

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

BUFFALO FIELD CAMPAIGN, *et al.*,

Plaintiffs,

v.

MARTHA WILLIAMS,¹ *et al.*,

Defendants.

Civil Action No. 20-798 (RDM)

MEMORANDUM OPINION

Every year, millions of people visit Yellowstone National Park to view, among other marvels, the park's few thousand resident bison. In 2014, Plaintiffs Buffalo Field Campaign and Western Watersheds Project petitioned the U.S. Fish and Wildlife Service ("Service") to list the Yellowstone bison as endangered or threatened, pursuant to the Endangered Species Act ("ESA"), 16 U.S.C. § 1533(b)(3)(A). Dkt. 19 at 18; Dkt. 20-1 at 14. The following year, the Service denied that petition and another from a third party, concluding that neither petition presented substantial scientific or commercial information indicating that listing may be warranted. *Buffalo Field Campaign v. Zinke*, 289 F. Supp. 3d 103, 108 (D.D.C. 2018). Plaintiffs challenged that determination in a lawsuit before Judge Cooper, arguing, among other things, that the Service applied the wrong evidentiary standard. *Id.* at 109. Judge Cooper agreed and remanded the matter to the Service for further proceedings. *Id.* at 112.

¹ Because Defendant Aurelia Skipwith is no longer Director of the U.S. Fish and Wildlife Service, the Court substitutes Martha Williams, the Principal Deputy Director of the U.S. Fish and Wildlife Service exercising the delegable authority of the director. Fed. R. Civ. P. 25(d).

In 2019, the Service for a second time denied the petitions, as well as a third petition submitted following the remand. Dkt. 25-2 at 411–12. Plaintiffs have again brought suit, arguing that the Service’s most recent decision, like its earlier decision, is arbitrary and capricious in violation of the Administrative Procedure Act (“APA”), 5 U.S.C. § 706. Dkt. 1 at 23 (Compl. ¶ 124). Plaintiffs and the Service have cross-moved for summary judgment. Dkt. 19; Dkt. 20-1. Because the Court concludes that the Service has once again applied the incorrect standard, the Court will **GRANT** Plaintiffs’ motion for summary judgment, **DENY** the Service’s motion for summary judgment, and remand the matter to the Service for further proceedings.

I. BACKGROUND

A. Statutory Background

Congress enacted the ESA to stem the loss of endangered or threatened species. 16 U.S.C. § 1531(b). Under the Act, the Secretary of the Interior is required to maintain “a list of all species determined by [her] . . . to be endangered species and a list of all species determined by [her] . . . to be threatened species.” *Id.* § 1533(c)(1). A species is “endangered” if it “is in danger of extinction throughout all or a significant portion of its range,” *id.* § 1532(6), and a species is “threatened” if it “is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range,” *id.* § 1532(20). The decision to list a species as endangered or threatened must be based on one of five 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,” *id.* § 1533(a)(1), (b). Although the ESA refers to “species” throughout its text, the statutory definition of “species” encompasses more granular classifications as well,

“includ[ing] any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.” *Id.* § 1532(16). The Secretary has delegated the authority to add or remove species from the endangered and threatened lists to the Service. 50 C.F.R. § 402.01(b); *In re Polar Bear Endangered Species Act Listing & Section 4(d) Rule Litig.—MDL No. 1993*, 709 F.3d 1, 3 (D.C. Cir. 2013).

Interested persons may petition the Service “to add a species to, or to remove a species from, either [the endangered or threatened] list[.]” 16 U.S.C. § 1533(b)(3)(A). “To the maximum extent practicable, within 90 days after receiving [such a] petition,” the Service must determine whether the petition “presents substantial scientific or commercial information indicating that the [listing] may be warranted,” and, if so, must “promptly commence a review of the status of the species concerned.” *Id.* Under the Service’s regulations, “‘substantial scientific or commercial information’ refers to credible scientific or commercial information in support of the petition’s claims such that a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted.” 50 C.F.R. § 424.14(h)(1)(i). If a petition meets this standard, the Service must institute a review and issue a finding “[w]ithin 12 months after receiving [the] petition” as to whether listing is warranted. 16 U.S.C. § 1533(b)(3)(B).

If the Service determines that action is not warranted, it must “promptly publish [that] finding in the Federal Register,” *id.* § 1533(b)(3)(B)(i), and that finding is subject to judicial review, *id.* § 1533(b)(3)(C)(ii). But, if the Service determines that action is warranted, it must publish a notice of proposed rulemaking in the Federal Register, *id.* § 1533(b)(3)(B)(ii), and shall, if requested, hold at least “one public hearing on the proposed regulation,” *id.* § 1533(b)(5)(E). The Service must then issue a final rule or withdraw the proposed rule (or file a

notice of an extension of the deadline) within one year. *Id.* § 1533(b)(6)(A). An extension of the one-year deadline is warranted only if the Service determines “that there is substantial disagreement regarding the sufficiency or accuracy of the available data relevant to the determination or revision concerned.” *Id.* § 1533(b)(6)(B)(i). A listing decision must be based “solely on . . . the best scientific and commercial data available to [the Service] after conducting a review of the status of the species and after taking into account those efforts, if any, being made by any State or foreign nation, or any political subdivision [thereof], to protect [the] species.” *Id.* § 1533(b)(1)(A).

B. Factual Background

The American bison has appeared on the official seal of the Department of the Interior since 1912, Dkt. 20-1 at 12; is the national mammal of the United States, *see* National Bison Legacy Act, Pub. L. No. 114-152, 130 Stat. 373 (2016); and is North America’s largest native land mammal, Dkt. 25-3 at 416. The species comprises two subspecies: the wood bison (found principally in Canada), and the plains bison, which includes Yellowstone bison and which scientists have named—rather emphatically—*Bison bison bison*. *Id.* at 414–15. Although plains bison once numbered in the millions and roamed much of the United States, as well as parts of Canada and Mexico, Dkt. 25-3 at 414, 418; Dkt. 19 at 13; Dkt. 20-1 at 11, their population in the wild hit a nadir at the turn of the twentieth century, when fewer than two dozen wild bison remained in Yellowstone National Park, all in the central region of the park. Dkt. 25-3 at 7, 402. To revive the population, park managers cultivated a separate herd in the northern region of the park by introducing twenty-one bison from captive herds outside the park and three calves from the indigenous central Yellowstone herd. *Id.* at 7.

More than a century later, roughly 4,500 bison reside in Yellowstone, *id.* at 573 (Aug. 2018), although, as discussed below, this number fluctuates throughout the year. The population still consists of “two primary breeding herds,” the northern herd (which included just over 3,300 bison in August 2018) and the central herd (which included almost 1,200 bison in that same month). *Id.* According to the National Park Service, “Yellowstone is the only place in the United States where bison . . . have lived continuously since prehistoric times.” *Id.* at 572. Moreover, although almost all bison outside of the park are descended from cattle-bison hybrids as the result of efforts to bolster bison numbers in the late 1800s and early 1900s, Yellowstone bison do not carry cattle genes. *Id.* at 7, 22, 572–73.

During certain times of year, the Yellowstone bison migrate outside of the park. Dkt. 25-3 at 598–601. This annual migration creates complications for population management, primarily because it raises the risk that bison will transmit to cattle a bacterial disease called brucellosis. *Id.* at 499–500. After more than ten years of negotiation, in 2000, various federal agencies and the State of Montana adopted a framework called the Interagency Bison Management Plan for the State of Montana and Yellowstone National Park (“IBMP”) to manage the bison’s movements. Dkt. 20-1 at 13. The IBMP allows bison to migrate outside of the park during the winter but “in the spring[,] the agencies . . . haze bison back into the park, at or near the time when bison historically can return to the park based on snow and weather conditions, or capture or shoot them if hazing is unsuccessful.” Dkt. 25-3 at 507. In addition, since 2005, the State of Montana “has administered a bison hunt between November 15 and February 15 on lands adjacent to the park,” and, in 2006, 2009, and 2010, the State “recognized . . . treaty rights” permitting local tribes to “harvest[] bison on open and unclaimed federal lands adjacent to the park.” *Id.* at 596.

