaska, there is a need to evaluate roadless areas in the Tongass National Forest and consider them for wilderness recommendations; therefore, this [**19] SEIS focuses on new wilderness recommendations. The alternatives discussed below reflect this focus. The SEIS does not consider land allocation options, such as changing current non-development LUDs to development LUDs. Also, it does not explore new biodiversity or conservation biology strategies, *nor represent a totally new Forest Plan Revision*.

We conclude that the 2003 ROD adopted only the 2003 SEIS, and was intended to address only the wilderness element of the 1997 Plan. n18

n17 We note that NFMA allows only the "approval," "amendment," or "revision" of a forest plan, and not the "readoption" of a forest plan. *See* 16 U.S.C. § 1604(f)(4)-(5).

n18 The legislative history confirms this limited intent: "The conference agreement retains language proposed in section 329 of the Senate bill limiting review of certain elements in the land management plan for the Tongass National Forest." H.R. Conf. Rep. No. 108-10, at 1032 (2003); 149 Cong. Rec. S340-05, at S588 (daily ed. Jan 15, 2003) (Senate report submitted by Sen. Stevens) ("Limits the review of certain aspects of the Tongass Land Management Plan.").

[20]**

Because Congress precluded judicial review of only the 2003 ROD reassessing the wilderness recommendations of the 1997 ROD, and not the entire 1997 Plan, and because NRDC challenges the adequacy of the 1997 Plan, we hold that Congress has not stripped us of our jurisdiction under 28 U.S.C. § 1291 to review the final decision **[*806]** and judgment of the district court dismissing NRDC's claims. n19

n19 Alternatively, even if Congress intended in the 2003 Appropriations Act to preclude judicial review of the entire 1997 Plan, we would retain jurisdiction over NRDC's appeal because appropriations acts are generally only "in force during the fiscal year of the appropriation and do not work a permanent change in the substantive law." *Seattle Audubon Soc'y v. Evans*, 952 F.2d 297, 304 (9th Cir. 1991) (holding that a rider that limited judicial review of national forest management plans expired at the end of the appropriation year). To rebut this presumption takes a clear statement of "futility," such as "hereafter." *See Atl. Fish Spotters Ass'n v. Evans*, 321 F.3d 220, 224-25 (1st Cir. 2003); *Bldg. & Constr. Trades Dep't, AFLCIO v. Martin*, 295 U.S. App. D.C. 182, 961 F.2d 269, 273-74 (D.C. Cir. 1992).

[21]**

III

Having determined that we have jurisdiction to decide the merits of NRDC's appeal, we next must determine whether the Forest Service's admitted misinterpretation of market demand for Tongass timber was a clear error of judgment that renders the 1997 ROD arbitrary and capricious, in violation of the APA. n20 Under the APA, the Forest Service's decision must be based on "a considera-

tion of relevant factors" and we assess whether there has been "a clear error of judgment." *Gifford Pinchot Task Force v. United States Fish & Wildlife Serv.*, 378 F.3d 1059, 1065 (9th Cir. 2004). A "clear error of judgment" sufficient to be arbitrary and capricious agency action exists when "the agency offer[s] an explanation that runs counter to the evidence before the agency." *Sierra Club v. EPA*, 346 F.3d 955, 961 (9th Cir. 2003), amended by 352 F.3d 1186. The Forest Service must "state a rational connection between the facts found and the decision made." *Gifford Pinchot Task Force*, 378 F.3d at 1065.

n20 Our review of agency action is governed by the APA; we will set aside only agency actions that are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); *Resources Ltd., Inc. v. Robertson*, 35 F.3d 1300, 1304 (9th Cir. 1993). Our review is narrow, but searching and careful. *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 378, 104 L. Ed. 2d 377, 109 S. Ct. 1851 (1989).

[22]**

A

Under the TTRA, the Forest Service must "seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber from such forest and (2) meets the market demand from such forest for each planning cycle." 16 U.S.C. § 539d(a). The Forest Service sought to satisfy its obligations under the TTRA by considering market demand for Tongass timber and by seeking to meet that demand. The Forest Service first used the Brooks and Haynes report to assess market demand. Then, in its list of goals and objectives, the ROD stated that the Forest Service "will seek to provide a timber supply sufficient to meet the annual market demand for Tongass National Forest timber and the market demand for the planning cycle." The ROD thus preferred alternatives that "have a timber program potential (Allowable Sale Quantity) that allows flexibility to respond to changing needs within the timber industry, as reflected in the most recent demand study (see Final EIS, Appendix M), and are responsive to communities dependent upon timber harvesting."

