

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

CENTER FOR BIOLOGICAL DIVERSITY,
P.O. Box 11374
Portland, OR 97211,

Plaintiff,

v.

U.S. FISH AND WILDLIFE SERVICE,
1849 C Street NW
Washington, D.C. 20240,

and

MARTHA WILLIAMS, in her official
capacity as Director of the U.S. Fish and
Wildlife Service,
1849 C Street NW
Washington, D.C. 20240,

Defendants.

**COMPLAINT FOR DECLARATORY
AND INJUNCTIVE RELIEF**

Case No. 24-cv-1328

INTRODUCTION

1. In this action, Plaintiff Center for Biological Diversity (“the Center”) challenges the United States Fish and Wildlife Service’s (“USFWS” or “the Service”) decision to deny listing protections under the Endangered Species Act (“ESA”), 16 U.S.C. §§ 1531 et seq., to the Berry Cave salamander (*Gyrinophilus gulolineatus*). *See* Endangered and Threatened Wildlife and Plants; Twelve Species Not Warranted for Listing as Endangered or Threatened Species, 84 Fed. Reg. 53,342 (Oct. 7, 2019) (“not-warranted finding”).

2. Eight years before the not-warranted finding, the Service determined that this rare and elusive cave salamander, which is found only in a handful of caves in East Tennessee, warranted listing under the ESA as a threatened or endangered species due to imminent threats from habitat loss and degradation, including chronic lye leaching in Meads Quarry Cave from past quarrying activities, highway development and urban growth in Knox County, and water quality impacts despite existing state and federal laws.

3. In the interim period between that decision and the 2019 not-warranted finding, the Service consistently reaffirmed that the salamander warranted listing, and the urban Knoxville area, where seven of the salamander's nine known caves are found, saw an explosion of urban and residential development and attendant impacts on habitat and water quality degradation. The salamander's observed population in Meads Quarry Cave—historically one of the salamander's two relative strongholds—declined significantly.

4. Despite this, the Service suddenly reversed course in 2019 and determined that listing the salamander under the ESA was not warranted. The Service made this decision during a time when its Southeast Regional Office was implementing an internal policy goal of downlisting, delisting, or precluding from listing thirty species each year.

5. In its not-warranted finding, which failed to reconcile the agency's change in position with the reality on the ground, the Service ignored the best available science on the salamander's population declines and threats to the species and improperly relied on hypothetical future conservation actions to determine that the salamander would likely continue to persist into the foreseeable future.

6. To remedy these violations, the Center seeks declaratory and injunctive relief holding the Service's not-warranted finding to be unlawful, vacating the finding, and remanding

the matter back to the Service with direction to issue a new finding on whether the salamander warrants protection under the ESA as a threatened or endangered species by a date certain.

JURISDICTION AND VENUE

7. This Court has jurisdiction pursuant to 28 U.S.C. § 1331 (federal question); 28 U.S.C. § 2201 (declaratory relief); 28 U.S.C. § 2202 (injunctive relief); 16 U.S.C. §§ 1540(c) and (g) (ESA district court jurisdiction and citizen suit jurisdiction); and 5 U.S.C. §§ 701–06 (Administrative Procedure Act).

8. Pursuant to the ESA citizen suit provision, 16 U.S.C. § 1540(g), the Center furnished the U.S. Secretary of the Interior and USFWS Director with written notice of its intent to bring suit for the violations of law alleged in this Complaint on February 13, 2024, more than sixty (60) days ago. *See* Exhibit A. The Secretary and the USFWS Director each received the notice on February 20, 2024. *See* Exhibit B.

9. Venue is proper in this district pursuant to 16 U.S.C. § 1540(g)(3)(A) and 28 U.S.C. § 1391(e) because this action is brought against an agency of the United States and officers or employees of the United States acting in their official capacities and under color of legal authority, and because no real property is involved in this action. Plaintiff also maintains an office in this judicial district.

PARTIES

10. Plaintiff CENTER FOR BIOLOGICAL DIVERSITY is a nonprofit organization dedicated to the protection and recovery of imperiled species and their ecosystems through science, policy, and the law. The Center was founded in 1989, and is based in Tucson, Arizona with several offices throughout the United States, including in Washington, D.C. The Center has

more than 79,000 members, including many who reside and recreate in the range of the Berry Cave salamander.