The IBMP sets a “population target for the whole herd”—that is, the northern and central herds combined—of “3,000 bison.” *Id.* at 528. But the plan also permits the participating agencies to “agree to temporarily modify elements of [the] plan to mitigate total removal of bison due to exigent circumstances arising from severe winter conditions.” *Id.* at 530. In particular, “[w]hen the bison population declines to 2300 within a single winter, the agencies will *meet to evaluate* modifications to the prevailing management prescriptions that could reduce the total management removal from the population.” *Id.* (emphasis added). “When the bison population declines below 2300 within a single winter, the agencies *may*, on a temporary basis for that winter, *increase implementation of non-lethal* management measures to provide management flexibility and [to] reduce the total management removal of bison from the population.” *Id.* (emphasis added). And, finally, [w]hen the bison population declines below 2100 within a single winter, the agencies *will*, on a temporary basis for that winter, *increase implementation of non-lethal* management measures.” *Id.* (emphasis added).

The extent of the culling that occurs is significant. In the winter of 2016/2017, for example, more than 1,200 Yellowstone bison were culled, and in the winter of 2017/2018, approximately 1,155 bison were culled. Dkt. 25-2 at 419. According to Plaintiffs, the hunting, trapping, hazing, capture, and slaughter of Yellowstone bison disproportionately affect the central herd. *Id.* at 42; *see also* Dkt. 19 at 17. As a result, although the overall Yellowstone bison population has been relatively stable in recent years, Dkt. 25-3 at 100–101, the size of the central herd has declined dramatically over the past two decades, *id.*; *see also* Dkt. 25-2 at 419. In 2000, for example, the northern herd comprised less than a third of the total Yellowstone bison population, but, based on 2018 estimates, it now includes “three times as many bison” as

the central herd. *Id.*; Dkt. 25-3 at 100.² The Service acknowledges this decline, which it “primarily” attributes to “dispersal of [Yellowstone] bison from [the] central to [the] northern” herds and, like Plaintiffs, to “disproportionate culls of [Yellowstone] bison from the central herd.” Dkt. 20-1 at 36–37

At present, Yellowstone bison are not listed as endangered or threatened under the ESA. *Buffalo Field Campaign*, 289 F. Supp. 3d at 107.

C. Procedural Background

In November 2014, Buffalo Field Campaign and Western Watershed Project petitioned the Service to list the Yellowstone bison as an endangered or threatened distinct population segment (“DPS”) pursuant to the ESA. Dkt. 25 at 6; Dkt. 19 at 18; *see* Dkt. 1 at 4–5 (Compl. ¶¶ 14–15) (describing parties). In March 2015, James Horsley, a private citizen, separately petitioned the Service to list the Yellowstone bison. Dkt. 25 at 67; Dkt. 25-2 at 413; Dkt. 19 at 18. According to the 2014 petition, “[b]ecause the Yellowstone bison are an isolated remnant population, they are susceptible to threats such as disease outbreaks, natural catastrophes, and impairment of genetic and population structure.” Dkt. 25 at 11. The petition identifies the following factors affecting the Yellowstone bison: range curtailment, livestock grazing,

² The 2019 90-day finding asserts: “In 2012, the northern herd was estimated to contain 16-31 percent of the [Yellowstone] bison population (Halbert et al. 2012, p.9).” Dkt. 25-2 at 419. This statement, however, is either inaccurate or inelegant. It is true that the Halbert study *reported* this number “[i]n 2012,” but in doing so, it cited to statistics from the Departments of Interior and Agriculture from 2000 and another study from 2005. Dkt. 25-3 at 133. Those dates better jibe with other information in the administrative record indicating that in August 2000, the northern herd accounted for 590 of the 2,708 bison counted in the park, and, in August 2005, the northern herd accounted for 1,484 of the 5,015 bison counted in the park. Dkt. 25-3 at 100. In contrast, by late July 2012, the northern herd already accounted for 2,669 of the 4,230 bison in the park. *Id.* at 101. That trend has continued, and by August 2017, the northern herd accounted for 3,969 of the 4,816 bison in the park. *Id.* Meanwhile, over the same period—from August 2000 to August 2017—the number of bison in the central herd decreased from 2,118 to a mere 847 bison. *Id.*

development of the range, invasive species, hunting, predation, disease, genomic extinction, climate change, and inadequacy of existing regulations. *Id.* at 38–54.

On December 15, 2015, the Service issued a 90-day finding rejecting both petitions. Dkt. 25 at 396–409. Although the Service concluded “that the . . . petitions, together, provide[d] substantial scientific or commercial information indicating the [Yellowstone bison] may qualify as a DPS,” *id.* at 397, it concluded that they did not present “substantial scientific or commercial information indicating that the petitioned action”—that is, listing the Yellowstone bison DPS as endangered or threatened—“may be warranted,” *id.* at 409. In reaching that conclusion, the Service acknowledged that the 2014 petition “suggest[ed] [that] animals from the Central/Western herd are being hunted at a disproportionately high rate compared to their Northern counterparts, which ‘threatens the genetic viability of the Yellowstone bison and could result in the loss of unique genetic qualities, maternal lineages, and the loss of overall diversity.’” *Id.* at 402. But, in response, the Service pointed to a study estimating that “only approximately 30-40% of the [Yellowstone] bison genetic makeup derive from the original 25 survivors” of the indigenous Central herd; that, as a result, “maintenance of subpopulation genetic differentiation and overall genetic diversity may not be crucial for preserving genes from the survivors of the historic bottleneck;” and, finally, that another study concluded “that the National Park Service should allow ecological processes to ‘influence how population and genetic substructure is maintained in the future.’” *Id.* at 402–03 (citations omitted).

Buffalo Field Campaign, Western Watershed Project, and Friends of Animals (“Plaintiffs”) brought suit under the APA challenging the 2015 finding. *See* Complaint at 1–3, *Buffalo Field Campaign v. Zinke*, 289 F. Supp. 3d 103 (D.D.C. 2018) (No. 16-cv-1909 (CRC)) (“*Buffalo Field Campaign I*”). Among other things, Plaintiffs argued that the Service applied the

incorrect evidentiary standard in reviewing the petition. *Id.* at 3. In particular, the 2014 petition cited a published, peer-reviewed population genetics study, Natalie D. Halbert *et al.*, *Genetic Population Substructure in Bison at Yellowstone National Park*, 103 J. Heredity 360 (2012) (“Halbert study”), for the proposition that (1) the central and northern populations are two genetically distinct subpopulations, Dkt. 25-3 at 125, and (2) the Service’s current management approach of culling bison without regard to subpopulation puts the genetic diversity of the Yellowstone bison at risk, *id.* at 133. In issuing its negative 90-day finding, the Service did not conclude that the Halbert study was “irrelevant, unreliable, or unsubstantiated” but, instead, relied on the other study to conclude that “maintenance of subpopulation genetic differentiation and overall genetic diversity may not be crucial for preserving genes.” *Buffalo Field Campaign I*, 289 F. Supp. 3d at 110 (quotation marks omitted). In Plaintiffs’ view, the Service overstepped its focused role in reviewing a 90-day petition and should not have resolved a substantial dispute between scientists at this early stage in the process.

