

United States Court of Appeals  
FOR THE DISTRICT OF COLUMBIA CIRCUIT

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Argued September 23, 2016

Decided March 3, 2017

No. 14-5300

DEFENDERS OF WILDLIFE, ET AL.,  
APPELLEES

v.

RYAN ZINKE, IN HIS OFFICIAL CAPACITY AS SECRETARY OF  
THE UNITED STATES DEPARTMENT OF THE INTERIOR, ET AL.,  
APPELLANTS

STATE OF WYOMING, ET AL.,  
APPELLEES

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Consolidated with 14-5311, 14-5312, 14-5313, 14-5314,  
14-5315

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Appeals from the United States District Court  
for the District of Columbia  
(No. 1:12-cv-01833)

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*Joan M. Pepin*, Attorney, U.S. Department of Justice,  
argued the cause for Federal Appellants. With her on the briefs  
were *John C. Cruden*, Assistant Attorney General, and *David C. Shilton*, Attorney.

*Jay Jerde*, Special Assistant Attorney General, Office of the Attorney General for the State of Wyoming, argued the cause for appellant State of Wyoming. *Jeremiah I. Williamson*, Assistant Attorney General, entered an appearance.

*John A. Sheehan* was on the brief for *amicus curiae* Wyoming Wolf Coalition-2013's in support of appellant State of Wyoming.

*Timothy J. Preso* argued the cause for appellees/cross-appellants Defenders of Wildlife, et al. With him on the brief was *Ralph E. Henry, Jr.*

*Anna M. Seidman*, *Douglas S. Burdin*, *Jeremy S. Clare*, *Michael T. Jean*, and *John I. Kittel* were on the briefs for the non-governmental defendant-intervenor-appellants/cross-appellees. *Christopher A. Conte* entered an appearance.

Before: ROGERS, BROWN and PILLARD, *Circuit Judges*.

Opinion for the Court filed by *Circuit Judge* ROGERS.

ROGERS, *Circuit Judge*: The gray wolf in Wyoming has been a protected species since 1973 pursuant to the Endangered Species Act (“ESA”) and its predecessor. In 2011, the Secretary of the Interior proposed to delist the wolf on the basis of the recovery of the Northern Rocky Mountain gray wolf population and the conservation management plan of the State of Wyoming. Environmental groups opposed the delisting, and thereafter Wyoming made statutory and regulatory changes and created an Addendum to its management plan. Upon consideration of these changes and other data, the Fish and Wildlife Service, acting on the Secretary’s behalf, delisted the wolf in Wyoming as it had in the adjacent states of Montana and Idaho. *Removal of the Gray Wolf in Wyoming From the Federal List of Endangered and*

*Threatened Wildlife and Removal of the Wyoming Wolf Population’s Status as an Experimental Population*, 77 Fed. Reg. 55,530 (Sept. 10, 2012) (the “Rule”). Environmental groups sued, and the district court vacated the Rule, agreeing that the Service had arbitrarily determined that Wyoming had put into place adequate “regulatory mechanisms.” 16 U.S.C. § 1533(a)(1)(D). The court rejected the environmental groups’ other challenges to the Rule.

The Secretary and the State of Wyoming appeal, principally on the ground that the district court erred by failing to defer to the Service’s reasonable interpretation of “regulatory mechanisms” to include the State’s management plan for a wolf population buffer, which although not itself legally binding, is a practical entailment of the State’s statutory population minima. Environmental groups cross-appeal the district court’s conclusions that the Rule includes adequate provisions on genetic connectivity between wolf subpopulations and does not imperil the wolves in a “significant portion” of their range. For the following reasons, we reverse the judgment vacating the Rule and otherwise affirm.

## I.

Section 4(a)(1) of the ESA provides that the Secretary is to determine whether a species is endangered or threatened because of one or more of the following factors:

- (A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.

16 U.S.C. § 1533(a)(1). This determination is to be made “solely on the basis of the best scientific and commercial data available . . . after taking into account those efforts, if any, being made by any State . . . to protect such species, whether by predator control, protection of habitat and food supply, or other conservation practices, within any area under its jurisdiction.” *Id.* § 1533(b)(1)(A). A species — defined to include “any distinct population segment . . . which interbreeds when mature,” *id.* § 1532(16) — must be listed if its survival is threatened or endangered “throughout all or a significant portion of its range,” *id.* § 1532(6), (20). Section 4(f) requires the Secretary to develop and implement recovery plans for all listed species, *id.* § 1533(f)(1), incorporating “objective, measurable criteria which, when met, would result in a determination . . . that the species be removed from the list,” *id.* § 1533(f)(1)(B)(ii). Once the species has recovered sufficiently to be delisted, Section 4(g) requires the Secretary, in cooperation with the States, to monitor the species’ status “for not less than five years.” *Id.* § 1533(g)(1). Additionally, the Secretary is instructed to “make prompt use of the authority . . . to prevent a significant risk to the well being of any such recovered species.” *Id.* § 1533(g)(2). By regulation, the Secretary has instructed that upon listing a species the Fish and Wildlife Service (hereinafter, “the Service”) shall develop and implement recovery plans calling for “improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria set out in section 4(a)(1) of the [ESA].” 50 C.F.R. § 402.02.

The Northern Rocky Mountain gray wolf had by the 1930s been extirpated from Montana, Idaho, and Wyoming by western settlers who aggressively poisoned, trapped, and shot them. In the 1980s, gray wolves from Canada began to colonize northwestern Montana. In 1995 and 1996, 35 wolves from Alberta and British Columbia were reintroduced in Central Idaho, and 31 more were reintroduced in Yellowstone National

Park, virtually all of which is in northwestern Wyoming. The Service set recovery goals for Montana, Idaho, and Wyoming of at least 10 breeding pairs and 100 wolves, for a total Northern Rocky Mountain population of at least 30 breeding pairs and 300 wolves, with adequate genetic connectivity between the three subpopulations (*i.e.*, at least one migrant per generation that disperses from one subpopulation to another and successfully breeds). 76 Fed. Reg. 61,782, 61,791, 61,814 (Oct. 5, 2011) (“NPRM”).

