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**United States District Court
Central District of California**

WILDEARTH GUARDIANS,

Plaintiff,

v.

DEB HAALAND¹ & U.S. FISH &
WILDLIFE SERVICE,

Defendants.

Case No 2:19-cv-09473-ODW (KSx)

**ORDER GRANTING PLAINTIFF’S
MOTION FOR SUMMARY
JUDGMENT [42]; DENYING
DEFENDANTS’ MOTION FOR
SUMMARY JUDGMENT [46]; and
GRANTING MOTION FOR LEAVE
TO FILE AMICUS BRIEF [47]**

I. INTRODUCTION

This Endangered Species Act (“ESA”) case concerns the Joshua tree, an iconic succulent plant occurring almost exclusively in the Mojave Desert. Environmental non-profit WildEarth Guardians challenges the United States Fish and Wildlife Service’s (the “Service”) decision not to list the Joshua tree as threatened under the ESA (“12-Month Finding”). Guardians contends the decision is arbitrary, capricious, contrary to the best scientific and commercial data available, and otherwise not in accordance with the ESA. Guardians asks this Court to set aside and remand the 12-Month Finding for the Service to reconsider. (Guardians Mot. Summ. J.

¹ Pursuant to Federal Rule of Civil Procedure 25(d), Secretary of the Interior Deb Haaland is automatically substituted for former Secretary David Bernhardt.

1 (“GMSJ”), ECF No. 42.) The Service asks the Court to find that the record fully
2 supports the 12-Month Finding and that Guardians has failed to show the decision was
3 arbitrary, capricious, or improper. (Serv. Mot. Summ. J. (“SMSJ”), ECF No. 46.)
4 QuadState Local Governments Authority (“QuadState”) moves for leave to file an
5 amicus curiae brief in support of the Service’s motion. (Mot., ECF No. 47.)

6 On August 2, 2021, the Court heard argument from the parties. Having
7 considered the parties’ papers and arguments, for the reasons below, the Court
8 **GRANTS** Guardians’s Motion for Summary Judgment (ECF No. 42), **DENIES** the
9 Service’s Motion for Summary Judgment (ECF No. 46), and **GRANTS** QuadState’s
10 Motion for Leave to File an Amicus Brief (ECF No. 47).

11 II. THE ENDANGERED SPECIES ACT

12 The ESA “provide[s] a means whereby the ecosystems upon which endangered
13 species and threatened species depend may be conserved.” 16 U.S.C. § 1531(b). The
14 statute was designed to prioritize imperiled species to help them recover until federal
15 protection is no longer needed. *See Tenn. Valley Auth. v. Hill*, 437 U.S. 153,
16 174 (1978). “It represents a commitment to halt and reverse the trend toward species
17 extinction, whatever the cost.” *Id.* at 184 (internal quotation marks omitted).

18 The Secretary of the Interior is charged with protecting any “threatened” or
19 “endangered” species, on her own initiative or in response to a petition from any
20 “interested person.” 16 U.S.C. § 1533(b)(3). “A species is endangered if it is ‘in
21 danger of extinction throughout all or a significant portion of its range,’ and threatened
22 if it is ‘likely to become an endangered species within the foreseeable future
23 throughout all or a significant portion of its range.’” *Ctr. for Biological Diversity*
24 (“*CBD*”) *v. Haaland*, 998 F.3d 1061, 1063 (9th Cir. 2021) (citing 16 U.S.C.
25 § 1532(6), (20)) (“*Haaland*”). The Service generally interprets “foreseeable future” to
26 mean “the period through which it can reliably determine the threats to a species and
27 the likely consequences.” *Id.*

28

1 When the Secretary receives a petition, she must initially determine “whether it
2 presents sufficient information to suggest that [an endangered or threatened] listing
3 may be warranted.” *Id.* at 1064 (citing 16 U.S.C. § 1533(b)(3)(A)). “If so, the
4 Secretary must review the species’ status and issue a ‘12-month finding’ that listing is
5 either (1) warranted, (2) not warranted, or (3) warranted but precluded by higher
6 priority listing actions.” *Id.* (citing 16 U.S.C. § 1533(b)(3)(B)). Listing a species as
7 threatened or endangered triggers substantive and procedural protections under the
8 ESA. *See* 16 U.S.C. §§ 1536, 1538. The Secretary has delegated authority to
9 administer the Act to the Service. *Haaland*, 998 F.3d at 1064 (citing 50 C.F.R.
10 § 402.01(b)).

11 III. BACKGROUND

12 Guardians is a non-profit 501(c)(3) conservation organization focused on
13 protecting and restoring the “wildlife, wild places, wild rivers, and health of the
14 American West.” (Compl. ¶ 13, ECF No. 1.) Guardians alleges that recent scientific
15 studies show climate change and its associated effects, including drought, increasing
16 wildfire, and habitat loss, pose a serious threat to Joshua trees’ continued survival, and
17 that these threats “are poised to eradicate Joshua trees from much of their current
18 range by century’s end.” (*See id.* ¶ 4.) Accordingly, on September 28, 2015,
19 Guardians filed a petition under the ESA requesting that the Service list the Joshua
20 tree as a threatened species. (*Id.* ¶ 5.)