Judge Cooper agreed and, accordingly, granted summary judgment in Plaintiffs’ favor. As he explained, “[a]t the 90-day stage, the question is not whether [listing] *is* warranted, only whether it *may* be.” *Id.* at 109 (quoting *Ctr. for Bio. Diversity v. Kempthorne*, No. 06-04186, 2007 WL 163244, at *7 (N.D. Cal. Jan. 19, 2007)). “[W]here there is disagreement among reasonable scientists, the Service should make the “may be warranted” finding.” *Id.* (quoting *Kempthorne*, 2007 WL 163244, at *7). By picking between two opposing views in an ongoing scientific dispute, the Court concluded, the Service had “applied an inappropriately heightened standard to the evaluation” of whether to institute a listing proceeding. *Id.* at 110. That error rendered “the Service’s decision arbitrary and capricious[] and entitle[d] [Plaintiffs] to summary judgment in [their] favor.” *Id.* at 111. The Court, however, rejected Plaintiffs’ request that the

Court “direct the Service to” skip past the 90-day petition stage and “begin a 12-month review” and, instead, remanded the matter “to the Service to allow it to conduct a 90-day finding using the appropriate standard.” *Id.* at 111–12.

Shortly thereafter, James Horsley submitted another petition, Dkt. 25-1; Dkt. 25-2 at 6–402, this one recommending that the Service recognize two separate DPSs for the Yellowstone bison: a central herd DPS and a northern herd DPS. Dkt. 25-1 at 16; Dkt. 20-1 at 15. On September 6, 2019, the Service issued its 90-day finding on this petition and the prior two petitions, which were pending on remand. Dkt. 25-2 at 411–33. As in its 2016 90-day finding, the Service “conclude[d] that there is substantial information supporting a potential designation of [Yellowstone] bison as a single DPS of the Plains bison subspecies.” *Id.* at 414. But, once again, the Service also found that “the petitions do not provide substantial scientific or commercial information indicating that listing the [Yellowstone] bison . . . as a threatened or endangered species may be warranted.” *Id.* at 426.

Plaintiffs filed this suit against the Secretary of the Interior, the Service, and its Director (“Defendants”) on March 23, 2020. Dkt. 1 (Compl.). This time around, they press eight theories: they allege that the 2019 90-day finding (1) failed “to correct the deficiencies” identified by this Court in *Buffalo Field Campaign I*, “thereby [once again] applying an improper legal standard; (2) failed properly to consider whether listing the Yellowstone bison may be warranted due to “curtailment in all or a significant portion of its range;” (3) failed rationally to “address the threat of overutilization on the DPS of Yellowstone bison due to aggressive overhunting and culling;” (4) failed “to adequately analyze the foreseeable risk to the DPS of Yellowstone bison due to climate change;” (5) improperly relied “on the IBMP as an adequate source of regulatory protection;” (6) applied “incorrect legal standards;” (7) ignored “the plain

language of the ESA that requires [the Service] to initiate a status review if a petition presents substantial evidence that a species may be endangered or threatened due to one or more of the five factors [set forth in Section 1533(a)(1)];” and (8) was “otherwise arbitrary, capricious, [or] contrary to law in violation of the ESA” and the APA. *Id.* at 23 (Compl. ¶ 124). For relief, Plaintiffs ask the Court to declare that Defendants violated the ESA and/or APA; vacate the 2019 90-day finding; remand the matter to the Service to render a corrected 90-day finding; or, preferably, skip over the 90-day-finding stage and order Defendants to proceed directly to a 12-month status review. *Id.* at 23–24 (Compl.).

The parties’ cross-motions for summary judgment are now before the Court. *See* Dkt. 19; Dkt. 20-1; *see also* Dkt. 22; Dkt. 24.

II. LEGAL STANDARD

Under Federal Rule of Civil Procedure 56, summary judgment is ordinarily available if the movant demonstrates “that there is no genuine dispute as to any material fact and” that, based on the uncontested facts, “the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). In the unique context of a case brought under the APA, however, the district court “sit[s] as an appellate tribunal,” *Marshall Cnty. Health Care Auth. v. Shalala*, 988 F.2d 1221, 1222–23 (D.C. Cir. 1993), to decide “as a matter of law [whether] the agency action is supported by the administrative record and is otherwise consistent with the APA standard of review,” *Coal. for Common Sense in Gov’t Procurement v. United States*, 821 F. Supp. 2d 275, 280 (D.D.C. 2011); *see also Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 415 (1971); *Sw. Merck Corp. v. NLRB*, 53 F.3d 1334, 1341 (D.C. Cir. 1995). In short, it is the role of the administrative agency to “resolve factual issues” and “to arrive at a decision that is supported by the administrative record,” while it is the role of the district court “to determine whether or not as a

matter of law the evidence in the administrative record permitted the agency to make the decision it did.” *Hi-Tech Pharmacal Co. v. FDA*, 587 F. Supp. 2d 13, 18 (D.D.C. 2008).

In applying this standard, courts must adhere to both the limits and demands of judicial review of administrative action. On the one hand, it is not the Court’s role to substitute its judgment for that of the agency, and that principle applies with particular force in a case, like this one, involving scientific analysis and “technical expertise.” *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 377 (1989); *see Balt. Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 103 (1983) (“When examining this kind of scientific determination, . . . a reviewing court must generally be at its most deferential.”). An agency is not required to explain its conclusions with crystalline clarity; rather, the APA requires only that the reviewing court be able “reasonably [to] discern[]” the “agency’s path.” *Alaska Dep’t of Env’t Conservation v. EPA*, 540 U.S. 461, 497 (2004) (citation omitted). On the other hand, it is the Court’s job to ensure that the agency’s action is “in accordance with law,” 5 U.S.C. § 706(2)(A), and that the agency has “examine[d] the relevant data and [has] articulate[d] a satisfactory explanation for its action,” *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). Although review of the agency’s reasoned decision is deferential, where the agency “entirely fail[s] to consider an important aspect of the problem” at issue, the Court must set the agency’s action aside as “arbitrary and capricious.” *Id.*

III. ANALYSIS

A. Standing

The Service does not challenge Plaintiffs’ standing, but the Court must nonetheless satisfy itself that “[a]t least one plaintiff [has] standing to seek each form of relief requested in the complaint.” *Town of Chester, N.Y. v. Laroe Estates, Inc.*, 137 S. Ct. 1645, 1651 (2017).

When an association seeks to invoke the jurisdiction of a federal court, it can establish standing in one of two ways: it can assert “associational standing” to sue on behalf of its members, *see Hunt v. Wash. State Apple Advert. Comm’n*, 432 U.S. 333, 343 (1977), or it can assert “organizational standing” to sue on its own behalf, *see People for the Ethical Treatment of Animals v. USDA*, 797 F.3d 1087, 1093 (D.C. Cir. 2015). Here, Plaintiffs assert associational standing, which requires a showing (1) that the plaintiff has at least one member who “would otherwise have standing to sue in [her] own right;” (2) that “the interests” the association “seeks to protect are germane to [its] purpose;” and (3) that “neither the claim asserted nor the relief requested requires the participation of [the] individual members in the lawsuit.” *Hunt*, 432 U.S. at 343. Plaintiffs satisfy this standard.

