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United States Court of Appeals
Tenth Circuit

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Christopher M. Wolpert
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PUBLISH

UNITED STATES COURT OF APPEALS

FOR THE TENTH CIRCUIT

WILDEARTH GUARDIANS; WESTERN WATERSHEDS PROJECT,

Petitioners - Appellants,

v.

U.S. FOREST SERVICE, a federal agency of the United States Department of Agriculture,

Respondent - Appellee,

and

WAYNE BROWN; JERRY BROWN; THE COLORADO WOOL GROWERS ASSOCIATION; J. PAUL BROWN; COLORADO FARM BUREAU FEDERATION,

Intervenor Respondents - Appellees.

No. 24-1187

Appeal from the United States District Court
for the District of Colorado
(D.C. No. 1:19-CV-00208-DDD)

Lauren M. Rule, Advocates for the West, Portland, Oregon (Elizabeth H. Potter, Advocates for the West, Bend, Oregon, with her on the briefs), for Petitioners-Appellants.

Amy E. Collier, Environment and Natural Resources Division, U.S. Department of Justice, Washington, D.C. (Todd Kim, Assistant Attorney General, with her on the brief), for Respondent-Appellee.

Aaron Bruner, Western Resources Legal Center, Portland, Oregon, filed a brief for Intervenor Respondents-Appellees Wayne Brown, Jerry Brown, and Colorado Wool Growers Association.

Grady J. Block and Ivan L. London, Mountain States Legal Foundation, Lakewood, Colorado, filed a brief for Intervenor Respondents-Appellees J. Paul Brown and Colorado Farm Bureau Federation.

Before **HOLMES**, Chief Judge, **MURPHY**, and **McHUGH**, Circuit Judges.

McHUGH, Circuit Judge.

Petitioners-Appellants WildEarth Guardians and Western Watersheds Project ("Guardians") appeal the district court's denial of their Administrative Procedure Act ("APA") petition against Respondent-Appellee the United States Forest Service (the "USFS").[1] Guardians challenges an underlying USFS decision to open new domestic sheep grazing allotments (the "Wishbone Allotments") in the Rio Grande National Forest in Colorado. Guardians argues the allotments pose a high risk to local populations of Rocky Mountain bighorn sheep, which are vulnerable to catching diseases from domestic sheep.

The USFS's decision to open the Wishbone Allotments in the Rio Grande National Forest in 2017 followed two previous decisions in 2013 and 2015 to vacate larger grazing allotments which the USFS determined posed an unacceptable risk to bighorn sheep populations. Those decisions relied on the "risk of contact model"

[1] Intervenor Respondents-Appellees Wayne Brown, Jerry Brown, and the Colorado Wool Growers Association, along with J. Paul Brown and the Colorado Farm Bureau Federation, intervened in the case and have filed briefs on appeal.

("RCM"), a modeling tool the USFS uses to determine the likelihood a grazing allotment will risk domestic sheep coming into contact with bighorn sheep. In the previous decisions, the model's determination of a high risk of contact was determinative. But the USFS's 2017 decision authorizing the Wishbone Allotments eschewed the results of the risk of contact model—which again predicted a high risk of contact—and asserted that outside factors such as the geography of the allotments, the length of the bighorn sheep grazing season, and the use of best management practices by herders would mitigate the risk.

Guardians objected to the 2017 decision before the USFS, arguing that the use of local factors to change the result of the model was unsupported by data or scientific consensus. The USFS approved the Wishbone Allotments over Guardians' objection. Guardians next sued in federal district court under the APA and the National Environmental Protection Act ("NEPA"), contending the USFS's creation of the allotment was arbitrary and capricious. The district court determined the USFS did not violate NEPA. This appeal followed.

For the reasons explained below, we agree with Guardians that the USFS acted arbitrarily and capriciously in approving the Wishbone Allotments. We accordingly reverse the district court's decision denying Guardians' APA petition and remand to the district court to determine the appropriate remedy.

I. BACKGROUND

A. Rocky Mountain Bighorn Sheep

Rocky Mountain bighorn sheep "are an iconic species of the American West." App. Vol. III at 231. Colorado Parks and Wildlife ("CPW"), which manages wildlife in Colorado, has observed bighorn sheep "are among the most sought after watchable wildlife species in the state" and are also popular among hunters. App. Vol. II at 44. "[O]nce ubiquitous throughout the West," bighorn sheep populations declined dramatically in the nineteenth century due to overhunting, overgrazing, and disease. App. Vol. III at 231. Bighorn sheep remain vulnerable to this day, and so the species has been designated by the USFS as a "Sensitive Species on National Forest System lands" because "there is concern for the long-term viability and/or conservation status of bighorn sheep." App. Vol. III at 161. The sensitive-species designation requires all agency actions which have the potential to affect bighorn sheep conservation to be analyzed for their potential impact to bighorn sheep.

While bighorn sheep have faced habitat degradation due to "fire suppression, highways, livestock grazing, and human disturbance," the primary risk to their viability is respiratory disease, which they can catch from domestic sheep. *Id.* Indeed, the USFS has recognized disease is "the greatest concern for bighorn sheep population persistence [in] the Rio Grande National Forest." *Id.* One pathogen in particular, *Mycoplasma ovipneumoniae*, can be passed from domestic sheep to bighorn sheep if the species come into contact. While the pathogen does not affect domestic sheep, it can cause fatal respiratory diseases in bighorn sheep herds. Moreover, female bighorn sheep who survive

the disease pass it on to their lambs, leading to early mortality which, in turn, affects herd sizes. Poor lamb survival can persist for years or even decades after an initial die-off, preventing population recovery. Scientific research shows that contact between bighorn sheep and domestic sheep can lead to a "pronounced" die-off of bighorn sheep. App. Vol. III at 161.

The movements and behavior of bighorn and domestic sheep contribute to disease spread. The primary habitat area a bighorn herd occupies is called a "core herd home range," or CHHR. App. Vol. V at 140–41. In summer, herds move to additional areas beyond the CHHR known as "summer source habitat." App. Vol. III at 181–82. Individual sheep, typically rams, also move beyond the CHHR to disperse, find a mate, or explore, in movements known as "forays." App. Vol. V at 140–41. Bighorn sheep forays can be as far as twenty-one miles. At the same time, domestic sheep can stray from their bands and seek out bighorn sheep herds. The remote terrain of the national forests can make it difficult to find and remove stray domestic sheep. The combination of bighorn sheep forays and domestic sheep straying increases the risk of contact between the two species. This risk is heightened by the animals' natural attraction to each other.

B. Past Management Actions in the Rio Grande National Forest

The USFS manages forests for multiple uses, seeking to balance the use of the national forests for activities including recreation, hunting, conservation, and livestock grazing. The susceptibility of bighorn sheep to pneumonia has created tension between the USFS's two goals of managing domestic sheep grazing allotments while also protecting bighorn sheep populations. In the Rio Grande National Forest specifically,

there are several bighorn sheep herds that the USFS seeks to conserve alongside managing domestic sheep grazing allotments.

In proposing grazing allotments for domestic sheep on national forest land, the USFS uses the RCM to estimate the frequency of disease transmission to bighorn sheep caused by a domestic sheep grazing allotment. The USFS has recognized the RCM as the "best available science regarding potential disease transmission and resultant long-term viability of bighorn sheep herds." App. Vol. III at 40. The model uses telemetry data—which shows actual locations of bighorn sheep wearing radio telemetry collars—and habitat data to establish a bighorn sheep herd's CHHR. Based on the proximity of the CHHR and the probability of a foray, the model determines the number of times per year a bighorn sheep would contact the proposed domestic sheep grazing allotment, which in turn is used to predict how frequently disease transmission would occur. Those results are used to rate disease risk as low, moderate, or high. Under the model, any rate of disease transmission that occurs once every thirty-two years or less is considered a high risk to bighorn sheep herds. A rate of transmission between thirty-two and forty years is considered moderate.