The Service designated the Northern Rocky Mountain gray wolf as a distinct population segment in 2008, and proposed in 2009 to delist the wolf in Montana and Idaho. Following various court challenges and intervention by Congress, that delisting occurred in 2011. *Reissuance of Final Rule to Identify the Northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment and to Revise the List of Endangered and Threatened Wildlife*, 76 Fed. Reg. 25,590 (May 5, 2011); *see also All. for the Wild Rockies v. Salazar*, 672 F.3d 1170, 1171–72 (9th Cir. 2012). In proposing delisting in Wyoming in 2011, the Service recounted the characteristics and history of the gray wolf. NPRM, 76 Fed. Reg. at 61,788–89. These characteristics include adaptability, resiliency, territoriality, an ability to reproduce quickly, and a tendency to live in family packs of two to twelve, although sometimes significantly larger. From 1995 to 2008, the Northern Rocky Mountain gray wolf population grew an average of 20% annually despite an average human-caused mortality rate of 23%. By 2002, the recovery goal had been met for three consecutive years. At the end of 2011, the Northern Rocky Mountain gray wolf population consisted of a minimum of 1,774 wolves and 109 breeding pairs, thus far exceeding the Service’s recovery goals. Rule, 77 Fed. Reg. at 55,539. This population represented a 400-mile “southern range extension of a vast contiguous wolf population that number[ed] over 12,000 wolves

in western Canada and about 65,000 wolves across all of Canada and Alaska.” *Id.* at 55,547.

The Service’s proposal to delist the remaining Northern Rocky Mountain gray wolves in Wyoming was based on federal-state cooperative efforts to develop an adequate state regulatory framework, taking into account court decisions that had found prior state plans deficient. First, because a significant part of the Wyoming gray wolf subpopulation lives beyond Wyoming’s jurisdiction on tribal and federal lands — the Wind River Indian Reservation and Yellowstone National Park — the Service concluded that it would suffice for Wyoming to maintain a wolf population of “at least” 10 breeding pairs and 100 wolves in the parts of the State over which Wyoming has jurisdiction. NPRM, 76 Fed. Reg. at 61,788. The wolves on tribal and federal lands, in turn, would provide an “additional buffer” above minimum recovery goals, *id.*, thus roughly aligning Wyoming with the existing management requirements of 15/150 in Montana and Idaho, *id.* at 61,791. To meet these obligations, Wyoming agreed to repeal a regulatory requirement that it aggressively manage the wolf population down to the bare minimum required by law. In addition, it stated in its management plan that it intended “to maintain an adequate buffer above the minimum recovery goals” to ensure that unexpected mortality did not jeopardize its compliance with the 10/100 minima. *Id.* at 61,788. Next, Wyoming would manage wolves as game animals in a permanent trophy area that comprises 15.2% of the State, in which the vast majority of Wyoming wolves live. During the peak dispersal season, the trophy area would also expand southward approximately 1,300 square miles and cover an additional 1.3% of the State, to protect wolves migrating to and from the Idaho subpopulation. The remaining area, which covers only 19% of the State’s suitable wolf habitat, would be designated a predator area in which wolves could be killed with few restrictions.

Taking these commitments together, the Service concluded that Wyoming had provided for adequate regulatory mechanisms and proposed delisting contingent upon Wyoming enacting the agreed-upon changes into law. *Id.* at 61,811. Wyoming did so. *See, e.g.*, Wyo. Stat. Ann. § 23-1-101(a)(xii)(B)(I), (II); *id.* § 23-1-304(a), (n). Consistent with the Service’s practice of submitting its rulemakings for independent peer review, four of five peer reviewers agreed that, under the proposed regulatory framework, Wyoming’s wolf population would continue to be viable after delisting. Rule, 77 Fed. Reg. at 55,538. Some commenters disputed the adequacy of Wyoming’s management plan and, in particular, the danger that human-caused mortality could reduce the wolf population below Wyoming’s required minimum. *See id.* at 55,555. In response, Wyoming submitted an Addendum to its management plan to affirm its commitment to maintain an adequate population buffer above minimum recovery levels, to “be determined through an adaptive management approach and [which] may fluctuate based on natural population dynamics and the effects of specific management actions.” Wyo. Game & Fish Comm’n, Addendum: Wyoming Gray Wolf Management Plan at 3–5 (Mar. 22, 2012) (the “Addendum”). The Service relied on this Addendum in promulgating the Rule, stating, for instance, that “Wyoming’s wolf population will be further buffered because [the State Commission] intends to maintain an adequate buffer above minimum population objectives.” 77 Fed. Reg. at 55,538; *id.* at 55,555–56.

The district court, in response to two lawsuits challenging the Rule, granted the environmental groups’ motion for summary judgment in part. It upheld Wyoming’s management plan as adequate to ensure genetic connectivity between the three gray wolf subpopulations. It also upheld the Service’s determination that the predator area in southern and eastern

Wyoming does not constitute a “significant portion” of the gray wolf’s range, and that a lack of protection in those areas will not prevent genetic exchange. It concluded, however, that Wyoming’s inadequate regulatory framework rendered arbitrary the Service’s determination that the wolf is not threatened or endangered in Wyoming. The district court found that, although the Rule imposed on Wyoming a duty to manage above the minimum level of 10 breeding pairs and 100 wolves, and although Wyoming statutes had been amended to require “at least” the minimums, only the Addendum to the State’s management plan included a commitment to managing above that level and it was not legally enforceable. Absent that legal commitment to maintain the buffer, the district court vacated the Rule. *See Defs. of Wildlife v. Jewell*, 68 F. Supp. 3d 193, 209–10 (D.D.C. 2014).

The Secretary, Wyoming, Safari Club, and the National Rifle Association appeal the vacatur of the Rule, and the environmental groups (hereinafter, “appellees”) cross-appeal the denial of summary judgment on their genetic connectivity and “significant portion” challenges to the Rule. Our review of the grant or denial of summary judgment is *de novo*. *See Defs. of Wildlife v. Jewell*, 815 F.3d. 1, 7 (D.C. Cir. 2016). Where, as here, the district court reviewed agency action under the Administrative Procedure Act (“APA”), our review is highly deferential to the agency, *see American Wildlands v. Kempthorne*, 530 F.3d 991, 997–98 (D.C. Cir. 2008), while according no particular deference to the judgment of the district court, *see In re Polar Bear Endangered Species Act Listing*, 709 F.3d 1, 8 (D.C. Cir. 2013); *accord Friends of Blackwater v. Salazar*, 691 F.3d 428, 432 (D.C. Cir. 2012).