The second and third *Hunt* factors require only brief mention. To start, the germaneness requirement is readily satisfied. Although the case is brought by three groups, for present purposes, the Court can limit its analysis to Buffalo Field Campaign and Western Watershed. *See Carpenters Indus. Council v. Zinke*, 854 F.3d 1, 9 (D.C. Cir. 2017) (noting that, if constitutional standing “can be shown for at least one plaintiff, [the court] need not consider the standing of the other plaintiffs to raise that claim”) (quoting *Mountain States Legal Found. v. Glickman*, 92 F.3d 1228, 1232 (D.C. Cir. 1996)). The purposes of both groups include protecting the Yellowstone bison. As its name suggests, the mission of Buffalo Field Campaign is to protect wild bison and their natural habitat. Dkt. 1 at 4 (Compl. ¶ 14). And, although the mission of Western Watershed Project is broader, that mission includes protecting western wildlife. *Id.* at 4–5 (Compl. ¶ 15). Those purposes are reflected in the decisions of both organizations to petition the Service to list the Yellowstone bison. Nothing more is required to satisfy the germaneness requirement. Similarly, the third factor—the suitability of an

associational action—poses no hurdle. Given the nature of Plaintiffs’ claim, there is no reason to believe that the relief requested requires the participation of individual members. To the contrary, naming an individual member would do nothing to facilitate an appropriate remedy.

That leaves the first *Hunt* factor—whether at least one member of one of the associations would otherwise have standing to sue in her own right. To establish Article III standing, the plaintiff—or, here, the member—“must have suffered an ‘injury in fact’—an invasion of a legally protected interest which is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical.” *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560 (1992) (quotation marks and citations omitted). Second, “there must be a causal connection between the injury and the conduct complained of—the injury has to be ‘fairly . . . trace[able] to the challenged action of the defendant, and not . . . th[e] result [of] the independent action of some third party not before the court.’” *Id.* (alterations in original). Third, “it must be ‘likely,’ as opposed to merely ‘speculative,’ that the injury will be ‘redressed by a favorable decision.’” *Id.* at 561. In cases alleging a procedural injury, “the courts relax—while not wholly eliminating—the issues of imminence and redressability, but not the issues of injury in fact or causation.” *Ctr. for Law & Educ. v. Dep’t of Educ.*, 396 F.3d 1152, 1157 (D.C. Cir. 2005); *see also Massachusetts v. EPA*, 549 U.S. 497, 517–18. As a result, in a procedural injury case, the “litigant has standing if there is some possibility that the requested relief will prompt the injury-causing party to reconsider the decision that allegedly harmed the litigant.” *Massachusetts*, 549 U.S. at 518.

To meet this burden, Plaintiffs submit two declarations. In the first declaration, Michael Shepard Mease, the cofounder of Buffalo Field Campaign, attests that he lives in West Yellowstone, Montana, and patrols the Yellowstone bison’s habitat to learn about the animals and to record them for his professional work as a videographer. Dkt. 19-3 at 1–2 (Mease Decl.

¶¶ 2–5). He further attests that he observes “the Yellowstone buffalo and their habitat for aesthetic, ecological, educational, historical, recreational, professional, spiritual, and scientific purposes,” *id.* at 1–2 (Mease Decl. ¶ 3), and that he is “directly harmed by actions that eliminate buffalo from their habitat on federal, state, and private lands,” *id.* at 3 (Mease Decl. ¶11). In the second, Joshua Osher, a member of Western Watersheds Project, explains that he serves as the organization’s Public Policy Director and has been “living, working and recreating in and around Yellowstone National Park” for fifteen years. Dkt. 19-4 at 1–2 (Osher Decl. ¶¶ 3, 5, 6). He attests that he frequently visits the Yellowstone area and intends to return to the “area at least several times a year for the rest of [his] life in order to see bison and other wildlife in the region,” *id.* at 2 (Osher Decl. ¶¶ 8–9), and that the Service’s failure to list the Yellowstone bison “harms [his] interest in the continued existence of the Yellowstone bison and its protection and recovery throughout its historic range,” *id.* at 4 (Osher Decl. ¶ 21); *see also* Dkt. 1 at 6 (Compl. ¶ 18) (alleging that “the decision to deny ESA protections for Yellowstone bison, will cause direct injury to the aesthetic, recreational, scientific, conservation, educational, and cultural interests that the plaintiff organizations and their members maintain in the continued existence, observation, and study of bison). These declarations demonstrate that at least one identified member of Buffalo Field Campaign and one identified member of Western Watershed Project have “concrete interests [that are] affected” by the Service’s denial of their 90-day petition and that there is some possibility that the requested relief—including requiring the Service to reevaluate its decision under the correct evidentiary standard—will prompt the Service to reconsider the decision that allegedly harmed them. *Lujan*, 504 U.S. at 572 n.7.

The Court, accordingly, concludes that Plaintiffs have standing.

B. Merits

Turning to the merits, the Court starts where Judge Cooper left off. Relying on the text of Section 1533(b)(3)(A), the implementing regulation, and judicial precedent, he held that at the 90-day petition stage the Service is not permitted to resolve substantial disagreements among “reasonable scientists.” *Buffalo Field Campaign I*, 289 F. Supp. 3d at 109. As Judge Cooper explained, Section 1533(b)(3)(A) requires the Service to make an affirmative finding at this preliminary stage if “the petition presents substantial scientific or commercial information indicating that the petitioned action *may* be warranted.” 16 U.S.C. § 1533(b)(3)(A) (emphasis added). The implementing regulations, in turn, specify that “substantial scientific or commercial information” means “credible scientific or commercial information in support of the petition’s claim such that a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition *may* be warranted.” 50 C.F.R. § 424.14(h)(1) (emphasis added).³ Because these rules do not ask “whether the designation *is* warranted, only whether it *may* be,” *Buffalo Field Campaign I*, 289 F. Supp. 3d at 109 (quoting *Ctr. for Bio. Diversity*, 2007 WL 163244, at *7), Judge Cooper concluded that “the 90-day standard does not allow the Service to simply discount scientific studies that support the petition or to resolve reasonable extant scientific disputes against the petition,” *id.* at 110. As a result, the Service must either

³ At the time the Service’s 2015 90-day finding, the regulation defined “substantial information” as the “amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted.” 50 C.F.R. § 424.14(b)(1) (2016). As the Service explains, the word “credible” was added to clarify that the information must be “substantiated and not mere speculation or opinion,” and the phrase “impartial scientific review” was added to clarify that “the context of this action involves evaluating scientific information.” Dkt. 20-1 at 10 (quoting 81 Fed. Reg. 66,462, 66,473). For present purposes, the clarification of the rule is immaterial; the Service does not argue that the Halbert study is based on “speculation or opinion” or that it is unscientific.

“explain[] why the scientific studies that the petition cites are unreliable, irrelevant, or otherwise unreasonable” or must “credit the evidence presented.” *Id.*

Applying this evidentiary standard, Judge Cooper concluded that *Buffalo Field Campaign I* presented “a relatively straightforward example of such a scientific dispute.” *Id.* In particular, the Halbert study reported “that there are two genetically distinct subpopulations of bison in Yellowstone,” and that conclusion called “into question the 3,000 bison population target set by the IBMP for the entire herd.” *Id.* In other words, if two genetically distinct herds reside in the park, each herd must maintain “a population that is large enough to ensure that herd’s . . . survival.” *Id.* And because “other studies have suggested that around 3,000 bison are needed to ensure a herd’s survival, . . . this suggests that the 3,000 bison population target for *both* herds is too low to ensure that *each* herd will survive.” *Id.*

As Judge Cooper further observed, the Service’s 2015 finding offered “two responses to the Halbert study,” neither of which even suggested that the study was “unreliable, irrelevant, or otherwise unreasonable.” *Id.* First, the Service posited “that the IBMP sets population management targets for the two herds separately.” *Id.* But, as Judge Cooper observed, this response “ignores the inference from the Halbert study that the overall population target is either too low in light of other studies indicating 3,000 bison are needed for each herd . . . or inaccurate because it was set before recognizing that the two herds need to be maintained individually.” *Id.* Second, “the Service . . . adopted [the] White and Wallen[] [study’s] conclusion that maintenance of subpopulation genetic differentiation and overall genetic diversity may not be crucial for preserving genes.” *Id.* (quotation marks omitted). But, again, the Service “offered no explanation for why [the] Halbert [study’s] conclusion was irrelevant, unreliable, or unsubstantiated,” nor did it address “why a reasonable person could not rely on the Halbert study

over the [other] study.” *Id.* In short, Judge Cooper held, “the Service simply picked a side in an ongoing debate in the scientific community, which is improper at the 90-day finding stage,” *id.* at 111, and he, accordingly, remanded the matter to provide the Service “to allow it to conduct a 90-day finding using the appropriate standard,” *id.* at 112.