21 Joshua trees (*Yucca brevifolia* (“YBR”) and *Yucca jaegeriana* (“YJA”)) are
22 long-lived succulent plants endemic to the Mojave Desert. (*Id.* ¶¶ 2, 25.) Their
23 current range comprises approximately 12 million acres and extends from
24 northwestern Arizona to southwestern Utah west to southern Nevada and southeastern
25 California. (Admin. R. (“AR”) 6927–53 (“Species Status Review Form” or “SSR”)
26 6931–32, ECF No. 39.²) The Service recently determined that YBR and YJA are two

27
28 ² The AR certification and index are filed at ECF No. 39 and the AR was lodged separately with the Court. (*See* AR00001–23731.)

1 distinct species, though they have long been known as a single species with two
2 varieties and continue to be referred to together as “Joshua trees.” (SSR6930.)

3 Joshua trees date back to the Pleistocene era, 2.5 million years ago. (Compl.
4 ¶ 4.) They are characterized by infrequent germination, slow growth, and long
5 lifespans (200–300 years). (*Id.* ¶ 31; SSR6934.) They reproduce sexually through
6 pollination and seed production and asexually through rhizome growth, and take up to
7 thirty years to reach sexual maturity. (Compl. ¶¶ 31–32.) Seeds go to Joshua trees’
8 obligate pollinator, *Yucca moths*, and to seed scatter-hoarding rodents; seed dispersal
9 is considered quite limited. (*Id.* ¶¶ 34, 35.) Seedlings are likely to emerge under
10 shrub cover, or “nurse plants,” and need periods of cool temperatures, yearly
11 precipitation, and low herbivory to survive. (*Id.* ¶ 37.) Recent scientific studies
12 indicate that these conditions align for successful new seedlings only a few times in a
13 century. (*Id.* ¶ 40.)

14 On September 14, 2016, the Service issued a positive 90-day finding on
15 Guardians’s petition. 81 Fed. Reg. 63160–65 (Sept. 14, 2016) (“90-Day Finding”).
16 The Service concluded that the petition presented substantial scientific and
17 commercial information indicating that listing the Joshua tree as threatened may be
18 warranted, based on ESA Factors A and E. (*Id.* at 63162; Compl. ¶ 54.) Factor A
19 considers “[t]he present or threatened destruction, modification, or curtailment of its
20 habitat or range,” and Factor E considers “[o]ther natural or manmade factors
21 affecting [the species’] continued existence.” 16 U.S.C. § 1533(a)(1)(A), (E). The
22 Service was to consider all five threat factors³ in completing the Species Status
23 Assessment Report (“SSA”) and 12-Month Finding. 90-Day Finding at 63162.

24 Although the ESA requires that the 12-Month Finding “shall” be completed
25 within 12 months of a petition, 16 U.S.C. § 1533(b)(3)(B), the Service published the
26 Joshua tree SSA nearly two years later, in July 2018, (*see* AR6957–7084 (“SSA”)) and

27 ³ The other three threat factors are: “(B) overutilization for commercial, recreational, scientific, or
28 educational purposes; (C) disease or predation; [and] (D) the inadequacy of existing regulatory
mechanisms.” 16 U.S.C. § 1533(a)(1)(B)–(D).

1 issued the 12-Month Finding nearly three years later, in August 2019, 84 Fed.
2 Reg. 41694-01. In four short paragraphs, the Service determined that listing the
3 Joshua tree as threatened or endangered under the ESA was not warranted due to the
4 species' long lifespan, large ranges and distributions, and ability to occupy numerous
5 ecological settings. 12-Month Finding at 41697. The 12-Month Finding did not
6 discuss the statutory factors. *See id.* It incorporated the SSA by reference as
7 providing a "detailed discussion of the basis for this finding." *Id.* In October 2018,
8 the Service summarized the SSA in the SSR. (*See SSR.*)

9 In the SSA, the Service considered eighty years as the timeframe for the
10 "foreseeable future" and analyzed potential current and future threats, such as
11 wildfires, invasive plants, habitat loss, and climate change (including prolonged
12 drought). (*See SSR*6949; *SSA*7032, 7053–54 (YBR), 7054, 7066–68 (YJA).) The
13 Service recognized that Joshua trees' southern range suffered a greater concentration
14 of biologically meaningful threats, (*SSR*6951–52), but concluded that areas existed
15 within the predicted southern range contraction where the Joshua tree would persist,
16 (*SSA*7050–52), and found that potential expansion to the north and west could
17 compensate for the southern contraction, (*id.*). Although the Service found increased
18 fire risks from invasive grasses, and increased mortality and reduced survivorship of
19 individual Joshua trees from fire over time, it concluded that wildfires did not pose a
20 significant threat to the species. (*SSA*7000–01, 7012–13, 7032–35, 7055–57.) The
21 Service also noted that some studies indicated recent recruitment (new tree growth)
22 within the Mojave Desert. (*See SSA*7022, 7027.)