The three scenarios of average annual demand for Tongass timber for the next decade **[**23]** "reflected in the most recent demand study" were: 68 MMBF/year (low), 110 MMBF/year (medium), and 154 MMBF/year (high). The Forest Service, however, interpreted the Brooks and Haynes report to apply only to sawlogs. **[*807]** Because "the ASQ for the Forest Plan and the annual timber sale program on the Tongass include both

sawlogs and other types of wood," the ROD's three scenarios for projected average market demand were: 130 MMBF/year, 212 MMBF/year, and 296 MMBF/year. The Forest Service used its doubled market demand figures, instead of the Brooks and Haynes figures, to gauge the relative desirability of each of the proposed Alternatives. Accordingly, the ROD adopted Alternative 11, with its average annual ASQ of 267.2 MMBF/ year.

The ROD explained:

Demand. Research scientists at the Pacific Northwest (PNW) Station have recently completed new projections of demand for timber from the Tongass National Forest. The new projections include a medium projection that averages 110 MMBF per year over the next decade and low and high projections that average 68 and 154 MMBF per year, respectively, over the same time period.
...

The projected demand is for sawlogs suitable for producing [**24] lumber in Southeast Alaska mills. The ASQ for the Forest Plan and the annual timber sale program on the Tongass include both sawlogs and other types of wood. Over the past ten years, about 52 percent of the timber volume harvested on the Tongass has gone to Southeast Alaska sawmills. If this ratio continues into the future, the ASQ needed to satisfy the medium demand projection of demand would be about 212 MMBF per year. Under the same assumption, the ASQ needed to satisfy the low and high projections of demand would be about 130 and 296 MMBF per year respectively. These numbers can be compared with the actual ASQ, which averages 267 MMBF per year over the next decade.

The Forest Service concedes that it made a mistake in interpreting the 1997 Brooks and Haynes report, which actually accounted for both sawlogs and other types of wood, and that its mistake doubled the demand projection scenarios. Because the Forest Service linked the selected ASQ to the satisfaction of the projected market demand scenarios, the Forest Service's explanation "runs counter to the evidence before the agency." *Sierra Club, 346 F.3d at 961.*

B

The Forest Service argues, and the [**25] district court held, that the market-demand error was harmless because the projections were not significant to the Regional

Forester's decision choice among the Plan Alternatives. We disagree.

The role of harmless error in the context of agency review is constrained. *Gifford Pinchot, 378 F.3d at 1071.* We have stated that the "doctrine may be employed only when a mistake of the administrative body is one that *clearly had no bearing* on the procedure used or the substance of decision reached." *Id.* (internal quotation marks omitted). The Forest Service bears the burden of demonstrating harmlessness. *Id.*

The Forest Service has not met its burden. The ROD is clear: "We will seek to provide a timber supply sufficient to meet the annual market demand for Tongass National Forest timber and the market demand for the planning cycle." We hold that the market-demand error was not harmless because the TTRA specifically requires the Forest Service to consider market demand for Tongass timber, and because the record shows that the Forest Service did seek to meet the annual market demand and plan-cycle market demand for timber, albeit mistakenly. In other words, we [**26] hold that the Forest Service's [**808] mistake had some bearing on the substance of the Forest Service's decision to adopt Alternative 11, with its ASQ of 267 MMBF/year.

We have said that a "proper determination of the ASQ, perhaps more than any other element of forest-wide planning, is critical in providing 'long-term direction.'" *Resources Ltd., 35 F.3d at 1305.* Here, the Forest Service linked its preferred ASQ to its mistaken view of market demand, stating that a certain ASQ would be "needed to satisfy" the various market demand projection scenarios, and that the market demand projections "can be compared with the actual ASQ, which averages 267 MMBF per year over the next decade."

Common sense, as well as the record, tells us that the Forest Service's assessment of market demand was important for its determination through the ASQ of how much timber is allowed to be cut. Given the competing goals to be accommodated under NFMA, it is clear that trees are not to be cut nor forests leveled for no purpose. If market demand exists for timber, the need for timber harvest may outweigh the competing goals for environmental preservation and recreational use. But if the demand [**27] for timber was mistakenly exaggerated, it follows that the timber harvest goal may have been given precedence over the competing environmental and recreational goals without justification sufficient to support the agency's balancing of these goals.