Although Plaintiffs raise an array of challenges to the Service’s finding on remand, most turn on the premise that the Service has failed to heed Judge Cooper’s directions and, once again, has applied the incorrect evidentiary standard. More specifically, Plaintiffs maintain that the Service has continued to disregard the Halbert study without explaining why the study does not, at the very least, show that there is substantial disagreement among reasonable scientists regarding genetic differentiation between the herds. Dkt. 19 at 27; *see Buffalo Field Campaign I*, 289 F. Supp. 3d at 110–11. And, Plaintiffs continue, the Service has continued to disregard credible, scientific evidence indicating that a target population of 3,000 bison is—or may be—insufficient “to ensure the survival and genetic viability of each [genetically distinct] herd.” Dkt. 19 at 34.

In responding to Plaintiffs’ challenge, the Service does not dispute that the evidentiary standard set forth in *Buffalo Field Campaign I* is the proper standard. *See* Dkt. 20-1 at 20, 27. *See generally* 289 F. Supp. 3d at 109 (citing *Ctr. for Bio. Diversity*, 2007 WL 163244, at *7). Nor could it. Both the ESA and the implementing regulations require the Service to make an affirmative 90-day finding if the scientific information presented in the petition indicates that the proposed action “*may* be warranted.” 16 U.S.C. § 1533(b)(3)(A) (emphasis added); 50 C.F.R. § 424.14(h)(1)(i) (emphasis added). As used in this context, the word “*may*” is a modal verb “[u]sed to indicate a certain measure of likelihood or possibility,” as in the phrase “it may rain.” *May*, American Heritage College Dictionary 839 (3d ed. 2000); *see also May*, Webster’s Third

New International Dictionary 1396 (1993) (to “be in some degree likely”); *May*, Chicago Manual of Style 5.147 (17th ed. 2017) (noting that “may” is at times used interchangeably with “might,” although the word “might” often connotes “a stronger sense of doubt”). The surrounding statutory and regulatory texts, moreover, further clarify the nature of the possibility. It is not enough that one can imagine a world in which the Yellowstone bison might be endangered or threatened; any such supposition or hypothesis must find support in “substantial scientific or commercial information,” 16 U.S.C. § 1533(b)(3)(A), that is both “credible” and sufficient to permit “a reasonable person conducting an impartial scientific review [to] conclude that” listing the species, 50 C.F.R. § 424.14(h)(1)(i), is *possibly* warranted. Significantly, the ESA does not direct the Service to decide whether listing “is warranted” but only to assess whether the petition proffers “substantial” evidence that listing “may be warranted.” *Compare* 16 U.S.C. § 1533(b)(3)(A), *with id.* § 1533(b)(3)(B).

The structure of the ESA further bolsters the conclusion that the evidentiary standard does not ask whether listing is warranted, but only whether substantial or credible scientific information supports that possibility. First, although the 90-day period is not written in stone, that is the statutory presumption, *see* 16 U.S.C. § 1533(b)(3)(A), and 90 days would constitute a remarkably short time to resolve conflicts among credible scientific studies. Second, a negative determination ends the process with little or no study, while an affirmative determination merely initiates a thorough review conducted in two (or three) further stages. *Id.* § 1533(b)(3)(B). At the first stage, the Secretary has a year to decide whether listing “is” or “is not warranted.” *Id.* If the Service concludes that the petitioned action “is not warranted,” it must promptly “publish such finding in the *Federal Register*.” *Id.* § 1533(b)(3)(B)(i). However, if the Service concludes that listing “is warranted,” it must then publish a proposed rule for public comment, *id.*

§§ 1533(b)(3)(B)(ii), (b)(5), and, if requested, hold at least one “public hearing on the proposed regulation,” *id.* § 1533(b)(5)(E); *see also id.* § 1533(b)(4) (otherwise incorporating APA rulemaking standards). Finally, the ESA recognizes that even after a year of study and notice-and-comment rulemaking over the course of another year, a “substantial disagreement” may still remain “regarding the sufficiency or accuracy of the available data relevant to the determination” and, accordingly, the statute permits the Service to extend the 12-month period by an additional “six months for purposes of soliciting additional data.” *Id.* § 1533(b)(6)(B)(i). It is implausible that Congress provided for this type of in-depth scientific analysis before making a final listing determination, but simultaneously authorized the Service to resolve reasonable scientific disagreements regarding complex questions of central importance to the listing decision during the truncated 90-day petition process, without the benefit of public comment or the opportunity for considered analysis.

For present purposes, then, the Court must determine whether the Service impermissibly resolved a substantial scientific dispute when it rendered its negative 90-day finding on remand. Answering that question, in turn, requires describing the Halbert study in slightly greater detail. The study analyzed genetic samples of hair, blood, and liver tissue collected from 661 Yellowstone bison between 1997 and 2003 “to evaluate the possibility of genetic substructure among” the bison. Dkt. 25-3 at 126–27. According to the authors, the results (published in a peer-reviewed journal in 2015) revealed “clear evidence for genetically distinct subpopulations among Yellowstone bison,” specifically, a “[n]orthern subpopulation and [a] [c]entral subpopulation.” *Id.* at 132. The authors further observed that these results are “consistent with” other differences previously observed between the northern and central herds, including

differences in “tooth wear patterns” and reproductive cycles, differences “expected only when bison [populations] remain isolated for much of their lives.” *Id.*

Despite the genetic divergence between the two herds—roughly comparable to “herds that have been completely isolated for over 40 years”—the Halbert study notes that “the subpopulations do not appear to be completely isolated,” and it estimates that the genetic differentiation observed is consistent with one successful breeding migrant “both into and out of each subpopulation every fourth year.” *Id.* At this rate, however, “the level of divergence is expected to continue to increase, and there is a potential for adaptive differentiation”—in other words, it is possible that the two herds may evolve separate adaptations to suit their distinct environments. *Id.* The authors conclude that their findings

warrant serious reconsideration of current management practices. The continued practice of culling bison without regard to possible subpopulation structure has the potentially negative long-term consequences of reducing genetic diversity and permanently changing the genetic constitution within subpopulations and across the Yellowstone metapopulation.”

Id. at 133.

Plaintiffs’ 2014 petition combines this finding of genetic differentiation between the two herds with research on minimum viable herd size. Citing scientific literature recommending that “[i]ndividual [bison] herds or clusters should have . . . 2000–3000 [animals] . . . to avoid inbreeding depression and maintain genetic variation,” *id.* at 144, the 2014 petition asserts that “the size of the [n]orthern range herd is marginal and that of the [c]entral range herd is clearly below the necessary population size,” Dkt. 25 at 28–29. According to the petition, “Yellowstone bison warrant immediate protection under the [ESA] to avoid further loss of genetic diversity, loss of evolutionary potential, and [to] conserve potential genetic contributions to plains bison restoration.” *Id.* at 52.