23 Specifically regarding the YBR, the Service found that the western edge of its
24 southern population would face "biologically significant threats from wildfire and
25 habitat loss from development," (*SMSJ* 7), but concluded this area was not a
26 "significant portion of its range," and thus did not warrant listing, (*SSR*6951–52). As
27 to the YJA, the Service found that individual trees could be impacted by threats from
28 wildfire, climate change, and habitat loss, but concluded the species would not likely

1 be affected at the population or species level. (SSR6951.) Thus, the Service
2 concluded that Joshua trees were “not in danger of extinction nor likely to become
3 endangered within the foreseeable future throughout all or a significant portion of”
4 their range and, therefore, listing was not warranted. (SSR6953).

5 On November 4, 2019, Guardians filed this action challenging the 12-Month
6 Finding. (*See Compl.*) Guardians challenges the Service’s non-listing determination
7 as violating the ESA in three ways: (1) the finding that Joshua trees are not threatened
8 under the five threat factors is arbitrary and capricious; (2) the finding that Joshua
9 trees are not threatened throughout a significant portion of their range is arbitrary and
10 capricious; and (3) the Service failed to use the best available science. (*Id.* ¶¶ 81–97.)
11 The parties each move for summary judgment on these issues. (*See* GMSJ; SMSJ;
12 Guardians Opp’n to SMSJ & Reply (“G.Opp’n”), ECF No. 51; Serv. Opp’n to GMSJ
13 & Reply (“S.Opp’n”), ECF No. 52.)

14 IV. LEGAL STANDARD

15 The Service’s decision not to list a species under the ESA is reviewed under the
16 Administrative Procedure Act (“APA”). *Native Ecosystems Council v. Dombeck*,
17 304 F.3d 886, 901 (9th Cir. 2002). Courts “shall” set aside agency action, findings, or
18 conclusions under the APA that are “arbitrary, capricious, an abuse of discretion, or
19 otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A). Although this is a
20 deferential standard and courts should not “substitute [their] judgment for that of the
21 agency,” they must nonetheless engage in a “thorough, probing, in-depth review.”
22 *Citizens of Overton Park v. Volpe*, 401 U.S. 402, 415–16 (1971). Courts should
23 “ensure that the agency considered the relevant factors and articulated a rational
24 connection between the facts found and the choices made.” *Greater Yellowstone*
25 *Coal., Inc. v. Servheen*, 665 F.3d 1015, 1023 (9th Cir. 2011).

26 [A]n agency rule would be arbitrary and capricious if the agency has
27 relied on factors which Congress has not intended it to consider, entirely
28 failed to consider an important aspect of the problem, offered an
explanation for its decision that runs counter to the evidence before the

1 agency, or is so implausible that it could not be ascribed to a difference in
2 view or the product of agency expertise.

3 *Id.* (quoting *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29,
4 43 (1983)). “Agency decisions deserve the highest deference when the agency is
5 making predictions, within its area of special expertise.” *CBD v. Zinke*, 900 F.3d
6 1053, 1067 (9th Cir. 2018) (internal quotation marks omitted) (“*Zinke*”). But even
7 when an agency is operating in a field of its expertise, courts must disapprove agency
8 decisions that lack a “substantial basis in fact,” or in which its “reasoning is irrational,
9 unclear, or not supported by the data it purports to interpret.” *Id.*; *Nw. Coal. for Alts.*
10 *to Pesticides v. EPA*, 544 F.3d 1043, 1052 n.7 (9th Cir. 2008).

11 An agency’s “explanation must be evidenced from the listing decision itself,”
12 although an agency may incorporate a separate, fully-reasoned document by reference.
13 *See Haaland*, 998 F.3d at 1068 (quoting *Zinke*, 900 F.3d at 1069). However, an
14 agency may not raise new reasoning or provide new explanations in subsequent
15 briefing; “an agency’s action must be upheld, if at all, on the basis articulated by the
16 agency itself, not post-hoc rationalizations.” *Zinke*, 900 F.3d at 1069 (quoting
17 *Greater Yellowstone*, 665 F.3d at 1027 n.4).

18 V. MOTIONS FOR SUMMARY JUDGMENT

19 Guardians moves for summary judgment challenging the 12-Month Finding as
20 arbitrary and capricious and violating the ESA. (GMSJ 1.) It requests that the Court
21 set aside the Service’s finding that the Joshua tree does not warrant listing as
22 threatened under the ESA, and remand to the Service with directions to prepare a new
23 finding that addresses these deficiencies. (*Id.*) The Service also moves for summary
24 judgment on the basis that the record supports its determination that listing the Joshua
25 tree as threatened is “not warranted.” (SMSJ 1.)