The USFS has explained that in the Rio Grande National Forest, "four bighorn sheep herds are still experiencing lingering effects . . . of past disease events dating back to the mid 1990's." *Id.* at 184. "A conservative recovery rate based off of past localized disease events involving [Rio Grande National Forest] bighorn herds can potentially be considered to be a minimum of 32 years between disease events and possible eventual recovery," based on scientific literature documenting lengthy periods of poor lamb

survival following a massive die-off. *Id.* "[D]isease outbreaks of every 32 years or less would result in a bighorn sheep population that is being constantly exposed to ongoing disease transmission and resultant outbreaks," which would cause the Rio Grande National Forest bighorn populations to "likely be extirpated as a result of consistent exposure to disease." *Id.*

In 2013, the USFS began to assess the risk to bighorn sheep herds in the Rio Grande National Forest pursuant to a 2011 letter of direction from the USFS's Washington office urging regional USFS offices to conduct bighorn sheep viability analyses to meet the objective of maintaining or enhancing bighorn sheep populations. The USFS began by analyzing the Fisher-Ivy/Goose Lake ("FIG") grazing allotments in the Rio Grande National Forest. Using the RCM, each of seven pastures in the FIG Allotments were rated as high risk to the bighorn sheep. Four of the pastures directly overlapped CHHR, contributing to a high risk of contact. The remaining three pastures were located between 1, 1.5, and 2.5 miles away from the CHHR, within reach of bighorn ram forays: "[e]ven without direct overlap, high contact rates exist from the short foray distance to each pasture." *Id.* at 49.

Based on these results, the USFS converted the FIG Allotments to vacant status rather than allowing further grazing. The USFS explained that based on the RCM analysis, the FIG Allotments posed an unacceptably high risk of disease transmission to bighorn sheep. It also explained that "project design criteria"—management strategies

domestic sheep herders can use to keep their sheep separate from bighorn sheep[2]—would be insufficient standing alone to prevent contact. *Id.* at 62. The USFS administrator stated, "[u]ntil the science is available that shows that project design criteria[3] are effective in maintaining separation, I cannot use them as the sole basis for authorizing grazing, especially in the case of FIG, where direct overlap between the two species is occurring." *Id.*

C. The Proposed Wishbone Allotments

After vacating the FIG Allotments, in 2015, the USFS turned to an analysis of the Snow Mesa Allotments, a set of three allotments near four bighorn sheep herds in the Rio Grande National Forest. The USFS created a risk assessment using the RCM. The Snow Mesa Allotments were rated a high risk to the bighorn sheep herds, and the USFS promulgated a proposed action which would eliminate domestic grazing entirely on the Snow Mesa Allotments. Specifically, eliminating the Snow Mesa Allotments was "Alternative 1" of the proposed action. *Id.* at 165. The USFS also considered Alternative 2, which would have kept the allotments but added project design criteria to reduce

[2] Project design criteria include strategies such as requiring a minimum number of herders, requiring herders to notify the USFS before they move their herds, and requiring herders to "haze" any bighorn sheep they encounter to prevent contact. App. Vol. III at 221.

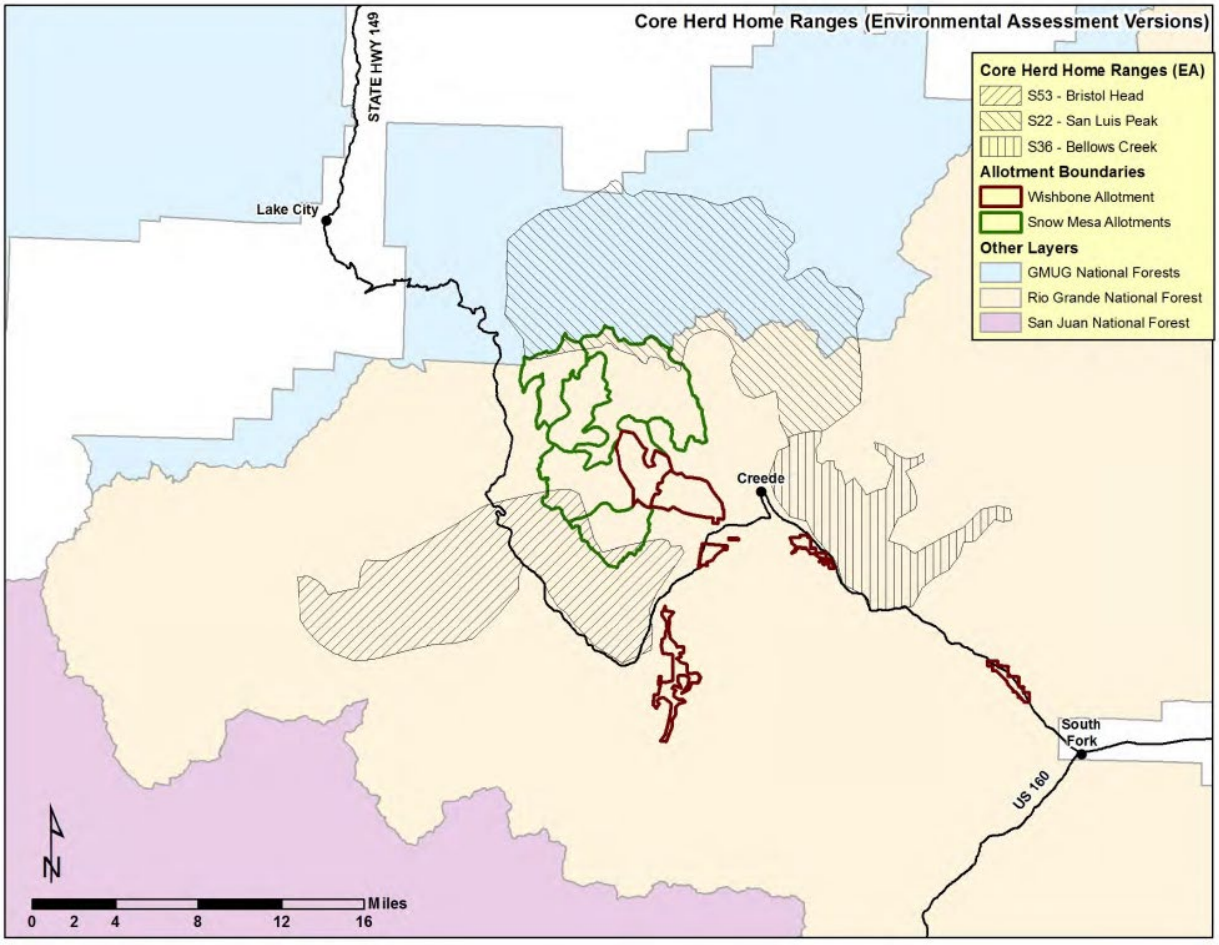
[3] In the administrative record and the parties' briefing, project design criteria are also referred to as "project design features" ("PDFs") or "best management practices" ("BMPs").

contact, and Alternative 3, which would have modified the allotment boundaries to exclude high-risk areas and implemented project design criteria.

In endorsing Alternative 1, the USFS relied on the RCM finding a high risk of contact. The USFS explained that only the "no grazing" alternative could result in "no risk of contact or potential for subsequent disease transmission," and would likewise result in the "highest" "probability of long-term herd persistence." *Id.* at 207. In rejecting Alternatives 2 and 3, which both relied on project design criteria to mitigate contact risk, the USFS explained "there is uncertainty about the effectiveness of project design criteria and it is unknown how much, if any, reduction might be expected in the contact probabilities produced by the Risk of Contact Tool from full and complete implementation of all project design criteria." *Id.* at 181. The USFS further observed that "the effectiveness of many of the project design criteria have not been fully tested or verified," and instructing permittees to follow the criteria for the most recent grazing season had led to "mixed results." *Id.* at 210. The USFS concluded that project design criteria "should not be relied upon solely to achieve effective separation, particularly in areas of close association." *Id.*

Rather than move forward with Alternative 1 in a final decision, in 2017, the USFS initiated a new proposed action which suggested another alternative for the Snow Mesa Allotments. What became known as Alternative 5 proposed creating a new set of

allotments, called the Wishbone Allotments, to replace the Snow Mesa allotments.[4] The Wishbone Allotments are located southeast of the Snow Mesa Allotments but partially overlap with them, as pictured below.



App. Vol. VI at 192. The largest pastures, which overlap with the old Snow Mesa Allotments, are called the Crystal and Shallow pastures. The smaller pastures, which are discontinuous, are partially bordered by Highway 149 and the Rio Grande River.

[4] Domestic sheep grazing permittees proposed Alternative 4, which suggested modified boundaries for the Snow Mesa allotments. It was considered but not studied in depth by the USFS.