The ROD noted that a "key factor" in the decision to adopt Alternative 11, as "a matter of finding a balance, within a multiple-use context," was "not foreclos-

ing options for the future that changes in public needs, economic conditions, or new technologies may bring." Thus, the ROD rejected Alternatives 4 and 5 because they "do not have a timber program that would be adaptable to changing demands" n21 and preferred Alternatives 2, 3, 6, 10, and 11 because they "have a timber program potential (Allowable Sale Quantity) that allows flexibility to respond to changing needs within the timber industry, as reflected in the most recent demand study (see Final EIS, Appendix M), and are responsive to communities dependent upon timber harvesting."

n21 In the Plan's Appendix L, containing public comments and Forest Service responses, the Forest Service expressly rejected suggestions for a lower ASQ because they would not enable the Forest Service to "meet the provision in the Tongass Timber Reform Act to seek to supply timber which meets the annual market demand for timber (consistent with providing for the multiple use and sustained yield of all renewable forest resources)."

[**28]

The ROD's reasoning suggests to us that the "changing needs within the timber industry" are reflected in the low-to-high market demand scenarios set forth in the Brooks and Haynes report and incorporated by the Forest Service into the ROD and EIS. Accordingly, we hold that the Forest Service's market-demand error affected the Forest Service's assessment of alternatives and its decision to choose Alternative 11.

The Forest Service argues that the ASQ is a ceiling on allowable timber sales that is unrelated to market demand projections. Although the ASQ represents a ceiling, the ROD's rationale clearly links the ASQ to the projected market demand. See discussion *supra* Part III.A.1. Reason and logic also support this linkage. A ceiling too low to satisfy demand could compromise one of NFMA's multiple-use goals (timber harvest) without justification in this record. n22 Likewise, a ceiling higher than [**809] needed to satisfy demand, could compromise another of NFMA's multiple-use goals (environmental preservation) without justification in this record. Moreover, even if the Forest Service would have adopted an ASQ greater than the high market demand scenario to allow flexibility to [**29] respond to changes in market demand, n23 it is impossible to tell how much greater the ASQ would need to be, or to what extent other alternatives might have been considered in detail, in relation to the actual market demand. See *Alaska Wilderness Recreation & Tourism Ass'n v. Morrison*, 67 F.3d 723, 730 ("While we cannot predict what impact the elimination of the APC contract will have on the Forest Service's ultimate land use decisions, clearly

it affects the range of alternatives to be considered.").

n22 We do not suggest that an ASQ can never be too low to satisfy market demand, or that the Forest Service must in fact *meet* demand (as opposed to *seek* to meet market demand). Here, however, the record shows that the Forest Service preferred the ASQ that it believed best balanced NFMA's three multiple-use goals: recreation, environmental protection, and timber harvest. The Forest Service acted arbitrarily because it fundamentally misunderstood one leg of this tripod balance, believing its scenarios of projected market demand, pertinent to the timber harvest goal, to be double the actual amount of demand.

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n23 As it stands in the ROD, the chosen ASQ of 267 MMBF/year lies between the medium (212) and high (296) market demand scenarios projected by the Forest Service. If this ratio holds, based on the correct market demand projection scenarios, the Forest Service would have had flexibility to respond to changing demand with an ASQ of 139 MMBF/year (situated between the actual medium (110) and high (154) market demand scenarios).

The government Appellees also argue that the TTRA's market demand provisions are hortatory and envision "not an inflexible harvest level, but a balancing of the market, the law, and other uses, including preservation." *Alaska Wilderness*, 67 F.3d at 731. As our precedent indicates, the TTRA gives flexibility to the Forest Service "to choose among various site-specific plans, provided it follows the procedural requirements of the applicable statutes." *Id.* This does not mean, as the Appellees argue, that the responsibility reflected in the TTRA applies only at the project level. To give the TTRA such a meaning would essentially negate that portion of the [**31] statute that seeks to meet the market demand for Tongass timber "for each planning cycle." See 16 U.S.C. § 539d(a)(2). Moreover, even if hortatory, to satisfy the TTRA's earnest admonishment requires the Forest Service to at least *consider* market demand and *seek* to meet market demand. And this the Forest Service attempted to do, using its own economists' projections of the annual and plan-cycle market demands for Tongass timber for the life of the Plan. Yet in its attempt, the Forest Service committed a clear error of judgment, and the Forest Service has not met its burden to show that its error "*clearly had no bearing . . . on the substance of the decision reached.*" n24 See *Gifford Pinchot*, 378 F.3d at 1071.

n24 The Forest Service suggests that the TTRA's qualifying language, stating that the Forest Service must seek to meet market demand only "to the extent consistent with providing for the multiple use and sustained yield of all renewable forest resources," 16 U.S.C. § 539d(a), means that its mistake must be harmless because market demand considerations come into play only after NFMA's mandatory provisions are satisfied. Here, however, the Forest Service considered market demand in balancing NFMA's multiple-use goals and in assessing the various Alternatives, but misinterpreted the relevant data. The Forest Service's error on demand had a bearing on its analysis, and is not harmless under our precedent. See *Gifford Pinchot*, 378 F.3d at 1071.