26 Guardians contends the Service did not utilize the best available science as
27 required by the ESA in making its determination because it irrationally disregarded
28 relevant climate models and ignored key scientific findings. More specifically,

1 Guardians argues: (A) the best available science shows the Joshua tree is threatened
2 by climate change, wildfire, habitat loss, low germination, slow growth, and limited
3 capacity to migrate, and the Service disregarded these threats and their cumulative
4 impact; (B) the Service’s finding that YBR is not threatened throughout a “significant
5 portion of its range” is inconsistent with the best available science and therefore
6 contrary to law; and (C) the Service failed to evaluate threat Factor D, which
7 considers whether the lack of existing regulatory mechanisms for addressing climate
8 change threatens the Joshua tree. (*See* GMSJ.) The Service argues it considered the
9 best available data and concluded none of the threats, individually or in combination,
10 rendered the Joshua tree likely to become in danger of extinction in the foreseeable
11 future, throughout all or a significant portion of its range. (SMSJ 1.)

12 **A. Best Available Science**

13 The ESA requires the Service to make its listing determinations “solely on the
14 basis of the best scientific and commercial data available” because of any one or a
15 combination of the following five factors:

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

20 16 U.S.C. § 1533(a)(1), (b)(1)(A); 50 C.F.R. § 424.11(c).

21 To comply with the ESA’s “best available science” standard, the agency
22 “cannot ignore available biological information [or] studies, even if it disagrees with
23 or discredits them.” *Zinke*, 900 F.3d at 1060 (quoting *San Luis & Delta-Mendota*
24 *Water Auth. v. Locke*, 776 F.3d 971, 995 (9th Cir. 2014)). The agency must
25 “thoroughly evaluate[] and incorporate[] the data” from contrary studies in “making
26 its listing decision.” *Kern Cnty. Farm Bur. v. Allen*, 450 F.3d 1072, 1081 (9th Cir.
27 2006). The ESA does not require that the data be conclusive or ironclad, *Alaska Oil &*
28 *Gas Ass’n v. Pritzker*, 840 F.3d 671, 681 (9th Cir. 2016), and “[e]ven if the available

1 scientific and commercial data were quite inconclusive, [the agency] may—indeed
2 must—still rely on it,” *Sw. CBD v. Babbitt*, 215 F.3d 58, 60 (D.C. Cir. 2000). To the
3 extent there are uncertainties, the agency must “explain why the uncertainty . . . favors
4 not listing” the species. *See Zinke*, 900 F.3d at 1073.

5 *I. Best Available Science—Climate Change*

6 The Service found that Joshua trees are not adversely affected by climate
7 change to warrant listing them as threatened. (*See* SSR6939–40.) Guardians contends
8 this conclusion is contrary to the best available science because every peer-reviewed
9 Species Distribution Model (“SDM”) predicts that climate change will cause
10 substantial, widespread losses of suitable habitat for the Joshua tree. (GMSJ 11–14
11 (discussing five recent, available, sophisticated SDMs showing widespread loss of
12 suitable Joshua tree habitat by the end of the century due to climate change, which the
13 Service did not address).⁴) Guardians argues the Service disregarded these SDMs and
14 other best available science and commercial data without a rational basis.

15 The Service admits it did not consider these SDMs but claims this was because
16 the cited studies focus on specific portions of Joshua trees’ range and could not be
17 reliably extrapolated to the whole range. (SMSJ 9.) The Service argues the lack of
18 range-wide demographic data for Joshua trees prevents it from validating such an
19 extrapolation, making any resulting prediction unreliable. (*Id.*) The Service also
20 claims it did not use these SDMs because they are based on short-term demographic
21 monitoring, which does not capture the necessary long-term timeframe. (*Id.* at 9–10.)

22 The Service has discretion to determine what studies and models constitute the
23 best available data. *See Zinke*, 900 F.3d at 1068. However, these post hoc
24 rationalizations for disregarding the SDMs are not evidenced in the 12-Month
25 Finding, as required. *Id.* at 1068–69 (explaining that an agency’s reasoning must be
26 evidenced in decision document itself). And although the 12-Month Finding

27 _____
28 ⁴ The five SDMs discussed are Shafer 2001, Dole 2003, Cole 2011, Barrows 2012, and Sweet 2019.
(*See* GMSJ 11–14; SSA7069–78 (References cited); Compl. ¶ 4 n.2 (citing Sweet 2019); *see also*
AR7509–16 (Barrows 2012), 7965–77 (Cole 2011), 8201–10 (Dole 2003), 16634–48 (Sweet 2019).)

1 incorporates the SSA, the Service’s explanations for disregarding these SDMs are not
2 found there either. In its motion, the Service supports its explanations with citation to
3 various studies found in the AR but does not identify anywhere in the 12-Month
4 Finding or SSA where it considered the SDMs’ contrary data. Indeed, a review of the
5 SSA reveals the Service did not evaluate the SDMs, acknowledge their contrary data,
6 or explain why the Service disregarded this apparently material data. *See id.* (stating
7 that an agency cannot ignore available material studies, even if it disagrees with them,
8 and must address contrary data).