In the draft Environmental Assessment ("EA") evaluating the proposed Wishbone Allotments, the USFS used the RCM to evaluate the risk of contact created by the Wishbone Allotments. The RCM concluded the risk of contact between bighorn sheep herds and the Wishbone Allotments was high. In reviewing the results of the RCM, the USFS recognized that "Bighorn can be expected to contact the allotment every year," and additionally, there would be "a disease transmission with potential subsequent bighorn mortality every 4 years," easily triggering the thirty-two year "high risk" threshold. App. Vol. IV at 116.

But this time, instead of rejecting the Wishbone Allotments for being rated high risk by the RCM, the USFS considered additional factors outside the model and downgraded the risk to moderate. Those additional factors—what Guardians refers to as "local factors"—included "project design criteria likely being more effective, topographical features serving as barriers, increased distance from CHHR, a lesser amount of overlap between suitable domestic sheep grazing acres and bighorn sheep habitat and less amount of bighorn sheep source summer habitat within the boundary of the Wishbone Allotment[s]." *Id.* at 118. The USFS had not previously used these local factors to change the result of the RCM.

Notably, the draft EA reiterated the analysis which proposed vacating the old Snow Mesa Allotments. In that analysis, the USFS again emphasized that project design criteria could not make Alternatives 2 or 3—which would keep the original Snow Mesa Allotments—viable. Specifically, the USFS stated that:

> For the past two grazing seasons (2014 and 2015), the allotment boundary configuration and design criteria for Alternative 3 have been tested through direction in the Snow Mesa Sheep Allotments . . . . Project design criteria regarding stray management and herd management have not been implemented successfully. This supports the [Western Association of Fish and Wildlife Agencies] guidelines that management practice should not be relied on solely to achieve separation.

Id. at 84. The USFS similarly stated it could not lower the risk rating for Alternative 3 based on project design criteria "because of uncertainty about the effectiveness." *Id.* at 91.

But in analyzing Alternative 5, the USFS acknowledged that the herds' CHHRs were physically close to the new allotments and would result in disease intervals of far less than thirty-two years: the San Luis Peak herd "every 4.6 years," Bristol Head herd "every 1.3 years," and Bellows Creek herd "every year." *Id.* at 115–16. This caused the RCM to predict a high risk of contact. But the USFS lowered the risk rating, explaining:

> [D]ue to an overall low amount of suitable source bighorn habitat in most pastures, existing topographical barriers such as the Rio Grande River, Highway 149 and several subdivisions, the likelihood of success of project design features is higher than that of any other grazing alternative. These factors will decrease the level of risk as displayed in the model to Moderate.

Id. at 116. The USFS lowered the rating despite acknowledging "a higher degree of uncertainty" as to these factors, including as to the effectiveness of natural barriers and project design criteria. *Id.* at 116–17; *see also id.* at 122 (stating effectiveness of project design criteria "have not been fully tested or verified").

The proposed action also included a brief discussion of preliminary data collected by CPW during a trial run of the Wishbone Allotments conducted in 2016 and 2017 but did not discuss whether that data undercut the USFS's assumptions about bighorn habitat

usage or movement. Specifically, the USFS had authorized existing Snow Mesa permittees Wayne and Jerry Brown (intervenors in this action) to use the Wishbone Allotments on a trial basis. As Guardians stated in an objection letter before the agency, the permittees violated the conditions both years. In 2017, fifty-six stray domestic sheep remained on or near the Wishbone pastures after grazing season ended. The draft EA, however, did not address how the permittees' noncompliance with grazing permits during the trial run supported the conclusion that project design criteria would be effective on the new allotments.

D. Objections and Final Action on Wishbone Allotments

The USFS received objections to the proposed action from several groups, including the conservation groups that initiated this action. Those objections faulted the USFS's conclusion that the Wishbone Allotments posed only a moderate risk based on factors outside the model, specifically arguing that using these factors to downgrade the risk rating was not supported by any scientific literature or data. For example, WildEarth Guardians argued the difference in how Alternative 3 and Alternative 5 were rated was "arbitrary" and lacked any "scientific basis," noting the disease interval figures for Alternative 5 were comparable to Alternative 3. *Id.* at 159–60. Western Watersheds noted that no scientific literature was cited for the proposition that roads, rivers, and homes could create natural barriers to bighorn sheep movement, and further emphasized that there was no evidence cited for the conclusion that project design criteria could be effective in achieving separation between bighorn and domestic sheep.

In responding to comments, the USFS addressed both objections from environmental groups concerned about Alternative 5 and from sheep herders concerned about the Snow Mesa Allotments being vacated. In defending the retirement of the Snow Mesa Allotments based on the RCM, the USFS asserted the RCM was the "[b]est [a]vailable [s]cience," *id.* at 205–06, and that "[i]nconsistency" in adhering to project design criteria made keeping the existing allotments a risk, *id.* at 239. But in defending the Wishbone Allotments, the USFS asserted that the RCM was "just one tool used to compare options and alternatives. . . . in conjunction with other specific and relevant information, based upon on-the-ground specifics." *Id.* at 279. The USFS emphasized that no single factor outweighed the model, but that the factors in tandem "improve[d] the ability to manage for separation." *Id.* at 281. The USFS did not identify any scientific studies or data to support supplanting the model's results with specific factors. *Id.* at 278–83.

Over these objections, in November 2017, the USFS released the Final EA for the Wishbone Allotments, reiterating its conclusion that local factors merited downgrading the RCM's risk from high to moderate. The USFS stated that authorizing the Wishbone Allotments "[m]ay [a]dversely [i]mpact [i]ndividual [bighorn sheep], but is not likely to result in a loss of viability in the planning area, nor cause a trend towards federal listing or a loss of species viability range wide." App. Vol. V at 75. The USFS explained that the proportion of bighorn sheep the RCM's default values used in analyzing foray possibilities are "expected to be greater than those associated with the Wishbone Allotment[s]" but also stated "[a]t this time however, there is not enough information

from local GPS collars to inform how this might be adjusted for this analysis." *Id.* The USFS also stated it could adjust the result because the grazing season was shorter than the six-month period the model used, and bighorn sheep are known to go to higher elevations in the summer. *Id.* And the USFS expected project design features would have the "best opportunity" to be successful in the Wishbone Allotments because moving the allotments from the "current high alpine landscape" in the Snow Mesa Allotments to more accessible and visible areas will "result in improved monitoring and management." *Id.* at 75–76. The USFS did not address the overlap between the Snow Mesa and Wishbone Allotments in so concluding. *See id.* Notably, the USFS found overlap between domestic sheep grazing areas and summer bighorn habitat between 37% and 92% contributed to a "high" risk rating for Alternatives 2 and 3, but a 34% overlap was acceptable for the Wishbone Allotments. *Id.* at 211–15.

In an objection to the Final EA, Guardians wrote that the EA did not analyze the potential impacts of lost and straying sheep—a known occurrence on the Snow Mesa Allotments—or the possibility of increased disease risk if bighorn sheep populations grew. Guardians further argued that the USFS had still not provided any scientific basis for the selection of risk thresholds or evidence supporting the assertion that topographical barriers could prevent contact. In particular, Guardians emphasized that the local factors did not provide "appropriate justification for the assertion that risks to herd viability are moderate when interspecies contact occurs at intervals of 8 years or less." App. Vol. VI at 6. Guardians also asserted that reliance on project design features, permittee compliance, and agency enforcement was arbitrary and capricious, because the evidence to date

showed permittees were not complying with their permits and the agency was not initiating enforcement actions.

Unmoved, the USFS released a Final Decision Notice and Finding of No Significant Impact ("DN/FONSI") in March 2018. The final decision vacated the Snow Mesa Allotments and authorized use of the Wishbone Allotments. The DN/FONSI reiterated the factors discussed in the Final EA to justify reducing the RCM's risk from high to moderate. It also concluded that the Wishbone Allotments would not have any significant environmental effects and that the USFS did not have to complete a more comprehensive Environmental Impact Statement ("EIS") before taking action.

In relying on local factors to adjust the RCM rating, the USFS explained:

> The [RCM] integrates the best available information regarding bighorn sheep populations and habitats to estimate risk of physical contact . . . . While the [RCM] provides a systematic way to assess relative risk of contact with an allotment among alternatives analyzed, its results should be interpreted in light of local conditions and knowledge. The specific factors considered in interpreting the [RCM] results for the analysis area were grazing season duration, amount of overlap between capable domestic sheep range and bighorn sheep summer source habitat outside the [CHHR], and the known bighorn sheep seasonal migration patterns, based on local radio-telemetry data. These factors tie directly to the ability to provide spatial and temporal separation between the species.