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Because the Forest Service's "explanation [of its market demand projections] runs counter to the evidence before the Agency," we hold that the Plan was based in part on a clear error of judgment. See *Sierra Club*, 346 F.3d at 961. The Forest Service cannot "state a rational connection between [the proper market demand projection] found and its decision [to select an ASQ of 267 MMBF/year]." See *Gifford Pinchot*, 378 F.3d at 1065.

Because the law requires a market demand assessment for the Tongass Land Management Plan, and the Forest Service tried, but failed, to comply properly with this requirement, we hold that the mistaken interpretation of the Brooks and Haynes projections was not harmless. The Forest Service has not met its burden of showing that its misinterpretation of the 1997 Brooks and Haynes report "clearly had no bearing on the . . . substance of the decision" to choose Alternative 11, and so we reverse the district court. See *id.* at 1071 (emphases omitted). n25

n25 Because we reverse the district court and hold the Plan invalid on the above ground relating to the Forest Service's error on market demand, we need not address NRDC's further argument that the Forest Service's conclusion that timber goals justified the Plan's risks to wildlife was arbitrary and capricious.'

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IV

We next address the NEPA arguments raised by NRDC challenging the Forest Service's EIS. Although the Forest Service's market-demand error requires it to make

a new revised forest plan for the Tongass, it does not render moot our consideration of the NEPA issues presented to us, which are integrally intertwined with the error of judgment that rendered the Plan arbitrary and capricious. Our assessment of the NEPA issues presented by NRDC is necessary to ensure that the Forest Service prepares a lawful EIS for the new Tongass Land Management Plan that is required by our decision today. n26 Resolution of the NEPA issues raised by this appeal is also appropriate to clarify the requirements of NEPA that the Forest Service was bound to follow in its prior EIS. Accordingly, we next consider whether the process used by the Forest Service in adopting the Plan complied with NEPA. n27

n26 Although the law requires an EIS for every federal action that has a significant impact on the environment, 42 U.S.C. § 4332(2)(C), NEPA's procedures do not apply to agency actions that "maintain the environmental status quo." *Kootenai Tribe v. Veneman*, 313 F.3d 1094, 1114 (9th Cir. 2002). After the Forest Service discovered the market demand error, it concluded that a supplemental EIS was not necessary. In 2003, in response to a court order directing the Forest Service to consider recommending more wilderness area in the Tongass Plan, the Forest Service issued the ROD selecting the "No Action" Alternative, which represented the Plan's original land allocations. The 2003 ROD did not require an EIS because it maintained that environmental status quo. Our holdings today make clear that the Forest Service will need to prepare a new EIS because the prior EIS did not satisfy NEPA's requirements.

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n27 We review de novo a district court's legal determinations that an agency complied with NEPA and that the EIS is adequate. See *Churchill County v. Norton*, 276 F.3d 1060, 1071 (9th Cir. 2001), amended by 282 F.3d 1055 (9th Cir. 2002). We review NEPA claims under the APA and will set aside agency actions that are adopted "without observance of procedure required by law." 5 U.S.C. § 706(2)(D); *Ctr. for Biological Diversity v. United States Forest Serv.*, 349 F.3d 1157, 1165 (9th Cir. 2003). We apply a "rule of reason" standard when reviewing the adequacy of an agency's EIS, asking "whether an EIS contains a reasonably thorough discussion of the significant aspects of the probable environmental consequences." *Churchill County*, 276 F.3d at 1071. Under this standard, we make "a pragmatic judgment whether the EIS's form, content and preparation foster both informed decision-

making and informed public participation. *Id.*

NEPA requires "that federal agencies carefully weigh environmental considerations [*811] and [**35] consider potential alternatives to the proposed action before the government launches any major federal action." *Lands Council*, 395 F.3d at 1026. NEPA's procedural requirements require federal agencies to "take a 'hard look' at environmental consequences." *Id.* at 1027 (quoting *Earth Island Inst. v. United States Forest Serv.*, 351 F.3d 1291, 1300 (9th Cir. 2003)).