9 Furthermore, the SSA appears to selectively rely on portions of these studies to
10 support its non-listing determination despite failing to address their contrary findings.
11 For instance, the Service relies on Cole 2011 for its data on historical distribution,
12 seedling survival, and demographics, (SSA6972, 6981, 6989–90), but ignores the rest
13 of that study, including the study’s predictions regarding significant climate-change-
14 driven habitat loss, (*see* AR7971 (Cole 2011, projecting “severe decline” in
15 climatically suitable habitat by 2070 to 2099, “perhaps to as little as 10% of its
16 current range”)). The Service also appears to rely on Barrows 2012 for its conclusion
17 that potential “climate-change refugia,” or suitable future habitat, will be available,
18 but merely notes without discussion the study’s prediction of a 90% loss in habitat due
19 to climate change. (*See* SSA7051 (explaining that “finer-scale modelling . . .
20 indicated there may be some areas of climate-change refugia . . . so we assume . . .
21 Joshua trees will continue to persist in these areas”); SSA7001–02, 7014 (noting
22 90% habitat loss without analysis).) Selective reliance like this, without explanation,
23 is arbitrary and capricious. *See Zinke*, 900 F.3d at 1069 (“By failing to consider the
24 [study’s contrary evidence], [the Service] acted in an arbitrary and capricious
25 manner.”).

26 To support its omission of these studies’ data, the Service also cites one
27 paragraph in the SSA that mentions general criticisms of SDMs. (SMSJ 9 (citing
28 SSA7036 (discussing criticisms of studies from 2003 and 2009)).) As Guardians note,

1 these criticisms mostly predate the studies at issue here. (*See* GMSJ 14 n.6 (“[T]hese
2 purported critiques pre-date the most sophisticated SDMs by [Cole 2011,
3 Barrows 2012, and Sweet 2019].”)) Regardless, the Service fails to direct the Court
4 to any section of the SSA that discusses the above newly-raised concerns regarding
5 extrapolation or validation and it fails to explain its selective reliance on these studies.
6 (*See* SMSJ 9–15.) Consequently, the Court finds that the Service selectively relied on
7 beneficial data and failed to consider and evaluate the contrary data in the SDMs or
8 adequately explain, in the SSA or 12-Month Finding, why they were disregarded. In
9 this failure, the Service acted in an arbitrary and capricious manner. *See Zinke*,
10 900 F.3d at 1069.

11 This is not the Service’s only weakness concerning climate change impacts. In
12 concluding that climate change will not affect Joshua trees at a population- or species-
13 level, the Service relies on speculation and unsupported assumptions. For instance,
14 the Service states as fact that 138°F is the upper “appropriate temperature range” for
15 the species to survive, (SSA6992), and notes it cannot determine a maximum
16 temperature in an environmental setting, (SSA7037), but still appears to reason, based
17 on the upper temperature range of 138°F, that the species as a whole will tolerate
18 increased environmental temperatures from climate change, (*see* SSR6939). To
19 support the 138°F tolerance level, the Service cites a carbon dioxide laboratory study
20 from 1983 in which detached Joshua tree leaves were placed in hot water for an hour
21 and then examined for heat damage. (SSA6992 (citing Smith 1983, available in the
22 record at AR12833, 12838).) The Service does not explain how leaf cell damage from
23 hot water supports species tolerance at increased environmental temperatures in
24 drought conditions, or how an isolated leaf can be extrapolated to the trees’ or the
25 species’ responses. As the Service fails to articulate a rational connection between the
26 facts and the Service’s conclusion that Joshua trees will be able to survive, reproduce,
27 and persist at 138°F, the Court finds this conclusion unsupported and, therefore,
28 arbitrary and capricious. *See Greater Yellowstone*, 665 F.3d at 1023.

1 Another example is the Service’s contention that Joshua trees will be able to
2 migrate to climate refugia when its current habitat contracts. (SMSJ 10–13.) But the
3 study on which the Service relies for its historical distribution also provides that the
4 species has an “extremely limited” capacity to migrate. (AR7973 (Cole 2011).) This
5 study reveals that Joshua trees have migrated, at most, approximately 2m or 6.5ft⁵ per
6 year over the last 11,700 years, making meaningful migration unlikely. (*See id.*)
7 Further, the Service fails to acknowledge or consider reports that much of the
8 identified “refugia” has already burned. (*See* GMSJ 17 (citing AR5127 (National
9 Park Service’s Partner-Review of SSA, which notes “50% of . . . suitable habitat has
10 already been impacted by wildfire”)).) The Service contends its conclusion regarding
11 migration is supported by studies showing: (i) pollinator moths have moved with the
12 trees in the past, (ii) strong seedling recruitment has been found in Joshua Tree
13 National Park, and (iii) increased atmospheric carbon dioxide from climate change
14 may benefit the species’ survival. (*See* SMSJ 11 (citing AR16058 (moths), AR7515
15 (seedlings), AR19635–44 (carbon dioxide).) None of this explains how a species that
16 is historically “extremely limited” in its ability to migrate will somehow save itself
17 from the projected “massive declines” in suitable habitat before the turn of the
18 century. (*See* AR5127.)