App. Vol. VI at 147.

The USFS next explained why it relied on the factors to downgrade the model. First, the USFS explained that because grazing permits would be approved for up to two and a half months—shorter than the six-month grazing season assumed by the model—and local observations indicated forays typically occurred in October, there would be "increase[d] temporal separation between the species" under this alternative. *Id.* at 147–

48. The USFS also concluded that because there was only a 34% overlap between bighorn sheep summer habitat and the domestic sheep range—a figure lower than some of the existing Snow Mesa Allotments but close to the 37% found too high in Alternative 3—there was sufficient spatial separation. The USFS acknowledged that "[t]his same process supposed a high risk of contact on the Snow Mesa . . . allotments" and that project design features "alone" would be "inadequate when there is spatial overlap between bighorn sheep and domestic sheep or the two species occur in close proximity," but that "in the proposed action's case, where allotment configuration provides a foundation of spatial and temporal separation, design features can help enhance that separation." *Id.* at 148.

In responding to specific objections to the Final EA, the USFS explained that while it identified several factors to justify lowering the risk of contact rating from high to moderate, no factor on its own was sufficient—rather, the factors in combination with the fragmented nature of the allotments were sufficient. The USFS identified no scientific support for altering the model results in this way; instead, it stated "several points of logic [] march[ed] the risk of contact from high towards moderate." *Id.* at 154. This included "[l]ocal knowledge" of migration patterns which show most bighorn sheep go to higher elevations in the summer, away from the allotments. *Id.* at 155. The USFS did acknowledge areas of likely overlap between the allotments and bighorn sheep habitat, but asserted project design features would mitigate this risk—again citing no data in support. Instead, the USFS reasoned that unlike the Snow Mesa Allotments, where "continuous, connected summer source habitat, extensive overlap between habitat and

capable range, [and] bighorn seasonal migration" combined with "limited opportunities for monitoring" suggested project design features would not be effective, project design features could be effective on the Wishbone Allotments. *Id.* at 156. The USFS did not address the overlapping areas between the old Snow Mesa Allotments and the new Wishbone Allotments in reaching this conclusion. *See id.* at 156, 192.

The USFS acknowledged that relying on design features "may seem counterintuitive because 49 strays and 7 carcasses were documented in 2017" during the trial run, but asserted "the contrast between the 2016 and 2017 seasons made it clear that the success in implementing these [project design features] relie[d] heavily on having sufficient manpower." *Id.* at 156. Therefore, the final decision required at least two herders to ensure "success" of the project design features. *Id.*

Finally, as to risk to the broader bighorn meta-populations, the USFS recounted the long history of domestic sheep grazing in the vicinity and stated that because current herd populations were still viable and the Wishbone Allotments were safer than the old Snow Mesa Allotments, approving the Wishbone Allotments would not be a high risk to the bighorn populations. The USFS did not address its earlier analysis recounting the large die-offs in the 1990s and the risk of "extirpation" that would be caused by a disease interval of thirty-two-years or less. *See* App. Vol. III at 184.

E. Supplemental Information Report (SIR)

Guardians learned that the USFS had not obtained any additional data from CPW concerning the Wishbone Allotments based on the trial runs before releasing its final decision notice. Guardians requested the data and obtained it from CPW in October 2018.

The USFS then requested the data and used it to re-run the RCM for the Wishbone Allotments. The USFS documented the new analysis in a Supplemental Information Report ("SIR") and concluded the new data did not require a full supplementary NEPA analysis.

The additional data showed that the CHHR of three of the herds was larger than previously thought, and that the CHHR of one of the herds was directly adjacent to two of the Wishbone pastures—Crystal and Shallow. The RCM again produced a high risk rating based on the new data. In the SIR, the USFS maintained that local factors lowered that risk to moderate. The USFS also acknowledged a report that two bighorn sheep were observed on the South River pasture of the Wishbone Allotments in July 2019—that is, during grazing season—but asserted this new information was an isolated incident and did not undercut any of its assumptions about the risk level. Specifically, the USFS explained that the July 2019 sighting was "insufficient in number of sheep and repeated occurrence to justify modifying CHHR to overlap the pasture boundary or to determine that the local factors that lowered the modeled risk of contact to moderate no longer apply." App. Vol. VI at 189. "The effectiveness of citizen monitoring and the ability to modify the rotation in response supports the agency's ability to manage for separation within the moderate risk environment." *Id.*

II. PROCEDURAL HISTORY

Guardians filed suit in the United States District Court for the District of Colorado in January 2019. The Wishbone permittees, Wayne Brown and Jerry Brown, moved to intervene in the case, along with the Colorado Woolgrowers Association, J. Paul Brown

(another permittee), and the Colorado Farm Bureau Federation. The district court allowed each party to intervene.

The USFS lodged the administrative record in June 2019. Summary judgment briefing was completed in July 2020. Nearly four years later, in March 2024, the district court issued an order and judgment denying Guardians' motion for summary judgment. This timely appeal followed.

III. STANDARD OF REVIEW

The APA provides the cause of action for a NEPA challenge. *See, e.g.*, *New Mexico Cattle Growers Ass'n v. U.S. Fish & Wildlife Serv.*, 248 F.3d 1277, 1281 (10th Cir. 2001). Our review of a district court's decision in an APA case is de novo. *Id.*

"As with other challenges arising under the APA, we review an agency's NEPA compliance to see whether it is 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.'" *N.M. ex rel. Richardson v. Bureau of Land Mgmt.*, 565 F.3d 683, 704 (10th Cir. 2009) (quoting 5 U.S.C. § 706(2)(a)). "An agency's decision is arbitrary and capricious if the agency (1) entirely failed to consider an important aspect of the problem, (2) offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise, (3) failed to base its decision on consideration of the relevant factors, or (4) made a clear error of judgment." *Id.* (internal quotation marks omitted). In conducting this review, "[w]e also accord agency action a presumption of validity," recognizing "[t]he challenger bears the burden of persuasion to show that the

agency action is arbitrary and capricious." *Diné Citizens Against Ruining Our Env't v. Haaland*, 59 F.4th 1016, 1029 (10th Cir. 2023) (internal quotation marks omitted).

IV. ANALYSIS

Guardians raises three arguments on appeal, each arising under the APA and NEPA: *first*, the USFS violated NEPA in creating the Wishbone Allotments; *second*, the USFS violated NEPA by electing not to prepare an EIS before creating the Wishbone Allotments; and *third*, the USFS violated NEPA when it issued the SIR which determined a supplemental NEPA analysis was unnecessary. For the reasons explained below, we agree with Guardians that the USFS violated NEPA in creating the Wishbone Allotments by failing to take a hard look at the environmental impacts of the allotments. In failing to take a hard look, the USFS acted arbitrarily and capriciously and therefore violated NEPA. Because we agree with Guardians that the USFS violated NEPA in creating the Wishbone Allotments, we do not reach the EIS or SIR issues.

First, we discuss the applicable law. Next, we turn to Guardians' arguments as to why the creation of the Wishbone Allotments violated NEPA, and address each in turn. Finally, we conclude that remanding to the district court is the appropriate remedy.

A. Applicable Law

"NEPA specifically requires agencies to 'take a hard look at environmental consequences' of a proposed action." *Diné Citizens*, 59 F.4th at 1034 (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989)). "In doing so, the agencies must consider the direct, indirect, and cumulative environmental impacts of the proposed action." *Id.* "Direct effects are those 'caused by the action and occur[ring] at the same

time and place,' and indirect effects are 'caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.'" *Id.* (quoting 40 C.F.R. § 1508.8). "A cumulative impact 'is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency . . . or person undertakes such actions.'" *Id.* (alteration in original) (quoting 40 C.F.R. § 1508.7).