**II.**

Under Section 4(a) of the ESA, one of the statutory factors that the Secretary must consider in determining whether to delist a protected species is “the inadequacy of existing regulatory mechanisms.” 16 U.S.C. § 1533(a)(1)(D). Section 4(b), in turn, requires the Secretary to consider a broad range of conservation efforts, if any, being made by the state to protect the species. *See id.* § 1533(b)(1)(A). The Secretary contends that nothing in the ESA requires those efforts to be legally binding.

Tracking the familiar two-step analysis under *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842–43 (1984), the Secretary points out that the plain language of “regulatory mechanisms” is broader than only legally binding measures. Had Congress intended to so limit the analysis, it could have used “State law or regulation,” as it did elsewhere in the ESA, *e.g.*, 16 U.S.C. § 1535(f). Moreover, a requirement that Section 4(b) efforts be legally binding would be duplicative of Section 4(a)(1)(D), which addresses existing “regulatory mechanisms.” *Id.* § 1533(a)(1)(D). Therefore, the Secretary concluded the term “regulatory mechanisms” was ambiguous and may permissibly include state management plans that do not have the force of law. We agree that Congress has not “directly spoken” to the question, *Chevron*, 467 U.S. at 842, and that the term is ambiguous, *see id.* at 843, for the reasons the Secretary explains. Further, under *Chevron*’s second step, it was “permissible,” *id.*, for the Secretary to rely on Wyoming’s management plan, which includes a commitment to manage for a buffer in conjunction with its statutory obligations. The Secretary properly does not view the management plan as merely a speculative promise of future action in light of Wyoming’s statutory and regulatory amendments. Although appellees rely on the dictionary in maintaining that a “‘regulation’ demands more than voluntary compliance,” *see*

Appellees Br. 32 (citing 13 OXFORD ENGLISH DICTIONARY 524 (2d ed. 1989)), they overlook that Wyoming “is implicitly ‘required’ [to maintain a buffer] as the only practicable *means* of achieving the explicit requirement of maintaining at least” 10 breeding pairs and 100 wolves on state land. Fed. Appellants Reply Br. 13 (first emphasis added); Wyo. Stat. Ann. § 23-1-304(a).

Much of the parties’ underlying legal dispute about the adequacy of Wyoming’s management plan has been addressed by this court. In *In re Polar Bear*, 709 F.3d 1, this court discussed “regulatory mechanisms” and “conservation efforts” interchangeably, concluding that the Service reasonably found that existing regulatory mechanisms were inadequate despite Canada’s use of sport-hunting fees to fund local conservation programs, which it determined did nothing to offset the threat to polar bears from loss of sea ice habitat. *Id.* at 16–17. More significantly, and post-dating the district court’s vacatur of the Rule, this court upheld the Service’s determination to rely on a state management plan in *Defenders of Wildlife*, 815 F.3d at 6, 17, crucial terms of which were conservation agreements voluntarily entered into by landowners seeking to earn environmental mitigation credits that would relieve them of additional duties if the species at issue were listed. As here, the exercise of judgment by the Service in that case was based upon its experience under similar management plans in two adjacent states, with species-protective terms that, although not themselves legally codified, the Service had seen in operation and was reasonably certain would be fulfilled. *Id.* at 6–7. There too, environmental objections were raised similar to those of appellees, but the court concluded the Service adequately responded to them and exercised its judgment in a responsible and reasoned way. *Id.* at 17.

In other words, the question now before the court turns on

whether the rulemaking record demonstrates the Service exercised its judgment in a reasonable way in concluding that Wyoming’s management plan, which explains how the State intends to carry out its day-to-day implementation of its legal obligations, will adequately protect Wyoming’s gray wolf population after delisting. *See* 16 U.S.C. § 1533(a)(1)(D), (b)(1)(A). That determination, this court acknowledged, is a quintessential judgment call that Congress left to the Secretary, and by delegation to the Service, which has years of experience in evaluating what is reasonably likely to be implemented and effective. *See* *Defs. of Wildlife*, 815 F.3d at 17. The ESA provides no definition of “regulatory mechanisms,” and neither the district court nor appellees suggests why the Secretary’s interpretation is unreasonable. Although appellees may disagree with the Service’s conclusion that Wyoming can be trusted to manage for a buffer, that is a separate question. Given Congress’s direction that state conservation efforts must be considered, 16 U.S.C. § 1533(b)(1)(A), their consideration as part of the State’s “regulatory mechanisms” is hardly contrary to congressional intent. Appellees disagree with the Service’s assessment of Wyoming’s management plan, but not with the statutory obligation to take into account all state conservation efforts, or with the proposition that, in some instances, non-binding measures “if sufficiently certain and effective to alleviate a threat [of endangerment] may render a [legally binding] regulatory mechanism unnecessary . . . after delisting,” Appellees Br. 37-38. The Rule may be set aside only if “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” *Am. Wildlands*, 530 F.3d at 997 (quoting 5 U.S.C. § 706(2)); *see Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 42–43 (1983).

The record demonstrates that the Service reasonably and adequately responded to concerns about the reliability of Wyoming’s management plan. As the preamble to the Rule

makes clear, the Service determined that Wyoming’s management plan is a reliable indicator of how the State plans to implement its statutes and regulations because that plan aligned with the State’s own incentives. That is, managing at minimum levels “would severely limit State flexibility to address wolf depredation issues, limit wolf harvest opportunities, and increase the risk of relisting.” Rule, 77 Fed Reg. at 55,567. The Service similarly noted that a failure to ensure a buffer would place Wyoming at risk of violating its own statutory and regulatory commitments, if faced with unexpected and uncontrollable sources of mortality like disease. *Id.* As a point of comparison, the Service also looked to the post-delisting behavior of the adjacent states of Montana and Idaho, which had both maintained wolf populations well above minimum targets. *See id.* at 55,567–68. It noted that none of the states had indicated any interest in managing down to minimum levels; the Service underscored that state wildlife managers “have consistently reiterated . . . their desire not to come close to their floor levels” due to concerns about reduced management flexibility and potential relisting. *Id.* at 55,567.