19 Ultimately, the Service’s conclusion that the Joshua tree will be able to migrate
20 to climate refugia and survive beyond its contracting habitat appears inadequately
21 supported and counter to the data on which it relies. *See Zinke*, 900 F.3d at 1067
22 (finding arbitrary and capricious the conclusion that a species would be able to
23 migrate to more suitable habitats when it had historically been incapable); *Greater*
24 *Yellowstone*, 665 F.3d at 1023 (stating that an agency must articulate a rational
25 connection between the facts found and the conclusions made).

26 For these reasons, the Service’s determination that climate change does not
27 threaten Joshua trees so as to warrant listing is arbitrary and capricious.

28 _____
⁵ A migration rate of 6.5ft per year permits Joshua trees to migrate about 500 feet by the year 2200.

1 2. *Best Available Science—Wildfire*

2 The Service concluded that the current and future risk of wildfire does not pose
3 a significant threat to Joshua trees. (*See* SSR6937–39.) Guardians contends the
4 Service arbitrarily dismissed and downplayed the fire threat from invasive grasses.
5 (*See* GMSJ 18–21.) Guardians argues the Service underrepresented the threat from
6 fire and that the record contradicts the Service’s conclusion that “more frequent, larger
7 fires will only affect” an insignificant portion of the population. (*Id.* (citing
8 AR14840–41, 14845–50 (Service experts’ findings), AR0956–59 (2017 Rapid
9 Assessment on fire risk), and AR5100–01, 5126–28, 5430–31 (peer- and partner-
10 review reports criticizing the Service’s underrepresentation of fire risk)).) The
11 Service’s conclusions regarding fire threat appear disconnected from the data on
12 which they rely, and therefore underrepresent the threat from fire in several ways.

13 First, regarding invasive grasses, the Service relies on Bureau of Land
14 Management (“BLM”) invasive grass models to evaluate Joshua trees’ future
15 vulnerability to fire. (SSA7033, 7055.) The BLM found that “even *trace amounts* of
16 invasive grasses can effectively alter the historical fire regime. (AR8070–71 (BLM
17 study) (emphasis added).) Despite this, the Service concluded that invasive grasses
18 would need to be a much higher amount of ground cover—at least 15–25% or even
19 25–45%—to alter the fire regime and create vulnerabilities in Joshua trees. (*See*
20 SSA7033–35, 7056–57.) The Service also discusses how invasive grasses are
21 accelerating and fueling larger and more severe wildfires. (*See* SSA7049, 7055.) Yet,
22 it then concludes the fire threat is limited because the Service expects the historical
23 trend of infrequent fire recurrence to continue in the coming century. (*See*
24 SSA7055–57 (discussing a 300–500 year fire frequency historical trend).) The Court
25 recognizes that acceleration of fire threat is not necessarily inconsistent with
26 maintenance of historical fire frequency, but the Service fails to explain how the fire
27 threat can be both accelerating and maintaining its return frequency. These
28 conclusions do not follow from the data on which they purport to rely and the

1 Service’s failure to explain its reasoning on these points precludes “meaningful
2 judicial review.” *See Zinke*, 900 F.3d at 1069.

3 Another apparent contradiction concerns the Service’s conclusions of Joshua
4 trees’ fire resiliency. The Service expressly finds that Joshua trees “are generally not
5 well adapted to fires, with resulting high mortality rates, particularly those plants in
6 smaller size classes.” (*See* SSA6999–7000 (“[T]he high mortality recorded in this
7 study is consistent with high mortality documented in other studies, including
8 90 percent mortality 6 years after a fire in Joshua Tree National Park and
9 64–95 percent mortality . . . between 1–47 years after” other California fires).) At the
10 same time, the Service contends that Joshua trees have shown “fire resiliency” by
11 resprouting in burned areas and that adult trees can “quickly re-establish” after a fire.
12 (DMSJ 15.) The study on which the Services relies does not actually go this far;
13 rather, in considering adult trees “that sprout after burn injury,” it finds *those* trees
14 “are able to quickly reestablish as reproductive adults.” (*See* AR8197
15 (DeFalco 2010).)⁶ The Service does not discuss what ratio of adult trees are likely to
16 sprout after burn injury compared to those that will not, nor does it explain how the
17 documented high mortality rate figures into that ratio. Thus, the “reasoning is . . . not
18 supported by the data it purports to interpret.” *See Nw. Coal.*, 544 F.3d at 1052 n.7.

19 The Service contends that fire threat studies are complex and often conflicting
20 so the Court should defer to the Service. (S.Opp’n 16–17.) The Court acknowledges
21 that numerous complex studies inform the Service’s non-listing decision and the Court
22 does not substitute its own judgment for the Service’s. However, the Court may not
23 defer to the Service when, as is the case here, its conclusion does not follow from the
24 cited facts, nor may the Court supply a reasoned explanation when the Service has not
25 provided one. *See Nw. Coal.*, 544 F.3d at 1048, 1052 n.7.

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⁶ Notably, the Service criticizes Guardians for extending the DeFalco 2010 study beyond its data.
(*See* DMSJ 15–16.)