"[W]hen assessing whether agencies took a 'hard look,' we are applying the APA standard of review, determining whether agencies' actions were 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.'" *Id.* at 1034 n.7 (quoting 5 U.S.C. § 706(2)(A)).[5] As such, "an agency must examine[] the relevant data and articulate[] a rational connection between the facts found and the decision made." *Richardson*, 565 F.3d at 713 (alterations in original) (internal quotation marks omitted). "[W]e consider only the agency's reasoning at the time of decisionmaking, excluding post-hoc rationalization concocted by counsel in briefs or argument." *Id.* at 704. But we apply a "presumption of validity [] to the agency action and the burden of proof rests with the appellants who challenge such an action." *Id.* (quotation marks omitted). And we do not "decide the propriety of competing methodologies," but rather "determine simply whether the challenged method had a rational basis and took into consideration the relevant factors." *Silverton Snowmobile Club v. U.S. Forest Serv.*, 433 F.3d 772, 782

[5] As we have explained, "[w]e do not view 'hard look' as a requirement going beyond the APA standard of review or applying a heightened standard." *Diné Citizens Against Ruining Our Env't v. Haaland*, 59 F.4th 1016, 1034 n.7 (10th Cir. 2023) (internal quotation marks omitted).

(10th Cir. 2006) (quotation marks omitted). In short, "[t]he role of a federal court under NEPA is to review the . . . EA" and "ensure that the agency has adequately considered and disclosed the environmental impact of its actions." *Diné Citizens Against Ruining Our Env't v. Bernhardt*, 923 F.3d 831, 851 (10th Cir. 2019) (quotation marks omitted). "In conducting this review, we apply a rule of reason standard to determine whether claimed NEPA violations are merely flyspecks, or are significant enough to defeat the goals of informed decision making and informed public comment." *Id.* at 852 (internal quotation marks omitted).

Finally, "[i]t is axiomatic" that when an agency "materially" changes or "contradict[s]" previous findings, "the agency [] need[s] to provide a 'reasoned explanation' for the difference." *Cure Land, LLC v. U.S. Dep't of Agric.*, 833 F.3d 1223, 1232 (10th Cir. 2016) (quoting *F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009)). "[U]nexplained conflicting findings about the environmental impacts of a proposed agency action violate the APA." *Id.* (alteration in original) (quoting *Organized Vill. of Kake v. U.S. Dep't of Agric.*, 795 F.3d 956, 969 (9th Cir. 2015) (en banc)).

B. Application

Guardians argues the USFS failed to take a hard look at the environmental impacts to bighorn sheep herds in creating the Wishbone Allotments by (1) arbitrarily downgrading the RCM result from high to moderate using "local factors," (2) overstating the effectiveness of project design criteria, (3) failing to consider the cumulative environmental impacts to neighboring bighorn herds, and (4) by not using the best available science. Appellants' Br. at 22–41. The USFS, for its part, contends its decision

creating the Wishbone Allotments was "well-reasoned and thoroughly explained," and that Guardians' "disagreement with the agency's substantive and scientific conclusions" does not establish a NEPA violation. Appellee's Br. at 24–25. We address each argument in turn.

1. Local Factors

Guardians contends that by changing the RCM-calculated risk level from high to moderate based on "local factors" to justify creating the Wishbone Allotments, the USFS acted arbitrarily and capriciously. Appellants' Br. at 23. The "local factors" could not justify creating the Wishbone Allotments, Guardians argues, because they do not apply to the largest pastures in the allotments—Crystal and Shallow. *Id.* at 23–24.[6] Specifically,

[6] The USFS argues that Guardians waived this argument by failing to argue a pasture-by-pasture analysis was needed in its comments or objections to the EA before the agency or before the district court. Appellee's Br. at 25–27. In its reply brief, Guardians clarifies its argument is not that a pasture-by-pasture RCM analysis was needed. Rather, the argument was the same one made before the agency: that the moderate risk rating was unreasonable because it was "based on assumptions that were unsupported by scientific and factual evidence," which is illustrated on appeal by focusing on the Crystal and Shallow pastures. Reply Br. at 7.

We agree with Guardians that this argument was not forfeited because it was adequately raised below. In addressing a waiver argument, we consider whether Guardians made its objections before the agency with "reasonable specificity." 42 U.S.C. § 7607(d)(7)(B). We recognize that Guardians may refine its argument on appeal as long as its objection alerted the USFS to the general substance. *See WildEarth Guardians v. EPA*, 770 F.3d 919, 943 (10th Cir. 2014). After the USFS promulgated the EA proposing the creation of the Wishbone Allotments, Guardians objected by arguing, *inter alia*, that the Wishbone Allotments created a high risk of contact due to overlap between the Wishbone Allotments and summer bighorn range. *See* App. Vol. IV at 158–61; *see also* App. Vol. IV at 67–68, Vol. VI at 192 (maps illustrating that areas of overlap are on Crystal and Shallow pastures). Additionally, Guardians argued that the creation of the Wishbone Allotments relied on changing the RCM's output from high to moderate based on "local factors" that—as a general

Guardians argues the local factors are not rationally related to Crystal and Shallow pastures, which are contiguous, make up almost two-thirds of the grazing area in the Wishbone Allotments, are located on steep terrain far from any road, and overlap with the Snow Mesa Allotments which were vacated based on high risk of contact. *Id.* at 25–26. The USFS responds it reasonably analyzed the Wishbone Allotments as a whole (not just the Crystal and Shallow pastures) in its analysis of the local factors, and that its analysis substantiated the conclusion that local factors reduced the risk of contact between bighorn sheep and domestic sheep. Appellee's Br. at 25, 28.

We agree with Guardians that the USFS's reliance on local factors to change the model result was arbitrary and capricious. First, we explain why the use of local factors was, in itself, arbitrary and capricious. Next, we explain that even taking the "local factors" on their own terms, they do not provide support for the USFS's conclusion that the risk to bighorn sheep is moderate.

a. Choice of methodology

Before addressing the more granular arguments about the USFS's analysis of the local factors, we conclude that the USFS's stated rationale for relying on the local factors to supplant the result of the RCM was arbitrary and capricious.

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matter—were not supported by science or data indicating they could successfully separate the bighorn sheep from domestic herds. Therefore, Guardians made, with "reasonable specificity," 42 U.S.C. § 7607(d)(1)(B), the same argument before the agency as it refines on appeal. This was sufficient to alert the USFS to the substance of Guardians' argument on appeal, and thus the argument is not waived. *See WildEarth Guardians*, 770 F.3d at 943.

As a general rationale for using local factors, the USFS points to the risk of contact analysis for the Wishbone Allotments, which states the RCM should be used "in conjunction with other specific and relevant information if known, based upon on-the-ground specifics." *Id.* at 27 (citing App. Vol. V at 164). The USFS argues it therefore reasonably found local factors reduced the risk of contact on the Wishbone Allotments. *Id.* at 27–28. But the Final EA and the data it relied on does not provide that these additional factors should be used to *supplant* or modify the result of the RCM. Rather, the EA states only that the factors should be compared to the model result and then used to ultimately formulate a recommendation. *See* App Vol. V at 164.

Critically, the USFS does not identify any scientific support in the administrative record for the contention that the model's results can be *changed* using the local factors. Rather, it asserts only that "several points of logic [] march the risk of contact from high towards moderate by providing spatial separation." App. Vol. VI at 154. In particular, the USFS highlights the fragmented nature of the Wishbone Allotments and asserts "[i]t stands to reason that while it is possible for bighorn sheep to disperse across a fragmented landscape to encounter domestic sheep, it is not as likely as portrayed by the Risk of Contact tool." *Id.* But it cites no science or data in support of that "reason[ed]" conclusion. *See id.* Notably, the RCM predicted a high risk of contact and a disease interval of four years—much lower than thirty-two years necessary to earn a "high" rating. App. Vol. V at 214. The USFS asserts that the local factors can mitigate this predicted four-year disease interval but identifies *no* data or scientific studies showing that factors such as topography, project design features, or temporal separation can have

this effect—much less such a dramatic effect that the disease interval could be raised from four years to higher than thirty-two years. *See id.*

In fact, in the DN/FONSI, the USFS stated that no local factor on its own was sufficient to lower the predicted risk. *See* App. Vol. VI at 153. Rather, the USFS asserted it was the *combination* of local factors that decreased the risk from high to moderate. *See id.* at 152–53. This is so, the USFS asserts, even though evidence in the record suggests project design features have been ineffective, topographical features like roads and rivers pose no serious obstacle to the bighorn, and that bighorn sheep have moved close to the Wishbone Allotments during grazing season. *See* App. Vol. IV at 160 (Guardians noting bighorn sheep regularly cross highways and rivers according to data and literature and observing "[the EA] itself has a photo of bighorns running across Highway 149"); App. Vol. VI at 6 (Guardians noting CPW data showed bighorn sheep moved "within 1.5 miles" of a Wishbone pasture in 2017); *id.* at 156 (the USFS noting high number of domestic strays documented in 2017 despite attempt to implement project design features). Given this data and the lack of any countervailing scientific studies or data to the contrary in the record, the USFS's assertion that a combination of local factors could lower the RCM's predicted risk rating was arbitrary and capricious.