The district court did not question those assumptions or considerations, but vacated the Rule solely because the provision in Wyoming’s management plan for an additional buffer is not legally binding. Nothing in the ESA demands that level of certainty, however, and in *Defenders of Wildlife*, the court upheld the withdrawal of a listing proposal where the Service had found that the voluntary conservation efforts were “sufficiently certain to be implemented” based on the strength of the participating state’s incentives, 815 F.3d at 6 (quoting the Service’s *Policy for Evaluation of Conservation Efforts When Making Listing Decisions*, 68 Fed. Reg. 15,100, 15,114–15 (Mar. 28, 2003)). The Service’s decision to delist in the absence of legal certainty is compatible with the ESA’s requirement for monitoring of the species after delisting “for at least five years”

and its emergency provisions authorizing the Secretary to take immediate action to ensure the delisted species does not become threatened or endangered again. *See* 16 U.S.C. § 1533(b)(7), (g). So understood, the Service could reasonably conclude that Wyoming’s efforts set forth in its management plan were sufficiently certain to be implemented based on the strength of the State’s incentives. And although Wyoming’s antagonistic history toward wolves may provide appellees reason to disagree, the Service took that history into account, *see, e.g.*, Rule, 77 Fed. Reg. at 55,566, and it worked with the State to rectify deficiencies previously identified by the courts, *id.* at 55,551–52. That appellees disagree with the Service does not undercut its reasoned determination that, in light of Wyoming’s plan to manage for a buffer, especially given the State’s own interests, Wyoming has established an adequate regulatory framework.

Appellees nonetheless maintain the Service’s reliance on a non-binding management plan is arbitrary because the Service had already determined that the threat of human mortality must be “adequately regulated.” Appellees Br. 38–39 (quoting Rule, 77 Fed. Reg. at 55,588). The preamble to the Rule does not state that Wyoming’s *buffer* must be regulated; to the contrary, it was the general threat of human-caused mortality that required regulation “in the form of binding minimum population targets by geographic area.” 77 Fed. Reg. at 55,568. The Service found that such protections are in place. Wyoming is bound under its own law to manage for “at least ten (10) breeding pairs of gray wolves and a total of at least one hundred (100) individual gray wolves.” Wyo. Stat. Ann. § 23-1-304(a). It will also use a licensing system to regulate the frequency with which wolves can be killed in the trophy area, *see, e.g.*, Wyo. Admin. Code Game Hunt Ch. 21 § 7, which affords Wyoming additional control over human-caused mortality. *See Greater Yellowstone Coal., Inc. v. Servheen*, 665 F.3d 1015, 1032 n.7 (9th Cir. 2011). Elsewhere, the preamble is even clearer on this point, discussing

regulation and buffers separately: “[I]f human-caused mortality is adequately regulated and population targets are sufficient to allow for other potential unforeseen or uncontrollable sources of mortality, no other potential threats are likely to compromise the population’s viability.” Rule, 77 Fed. Reg. at 55,588. Because the Service never deemed a regulatory buffer necessary, it did not contradict itself by failing to require one.

Nor did the Service disclaim any reliance on the states’ incentives to manage for a buffer, as appellees suggest. The preamble to the Rule states:

Should management needs be identified in future years, all three States have regulatory authority to modify management to meet such needs; *although we did not rely upon this in making our decision*, we recognized all three States have a strong incentive to maintain the [Northern Rocky Mountain distinct population segment] and its subpopulations well above minimum population levels.

77 Fed. Reg. at 55,590 (emphasis added). Appellees read “this” to refer to the states’ “strong incentive” in the following clause, while the Secretary responds that it refers to the states’ “regulatory authority” in the preceding clause. Even assuming the sentence is not a model of clarity, its meaning is apparent upon examination. If “this” were meant to refer to “strong incentive” in the following clause, then there would be no conceptual link between the two halves of the sentence, and they would have been separated by a period rather than a semi-colon. The sentence, moreover, comes at the end of a section explaining the adequacy of Wyoming’s current regulatory structure, and cannot fairly be understood as meaning “And even if the current regulatory structure is inadequate, Wyoming can just change it.” Instead, the Service noted Wyoming’s authority

to legislate while making clear that it did not rely on this fact; it relied on the State’s incentives to make sure future legislation is unnecessary. The preamble, further, makes clear that the Service *did* rely on state incentives, *see, e.g.*, Rule, 77 Fed. Reg. at 55,567, so it would have been illogical for it to claim otherwise.

Also without merit is Wyoming’s position that it is not required to manage for a buffer at all. This sleight of hand may lend some credence to appellees’ concerns about the State’s commitment, but it cannot overcome the rulemaking record and the documents submitted by the State in order to obtain delisting. The Service considered “unacceptable” Wyoming’s previous approach of managing down to bare minimum levels. Rule, 77 Fed. Reg. at 55,588. More to the point, the preamble states that Wyoming “will, *and must*, maintain a buffer to consistently meet its minimum management targets.” *Id.* at 55,556 (emphasis added). This language manifests a clear intent by the Service to bind Wyoming, and therefore the preamble itself has the force of law. *See Kennecott Utah Copper Corp. v. U.S. Dep’t of Interior*, 88 F.3d 1191, 1223 (D.C. Cir. 1996). Wyoming’s Addendum acknowledges that managing for minimum populations would restrict its ability to deal with depredating wolves and risk a status review and potential relisting. *See* Rule, 77 Fed. Reg. at 55,567; 16 U.S.C. § 1533(b)(7), (g). As the Secretary explains, Wyoming is implicitly required to maintain a buffer “as the only practicable means of achieving the explicit requirement” of maintaining at least 10 breeding pairs and 100 wolves on state land. Fed. Appellants Reply Br. 13; Wyo. Stat. Ann. § 23-1-304(a).