11. The Center brings this action on its own organizational behalf and on behalf of its staff and members who maintain professional, scientific, recreational, aesthetic, educational, spiritual, and other legally protected interests in the Berry Cave salamander and its habitat. The Center's members and staff live near and/or regularly visit areas where the Berry Cave salamander is known or believed to exist, in hopes of viewing this increasingly rare species.

12. The Center and its members and staff have participated in efforts to protect and preserve the Berry Cave salamander and its habitat and have been seeking ESA protections for the Berry Cave salamander for more than 20 years. For example, Center member Dr. John Nolt petitioned the Service to list the Berry Cave salamander as threatened or endangered under the ESA on January 22, 2003. The Service, however, failed to act on Dr. Nolt's petition and only issued a 90-day finding on the petition more than seven years later as a result of legal action brought against it by the Center. *See* Complaint, *Center for Biological Diversity v. Salazar*, 10-cv-00230 (D.D.C. Feb. 17, 2010); Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition to List the Berry Cave Salamander as Endangered, 75 Fed. Reg. 13,068 (March 18, 2010).

13. Dr. Nolt continues to live near the habitat of the Berry Cave salamander in the Knoxville area and has previously observed the Berry Cave salamander in Meads Quarry Cave. Dr. Nolt regularly walks the trails in forested areas adjacent to the entrances of the salamander's known caves and derives enjoyment from knowing that the health of this area, which provides water and detrital inputs to the caves that the salamander requires for its survival, is inextricably connected with the salamander's habitat within the cave itself.

14. Other members such as herpetologist Will Harlan, M.S., who serves as the Center's Southeast Director and Senior Scientist, enjoy visiting known salamander sites to attempt to view the rare salamanders within the flooded caves that they inhabit. Mr. Harlan has observed the Berry Cave salamander in Meads Quarry Cave with his son and enjoys travelling to and caving in eastern Tennessee in hopes of observing unique cave-dwelling species such as the salamander.

15. The Center and its members have been, are being, and, unless the relief requested is granted, will continue to be adversely and irreparably injured by Defendants' not-warranted finding on the Berry Cave salamander listing petition and their refusal to list the Berry Cave salamander as an endangered or threatened species and provide it with protections under the ESA. These are actual, concrete injuries to the Center and its members, caused by Defendants' arbitrary and capricious decision-making and failure to comply with the ESA and its implementing regulations and policies. The relief sought in this Complaint—including an Order vacating the not-warranted finding and remanding it to the Service to issue a new finding based on the best available scientific data—would redress these harms. The Center and its members have no other adequate remedy at law.

16. Defendant U.S. FISH AND WILDLIFE SERVICE is a federal agency located within the U.S. Department of the Interior. The Service is a federal agency to which the Secretary of the Interior has delegated responsibility for administering the ESA's provisions for terrestrial wildlife and freshwater aquatic species such as the Berry Cave salamander.

17. Defendant MARTHA WILLIAMS is named in her official capacity as Director of the U.S. Fish and Wildlife Service. As such, she is charged with administering the ESA as it applies to terrestrial animals and freshwater aquatic species such as the Berry Cave salamander.

LEGAL BACKGROUND

Endangered Species Act

18. Congress passed the ESA to “provide a program for the conservation of . . . endangered species and threatened species” and to “provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.” 16 U.S.C. § 1531(b). To receive the full protections of the ESA, a species must first be listed by the Secretary as “endangered” or “threatened” pursuant to Section 4 of the Act. *Id.* § 1533.

19. An “endangered” species under the ESA “means any species which is in danger of extinction throughout all or a significant portion of its range.” 16 U.S.C. § 1532(6). A “threatened” species “means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” *Id.* § 1532(20).

20. The Service must consider whether a species is threatened or endangered because of any one or a combination of five statutory listing criteria:

- (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; and
- (E) other natural or manmade factors affecting its continued existence.

Id. § 1533(a)(1).