We found an agency's methodology similarly arbitrary and capricious in *Diné Citizens*, 59 F.4th at 1036–37. In that case, we held the Bureau of Land Management ("BLM") did not take the requisite "hard look" by failing to adequately consider the direct and indirect effects of greenhouse gas ("GHG") emissions from applications for permits to drill ("APDs") wells for oil and gas. *Id.* BLM had "included only the annual

GHG emissions from operating the wells, even though BLM assumed the wells would each have a twenty-year life span." *Id.* at 1035. During litigation, BLM provided a report that asserted it was "not possible to estimate the lifespan of an individual well," despite the fact BLM was able to assume twenty-year lifespans for downstream emissions. *Id.* In evaluating BLM's explanation for the gap in its methodology, we explained that "[w]hile we are deferential to the agency when it comes to the methodology the agency chooses to use, the agency's methodology must be rational—and not arbitrary or capricious." *Id.* at 1036. We held BLM's methodology was unreasonable because "it uses the emissions calculated for one year to represent the estimated direct and indirect emissions over a twenty-year period," despite being able to create a similar estimate for downstream emissions. *Id.* at 1037. Because BLM provided no explanation as to why it could not use a similar process to estimate direct emissions, we held its methodology was "inconsistent" and "unreasonabl[e]." *Id.*[7]

Similarly, we also held BLM had acted arbitrarily and capriciously in its analysis of health effects from certain pollutants. *Id.* at 1046. In an EA Addendum, BLM had recognized the poor health effects including cancer that could be caused by pollutants but did not determine the quantity of pollutants that would be released. *Id.* at 1047. Instead, it stated the levels "would be low relative to the distance from the source and would not

[7] In contrast, we rejected an argument that BLM acted arbitrarily and capriciously by using a hundred-year time horizon rather than a twenty-year horizon to calculate the global warming potential for GHGs, because the one-hundred-year method was supported by "high quality" and "accurate scientific analysis" in the record. *Diné Citizens*, 59 F.4th at 1039.

pose a risk to human health . . . because there would be no long-term exposure." *Id.* But this contradicted the method from its initial EAs, in which BLM determined the estimated emissions range for each APD. We held the assertion the effects would be short-term did not make sense given that "more than 3,000 similar wells [would] be drilled . . . over the next several years," which could cause long-term exposure. *Id.* Because BLM did not "include any analysis of the anticipated [] emissions from the construction of those wells over a period of years," it acted arbitrarily and capriciously by failing to take "the necessary hard look." *Id.*

Here too, the USFS asserted that the RCM analysis could be supplanted with the "local factors" without citing any data in support, and despite the administrative record contradicting its assertions. In particular, the USFS justified vacating the Snow Mesa Allotments—which partially overlap with the Wishbone Allotments—by emphasizing that the RCM was the "[b]est [a]vailable [s]cience," App. Vol. IV at 205–06, and that "inconsistency" in adhering to project design criteria militated in favor of vacating the allotments rather than accepting the "high" risk predicted by the model, *id.* at 239. But in the same breath, it asserted that it could "manage for separation" on the partially overlapping Wishbone Allotments using the local factors, failing to produce any data in support. *Id.* at 281. As in *Diné Citizens*, these assertions are arbitrary and capricious because they lack scientific support and are directly contradicted by the administrative record.

Finally, the break in logic between the USFS's decision to rely on the RCM results to vacate the Snow Mesa Allotments and its decision authorizing the Wishbone

Allotments *despite* the RCM results further indicates that the creation of the Wishbone Allotments was arbitrary and capricious. As we have stated, "unexplained conflicting findings about the environmental impacts of a proposed agency action violate the APA." *Cure Land, LLC*, 833 F.3d at 1232 (10th Cir. 2016) (alteration and citation omitted). Here, the USFS determined allotments with disease intervals between three and eight years and overlap between 37% and 92% with summer bighorn habitat was an unacceptably high risk, relying on the RCM. App. Vol. V at 210–13. But in the same decision, it determined that a four-year disease interval with 34% overlap was only a moderate risk by modifying the results of the model. *Id.* at 214–15. While the USFS provided an explanation for the difference—that the local factors supported modifying the RCM result—for the reasons discussed above, that explanation was not *reasoned*. That is, the explanation relies on no science or data, and in fact contradicts the data in the record about bighorn sheep movement and permittees' compliance with project design features. Accordingly, we hold the USFS acted arbitrarily and capriciously in relying on the local factors to supplant the RCM model result and approve the Wishbone Allotments. *See also W. Watersheds Project v. Vilsack*, No. 23-8081, 2024 WL 4589758, at *11–15 (10th Cir. Oct. 28, 2024) (unpublished) (holding agency acted arbitrarily and capriciously in approving plan amendment that failed to take a hard look at combined impacts of decreased acreage, density control, increased poisoning, and increased recreational shooting on prairie dog populations where previous analyses conclude the combined impacts of these factors could lead to "eradication" of the population and new

analysis failed to explain how the combined impacts were no longer considered an existential threat).[8]

b. Application of methodology

Even if we concluded it was not arbitrary and capricious for the USFS to use the local factors to downgrade the RCM model's result, we would still conclude that the USFS's argument fails on its own terms. That is, the USFS's conclusion that the local factors supported creating the Wishbone Allotments runs contrary to the evidence in the record and is therefore arbitrary and capricious.[9]

First, the USFS argues that because the Wishbone Allotments do not overlap with the CHHR for any bighorn sheep herd, a bighorn sheep could only contact the allotment through forays; and because forays generally occur in October, it was reasonable to downgrade the predicted risk to moderate. But a lengthy foray is not necessary to close the one-mile gap between some of the CHHRs and the Wishbone Allotments. *See* App. Vol. V at 147–48 (illustrating close distance between CHHRs and Wishbone Allotments);

[8] We cite unpublished cases for their persuasive value only and do not treat them as binding authority. *See United States v. Ellis*, 23 F.4th 1228, 1238 n.6 (10th Cir. 2022).

[9] The USFS argues Guardians does not cite any case requiring a pasture-by-pasture risk assessment, and that deference is owed to its determination an allotment-level analysis was sufficient. Appellee's Br. at 30. As Guardians argues in reply, it does not argue a pasture-by-pasture analysis is needed, but that "it was unreasonable to conclude the entire allotment was a moderate risk when the local factors the [USFS] relied upon do not apply to the two largest pastures." Reply Br. at 6. We agree an analysis of the Wishbone Allotments as a whole requires analysis of the Crystal and Shallow pastures, which overlap with the old Snow Mesa Allotments. *See* App. Vol. VI at 192.

id. at 178 (explaining distances of less than ten miles between CHHR and grazing allotments are considered high risk when combined with probability of forays). Moreover, the preliminary CPW telemetry data suggested the bighorn sheep were moving closer than expected to the Wishbone Allotments in the summer. *Id.* at 167–68 (noting preliminary data showed bighorn sheep overlapping the Snow Mesa Allotments); App. Vol. VI at 5–6 (noting this movement happened during the summer season). And again, the USFS cites no scientific literature or data to support modifying the model's prediction of high risk based on timing of forays despite relying on the model's conclusion for the Snow Mesa Allotments. Accordingly, the contention that the lack of direct overlap between CHHR and the Wishbone Allotments provides a reason to adjust the RCM model result is unsupported by the record.

Relatedly, the USFS argues that limited overlap between summer source habitat and the Wishbone Allotments (34%, as opposed to 70% for the vacated Snow Mesa Allotments) supports a lower contact risk. But in the Final EA, proposed allotments with overlap between 37% and 92% were given a high rating by the RCM and deemed too high risk to approve. The USFS provides no data as to why it can ignore a similar overlap percentage and an identical RCM result of high risk for the Wishbone Allotments.