Appellees’ remaining challenges to Wyoming’s regulatory framework, which the district court did not reach in light of its vacatur of the Rule, also lack merit. First, the Service was not arbitrary in relying on Wyoming’s management plan to maintain

the statutorily required buffer, contrary to appellees' contention that maintaining a buffer would conflict with state law. Appellees point to Wyoming's lethal take statute but ignore the statutory and regulatory limitations that preserve the State's buffer authority. The statute provides for the promulgation of rules under which permits "shall be issued as long as the removals authorized by such permits could not reduce the numbers of gray wolves below" the 10/100 minimum. Wyo. Stat. Ann. § 23-1-304(n). The rules "shall provide for suspending the issuance of permits or cancelling existing permits if further lethal control could cause the numbers of gray wolves to be reduced below" the minimum. *Id.* As promulgated, those rules provide that a "Lethal Take Permit shall only be issued by the Department if legal removal of gray wolves will not prevent the Department from" meeting the 10/100 minimum. Wyo. Admin. Code Game Hunt Ch. 21 § 7(a). If further lethal take "may prevent the Department from achieving [its] management objectives," the issuance of additional permits "shall be immediately suspended" and existing permits "shall be immediately cancelled." *Id.* § 7(b)(iii). In addition to these binding provisions, the Addendum states that "[i]f the population approaches the minimum recovery level . . . the Department has the statutory authority to suspend issuance of Lethal Take Permits or cancel existing Lethal Take Permits." Addendum at 7.

The Service concluded that these provisions will not interfere with Wyoming's ability to maintain a buffer because they require the suspension or cancellation of permits if further mortality "could" compromise the State's minimums. Rule, 77 Fed. Reg. at 55,557. If State law had said "would" or "will," then it might conflict with a buffer, but State law requires suspension of permits upon the possibility of compromise. *See id.* Appellees focus on the phrase "permits shall be issued," maintaining this mandatory language trumps any discretion the

State might otherwise have to provide for a buffer. They ignore that the mandate (“shall”) is tempered by a condition (“as long as [issuance] *could not* reduce” the population below 10/100). Wyo. Stat. Ann. § 23-1-304(n) (emphasis added). In other words, the mere possibility that minimums “could” be compromised is enough to warrant the permit’s rejection. *See* 77 Fed. Reg. at 55,557. To the extent appellees also maintain that, because the preamble’s reference to “could” is not present in the State regulation, a permit must be issued as long as it “will not prevent” Wyoming from reaching its minimum, Appellees Br. 47–48 (quoting Wyo. Admin. Code Game Hunt Ch. 21 § 7(a)), they overlook that the permit “*shall only be issued . . . if [it] will not prevent*” Wyoming from reaching its minimum. Wyo. Admin. Code Game Hunt Ch. 21 § 7(a). The regulation sets a necessary condition, not a mandate, for the permit to be issued. *See also id.* § 7(b) (“If the requirements of . . . Section 7(a) are met . . .”). As noted, a separate provision requires the suspension or cancellation of permits if they “may” prevent Wyoming from managing for 10/100, *see id.* § 7(b)(iii), thus preserving the State’s ability to maintain a buffer if the wolf population falls to near minimum levels.

Appellees also point out that Wyoming’s lethal take statute authorizes a permit when wolves are “harassing . . . livestock or other domesticated animals,” Wyo. Stat. Ann. § 23-1-304(n), and yet it fails to define “harassing.” They worry that if the State were to define “harassing” broadly, permitting under that provision could jeopardize any planned buffer. In downplaying this concern, the Service relied on a letter from Wyoming’s Governor stating that prior to issuing a permit due to harassment, State officials will verify that wolves were present and that an actual attack was likely. Rule, 77 Fed. Reg. at 55,585–86 (citing Letter of Gov. Matthew H. Mead to U.S. Fish & Wildlife Serv. (May 15, 2012)). Appellees maintain that the Service’s reliance on the Governor’s letter was unreasonable,

because it is a non-binding promise, but that issue is largely irrelevant. Regardless of how broadly Wyoming defines “harassing,” or whether it independently verifies harassment before issuing a permit, it is legally bound to suspend all harassment permits if they “could” compromise the State’s minimums. Wyo. Stat. Ann. § 23-1-304(n).

Second, appellees maintain the Service’s delisting action was arbitrary because it failed to secure a regulatory commitment to suspend permits where necessary to ensure genetic connectivity between subpopulations. They correctly point out that the Service had identified this as a “Major Issue” in a mark-up of Wyoming’s proposed regulations, recommending that Wyoming add genetic connectivity as another grounds for suspending permits. Appellees, however, tell only half of the story. The Service also noted in the mark-up that it “could live with a commitment to this goal generally here, and let the [management] plan include more specifics.” Draft Revisions, Chapter 21 Regulations – Gray Wolf Management, at 4 (Feb. 24, 2012). Consistent with that guidance, the final State regulation added a general commitment to “ensur[ing] genetic diversity and connectivity,” even though it was not included in Section 4(a)(i) as the Service’s reviewer would have preferred. *See* Wyo. Admin. Code Game Hunt Ch. 21 § 4(a)(ii).

To the extent appellees maintain the Service arbitrarily ignored that Wyoming’s lethal take regulations could override that non-binding commitment to genetic connectivity, the Service correctly points out that the ESA “does not mandate that regulatory mechanisms exist to protect a species from any conceivable impact.” Fed. Appellants Reply Br. 31. Rather, the ESA requires protection only “against threats that would cause the species to be ‘an endangered species or a threatened species.’” *Id.* (quoting 16 U.S.C. § 1533(a)(1)). Because the rulemaking record showed that the wolves’ genetic health is

strong, and because Wyoming has other tools at its disposal (including reduction in harvest levels and in its own wolf control actions, and, if necessary, translocating wolves to other subpopulations), the Service concluded that the State's commitment to ensuring genetic connectivity into the Greater Yellowstone Area ("GYA") was sufficient. Rule, 77 Fed. Reg at 55,595–96. Even if a close issue, because the Service considered this permitting exception important, the studies in the record support the Service's view that genetic connectivity is not an immediately pressing concern. *See* Michael D. Jimenez et al., *Wolf Dispersal in the Northern Rocky Mountains in Western United States: 1993 – 2008* (2011) ("Jimenez Study"); Bridgett M. vonHoldt et al., *A Novel Assessment of Population Structure and Gene Flow in Grey Wolf Populations of the Northern Rocky Mountains of the United States*, 19 Molecular Ecology 2214 (2010) ("vonHoldt Study"). The Service determined that "even if no new genes entered into the GYA (a near impossibility), genetic diversity is likely many decades, and perhaps a century or more, away from becoming an issue and even then, it would be unlikely to threaten the GYA population." Rule, 77 Fed. Reg. at 55,596. In this context, the Service's acceptance of a non-binding commitment to genetic connectivity was not arbitrary and capricious.