21. The Service must base all listing determinations “solely on the basis of the best scientific and commercial data available.” *Id.* § 1533(b)(1)(A).

22. The Service’s determination as to whether a species is threatened or endangered is guided in part by its Policy on Evaluation of Conservation Efforts When Making Listing Determinations (“PECE”). 68 Fed. Reg. 15,100 (March 28, 2003). The PECE Policy directs that “conservation efforts that are not sufficiently certain to be implemented and effective cannot

contribute to a determination that listing is unnecessary or a determination to list as threatened rather than endangered.” *Id.* at 15,115.

23. The requirement that the Service rely on the “best scientific and commercial data available,” 16 U.S.C. § 1533(b)(1)(A), means that the Service must act based on the science available to the agency, and cannot dismiss threats to or refuse to list a species based on uncertainty alone.

24. If the Service issues a finding that listing the species is “warranted,” it must publish a proposed rule to list the species as endangered or threatened in the Federal Register. 16 U.S.C. § 1533(b)(5). Within one year of publishing a proposed rule to list a species, the Service must issue a final rule listing the species and designating critical habitat for it. *Id.* §§ 1533(a)(3), (b)(6)(A), (C).

25. Once a species is listed as “endangered” or “threatened” under the ESA, it is protected under the Act’s substantive and procedural provisions. The ESA prohibits any federal agency from taking any action found “likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical habitat].” *Id.* § 1536(a)(2). The ESA also makes it unlawful for any person to “take”—*i.e.*, injure or kill—a member of an endangered species. *Id.* § 1538(a)(1)(B); *see id.* § 1532(19).

26. To ensure the timely protection of species at risk of extinction, the ESA sets forth a detailed process by which citizens may petition the Service to list a species under the ESA, and the Service must review and make findings on the petitioned-for species within certain statutory deadlines. *Id.* § 1533(b)(3).

27. Within ninety days of receiving a listing petition, the Service “shall make a finding as to whether the petition presents substantial scientific or commercial information

indicating that the petitioned action may be warranted.” *Id.* § 1533(b)(3)(A). “If such a petition is found to present such information, [the Service] shall promptly commence a review of the status of the species concerned[,]” known as a “status review.” *Id.*

28. Upon completing the status review, and within twelve months of receiving the petition, the Service shall make and promptly publish a finding as to whether the proposed action is either “warranted,” “not warranted,” or “warranted, but . . . precluded by [other] pending [listing] proposals . . .” *Id.* § 1533(b)(3)(B).

29. If the Service determines that listing the species as threatened or endangered is “warranted but precluded,” however, it must treat the underlying petition as one that has been resubmitted for consideration, triggering a requirement to issue another finding on the petition within twelve months. 16 U.S.C. § 1533(b)(3)(C)(i). If the Service again finds that listing the species is “warranted but precluded,” this subsequent finding has the same legal effect as a new “warranted but precluded” determination.

30. A negative twelve-month finding that listing the species is “not warranted” rejects the petition, ending the review process. A not-warranted finding is subject to judicial review under the ESA. *Id.* § 1533 (b)(3)(C)(ii).

Administrative Procedure Act

31. The lawfulness of the Service’s conduct in making listing determinations is typically reviewed under the Administrative Procedure Act (“APA”), 5 U.S.C. §§ 551 *et seq.*

32. The APA directs a reviewing court to “hold unlawful and set aside agency action, findings, and conclusions” that are “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,” “without observance of the procedure required by law,” or “in excess of statutory jurisdiction, authority, or limitations, or short of statutory right.” 5 U.S.C. § 706(2).

33. An agency action is arbitrary and capricious under the APA where “the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

34. Additionally, “[a]gencies are free to change their existing policies,” but they must “provide a reasoned explanation for the change.” *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2125 (2016).

FACTUAL BACKGROUND

The Berry Cave Salamander and Threats to Its Continued Existence

35. The Berry Cave salamander (*Gyrinophilus gulolineatus*) (“the salamander”) is an aquatic cave-obligate species of lungless salamander that is mauve in color with purple-brown spots on its back and long pink gills that it retains through adulthood. It is endemic to the Appalachian Valley and Ridge physiographic province of eastern Tennessee.