NRDC contends that the EIS is inadequate in three respects: (1) by inflating the market demand for Tongass timber, the EIS presents misleading information on the economic effects of the plan; (2) the EIS examines an inadequate range of alternatives because it fails to examine alternatives that would maximize preservation of currently roadless areas, while having an ASQ adequate to meet projected market demand; and (3) the EIS fails to disclose and consider the cumulative effects of logging of high-volume old growth forest on non-federal lands. We address these contentions in turn.

A

We first consider whether the inflated assessment of market demand by the Forest Service led it to present misleading information in the EIS.

NEPA requires federal agencies to examine [**36] the environmental effects of a proposed project and, for those actions that will significantly affect the environment, to inform the public in an EIS of the relevant factors that were considered in the decision-making process. *See* 42 U.S.C. § 4332(2)(C); *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 97, 76 L. Ed. 2d 437, 103 S. Ct. 2246 (1983). NEPA is a procedural statute; NEPA does not force an agency to choose the most environmentally sound alternative, but it does ensure that agency action is "fully informed and well considered." *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 519, 558, 55 L. Ed. 2d 460, 98 S. Ct. 1197 (1978).

"Where the information in the initial EIS was so incomplete or misleading that the decisionmaker and the public could not make an informed comparison of the alternatives, revision of an EIS may be necessary to provide a reasonable, good faith, and objective presentation of the subjects required by NEPA." *Animal Def. Council v. Hodel*, 840 F.2d 1432, 1439 (9th Cir. 1988), *amended by* 867 F.2d 1244 (9th Cir. 1989) (internal quotation marks [**37] omitted). NRDC contends that the economic information in the EIS for the Tongass Plan was misleading because it was based on mistaken market demand projec-

tions that inflated the economic benefits and discounted the environmental impacts of the Plan.

The Fourth Circuit has held that there was a NEPA violation where an EIS inflated the economic benefits of a proposed plan. *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 446-48 (4th Cir. 1996). Inaccurate economic information may defeat the purpose of an EIS by "impairing the agency's consideration of the adverse environmental effects" and by "skewing the public's evaluation" of the proposed agency action. *Id.* at 446; *see also Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 235 F. Supp. 2d 1143, 1157 (W.D. Wash. 2002) ("An EIS that relies upon misleading economic information may violate NEPA if the errors subvert NEPA's purpose of providing decisionmakers and the public [**812] an accurate assessment upon which to evaluate the proposed project.").

We hold that here the market-demand error was sufficiently significant that it subverted NEPA's purpose of providing decision [**38] makers and the public with an accurate assessment of the information relevant to evaluate the Tongass Plan. Throughout the EIS, calculations of the projected employment effects of the Plan are based on the Forest Service's mistaken interpretation of the Brooks and Haynes report. The EIS states that the "approach used by Brooks and Haynes is representative and is used in this analysis as a baseline projection for use in comparing expected employment levels under different planning alternatives." The EIS uses the mistaken medium demand scenario of 212 MMBF/year to predict the employment and earnings potential of each considered alternative. Had the decision makers and public known of the accurate demand forecast for Tongass timber, and the concomitant lower employment and earnings potential, the Forest Service may have selected an alternative with less adverse environmental impact, in less environmentally-sensitive areas. Presenting accurate market demand information was necessary to ensure a well-informed and reasoned decision, both of which are procedural requirements under NEPA. *See, e.g., Vt. Yankee Nuclear Power Corp.*, 435 U.S. at 558.

The Forest Service argues [**39] that because the final EIS was fully developed and printed before the 1997 Brooks and Haynes report was received, the EIS analysis was complete and gave a basis for an informed comparison. We reject the Forest Service's argument because it is contrary to the evidence. The updated Brooks and Haynes projection scenarios were incorporated into the final EIS through an "Errata" that identified errors and updated the initial "paper version" of the EIS. The Errata replaces the tables comparing employment and business earnings predictions used in the paper EIS with new tables of economic predictions based upon the Forest Service's

erroneous interpretation of the Brooks and Haynes report. The Forest Service's final decision was made after it relied upon its incorrect market demand assessment.

The Forest Service also contends that it adequately and correctly considered the updated Brooks and Haynes market demand report in Appendix M, which the Forest Service argues reasonably concluded that a supplemental EIS was not required to address the substantial change in market conditions. This contention, however, is unsupported by the record. Appendix M discusses the 1997 Brooks and Haynes report, [**40] and gives a correct interpretation of its projected scenarios, but Appendix M fails to mention or correct the error made in the economics section of the EIS. Similarly, Appendix M fails to conduct a new analysis of employment and earnings predictions in light of the updated 1997 Brooks and Haynes report. Appendix M does not cure the misleading economic information presented to decision makers and the public in the EIS.