Notably, in rendering its negative finding on remand, the Service disavowed the view—attributed to it in *Buffalo Field Campaign I*—“that maintenance of subpopulation genetic differentiation and overall genetic diversity may not be crucial for preserving genes[,] negating the need to maintain two subpopulations.” Dkt. 25-2 at 424. To the contrary, the Service asserted that it “fully supports maintenance of genetic diversity within [Yellowstone] bison.” *Id.* Thus, the problem with the 2014 petition, according to the Service, was not that genetic differentiation is unimportant for purposes of the ESA. Instead, the problem was that the petition failed adequately to account for mixing between the central and northern herds. *Id.* As the Service explained, although genetic diversity is important, “as the total number of [Yellowstone] bison have increased, the two herds have experienced increased mixing,” and “this mixing suggests that the substructure of two distinct lineages in two distinct herds may not be sustained over time.” *Id.* The Service continued:

A similar situation occurred when [Yellowstone] bison numbers increased above 3,000 in the mid-1990s—the three herds historically described in [Yellowstone National Park] (Mary Mountain, Pelican Valley, and Lamar Valley) merged to form the central herd (Mary Mountain and Pelican Valley) and the northern herd (Lamar Valley) (Halbert et al. 2012, p.2). Recent spatial analysis of mitochondrial DNA did not detect geographic population subdivision; however, two independent lineages were identified—one representing descendants of the 22 indigenous bison remaining in central Yellowstone in 1902, the other representing descendants of 18 females from northern Montana and three bulls from Texas introduced in 1902 to develop the northern herd (Forgacs et al., 2016, p.1).

Id. at 424-25. On this basis, the Service concluded “that the lineage representing the original bison in [Yellowstone National Park] continues to be represented[] but is no longer confined to the central herd” and that, as a result, the Yellowstone bison should be treated as “a single DPS, without further subdivision.” *Id.* at 425.

The crux of the Service's response to the Halbert study, accordingly, comes down to two points. First, as the number of bison in the Yellowstone area has increased, so has mixing between the central and northern herds. Second, a 2016 study by Forgacs *et al.* ("Forgacs study") reports that "[r]ecent spatial analysis of mitochondrial DNA did not detect geographic population subdivision." Dkt. 25-2 at 424. That response is inadequate for several reasons.

First, once again, the Service merely favored one study over another, which, as Judge Cooper held in *Buffalo Field Campaign I*, is at odds with the governing evidentiary standard. As Judge Cooper put it, "if two pieces of scientific evidence conflict, the Service must credit the supporting evidence unless that evidence is unreliable, irrelevant, or otherwise unreasonable to credit." 289 F. Supp. 3d at 110. Here, the Service at least implicitly acknowledged the Halbert study's finding of "clear evidence for genetically distinct subpopulations among Yellowstone bison," Dkt. 25-3 at 132. *See* Dkt. 25-2 at 424. But it then credited the Forgacs study's failure to "detect geographic population subdivision." *Id.* It did so, moreover, without explaining why the Halbert study's finding was "unreliable, irrelevant, or otherwise unreasonable to credit." Standing alone, that flaw in the Service's 2019 finding requires vacatur.

Second, even putting that dispositive error aside, the Service ignored "an important aspect of the problem" at issue and failed to "articulate . . . a 'rational connection between the facts found and the choice made.'" *Motor Vehicle Mfgs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (quoting *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168 (1962)); *see also Department of Homeland Security v. Regents of the Univ. of Calif.*, 140 S. Ct. 1891, 1913 (2020). In invalidating the Service's initial 90-day finding, Judge Cooper focused on the Halbert study and the Service's failure to offer any "explanation for why [its] conclusions were irrelevant, unreliable, or unsubstantiated" and failure even to discuss "why

a reasonable person could not rely on the . . . study over the White and Wallen study.” 289 F. Supp. 3d at 110. For purposes of remand, the credibility and substantiality of the Halbert study, according, were not only “an important aspect of the problem”—those issues were both unambiguously highlighted and essential. To be sure, the Service now disavows any reliance on the White and Wallen study over the Halbert study. But it commits precisely the same error in now relying on the Forgacs study over the Halbert study without addressing (1) why, in its view, the Halbert study got it wrong, or (2) why “a reasonable person conducting an impartial scientific review would” conclude that the Halbert study is not “credible” or would reject the scientific possibility that the Halbert study is correct.

Third, the Court is unpersuaded by the Service’s argument that it did, in fact, address the Halbert study and that it reasonably disregarded the study on the ground that it is “outdated[] and thus irrelevant on the issue of distinct populations.” Dkt. 24 at 12–14; *see also* Dkt. 20-1 at 21. That contention runs headlong into a cardinal rule of administrative law: “an agency’s action must be upheld, if at all, on the basis articulated by the agency itself.” *State Farm*, 463 U.S. at 50 (citing *SEC v. Chenery*, 332 U.S. 194, 196 (1947)). Courts do not demand “crystalline clarity” in reviewing an agency decision, but they must be able “reasonably [to] discern[]” the “agency’s path,” *Alaska Dep’t of Env’t Conservation v. EPA*, 540 U.S. 461, 497 (2004) (quoting *Bowman Transp., Inc. v. Ark.–Best Freight Sys., Inc.*, 419 U.S. 281, 286 (1974)), and, here, the Court cannot squint hard enough to see the critical finding that litigation counsel hypothesizes. In the end, this entire argument rests on the premise that the 2019 negative finding describes the Forgacs study as a “[r]ecent spatial analysis.” Dkt. 25-2 at 424 (emphasis added). But the finding does not describe the Halbert study (which was published only four years before the

Forgacs study) as outdated, nor does it say anything about when the relevant data was collected for the respective studies.

Fourth, nothing else contained in the 2019 finding supports the Service’s contention that the 2019 finding—at least implicitly—rejected the Halbert study on the ground that it failed to account for recent mixing between the herds. To start, the Halbert study recognized that mixing has occurred; as noted above, the study observed that the two herds “do not appear to be completely isolated” and that “the level of genetic differentiation . . . is consistent with . . . a successful (breeding) migrant both into and out of each subpopulation every fourth year.” Dkt. 25-3 at 132. Evidence of some, unquantified level of mixing, accordingly, does not undermine the credibility or substantiality of the Halbert study. Even more importantly, the 2019 finding does not address when the mixing occurred, and it never posits that an upsurge in mixing occurred after the data was collected for the Halbert study. To the contrary, just four pages before referring to “increased” mixing and the Forgacs study’s “[r]ecent spatial analysis,” Dkt. 25-2 at 424 (emphasis added), the Service—citing Forgacs and others—asserts that the “increased mixing between the two herds” and the deterioration of “the substructure of two distinct lineages in two distinct herds” has occurred “in *recent decades*.” *Id.* at 420 (emphasis added). Although the Service does not specify what it means by this, the very first study that it cites in support considered a dataset *ending* in 2000, Dkt. 25-3 at 25 (“Fuller study”), at the halfway point for the dataset employed in the Halbert study, *see id.* at 127. The Fuller study, moreover, reports that “pulses of emigration from the central herd to the northern range [began] in 1982, fifteen years *before* the beginning date of the Halbert study dataset.”⁴ Dkt. 25-3 at 31.

⁴ Two of the other cited studies report more recent mixing between the herds. Dkt. 25-3 at 73 (2014 Geremia *et al.* study describing “[m]ovements out of the central interior to northern portions of the park”); *id.* at 90 (2017 Geremia *et al.* study reporting “emigration of bison from

And, indeed, elsewhere in the 2019 finding, the Service asserts that “the two herds have intermixed seasonally *since 1915*,” Dkt. 25-2 at 414 (emphasis added), casting further doubt on the supposition that the Halbert study has been overtaken by “recent” mixing. Accordingly, the Court cannot reasonably construe the reference to “[r]ecent spatial analysis” in the 2019 finding, Dkt. 25-2 at 424 (emphasis added), to suggest that the Service rejected the Halbert study on the ground that it was “outdated,” Dkt. 24 at 12–14.