36. The salamander is thought to be long-lived, with a lifespan of 20 years or more. It has been found to reach lengths of up to 9.3 inches—the largest of any cave salamander in North America and of any Plethodontid salamander in the United States.

37. The Berry Cave salamander exists in only nine or fewer caves today.

38. The salamander’s distribution is extremely fragmented, and the caves in which it is believed to persist are generally isolated.

39. The salamander's population size within each cave is understood to be small. In four of the nine caves, no more than one salamander has ever been observed. In seven of the nine caves, no more than six salamanders have ever been found during a single population survey.

40. Additionally, population surveys conducted in 2018 were only able to confirm the salamander's presence in four of those nine caves.

41. Within their caves, individual salamanders are thought to maintain small home ranges from which they rarely stray. No dispersal of Berry Cave salamanders between caves has been observed.

42. The salamander spends its entire life in the caves' subterranean waters and has been found in water depths of up to four meters. The species is sensitive to water pollution and requires sufficient flow of high-quality clean water at all life stages for its survival.

43. The salamander feeds primarily on invertebrates. The availability of the salamander's prey base depends on the inflow of organic detritus to the cave from vegetation present at the watershed's surface. Decreases in forestation surrounding caves harm salamanders by reducing food availability within the cave.

44. Berry Cave salamanders are particularly vulnerable to habitat degradation associated with urbanization and poor silvicultural and agricultural practices, including livestock grazing. These can result in stream flow changes and water contamination from pesticides, fertilizers, animal waste, road runoff, increased sediment and siltation, and other pollutants that inhibit the ability of the salamander to survive, feed, and reproduce in its aquatic cave habitat.

45. Chemical toxicants can directly harm individual salamanders, impairing their ability to grow, survive, and reproduce. Increased siltation and decreased organic inputs reduce the prey base in the salamander's aquatic cave environment and make the water more turbid and

difficult to hunt in while simultaneously impeding respiration through the salamander's gills.

The siltation can also fill in the crevices that the salamander requires for successful egg deposition and can coat and effectively asphyxiate the eggs themselves. Sudden increases in water flow, as results from deforestation and losses of riparian buffers, as well as climate change-induced precipitation shifts, can flush the salamanders and their aquatic invertebrate food base from caves, introduce contaminants into caves at a quicker rate, and potentially allow predatory surface fishes into the salamander's previously inaccessible cave habitat.

46. These threats from urbanization are particularly pressing in the greater Knoxville area, where six of the nine caves are located. The developed area in the range of the Berry Cave salamander that is outside of the metropolitan Knoxville area is expected to double in the next 61 years.

47. Additionally, Berry Cave salamanders may be threatened by hybridization with spring salamanders in Mudflats Cave, Meads Quarry Cave, Meads River Cave, and Small Cave, where the two species are known to coexist.

48. The two caves that have historically had the highest numbers of salamanders—Meads Quarry Cave and Berry Cave—each face additional unique threats.

49. In Meads Quarry Cave, salamanders are harmed by toxic waste leachate that remains in the cave from historic quarry operations. Salamanders found dead in the cave have been observed with caustic chemical burn wounds from contact with the leachate. The water immediately downstream of the leachate source is caustic, with a pH of 10.0 to 12.7. This cave also faces threats from urban encroachment and resulting increases in sediment deposition, water pollution from fecal coliform bacteria amongst other pollutants, potential hybridization with

spring salamanders, and “moderate to high” human visitation that can result in the crushing or collection of salamanders.

50. Water quality sampling at Meads Quarry Cave in June 2018 found bacterial coliform counts of 86,000 to 99,000 colony forming units per 100 mL, indicating that the water is likely contaminated by fecal material.

51. Population survey results in Meads Quarry Cave indicate that the abundance of Berry Cave salamanders in the cave declined by 65% from the mid-2000s to the late 2010s.

52. In Berry Cave, salamanders have been found with nodules of suspected parasitic origin that are believed to be related to water quality declines. Water quality sampling at Berry Cave conducted in June 2018 found high levels of fecal coliform bacteria—coliform counts at 96,000 to 150,000 coliform forming units per 100 mL.