Second, the USFS argues fragmentation of the Wishbone Allotments caused by the highway and river would reduce contact and merits lowering the risk rating. Even assuming that these topographical barriers can create separation—as discussed *supra*, the administrative record suggests roads and rivers pose no significant barrier to the bighorn sheep—as the map of the Wishbone Allotments reveals, the biggest pastures in the

Wishbone Allotments, Crystal and Shallow, are not protected by these barriers. While the USFS argues temporal gaps between bighorn sheep herds and domestic sheep on these two pastures will help create separation, CPW data showed at least one ram moving within a half-mile of the Shallow pasture during grazing season in July 2017. The USFS did not dispute that data in the Final EA or DN/FONSI, and on appeal points to no source in the administrative record for the contention that any temporal gaps are sufficiently wide to justify such a dramatic downgrade in the model's rating.

Finally, the USFS argues the RCM does not account for seasonal bighorn sheep movements, "which [are] fairly predictable each season and highly observable to managers." Appellee's Br. at 29. As for the Crystal and Shallow pastures in particular, the USFS argues that there are no known instances of bighorn directly entering the pastures, that topographic data showed the pastures were lower than the closest herd's CHHR, and that the herd would go to higher elevations only in the summer. The USFS also argues the additional telemetry data analyzed in the SIR supported relying on the local factors. Specifically, while acknowledging the new data showed one of the herd's CHHR "border[ing]" on the Crystal and Shallow pastures, there was no record of a bighorn sheep entering either pasture. Appellee's Br. at 31.

As to seasonal movements, the USFS does not address data in the record showing that a ram approached the Shallow pasture in July 2017, thereby undercutting its assumptions concerning herd movements. Moreover, the EA itself describes the herds as beginning the summer season in lower elevations and moving up toward the old Snow Mesa Allotments—movement that requires passing near the Crystal and Shallow

pastures. As to the additional telemetry data, as Guardians argues, we are generally limited in our review to information before the agency at the time of decision-making. *See Richardson*, 565 F.3d at 704; *CBD*, 72 F.4th at 1178. But even considering that data, it shows that bighorn sheep herds were moving *closer* to the Crystal and Shallow pastures than previously assumed, undercutting the USFS's argument about predictability. *See* App. Vol. VI at 193–98. Moreover, just because there was no record of a sheep directly entering either pasture does not suggest a lower risk—as discussed above, distances of ten miles or less are considered high risk due to the possibility of forays.

In short, analyzing the factors individually reveals there is no support in the record for the contention that there is a lower risk of contact between bighorn sheep and domestic sheep than the RCM predicts. Therefore, approving the Wishbone Allotments by relying on these "local factors" to supplant the RCM's risk analysis was arbitrary and capricious.

2. Project Design Criteria

Guardians argues the USFS also violated NEPA because its reliance on project design criteria to reduce the risk rating was unreasonable. Guardians stresses there is no support for the use of project design criteria because experts have refuted their effectiveness and the permittees on the Wishbone Allotments repeatedly violated permit terms. The USFS argues it reasonably relied on project design criteria in determining the risk of contact was moderate. The USFS emphasizes it understood that design criteria alone would not provide effective separation and was not the "sole reason" for the lower rating. Appellee's Br. at 34. Rather, because project design criteria were not the only

mechanism for separation in the Wishbone Allotments, it was reasonable to expect those criteria—in combination with other factors—to mitigate the risk of contact.

We agree with Guardians. As the administrative record amply demonstrates, there is no scientific support for the idea that project design criteria—alone or in combination with other factors—can successfully separate bighorn sheep from domestic sheep where the RCM predicts a high risk of contact. The record reveals only the apparent ineffectiveness of project design criteria and the USFS's skepticism that it can serve as the sole basis for authorizing grazing. *See, e.g.*, App. Vol. III at 62 ("Until the science is available that shows that project design criteria are effective in maintaining separation, I cannot use them as [the] sole basis for authorizing grazing."); App. Vol. III at 181, 210 (stating "there is uncertainty about the effectiveness of project design criteria and it is unknown how much, if any, reduction might be expected in the contact probabilities produced by the Risk of Contact Tool from full and complete implementation of all project design criteria" due to the lack of "testing or verifi[cation]" and uneven adoption by permittees); App. Vol. IV at 84 (noting that during trial use of Wishbone Allotments, "[p]roject design criteria regarding stray management and herd management have not been implemented successfully").

To be sure, the USFS argues that the Wishbone Allotments can be distinguished from these earlier pronouncements because project design criteria *in combination* with other features can successfully keep bighorn sheep separate from domestic sheep. But it identifies no science or data in the record supporting that conclusion. Instead, in relying on the combination of project design criteria and other features, the USFS asserted only

that "*several points of logic* [] march[ed] the risk of contact from high towards moderate," chiefly that bighorn sheep tend to move toward higher elevations in the summer and that "sufficient manpower" will improve the effectiveness of project design criteria. App. Vol. VI at 154, 156 (emphasis added). But these "points of logic" are directly contradicted by the available data, including the high number of domestic strays found during the 2017 trial season and the recognized areas of "overlap" between the bighorn summer habitat areas and the Wishbone Allotments. *Id.* at 154, 156. In the absence of any science or data suggesting that project design criteria could become effective in combination with other features such as spatial or temporal separation, the USFS's reliance on untethered "logic" alone is insufficient to satisfy NEPA's "hard look" requirement. *See Diné Citizens*, 59 F.4th at 1037 (holding agency failed to take a "hard look" where it failed to use a reasonable methodology and its explanation was "inconsistent with the record").

3. Cumulative Impacts

Guardians argues the USFS violated NEPA in creating the Wishbone Allotments for the additional reason that it failed to take a hard look at threats to bighorn sheep besides the three herds closest to the Wishbone Allotments. *Id.* at 39–40. Guardians argues that because bighorn sheep herds can interact with other herds from adjacent populations, and the CPW telemetry data confirmed interaction between the Wishbone-adjacent herds and other neighboring herds, failing to consider the impact the Wishbone Allotments could have on other bighorn sheep herds constituted a failure to take a hard look at all effects. *Id.* The USFS counters it took a sufficiently hard look at environmental

impacts of the proposed action. Appellee's Br. at 42.[10] As to the threat of the bighorn sheep herds closest to the Wishbone Allotments spreading disease to other herds, the USFS argues it considered this risk but ultimately concluded the risk was sufficiently attenuated due to the "series of events that must occur for [the] disease to spread." *Id.* at 43–44. The USFS also argues that it considered the cumulative impact of the Wishbone Allotments alongside other allotments. *Id.* at 45.

We agree the USFS failed to take a hard look at impacts to bighorn sheep herds beyond the herds closest to the Wishbone Allotments. On one hand, the Final EA recognizes that there are eleven distinct herds in the Rio Grande National Forest, beyond just the herds closest to the Wishbone Allotments, and that "disease outbreaks of every 32 years or less would result in a bighorn sheep population that, although potentially in the initial stages of recovery [from 1990s outbreaks], would be constantly exposed to ongoing disease transmission events and resultant outbreaks." App. Vol. V at 176. But in analyzing the disease risk to bighorn sheep in creating the Wishbone Allotments, the USFS analyzed only the risk to the three nearest herds, saying nothing about the

[10] The USFS also argues this argument was waived by Guardians because it was not presented before the agency. Appellee's Br. at 42–43. But as Guardians argues in reply, it raised the need to consider the Wishbone Allotments' impacts on the broader bighorn sheep population in comments before the agency. *See* App. Vol. V at 6 (objecting to the USFS's failure to consider impacts of Wishbone Allotments on neighboring herd); *see also id.* at 95–96 (another organization objecting to the USFS's failure to consider impacts to neighboring herds nearby the Wishbone Allotments). We agree that Guardians made, with "reasonable specificity," 42 U.S.C. § 7607(d)(1)(B), the same argument before the agency as it presses on appeal. *See WildEarth Guardians*, 770 F.3d at 943.

remaining eight. *Id.* at 206–09. And despite recognizing that between these three herds there was expected to be a disease transmission event as often as once every four years—far below the thirty-two-year threshold that merits a high rating under the RCM model—the USFS nonetheless downgraded the risk threshold to moderate based on the local factors. *Id.* at 208–09.

Not only does this analysis fail to justify the modification of the risk from high to moderate as discussed above, it also entirely fails to consider the impacts the Wishbone Allotments could have on the neighboring herds, despite being alerted to the problem through comments. This also violates NEPA. *See Utahns for Better Transp. v. U.S. Dep't of Transp.*, 305 F.3d 1152, 1180 (10th Cir. 2002) (holding agency violated NEPA by failing to assess impacts to neighboring species); *Diné Citizens*, 59 F.4th at 1040–44 (holding agency violated NEPA by failing to consider cumulative impacts where it "[did] not say anything about how the emissions will impact the environment" despite methods existing for conducting this analysis).