Fifth, for similar reasons, the Service’s reliance on the combination of the Forgacs study and other studies documenting “recent” mixing of the central and norther herds does not overcome the difficulties with these contentions when considered separately. As the Service appears to acknowledge, reliance on the Forgacs study, standing alone, cannot satisfy the evidentiary standard at the 90-day stage. For this reason, the Service accuses Plaintiffs of “endeavor[ing] to isolate the Forgacs . . . study,” while ignoring other studies regarding recent mixing and ignoring the fact that the Halbert study is outdated. Dkt. 20-1 at 24. But, as explained above, the 2019 finding does not conclude that Halbert is outdated (and certainly did not do so in a reasoned manner), and it does not conclude that the data reported in those other studies was collected after the data relied upon in the Halbert study was collected. Perhaps some of it was. But that is not what the 2019 finding says, and the finding must rise or fall based on the reasoning contained in it—and not the reasoning offered by litigation counsel. *See Chenery*,

central to northern Yellowstone”). But these studies do not conclude that the two herds are destined to become genetically identical or that the Service should surrender to such an outcome. On the contrary, the studies express concern over the shrinking size and disproportionate culling of the central herd. *See id.* at 73 (2014 Geremia *et al.* study recommending that “removal actions [be] limited to bison that exit the northern boundary” of Yellowstone); *id.* at 93 (2017 Geremia *et al.* study discussing central herd numbers as decreasing since 2008 with a juvenile rate “substantially lower than the overall population objective”). The more recent of these two studies urges “continued monitoring to ensure undesired impacts are not occurring” on genetic structure. *Id.* at 93.

332 U.S. at 196. As a result, the Service faces just the problem it accuses Plaintiffs of endeavoring to engineer: the only analysis offered in the 2019 finding that is arguably responsive to the Halbert study is the agency's reliance on the Forgacs study, and, in a battle between two substantial scientific studies, "the Service must credit the supporting evidence unless that evidence is unreliable, irrelevant, or otherwise unreasonable to credit." *Buffalo Field Campaign I*, 289 F. Supp. 3d at 110. Here, far from satisfying this standard, the 2019 finding offers no analysis of why, in the Service's view, the Forgacs study manifestly trumps the Halbert study.⁵

Sixth, the 2019 finding does address the Halbert study directly in one respect, but that aspect of the study has no bearing on the Service's conclusion with respect to genetic differentiation or Plaintiffs' challenge. The finding asserts, in relevant part:

The Court's Memorandum Opinion notes that Halbert *et al.* (2012) calls into question the 3,000 population target set by the IBMP for the entire herd by indicating that each of the two herds in [Yellowstone National Park] need a population large enough to ensure the herd's individual survival, and also notes that since other studies have suggested approximately 3,000 bison are needed to ensure survival of a herd, a population target of 3,000 for both herds [combined]

⁵ Although they need not do so to prevail, Plaintiffs go a step further and explain why any apparent conflict between the Halbert and Forgacs studies can be addressed at the next phase of the ESA process. They point out that the Forgacs study merely concluded, in the words of the Service, that "spatial analysis of mitochondrial DNA did not detect geographic population subdivision." Dkt. 25-2 at 424. Mitochondrial DNA is genetic material found in a cell's mitochondria and is inherited from the maternal line. Dkt. 19 at 30; Dkt. 25-3 at 13. The Halbert study, in contrast, analyzed differences in nuclear DNA, which is genetic material found in a cell's nucleus and inherited from both parents. Dkt. 19 at 30; Dkt. 25-3 at 13. Because mitochondrial DNA passes "from the female to her offspring with little or no variation," according to Plaintiffs, one would expect to observe "less variation between subpopulations" in mitochondrial DNA than in nuclear DNA. Dkt. 19 at 30. And, indeed, the Forgacs study explains that the different results "could be due to differences in the structure and function of the genomic regions analyzed, the differences in mutation rates, and the sensitivities of the statistical tests used." Dkt. 25-3 at 13. Notably, the Forgacs study concludes "that Yellowstone bison can be managed" for mitochondrial diversity "as a single population with multiple breeding segments," but it also urges that "additional studies involving population structure and genetic diversity based on both [mitochondrial DNA] and nuclear genetic diversity assessments need to be conducted." *Id.* at 15. The question whether any dispute even exists, and, if so, which scientific team has the better of the argument, however, is for another forum and another day.

is too low to ensure that each herd will survive. . . . However, Halbert *et al.* (2012) does not recommend specific herd sizes; instead, the study recommends that a population viability analysis be conducted. . . .

A wide range of [Minimum Viable Population (“MVP”)] estimates have been derived specifically for bison in [Yellowstone National Park] including: a minimum of 1,000 (Dratch and Gogan 2010, p. vii), 1,000–2,000 (Jones and Roffe 2008, p. 8), 2,000 (Freese *et al.* 20078, p. 180), 2,000–3,000 (Hedrick 2009, p. 419), and 2,500–4,500 (Plumb *et al.* 2009, p. 2385). These MVP estimates are all less than [Yellowstone National Park’s] carrying capacity for bison. A reasonable and scientifically defensible herd size for [Yellowstone National Park] should be less than carrying capacities for individual herds as well as less than the estimated carrying capacity park-wide. Furthermore, recent population estimates for [Yellowstone National Park] bison, which are more than 4X greater than historical estimates, do not support an assertion that listing may be warranted due to range curtailment. Therefore, we do not agree with the third petition’s recommendation that 7,000 bison for each herd, or 14,000 total bison is an appropriate population goal for [Yellowstone National Park].

Dkt. 25-2 at 416-17.

Plaintiffs, in turn, agree that the Halbert study does not recommend a specific herd size or MVP for each herd. But that is beside the point. Judge Cooper did not hold that the Halbert study recommends a specific herd size; rather, he held that the Halbert study indicates that “there are two genetically distinct subpopulations of bison in Yellowstone” and that each herd needs “a population that is large enough to ensure that herd’s individual survival.” 289 F. Supp. 3d at 110. And, because “other studies have suggested that around 3,000 bison are needed to ensure a herd’s survival, this suggests that the 3,000 bison population target for *both* herds is too low to ensure that *each* herd will survive.” *Id.* (citation omitted). In failing to respond to that concern, the 2019 finding, once again, disregards an “an important aspect of the problem,” *State Farm*, 463 U.S. at 43, and, instead, simply rejects the premise that the central and northern herds represent genetically distinct subpopulations. By the Service’s own account, moreover, the most recent population estimate for the northern herd (3,337), Dkt. 25-2 at 416, falls within the “wide range of MVP estimates [that] have been derived for bison in” Yellowstone National Park, *id.* at

417. The same is not true, however, for the most recent estimate for the central herd (1,190), *id.* at 416, which is below (or teetering near the bottom end) of each of the MVP estimates referenced in the 2019 finding and is well below the MVP estimate contained in the Hedrick study, which Western Watershed Project and Buffalo Field Campaign invoked in their 2014 petition, Dkt. 25 at 28, and which the Service cites (presumably as a credible scientific study), Dkt. 25-2 at 417.