53. Population surveys in Mudflats Cave indicate an 80% decline in salamander abundance from the early 1980s to the late 2010s.

54. In the majority of caves where the Berry Cave salamander is believed to persist, its surveyed numbers have declined over at least the last ten to fifteen years. Only one cave has shown relative stability in population survey results. In four of the nine caves, only one salamander has ever been found.

Listing Petition and Review History

55. On January 22, 2003, Dr. John Nolt, a University of Tennessee professor and Knoxville area resident, petitioned the Service to list the Berry Cave salamander as an endangered or threatened species.

56. After the Service failed to act on the listing petition for more than seven years, the Center for Biological Diversity sued the Service on February 17, 2010, for its unlawful delay in

issuing a 90-day finding on the petition. Complaint, *Center for Biological Diversity v. Salazar*, 10-cv-00230 (D.D.C. Feb. 17, 2010).

57. On March 18, 2010, the Service published a 90-day finding in the Federal Register concluding that Dr. Nolt's petition presented substantial information indicating that listing the salamander may be warranted. 75 Fed. Reg. 13,068 (March 18, 2010).

58. On March 22, 2011, the Service published a finding that listing the salamander under the ESA was warranted but precluded by higher priority species. 76 Fed. Reg. 15,919 (March 22, 2011).

59. The 2011 finding noted that two additional populations had been discovered since the 2003 listing petition—in Aycock Spring Cave and Christian Cave—but still found that the species warranted listing as threatened or endangered. 76 Fed. Reg. at 15,923.

60. Specifically, the 2011 decision found that the present or threatened destruction, modification, or curtailment of the species' habitat or range (Listing Factor A) presented a "significant threat of moderate magnitude" due to increasing development, urbanization, and associated water quality impacts. 76 Fed. Reg. at 15,923.

61. The 2011 decision also specifically found that the salamander was threatened or endangered under Listing Factor D (inadequacy of existing regulatory mechanisms) because habitat degradation and water quality declines were ongoing despite protections afforded by state and federal laws. The Service found the inadequacy of existing regulatory mechanisms to be a significant threat of high magnitude. 76 Fed. Reg. at 15,924.

62. Additionally, the 2011 finding concluded that the salamander was threatened or endangered under Listing Factor E (other natural or manmade factors) because of the risk of

hybridization between Berry Cave salamanders and spring salamanders, especially in Meads Quarry Cave. 76 Fed. Reg. at 15,925.

63. The 2011 finding also discussed how the species is predicted to be particularly vulnerable to the adverse impacts of climate change due to its limited range, limited dispersal ability, and dependence on subterranean aquatic environments in a region where drought has consistently been increasing over the last several decades and is expected to continue to increase, which will impact stream flow volumes and organic input into cave systems. 76 Fed. Reg. at 15,925.

64. The Service further explained that “[b]ecause the available evidence would suggest that the Berry Cave salamander exists in relatively low population densities and distribution is confined to subterranean waters within the Tennessee River and Clinch River watersheds, the species cannot readily tolerate losses of populations *or even many individuals.*” 76 Fed. Reg. at 15,925 (emphasis added) (internal citations omitted).

65. For the next several years, the Service annually reaffirmed the salamander’s status as a candidate species that warranted listing as threatened or endangered, including after noting that the salamander had been discovered in an additional cave—the Lost Puddle Cave—in May 2012.

66. Specifically, the Service maintained the same listing priority for the Berry Cave salamander in agency determinations published in the Federal Register on November 21, 2012 (77 Fed. Reg. 69,994, 70,020); November 22, 2013 (78 Fed. Reg. 70,104, 70,125); December 5, 2014 (79 Fed. Reg. 72,450, 72,467–68); December 24, 2015 (80 Fed. Reg. 80,584, 80,597); and December 2, 2016 (81 Fed. Reg. 87,246, 87,257).

67. No findings of listing priority were made for the salamander in 2017 and 2018 because the Service failed to publish its statutorily required annual findings for any candidate species during that time.

The Service's Unlawful Not-Warranted Finding

68. On October 7, 2019, the Service issued the not-warranted finding concluding that the Berry Cave salamander did not warrant listing as threatened or endangered under the ESA. 84 Fed. Reg. 53,338 (Oct. 7, 2019).