Third, appellees maintain that any buffer will be undermined by Wyoming's allowance for unlimited killing of wolves "doing damage to private property." Wyo. Stat. Ann. § 23-3-115. Although the Service relied on the State's ability to limit human-caused mortality, *e.g.*, Rule, 77 Fed. Reg. at 55,555, appellees view this provision to create a "hole . . . in the State's authority." Appellees Br. 54. In particular, appellees are concerned about the ability of ranchers to bait wolves onto their property by leaving animal carcasses out. The Service concluded this concern was "improbable [and] theoretical," noting that a representative of the Wyoming Attorney General's

office advised that baiting could be prosecuted under Wyoming law. Rule, 77 Fed. Reg. at 55,561. In the Service’s judgment, “such a scenario is unlikely to occur and exceedingly unlikely to become a meaningful source of mortality” because ranchers are more likely to seek a lethal take permit or hunting tag than risk prosecution for baiting. *Id.* It noted as well that, baiting aside, similar defense-of-property allowances have been in place in Montana and Idaho since delisting and the overall wolf population has continued to grow. *Id.* at 55,585. Indeed, the record reflects that in Idaho only six defense-of-property kills are known to have occurred in 2009 and thirteen in 2010. Thus, the Service determined that the allowance “will not compromise . . . Wyoming’s ability to meet the agreed-upon population objectives.” *Id.* Appellees speculate that baiting could become most problematic as population levels decrease to near 10/100, at which point permits would be suspended and ranchers would have no choice but to bait. Again, as the Secretary observes, the ESA does not require a regulation to address every “far-fetched ‘what-if’ scenario” that opponents of delisting can imagine. Fed. Appellants Reply Br. 35. Given the slight impact of these allowances in Idaho and Montana, and the absence of evidence of baiting, the Service was not unreasonable in rejecting this concern.

### III.

On cross appeal, appellees contend that the Service arbitrarily concluded that genetic connectivity is currently sufficient, and will remain so after delisting. They also contend the Service arbitrarily concluded Wyoming’s unregulated predator area is not a “significant portion” of the wolves’ range. We are not persuaded that the district court erred in rejecting appellees’ challenges.

**A.**

To ensure the wolves' long-term genetic health, the Service has determined that, as a general rule, there should be at least one effective migrant per generation, *i.e.*, one wolf that travels every four years from another subpopulation and passes on its genes. Rule, 77 Fed. Reg. at 55,593. The GYA is the most isolated core recovery area within the Northern Rocky Mountain region, and thus a key concern of the Service has been the number of effective migrants entering the GYA from northwest Montana and central Idaho.

The Service relied on two studies to determine that genetic connectivity is currently sufficient. The Jimenez Study found that five radio-collared wolves had migrated into the GYA between 1992 and 2008, of which two were confirmed to have mated successfully and one was confirmed not to have. Rule, 77 Fed. Reg. at 55,593. Because only 20–30% of wolves were radio-collared, the Service determined that the number of actual migrants was likely several times higher than the five documented. Applying the Jimenez Study's estimate that 35% of migrants effectively breed, the Service concluded that there was likely more than one effective migrant per generation, and specifically as many as 1.5. Because the number of dispersals increase as the wolf population increases, and the Northern Rocky Mountain population increased from 55 to more than 1,655 over the course of the study, the Service inferred that a large proportion of dispersals occurred in recent years.

The vonHoldt Study sampled genetic material of Northern Rocky Mountain wolves between 1995 and 2004, when the total population was between 101 and 846 wolves. *Id.* It "detected genetically effective dispersal among the three recovery areas," with high levels of genetic variation and low levels of inbreeding. vonHoldt Study at 4412. As the population expanded over the course of the study, "observed heterozygosity

remained high,” *id.* at 4416, and “[i]nbreeding coefficients . . . remained low for all recovery phases,” *id.* at 4417. A co-author of the vonHoldt Study, Daniel Stahler, determined separately that the genetic sampling data indicated a minimum of 0.42 effective migrants per generation had entered the GYA during the study. There was consensus that this significantly underestimated the number of actual effective migrants because only about 30% of the population was sampled, but disagreement about how to calculate the actual number. One paper suggested that the Stahler estimate is “almost certainly low by at least half,” Rule, 77 Fed. Reg. at 55,593 (quoting Mark Hebblewhite et al., *Restoration of Genetic Connectivity Among Northern Rockies Wolf Populations*, 19 Molecular Ecology 4383, 4384 (2010) (“Hebblewhite et al., *Genetic Connectivity*”)), but Stahler has objected to that particular extrapolation as mere guesswork. The Rule’s preamble quoted Hebblewhite’s multiplier as a “suggest[ion],” while noting that additional analysis “may be needed” to pin down the actual number. *Id.*

Appellees contend that these studies show that the minimum requirement of one effective migrant per generation has not been met, and that the Service’s contrary conclusion was arbitrary. They claim the Jimenez Study found “[o]nly two dispersing wolves actually bred,” Appellees Br. 61, thus resulting in approximately 0.62 effective migrants per generation. Leaving aside that this Study accounted for only 20–30% of the wolf population, appellees ignore that two other dispersing wolves may have effectively bred, as only one of the five was confirmed not to have done so. Thus, it is possible that the dispersals observed by the Jimenez Study alone met the threshold, even before extrapolating the effective dispersals of the entire population. Appellees similarly take issue with the Service’s reliance on the vonHoldt Study because even assuming Hebblewhite is correct that the 0.42 effective migrant

rate is too low by half, a 0.84 rate would still be insufficient. They understand Stahler to believe that Hebblewhite overestimated the actual effective migrant rate. In fact, Stahler clarified that he was not claiming that the actual number could not be “as high as this (or higher in recent years),” but simply that no data supported quantifying the actual number as at least double the observed number. Email from Dan Stahler to Mike Jimenez and Seth Willey (Sept. 7, 2011). Contrary to appellees’ assertion, the Service did not “fail[] to grapple with Stahler’s objection,” Appellees Reply Br. 10, but rather cited Stahler in noting that additional analysis may be needed. Rule, 77 Fed. Reg. at 55,593.