While "NEPA does not require the impossible" and does not require "the agency to employ a specific method for determining the effects of an agency action," it "does require agencies to consider whether the proposed agency action will have a significant impact on the environment and to use accurate science to do so." *Diné Citizens*, 59 F.4th at 1040 (quotation marks omitted). An agency acts arbitrarily and capriciously "by choosing not to address the cumulative impacts" of an action without explaining why. *Id.* at 1043. Here, the USFS did not address the cumulative impacts of the Wishbone Allotments on neighboring herds despite acknowledging the existence of those herds in

the EA as well as the high risk to their survival generated by a disease interval of thirty-two-years or less. *See* App. Vol. V at 206–09. Not considering the impact of the Wishbone Allotments on neighboring herds constitutes a failure to take a hard look and also violates NEPA.

4. Best Available Science

Finally, Guardians argues the USFS did not use the best available science in the EA of the Wishbone Allotments. Appellants' Br. at 36. Specifically, Guardians contends that by using only CPW's preliminary telemetry data and not requesting additional data before releasing a final decision, the USFS missed most of the relevant data before rendering its decision creating the Wishbone Allotments. *Id.* at 37–38. Guardians argues this violated NEPA because the telemetry data was critical for the USFS's decision-making process, especially given its reliance on the "local factors" including the bighorn sheep herds' summer movement patterns and foray timing. *Id.* at 38. The USFS, for its part, contends it did not have to postpone its decision until CPW finished the telemetry study because it considered "extensive" information about bighorn sheep movement in its decision, which provided adequate data to render its decision. Appellee's Br. at 37. We agree with the USFS.

In *Center for Biological Diversity v. U.S. Department of the Interior*, 72 F.4th 1166, 1171–72 (10th Cir. 2023) ("*CBD*"), we considered whether the Department of the Interior considered the best available science in approving a decision allowing the State of Utah to draw water from a contested source. The petitioners argued Interior failed to take a hard look at the effects of global warming on future water availability in the

contested sources, identifying three scientific studies that had not been included in the EA. *Id.* at 1179. Interior responded that by relying on hydrology data rather than the three identified studies, it provided a "reasoned explanation" sufficient to satisfy NEPA. *Id.* at 1180. We concluded the agency adequately explained its approach, holding its preference for a different methodology was "reasonably discernable from the record" even though the agency did not name or discuss the three studies. *Id.* We emphasized that the "choice of the best science" was in the agency's "prerogative[] to meet the chosen scale of analysis," noting our "[d]eference to the agency is especially strong where the challenged decisions involve technical or scientific matters within the agency's area of expertise." *Id.* at 1182 (internal quotation marks omitted).

Here too, we agree with the USFS that it did not have to wait for the full results from the CPW telemetry study. As in *CBD*, the USFS provided a reasoned explanation as to why it relied on the preliminary data, and the record clearly sets out the sources it did rely on, including the preliminary data. *See* App. Vol. V at 152–63 (discussing sources including CPW data, USFS monitoring, and historical records of bighorn populations); *id.* at 164–71 (discussing the interplay of these sources with the RCM tool). While we agree with Guardians that the USFS's overall approach—manually changing the RCM result despite what the preliminary CPW data showed—was arbitrary and capricious, the USFS was not required to wait for the full results from CPW before making a final decision. As Guardians admits, the USFS did discuss the preliminary data from this study in its EA, "adequately incorporat[ing] in its analysis" the available information about bighorn sheep movements. *CBD*, 72 F.4th at 1181.

Put simply, the USFS did not violate NEPA by not waiting for the *additional* telemetry data; as discussed above, it violated NEPA by ignoring the ramifications of the initial data. Because of the deference given to agencies in determining which methodologies and science to rely on, and because the USFS did use the data available to it, the USFS was not required under NEPA to wait for the full CPW study.

5. Conclusion

We agree with the USFS that it did not have to wait for the full results of the CPW study to have adequately considered the best available science. But we agree with Guardians that the USFS's reliance on the local factors and project design criteria to supplant the RCM result was arbitrary and capricious. We further agree with Guardians that the USFS failed to take a hard look at the cumulative impacts to neighboring bighorn sheep herds. Accordingly, we conclude that the USFS violated NEPA in creating the Wishbone Allotments.

V. REMEDY

Having determined that the DN/FONSI creating the Wishbone Allotments is unlawful, we must now determine the appropriate remedy.

This court has adopted a two-prong, fact-sensitive test for determining whether vacatur is the appropriate remedy for an APA violation: "(1) 'the seriousness of the [agency action's] deficiencies (and thus the extent of doubt whether the agency chose correctly)' and (2) 'the disruptive consequences of an interim change that may itself be changed.'" *Diné Citizens*, 59 F.4th at 1049 (quoting *Allied-Signal, Inc. v. U.S. Nuclear Regul. Comm'n*, 988 F.2d 146, 150–51 (D.C. Cir. 1993)). We have previously explained

that "[a]pplication of the *Allied-Signal* factors requires a fact-intensive inquiry that is typically left to the discretion of the district court." *Id.*

Guardians briefly argues on appeal that partial vacatur is the appropriate remedy. Appellants' Br. at 56; Reply Br. at 27. Guardians explains that the two permittees authorized to graze the Wishbone Allotments have not done so since 2020, so "vacating the decision would have little disruptive consequence." *Id.* (citing *Allied-Signal*, 988 F.2d at 150). In reply, Guardians clarifies partial vacatur is appropriate because no party has challenged the portion of the decision vacating the Snow Mesa Allotments. Reply Br. at 27. The USFS disagrees, asserting the district court should determine the remedy in the first instance. Appellee's Br. at 60 n.15; *see also* Br. of Intervenor Respondents-Appellees Jerry Brown, Wayne Brown, and Colo. Woolgrowers Ass'n at 27–28 (agreeing remand to the district court is appropriate remedy).[11]

Because the *Allied-Signal* factors were not considered by the district court, and because the parties do not provide any extensive discussion of the factors on appeal, we

[11] J. Paul Brown and the Colorado Farm Bureau, for their part, assert remand without vacatur to the agency is the appropriate remedy. *See* Br. of Intervenor Respondents-Appellees J. Paul Brown and Colo. Farm Bureau at 33–36.

remand to the district court with instructions to apply these factors in the first instance to determine the appropriate remedy.

VI. CONCLUSION

For the reasons explained above, the USFS's creation of the Wishbone Allotments violated NEPA. We REMAND to the district court to apply the *Allied-Signal* factors in the first instance to determine the appropriate remedy.

UNITED STATES COURT OF APPEALS FOR THE TENTH CIRCUIT
Byron White United States Courthouse
1823 Stout Street
Denver, Colorado 80257
(303) 844-3157
Clerk@ca10.uscourts.gov

Christopher M. Wolpert
Clerk of Court

Jane K. Castro
Chief Deputy Clerk

May 09, 2025

Ms. Elizabeth H Potter
Advocates for the West
P.O. Box 1682
Bend, OR 97709

Ms. Lauren M. Rule
Advocates for the West
P.O. Box 1612
Boise, ID 83701-0000

RE: 24-1187, WildEarth Guardians, et al v. U.S. Forest Service, et al
Dist/Ag docket: 1:19-CV-00208-DDD

Dear Counsel:

Enclosed is a copy of the opinion of the court issued today in this matter. The court has entered judgment on the docket pursuant to Fed. R. App. P. Rule 36.

Pursuant to Fed. R. App. P. 40(d)(1), any petition for rehearing must be filed within 14 days after entry of judgment. Please note, however, that if the appeal is a civil case in which the United States or its officer or agency is a party, any petition for rehearing must be filed within 45 days after entry of judgment. Parties should consult both the Federal Rules and local rules of this court with regard to applicable standards and requirements. In particular, petitions for rehearing may not exceed 3900 words or 15 pages in length, and no answer is permitted unless the court enters an order requiring a response. *See* Fed. R. App. P. Rule 40 and 10th Cir. R. 40 for further information governing petitions for rehearing.

Please contact this office if you have questions.

Sincerely,

Christopher M. Wolpert
Clerk of Court

cc: Grady Block
Aaron E. Bruner
Amy Collier
Brian Gregg
Ivan L. London
Krystal-Rose Perez

CMW/lg