Finally, the Court is unpersuaded by the Service's plea for deference based on its scientific expertise. Dkt. 20-1 at 18–20. As the Service observes, “the issue before the Court is not whether a reasonable person could accept [the petitioner's] interpretation of the data, but whether the [agency] ha[s] a rational basis for concluding that a reasonable person would not do so.” *Id.* at 18 (first and second alterations in original) (quoting *Palouse Prairie Found. v. Salazar*, No. CV-08-032, 2009 WL 415596, at *2 (E.D. Wash. Feb. 12, 2009)). The Service is correct that it is not required “blindly [to] accept statements in [a] petition[.]” and need not rely on “information [that it] knows to be obsolete or unsupported.” *Id.* at 19 (quoting *Ctr. for Bio. Diversity v. Morgenweck*, 351 F. Supp. 2d 1137, 1142 (D. Colo. 2004)). But that it not what is at issue here. The 2014 petition relied on a peer reviewed study finding “clear evidence for genetically distinct subpopulations,” Dkt. 25-3 at 132, and after the Service disregarded that study in its 2015 finding, Judge Cooper remanded the matter to the agency with the admonition that the Service must either credit that study or explain why it is “unreliable, irrelevant, or otherwise unreasonable to credit,” 289 F. Supp. 3d at 110. Then, on remand, the Service, once again, failed to credit the Halbert study and, once again, relied on an (arguably) conflicting study without offering a reasoned explanation for that choice. It is far from clear that such perfunctory treatment would suffice at the 12-month stage, but it certainly does not fly at the 90-day stage, to

which this matter was remanded to allow the Service either to credit the study or explain why it “is unreliable, irrelevant, or otherwise unreasonable to credit,” *id.*

It is, of course, possible that the Halbert study is flawed in a material respect. It is possible that its data are outdated and that the tipping point in mixing between the central and northern herds occurred in the short window between when the data were collected for that study and when the data were collected for the Forgacs study. It is possible that mitochondrial DNA is more important than nuclear DNA in measuring genetic divergence. It is possible that the Hedrick study either overestimated the MVP for Yellowstone bison or that its analysis does not extend to subpopulations. And perhaps the Service not only accepted one or more of these possibilities but, also, rationally concluded that the question was sufficiently open-and-shut that it could, and should, be resolved at the 90-day stage. But the Court can defer to an agency’s scientific judgment only if the agency’s rationale “may reasonably be discerned,” *Alaska Dep’t of Env’t Conservation*, 540 U.S. at 497, and the 2019 finding says none of this. Just as the Court may not substitute its scientific judgment for that of an expert agency, it may not guess at what the agency might have intended or might say on (yet another) remand.⁶

⁶ The Service further argues that Plaintiffs’ position suffers from “an internal inconsistency”—that is, Plaintiffs maintain that “there are ‘actually two genetically distinct subpopulations’” at the park, Dkt. 20-1 at 22 (quoting Dkt. 19 at 28), but argued in the 2014 petition that “‘the Yellowstone bison are a distinct population segment of plains bison and that listing of this species is warranted,’” *id.* (quoting Dkt. 25 at 54). In response, Plaintiffs argue that “[a] DPS is a legal determination applying [the Service’s] policy that looks at more than the genetic differences between two populations of a species.” Dkt. 22 at 9. For present purposes, the Court need not resolve this dispute because the 2019 finding does not address the issue, *see Chenery*, 332 U.S. at 196, and, indeed, appears to embrace the premise that “genetic diversity within” the Yellowstone bison population is an important factor affecting the species’ continued existence, Dkt. 25-2 at 424. (The Court further notes that, even if the Western Watershed Project and Buffalo Field Campaign petition argued that the Yellowstone bison should be treated as a single DPS, the Horsley petition argued that the two herds should be listed as separate DPSs, Dkt. 25-1 at 16; Dkt. 20-1 at 15.)

The Court, accordingly, concludes that the Service's 2019 finding fails to comport with the governing evidentiary standard at the 90-day stage and disregards an important aspect of the issue that was before it. The Court will, accordingly, grant summary judgment in Plaintiffs' favor.

C. Appropriate Remedy

Plaintiffs argue that the Court should vacate the 2019 finding and remand the matter to the Service for further review; that it should direct the agency to complete its review on remand within 90 days; and that the Court possesses the additional equitable discretion "to order [the Service] to proceed [directly to] a 12-month status review." Dkt. 19 at 52. As explained below, the Court agrees that the proper remedy is vacatur and remand but is unpersuaded that the remand should come with a strict time limit or that the Court should, in effect, make an affirmative determination on the pending 90-day petitions and direct that the Service conduct a 12-month review. The Court will, however, direct the parties to file a joint status report in 90 days informing the Court of the status of proceedings on remand.

The role of a district court in reviewing agency action under the APA is limited. Here, the question before the Court is not whether the Yellowstone bison should be listed as endangered or threatened or even whether listing "may be warranted," 16 U.S.C. § 1533(b)(3)(A)—and the Court has no view on those questions. Rather, the Court merely holds that the Service applied the wrong standard, failed to address a significant aspect of the question before it, and failed adequately to explain its decision. None of those conclusions dictates—or even suggests—that the statutory standard for proceeding to a 12-month review is satisfied, and, without such a finding, the Service's statutory duty to undertake such a review under Section

1533(b)(3)(B) is not triggered. For the Court to order otherwise would be to disregard the statutory text.

That conclusion, moreover, is consistent with settled law under the APA. As the D.C. Circuit has repeatedly observed, “when a court reviewing agency action determines that an agency made an error of law, the court’s inquiry is at an end,” and, ordinarily, “the case must be remanded to the agency for further action consistent with the corrected legal standards.” *PPG Indus., Inc. v. United States*, 52 F.3d 363, 365 (D.C. Cir. 1995); accord *N. Air Cargo v. U.S. Postal Serv.*, 674 F.3d 852, 861 (D.C. Cir. 2012) (“When a district court reverses agency action and determines that the agency acted unlawfully, ordinarily the appropriate course is simply to identify a legal error and then remand to the agency, because the role of the district court in such situations is to act as an appellate tribunal.”). Accordingly, “the proper course, except in rare circumstances, is to remand to the agency for additional investigation or explanation.” *Fla. Power & Light Co. v. Lorion*, 470 U.S. 729, 744 (1985).

Such rare circumstances are not present here. Although the Service has twice failed to employ the correct the evidentiary standard in reviewing the long-pending petitions, there is no reason to believe that the agency is acting in bad faith or that it is unprepared to adhere to the Court’s decision. Nor is this a case in which the Service so departed from the usual process for conducting a 90-day review that its 90-day review, “[i]n effect, . . . constituted the beginning of a [12-month] status review.” *Colo. River Cutthroat Trout v. Kempthorne*, 448 F. Supp. 2d 170, 178 (D.D.C. 2006). It is concerning, to be sure, that over seven years have now passed since the 2014 petition was filed. But it remains unclear whether sufficient basis exists to proceed to the next stage of the ESA process, and, in light of the substantial amount of work done to date, the Service should be able to answer that question promptly.

The Court is also unpersuaded that it should order the Service to issue a new finding within 90 days. The statute, of course, compels the agency to act within 90 days “[t]o the maximum extent practicable.” 16 U.S.C. § 1533(b)(3)(A). This is not a license to take 120 or 150 days, if it is possible to act sooner. But Congress anticipated that, under some circumstances, the Service might be unable to reach a decision in 90 days, and the Court cannot, based on the present record, exclude such a possibility here. To ensure that the Service moves as quickly as “practicable,” however, and in light of the lengthy delay to date and the substantial work that the Service has already completed, the Court will require the parties to file a joint status report within 90 days of this decision, updating the Court about the status of the proceeding on remand.

CONCLUSION

The Court, accordingly, will **GRANT** Plaintiffs’ motion for summary judgment, Dkt. 19, and will **DENY** Defendants’ cross-motion for summary judgment, Dkt. 20. The Court will remand the decision to the Service for further review.

A separate order will issue.

/s/ Randolph D. Moss
RANDOLPH D. MOSS
United States District Judge

Date: January 12, 2022