The ESA requires that the Service rely on the “best scientific . . . data available,” 16 U.S.C. § 1533(b)(1)(A), and the Service’s evaluation of this data falls within its area of expertise and is entitled to deference by the court. *Defs. of Wildlife*, 815 F.3d at 14. Appellees do not suggest that there are better studies available, nor do they meaningfully dispute that both studies’ results are understated, requiring some extrapolation upward. Instead, they disagree with the Service’s conclusion that the studies show an effective migrant rate above one per generation. Such competing views about scientific data and policy choices, however, fail to show that the Service’s conclusions were arbitrary and capricious or contrary to law. *In re Polar Bear*, 709 F.3d at 3.

Of course, whether these levels of genetic connectivity will be sustained after delisting may be a closer question, but such a projection is still within the expertise of the Service. Two Service scientists noted that, because effective dispersals are hovering just above one-per-generation, “there is not a lot of wiggle room per assuring effective migration through natural dispersal into the GYA.” Ed Bangs and Mike Jimenez, Draft Memo at 3 (May 24, 2011) (“Bangs Memo”). The Service

nonetheless concluded that “the GYA wolf population will not be threatened by lower genetic diversity in the foreseeable future.” Rule, 77 Fed. Reg. at 55,596. It projected that the overall Northern Rocky Mountain wolf population will stabilize around 1,000 wolves after delisting in Wyoming. *Id.* at 55,594. Although appellees object that the projection has no basis, especially in light of the states’ documented hostility toward wolves and their binding commitments only to manage 400 total, in reality, two years after delisting, known 2011 populations remained many times larger than the minimums in Idaho (746), Montana (653), and the Northern Rocky Mountains as a whole (1,774). Rule, 77 Fed. Reg. at 55,539. These population numbers in adjacent states, which offer an indication of what Wyoming will experience after delisting, provided a rational basis for the Service to project that the Northern Rocky Mountain population will level off around 1,000 wolves.

Appellees still maintain that even if the Service’s projection is accepted, it was arbitrary to conclude that effective dispersals will reach one per generation because of the increase in wolf killings and the paucity of effective dispersals when the population was under 1,000. As noted, currently known levels of effective dispersal provide very little cushion above the one-per-generation threshold, so “very small changes in survival of a very small proportion of dispersing wolves into Wyoming may have significant repercussions.” Bangs Memo at 2. The Secretary explains that the 1,300 square-mile flex area, which sits across the border from two protected areas in Idaho, was created to provide a protected corridor for dispersing wolves as they seek a southern route around the Teton Mountains. The Secretary also discounts the importance of the expansive predator area, because it contains little suitable habitat and sits to the southeast of the GYA subpopulation, while the Montana and Idaho subpopulations are to the northwest. And the Secretary allows for the possibility that some dispersing wolves

will wander into the predator area *en route* to the GYA, but concludes “it is certainly not the only or even the likeliest route.” Fed. Appellants Reply Br. 52; *see* 77 Fed. Reg. at 55,564.

Appellees object that the seasonal flex area is too small to protect migrants, citing a recommendation by Bangs and Jimenez that the permanent trophy area extend south to Big Piney, WY. As to length, the flex area is only protected for 4.5 months per year, while an average dispersal takes 5.5 months to complete, thus ensuring that “the average dispersing wolf [will pass through] a free-fire zone for at least part of its journey.” Appellees Br. 70–71. And even in the protected flex area, appellees point out, dispersing wolves can still be killed by those holding lethal take or hunting permits. Appellees also refer to the Service’s conclusion in 2009 that, due to snow depths and concentration of prey, wolves dispersing into the GYA from the west were likely to skirt the mountains and “move through the predatory area.” *See Final Rule to Identify the Northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment and To Revise the List of Endangered and Threatened Wildlife*, 74 Fed. Reg. 15,123, 15,176 (Apr. 2, 2009) (“2009 Rule”).

This aspect of appellees’ challenge too involves some sleight of hand. The predatory area proposed in 2009 was much larger (at least 88% of the State) than the current proposal. *See id.* The Service had recommended that Wyoming “minimize take in all suitable habitat and across all of Wyoming’s potential migration routes,” *id.*, which the current permanent and flex trophy areas are aimed to accomplish. Rule, 77 Fed. Reg. at 55,564. Moreover, the Service does not dispute that migrants will enter the predator area, but explains why that would not preclude dispersals: migrants are harder to locate and kill than resident wolves, as demonstrated by Idaho hunting data showing

minimal harvest in areas with few resident wolves even during peak dispersal season. *See id.*

Were genetic connectivity entirely dependent on natural dispersals, it is possible Wyoming’s current management plan would prove inadequate due to the apparent closeness to the minimum threshold in the GYA. But the Service persuasively responded, pointing out that Wyoming has committed to account for dispersing wolves when setting quotas, and to collect samples to monitor for genetic diversity; further, if monitoring shows that natural dispersals are inadequate, it will modify its population management program; and if those modifications prove inadequate over numerous generations, it will employ human-assisted genetic exchange as a stopgap measure. Rule, 77 Fed. Reg. at 55,595–96. In this way the Rule accounts for, and protects against, the possibility that natural dispersals could fall short, or at least it was not arbitrary and capricious for the Service to so conclude.

Appellees lastly contend that the ESA’s purpose precludes the Service from delisting a species where its survival depends on human-assisted translocation (essentially, trapping a wolf and trucking it to another subpopulation to breed). This proves too much. The ESA aims “to provide a program for the conservation of” endangered and threatened species, 16 U.S.C. § 1531(b), by using “all methods and procedures which are necessary” to bring those species back to the point where the law’s protections are no longer necessary, *id.* § 1532(3). From this purpose, appellees infer a prohibition against delisting if the ESA’s “methods and procedures” — *i.e.*, “live trapping[] and transplantation,” *id.* — are still necessary. Yet if the Service cannot delist a species when live trapping and transplantation may still be necessary, the logic of appellees’ interpretation would mean delisting could not occur if other less invasive methods like “research, census, law enforcement, [and] habitat

acquisition” are still necessary. *See id.* By the same token, the Secretary’s regulations contemplate delisting even if the species depends on continued regulatory protection, *see* 50 C.F.R. § 424.11(d), so appellees’ view of the statutory imperative as allowing only an entirely self-sufficient species to be delisted can hardly be correct. The authority cited by appellees, *Trout Unlimited v. Lohn*, 559 F.3d 946 (9th Cir. 2009), is not to the contrary. There, the Ninth Circuit concluded that the ESA requires consideration of the entire species, not just the naturally hatched portion, and that, in deciding to downlist the species, the Service rationally considered how the artificially hatched fish benefit naturally hatched fish. *See id.* at 957–58. Thus, downlisting was appropriate even though that decision rested on the use of “artificial propagation,” one of the ESA’s “methods and procedures.” *See* 16 U.S.C. § 1532(3).