Finally, the Forest Service argues that because Appendix M asserted that "short-term demand information is not significant to the choice of alternatives" the economic information presented in the EIS was not misleading. The Forest Service also suggests in Appendix M that the Brooks and Haynes report was unreliable and insignificant. The Forest Service's argument does not persuade us. In the EIS, the Forest Service refers to the market demand projections in the 1997 Brooks and Haynes report, which demand was misinterpreted and doubled by the agency, as "the most reliable and defensible estimates" [**813] because of the report's methodology. n28 The EIS presented to decision makers and to the public a comparison of alternatives based on an economic forecast that relies on a flawed [**41] view of the market demand for Tongass timber. Thus, we conclude that short-term market demand was significant because the Forest Service presented and relied on the misconstrued demand information to predict the Plan's economic effects.

n28 The ROD's reliance on the market demand projections is made more clear by the Forest Service's multiple references to the Brooks & Haynes report in responding to public comments in Appendix L. For example, the Forest Service responded to criticism of a "lack of 'genuine' timber demand study" by noting the several research projects it had undertaken and concluding that "after review of the findings of each of the[] studies, we have elected to utilize the predictions made by Brooks and Haynes."

Indeed, in previous court documents, the Forest Service argued for the importance of the Brooks

and Haynes projection numbers: "A major effort in [seeking to meet market demand] is the preparation of demand reports by economists Haynes and Brooks of the Pacific Northwest Forest and Range Experiment Station." U.S. Forest Service Opposition to Summary Judgment in *Alaska Forest Ass'n v. U.S. Forest Serv.*, J99-013-CV (JKS) (D. Alaska 2000)).

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We conclude that the Forest Service presented misleading economic effects of the Plan significant to its evaluation of alternatives considered by the Plan, and the public was similarly misled in its opportunity for comment. We hold that the Forest Service violated NEPA's procedural requirement to present complete and accurate information to decision makers and to the public to allow an informed comparison of the alternatives considered in the EIS. *See Animal Def. Council*, 840 F.2d at 1439; *see also Hughes River Watershed Conservancy*, 81 F.3d at 446.

B

We next consider whether the alternatives explored by the Forest Service were inadequate.

NEPA requires agencies to "rigorously explore and objectively evaluate all reasonable alternatives" to a proposed plan of action that has significant environmental effects. 40 C.F.R. § 1502.14(a) (2000). This is "the heart" of an EIS. *City of Carmel-by-the-Sea v. United States Dep't of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997). "The existence of a viable but unexamined alternative renders an environmental impact statement inadequate." *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985); [**43] *see also* 36 C.F.R. § 219.12(f)(1) (2000) ("Alternatives shall be distributed between the minimum resource potential and the maximum resource potential to reflect to the extent practicable the full range of major commodity and environmental resource uses and values that could be produced from the forest."). NRDC contends that the Forest Service failed to consider alternatives that would have a timber program potential sufficient to meet or exceed market demand projections, while protecting more intact habitat, notably habitat in high-volume stands of old growth forest.

Many considerations went into the development and evaluation of each alternative, including the level of wildlife habitat protection and the level of contribution to the local and regional economies of southeast Alaska. We have held that where changed circumstances affect the factors relevant to the development and evaluation of alternatives, the Forest Service must account for such change

in the alternatives it considers. *See Alaska Wilderness*, 67 F.3d at 730-31 ("While we cannot predict what impact the elimination of the [long-term] contract will have on the Forest Service's ultimate land use decisions, clearly it affects the range of alternatives to be considered."). Here, the Forest Service's discovery of its error in interpreting the Brooks and Haynes report affected the economic and wildlife factors that the Forest Service used in developing and evaluating the alternatives considered in detail. *See* discussion *supra* Parts III.B and IV.A.

Specifically, the EIS considered ten alternatives with an ASQ ranging from 0 (Alternative 1, the no logging alternative) to 640 MMBF/year (Alternative 7), and chose Alternative 11, which had an ASQ of 267 MMBF/year. The ASQ for Alternative 11 lies between the medium and high demand scenarios, as incorrectly interpreted by the Forest Service in the ROD and EIS. An analogous ASQ based on the correct market demand projection would be around 139 MMBF/year. *Supra* note 23. The EIS considered two alternatives (4 and 5) with an ASQ situated between the actual medium and high demand scenarios, but rejected both in part because "Alternatives 4 and 5 (in addition to Alternative 1) do not have a timber program that would be adaptable to changing demands or new technologies and would be more likely to adversely affect communities whose primary employment comes from timber harvesting."