1 As the Service fails to articulate a rational connection between its fire threat
2 conclusions and the data on which it purports to rely, the Court find its conclusions
3 arbitrary and capricious. *See Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 43 (stating that
4 an agency's determination is arbitrary and unlawful when it fails to articulate a
5 rational connection between the record and the decision).

6 **B. YBR—Significant Portion of Range**

7 “A species is . . . threatened if it is ‘likely to become an endangered species
8 within the foreseeable future throughout all or a significant portion of its range.’”
9 *Haaland*, 998 F.3d at 1063. The Service identified “biologically significant” threats to
10 the western portion of YBR’s southern population⁷ from wildfire and habitat loss due
11 to urban development. (SMSJ 6–7 (citing SSR6951–52).) However, the Service
12 concluded that this area of concentrated threats “is not significant” and therefore YBR
13 “is not in danger of extinction or likely to become so” in “any significant portion of its
14 range.” (SSR6952.)

15 The Service created two predictive increased-temperature scenarios to
16 determine future threats to the species in a given range. The first scenario (Scenario I)
17 utilized an increase of 1–2°C, generally, and the second (Scenario II) utilized an
18 increase of 3°C, generally. (SSA7041.) In YBR’s southern population (“YBR
19 South”), Scenario I resulted in a 21.7% loss of suitable habitat; Scenario II resulted in
20 a 41.6% loss. (SSA7047.) This represents 13.8% and 26.3% of the total range,
21 respectively. (*Id.*) The Service explains it found this loss insignificant because,
22 although it will occur throughout an area of approximately 3.7 million acres, the
23 biologically significant threat from wildfire and urban development would occur only
24 at the perimeter. (SMSJ 24–25 (citing SSA7001, 7050; SSR6952).) These
25 explanations are rationally connected to the underlying data and found in the SSA.
26 Although the Court finds it difficult to accept that a 41.6% loss of southern range

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28 ⁷ The Service divided the range into six regions, with YBR classified as either “North” or “South.”
(*See* SSA6975.)

1 habitat can be “insignificant,” the Service has reasonably explained how it reached
2 this conclusion and the Court will not substitute its judgment.

3 However, the Service also asserts this 41.6% loss is “no[t] significant” because
4 it is not a “complete[] loss,” as the species will continue, “albeit at lower densities.”
5 (S.Opp’n 20–21 (citing SSA7050–52).) But listing a species as threatened does not
6 require a complete loss: “The Service need not wait until a species’ habitat is
7 destroyed to determine that habitat loss” may endanger the species. *Alaska Oil*,
8 840 F.3d at 683. Therefore, to the extent the Service rests its finding on the absence
9 of a “complete loss,” the Court finds its conclusion not in accordance with established
10 law. *See id.* at 683–84.

11 Finally, and most critically here, when the Service disregarded the SDMs
12 discussed above, it also ignored those studies’ forecasted habitat decline, including
13 projected habitat loss in YBR South. (*See* GMSJ 23–25.) Several of those studies
14 projected the nearly complete loss of YBR South by the end of the century. (*See*
15 G.Opp’n 23 (discussing the 90 to 99.8% projected loss of YBR South habitat in
16 Cole 2011, Barrows 2012, and Sweet 2019).) As the Service failed to address the
17 SDMs’ significant projected habitat loss, it also necessarily failed to rationally explain
18 whether that loss constituted a “significant portion of the range.”

19 The Service failed to consider the SDMs or explain why they were disregarded,
20 and this failure renders the Service’s conclusion that YBR is not threatened
21 throughout a significant portion of its range arbitrary and capricious.

22 **C. Factor (D)—Existing Regulatory Mechanisms**

23 The Service must make its listing determinations based on any one or
24 combination of the five threat factors, the fourth of which is “(D) the inadequacy of
25 existing regulatory mechanisms.” 16 U.S.C. § 1533(a)(1)(D).

26 Guardians argues the Service must evaluate Factor D independently, and that
27 the Service failed to consider the threat posed to Joshua trees from inadequate existing
28 regulatory mechanisms addressing climate change. (GMSJ 25.) The Service contends

1 it considered existing regulatory mechanisms and that “existing regulations can only
2 be inadequate where they are insufficient to militate a species’[s] slide to extinction.”
3 (SMSJ 21–22.) Because the Service concludes Joshua trees are not sliding into
4 extinction, it contends existing regulatory mechanisms necessarily cannot be
5 inadequate. (SMSJ 20–22; S.Opp’n 22.)

6 Regardless of which interpretation of Factor D is correct, the Service *did*
7 consider existing regulatory mechanisms and protecting Joshua trees. (*See*
8 SSR6942–43; SSA7006–07.) The regulatory mechanisms include federal, state, and
9 local protections, and nothing suggests the Service’s conclusion that these
10 mechanisms are acting as intended is unreasonable. Still, Guardians is correct that
11 none of the regulations cited pertains specifically to *climate change*. (*See id.*) In any
12 event, the Service’s conclusion that existing regulatory mechanisms are adequate is
13 premised on its determination that threats to Joshua trees do not warrant its listing. As
14 discussed above, the Court finds this determination arbitrary and capricious and
15 therefore remands for reconsideration. On remand, the Service should consider the
16 adequacy of existing regulatory mechanisms *pertaining to climate change*.