Notably, the Secretary emphasizes that under the Rule translocation would only be necessary as a last resort, and that “natural connectivity is the preferred approach.” Fed. Appellants Reply Br. 54 (quoting 77 Fed. Reg. at 55,565). The Service expects natural levels of dispersal to be sufficient, so “wolves in the GYA are not expected to need or rely on human-assisted migration often, if ever.” Rule, 77 Fed. Reg. at 55,565. This is not a case, then, in which greater reliance on such techniques could render a delisting decision arbitrary. It suffices to conclude that the ESA did not prohibit the Service from delisting in Wyoming where translocation could eventually be necessary as a stopgap measure after many generations of insufficient natural connectivity.

## B.

Section 3 of the ESA defines an endangered species as one in danger of extinction “throughout all or a significant portion of its range.” 16 U.S.C. § 1532(6). In Wyoming’s predator area wolves can be killed without restriction, and appellees contend

it was arbitrary for the Service to conclude this is not a significant portion of the wolves' range.

The predator area contains only 19% of the State's suitable habitat, and as of 2011, it contained only 3 of 27 breeding pairs, 8 of 48 packs, and 46 of 328 wolves in Wyoming. Rule, 77 Fed. Reg. at 55,602. The Service concluded that even if all of those wolves were killed, the remaining wolves in Wyoming would be sufficient to maintain a recovered population. *Id.* As for dispersing wolves, it acknowledged that some will be killed in the predator area, but it concluded that even if no dispersing wolves successfully traversed the Wyoming predator area, genetic health would not be affected to the point of endangering the remainder, *id.* at 55,602–03, due in part to “the current high level of genetic diversity” in the Northern Rocky Mountain gray wolf population, *id.* at 55,596. Thus, according to the Service, the predator zone cannot be deemed a “significant portion” of the wolves' range because the species would not become endangered even if every single wolf there were killed. *Id.* at 55,602–03.

Appellees respond that the Service “cannot have it both ways, deeming the predator zone insignificant even if all wolves in the area are killed, but then discounting the genetic-exchange impacts . . . by speculating that some wolves may survive” their passage through the predator zone. Appellees Reply Br. 28. But the Service has not offered “contradictory statements,” *see id.*, only complementary ones: it expects that some wolves will successfully traverse the predator area, but even if that proves incorrect, genetic health will not decline so much as to endanger the wolves. Rule, 77 Fed. Reg. at 55,602–03. Appellees' challenge rests on the mistaken assumption that migrants have no choice but to traverse the predatory area, making “safe passage through this area . . . essential to genetic exchange.” Appellees Br. 78. The rulemaking record is clear, however, that

wolves can disperse directly into the GYA from Idaho and Montana “without moving through Wyoming” at all, thereby accomplishing the desired connectivity goal. Rule, 77 Fed. Reg. at 55,564; *see also id.* at 55,534, 55,540.

Appellees also maintain that the Service irrationally reversed its 2009 determination that all of Wyoming constituted a significant portion of the wolves’ range. *See* 2009 Rule, 74 Fed. Reg. at 15,183. This 2009 determination was deemed arbitrary and capricious in 2010, *see Wyoming v. U.S. Dep’t of the Interior*, Nos. 09-CV-118J & 09-CV-138J, 2010 WL 4814950, at \*45 (D. Wyo. Nov. 18, 2010), when based on a broader, more inclusive definition of “significant portion,” pursuant to a 2007 opinion of the Solicitor of the Interior that was later withdrawn. *See* Fed. Appellants Reply Br. 57. By contrast, the 2012 Rule is based on the Service’s new, more restrictive interpretation of the ambiguous phrase “significant portion” as a portion of the range that would endanger the species’ survival if removed. *See* Rule, 77 Fed. Reg. at 55,601–02. Appellees do not challenge the Service’s definition of “significant portion;” rather, they maintain that even under that definition the predator area is significant and that the Service fails to explain the reversal of its 2009 determination. In 2010, the district court ruled that *all* of Wyoming was not appropriately subjected to trophy game management, without specifying how much of Wyoming could be so designated. In appellees’ view, then, the factual underpinnings of the 2009 determination are unaffected by the district court’s ruling, and yet the Service has failed to explain why they are no longer controlling.

The 2009 determination has been overtaken by events. Not only has the Service adopted a new definition of “significant portion of its range,” *see* Rule, 77 Fed. Reg. at 55,602–03, but Wyoming’s regulatory framework has changed, *id.* at

55,589–90, and new scientific data has become available in recent studies, *see id.* at 55,593 (citing the vonHoldt Study and the Jimenez Study). Indeed, Hebblewhite has concluded that vonHoldt’s 2010 study is more comprehensive and robust than her earlier work showing a lack of genetic connectivity: “[C]oncerns that this highly vagile and fecund species might suffer negative effects of genetic isolation . . . have been effectively laid to rest by vonHoldt *et al.*’s (2010) exhaustive work.” Hebblewhite *et al.*, *Genetic Connectivity* at 4384. The Service has offered ample rationale for determining that the predator area was never “envisioned to meaningfully contribute to wolf recovery in the region” and is thus not a “significant portion of its range.” Rule, 77 Fed. Reg. at 55,602–03.

Accordingly, we reverse the judgment vacating the Rule and otherwise affirm. The court has no occasion to consider the additional contentions of the Safari Club and NRA that the Rule reasonably advances conservation efforts and social tolerance for wolves among hunters and ranchers.