Because the EIS did not examine the viable alternative of setting the ASQ equal to any of the three correct market demand scenarios for Tongass timber, and in light of the TTRA's requirement to seek to meet market demand and the Forest Service's awareness of its misinterpretation of the Brooks and Haynes report, we hold that the EIS is inadequate in its consideration of alternatives, violating NEPA. *See Alaska Wilderness*, 67 F.3d at 730-31.

Equally important, each of the ten alternatives considered in the EIS allocate some currently roadless areas to LUDs that allow development. The allocations range from .12 million acres (Alternative 1) to 6.2 million acres (Alternative 7). If the no logging alternative (Alternative 1) were excluded, the range of roadless allocation considered by the alternatives is 2.4 to 6.2 million acres. Alternative 11 allocates 2.4 million acres of roadless area to development. As a percentage of total development LUD acreage, no alternative allocates less than 50% to currently roadless areas. Because the range of alternatives considered by the EIS omits the viable alternative of allocating less unspoiled area to development LUDs, we hold that the EIS is inadequate, in violation of NEPA. *See Citizens for a Better Henderson*, 768 F.2d at 1057; *see also California v. Block*, 690 F.2d 753, 767-68

(9th Cir. 1982).

C

We finally consider whether the EIS properly gauged the cumulative effects of logging of high-volume old growth forest on non-federal lands.

NEPA requires an agency to consider the environmental impact that "results from the incremental impact of the action when added to other past, present and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." *Muckleshoot Indian Tribe v. United States Forest Serv.*, 177 F.3d 800, 809 (9th Cir. 1999) (per curiam) (quoting 40 C.F.R. § 1508.7). An EIS must include a "useful analysis of the cumulative impacts of past, present and future projects" in sufficient detail to be "useful to the decisionmaker in deciding whether, or how, to alter the program to lessen cumulative impacts." *Id.* at 810 (quoting *Carmel-by-the-Sea*, 123 F.3d at 1160). The Forest Service in the EIS must at a minimum provide a "catalog of past projects" and a "discussion of how those projects (and differences between the projects) have harmed the environment." *Lands Council*, 395 F.3d at 1027. NRDC contends that the Forest Service failed to disclose the cumulative impacts of non-federal logging of high-volume stands on the Tongass.

High-volume old growth forests have a special economic value for the timber industry and a special habitat value for wildlife. According to scientists assembled by the Forest Service to review independently the conservation measures related to wildlife habitat for the Tongass, high-volume stands

provide a combination of large living and dead trees, multiple canopy layers, high-nutrient forage on the forest floor, good protection from snowfall, and other important features leading to habitat of high quality for wildlife adapted to Old Growth. At the same time, these high volume classes have been, almost exclusively, the target for past logging in Southeast Alaska.

The EIS acknowledges that timber harvest "has been concentrated in the higher volume classes." The EIS also notes that 5% of the Tongass National Forest (about 1 million acres) is owned by non-federal entities, and that these lands "have been heavily developed which cumulatively impacts old-growth forest resources." However, the EIS does not disclose the effect of continued "highgrading" of Tongass forest. Moreover, the EIS does not give detail on whether or how to lessen the cumulative impact of this practice. *See Muckleshoot*

Indian Tribe, 177 F.3d at 810.

We hold that the EIS fails adequately to consider the cumulative effects of disproportionate high-volume logging on non-federal land because "there is no catalog of past projects and no discussion of how those projects (and differences between the projects) have harmed the environment. . . . Moreover, there is no discussion of the connection between individual [non-federal, high-volume] harvests and the prior environmental harms from those harvests." See *Lands Council*, 395 F.3d at 1027. The EIS is also inadequate because it does not assess the potential impacts of reasonably foreseeable, continued "highgrading" in the future. See *Muckleshoot Indian Tribe*, 177 F.3d at 811-12.