17 **D. Conclusion—Motions for Summary Judgment**

18 In summary, the Court **GRANTS** Guardians’s Motion for Summary Judgment,
19 **DENIES** the Service’s Motion for Summary Judgment, sets aside the Service’s
20 12-Month Finding as arbitrary, capricious, and contrary to the ESA, and remands to
21 the Service for reconsideration in light of the foregoing. Specifically, the Court finds:

- 22 (i) the Service’s climate change conclusions are arbitrary and capricious
23 because the Service disregarded material data (the SDMs) and failed to
24 explain why;
- 25 (ii) the Service’s findings regarding threats posed by climate change and
26 wildfire are unsupported, speculative, or irrational; and
- 27 (iii) the Service’s conclusion that Joshua trees are not threatened in a
28 significant portion of their range is arbitrary and capricious.

The Court need not and does not determine whether Factor D must be
considered independently or may be considered in conjunction with other statutory

1 factors. Nevertheless, on remand, the Service should consider the adequacy of
2 existing regulatory mechanisms regarding *climate change*.

3 VI. AMICUS MOTION

4 Proposed Amicus QuadState moves for leave to file an amicus brief in support
5 of the Service’s Motion for Summary Judgment. (*See Mot.*) It attached its proposed
6 brief to its Motion. (*See Proposed Amicus Br.*, ECF No. 47-2.) QuadState is an
7 interstate joint powers organization representing the interests of its seven local
8 government and one city members throughout the range and distribution of the Joshua
9 tree. (*Mot. 2*). QuadState asserts it has an interest here because setting aside the
10 12-Month Finding—and presumably the potential listing of the Joshua tree as
11 threatened—would impede its members’ ability to provide public services and would
12 require them to expend scarce resources. (*Id.* at 3.) Quadstate’s Motion is unopposed.

13 “The district court has broad discretion to appoint amici curiae.” *Hoptowit v.*
14 *Ray*, 682 F.2d 1237, 1260 (9th Cir. 1982), *abrogated on other grounds by Sandin v.*
15 *Conner*, 515 U.S. 472 (1995). “There are no strict prerequisites that must be
16 established prior to qualifying for amicus status; an individual seeking to appear as
17 amicus must merely make a showing that his participation is useful to or otherwise
18 desirable to the court.” *In re Roxford Foods Litig.*, 790 F. Supp. 987, 997 (E.D. Cal.
19 1991) (citation omitted). Courts have granted amicus status “when the amicus has
20 unique information or perspective that can help the court beyond the help that the
21 lawyers for the parties are able to provide.” *Cnty. Ass’n for Restoration of Env’t v.*
22 *DeRuyter Bros. Dairy*, 54 F. Supp. 2d 974, 975 (E.D. Wash. 1999) (citing *Miller-Wohl*
23 *Co. v. Comm’r of Labor & Indus.*, 694 F.2d 203, 204 (9th Cir. 1982)). Although some
24 courts disfavor amicus participation, this Court has generally found it preferable to err
25 on the side of permitting such briefs. *See Duronslet v. County of Los Angeles*,
26 No. 2:16-cv-08933-ODW (PLAx), 2017 WL 5643144, at *1 (C.D. Cal. Jan. 23, 2017).

27 The majority of QuadState’s members “own public lands that are within the
28 range of the Joshua tree.” (*Mot. 2*.) QuadState maintains that the existing parties to

1 this litigation do not adequately represent the interest of local governments, which is
2 to ensure local governments “retain authority to continue providing essential services
3 to [their] constituents.” (*Id.* at 8.) QuadState members’ interests may be affected by a
4 decision in this case as local governments often bear the burden of managing natural
5 resources within their jurisdictions. QuadState members are also responsible for
6 ensuring compliance within those jurisdictions of any regulations imposed related to
7 an ESA listing. They therefore have interests that may be affected by the outcome of
8 the Court’s decision in this case and a unique perspective beyond those of the parties.

9 Accordingly, QuadState’s Motion for Leave to File an Amicus Brief is
10 **GRANTED.** (ECF No. 47.) The Court has considered the proposed brief to the
11 extent found useful.

12 **VII. CONCLUSION**

13 For the reasons discussed above, the Court **GRANTS** Guardians’s Motion for
14 Summary Judgment, (ECF No. 42), **DENIES** the Service’s Motion for Summary
15 Judgment, (ECF No. 46), and **GRANTS** QuadState’s Motion for Leave to File an
16 Amicus Brief, (ECF No. 47.) The Court **SETS ASIDE** the Service’s 12-Month
17 Finding as arbitrary, capricious, and contrary to the ESA, and **REMANDS** to the
18 Service for reconsideration pursuant to the above.

19
20 **IT IS SO ORDERED.**

21
22 September 20, 2021

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25 _____
26 **OTIS D. WRIGHT, II**
27 **UNITED STATES DISTRICT JUDGE**
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