The Forest Service argues that the [*49] Plan only establishes guidance for future actions that may have impacts, and that those impacts will be studied in conjunction with impacts from past, present, and future actions on both federal and non-federal land when those future actions are proposed. However, we held in *Resources Limited Inc. v. Robertson*, 35 F.3d 1300 (9th Cir. 1993), that "the Forest Service is required to address cumulative impacts in the EIS," and "where several foreseeable similar projects in a geographical region have a cumulative impact, they should be evaluated in a single EIS." *Id.* at 1305-06. In *Thomas v. Peterson*, 753 F.2d 754 (9th Cir. 1985), we held that "consideration of cumulative impacts after [agency action] has already been approved is insufficient to fulfill the mandate of NEPA. . . . [NEPA's] purpose requires that the NEPA process be integrated with agency planning 'at the earliest possible time,' and the purpose cannot be fully served if consideration of the cumulative effects of successive, interdependent steps is delayed until the first step has already been taken." *Id.* at 760 (quoting 40 C.F.R. § 1501.2 [*50]).

Here, the record shows that under the Plan, "there is a disproportionate amount of harvesting planned within high-volume low-elevation stands — areas that also provide critical wildlife habitat and are the most valuable to several species of concern." [*816] Species are not impacted by the federal or non-federal character of the lands over which they are distributed, but the cumulative effect of "highgrading" on each type of land may determine whether species will retain viable, well-distributed populations in the Tongass. Cf. *Resources Ltd.*, 35 F.3d at 1306 ("One does not need control over private land to be able to assess the impact that activities on private land may have in the Forest."). At least in the particular circumstances of this case, the cumulative impacts on wildlife viability from continued "highgrading" by non-federal entities, as well as by the Forest Service to the extent permissible under NFMA, ought to be considered in

a single, programmatic EIS. See *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1312-13 (9th Cir. 1990); see also *LaFlamme v. Fed. Energy Regulatory Comm.*, 852 F.2d 389, 401-02 (9th Cir. 1988) (holding [*51] that a cumulative impacts analysis was insufficient where the agency had examined single projects in isolation because there were several foreseeable similar projects in a geographical region that added to the cumulative impacts). A cumulative effects analysis in a programmatic EIS is necessary here for the Forest Service and public to make a rational evaluation of this proposed federal action balancing the competing goals of timber harvest, environmental preservation, and recreational use in the Tongass.

V

We hold that the Forest Service has not met its burden of showing that its admitted error in interpreting the market demand report for Tongass timber was harmless, and we reverse the district court's final decision and judgment. The Forest Service's reliance on an important mistake in fact seriously impaired the rationality of the Forest Service's judgment and Plan for the Tongass. The Forest Service's error in assessing market demand fatally infected its balance of economic and environmental considerations, rendering the Plan for the Tongass arbitrary and capricious in violation of the APA.

Moreover, the EIS was misleading because it presented as fact for decision makers [*52] and the public twice the market demand, and economic benefit, attendant to the Plan, violating NEPA. The EIS also did not consider an adequate range of alternatives, in light of a correct interpretation of data that the Forest Service had on market demand projections for Tongass timber, again violating NEPA. Finally the Forest Service in the EIS did not consider the cumulative impacts of past and reasonably foreseeable future non-federal logging in high-volume old growth forest of the Tongass, in further violation of NEPA.

The law of NFMA requires, and the ROD attempted, a balance among the multiple uses of our national forest lands, including timber harvest and environmental preservation; because a critical part of this balance was interpreted incorrectly by the Forest Service, the district court incorrectly rendered its final decision and final judgment in favor of the government Appellees, dismissing NRDC's claims.

We keep in place the temporary injunction until a permanent injunction is considered on an appropriate record and is entered by the district court, reflecting the requirements imposed by our opinion. n29 [*817] We **REVERSE** and **REMAND** to the district court for further [*53] proceedings consistent with this opinion.

n29 Before a motions panel, NRDC obtained an injunction pending appeal of one of the seven timber sales at issue in this case because the sale would "cause irreparable injury" and because NRDC showed a "likelihood of success on the merits." Order at 3-4 (filed Oct. 18, 2004). Intervenors argue that we should lift the current injunction and bar the lower court from granting any injunctive relief. In light of our decision, we reject this argument.

The appropriateness and scope of an injunction "raise intensely factual issues, and for that reason should be decided in the first instance by the district court." *Alaska Wilderness*, 67 F.3d at 732. Here, the district court has not yet conducted the

relief portion of the case, and so neither NRDC nor the Forest Service have been able to conduct discovery or submit evidence as to the scope of permanent injunctive relief. Further, NRDC in its briefing urges that we "should not consider permanent relief at this point." Because the record has not been developed in this respect, we retain the current injunction provisionally and remand to the district court to conduct such further proceedings as are appropriate, and consistent with this opinion, to address the scope of permanent injunctive relief.

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REVERSED and REMANDED.