69. The Service published the not-warranted finding for the salamander as part of a batched Federal Register notice containing not-warranted decisions for twelve species, half of which came from the Service's Southeast Region. At that time, the Southeast Region was pursuing what it called a "wildly important goal" of downlisting, delisting, or precluding from listing at least 30 species each year.

70. The Service's not-warranted finding was based primarily on a March 2019 Species Status Assessment Report ("Status Assessment"). The Service also completed a Species Assessment and Listing Priority Assignment Form ("Decision Form") dated May 22, 2019 that summarized the contents of the Status Assessment and concluded that the salamander is not threatened or endangered in all or a significant portion of its range.¹

71. In the Status Assessment, the Service divided the nine known Berry Cave salamander populations into six analysis units ("AUs"): AU1 (Meads Quarry Cave, Meads River Cave, Fifth Entrance Cave), AU2 (Aycock Spring Cave and Christian Cave), AU3 (Berry Cave), AU4 (Mudflats Cave), AU5 (Lost Puddle Cave), and AU6 (Small Cave).

¹ The "not-warranted finding" as discussed in this Complaint incorporates both the finding published in the Federal Register and the Service's Decision Form.

72. While the three caves in AU1 are recognized as being part of the same cave system, the two caves in AU2 are generally thought to be separate systems.

73. The Status Assessment first assessed the salamander's current condition at each AU and then made predictions about the species' future viability at each AU.

74. To help inform this assessment of the salamander's current condition, the Service had available to it the results of recent salamander population surveys undertaken by academic researchers at the University of Alabama in Huntsville and the University of Tennessee, Knoxville in 2018, as well as results of prior salamander population surveys conducted by these researchers and others.

75. Rather than assessing population trends at each AU based on this survey data, however, the Service instead opted to use a "presence/absence" system to assess whether the salamander continued to persist in each AU.

76. The Service did not present or discuss any numeric data on population trends at the salamander's caves in the Status Assessment and not-warranted finding. It did not acknowledge that the observed numbers of salamanders at Meads Quarry Cave had dropped by about 65% since the early 2000s. Nor did it acknowledge the 80% drop in observed salamanders at Mud Flats Cave since the 1980s.

77. The SSA determined the current resiliency of only AU3 (Berry Cave) to be "high;" the resiliency of AU1 (Meads Quarry, Meads River, Fifth Entrance) and AU5 (Lost Puddle) to be "moderate;" and the resiliency of AU2 (Aycock Spring and Christian Caves), AU4 (Mudflats Cave), and AU6 (Small Cave) to be "moderate to low."

78. The Service concluded that the species' redundancy as a whole is currently "moderate to low" and its representation is "not high" due to the species' "low overall adaptive potential."

79. The Service next modeled the salamander's future viability under three different scenarios. Each scenario used the same modeling results for threats from urbanization and climate change and varied only in the level of conservation effort applied.

80. Under all scenarios, the Service found that a "significant level of increase in development is anticipated" adjacent to at least five of the six AUs. This is expected to result in additional long-term habitat degradation and higher levels of water contamination.

81. Likewise, under all scenarios, climate change is expected to cause increases in average and extreme temperatures, leading to lower dissolved oxygen levels and increased pathogen risks; increases in drought that will result in reduced groundwater flow; and extreme precipitation events that will result in increased streambank erosion and sediment deposition, also adversely impacting water quality and flow.

82. Under Scenario 1, however, the Service assumed that limited and unspecified conservation measures in the form of forested riparian habitat maintenance and a "low level of improvement" over current existing levels of conservation would mitigate these impacts from urbanization and climate change. With the help of these unspecified conservation measures, the resiliency level of each AU was projected to remain the same and not decline under this scenario.

83. Under Scenario 2, conservation measures would be implemented to a "greater extent" than in Scenario 1. The Service assumed that a variety of conservation measures would be implemented that would effectively address threats to the species, such as livestock fencing and/or installation of waste-containment structures to reduce agricultural water quality impacts,

expansion of forested riparian zones to restore detrital load, and removal or containment of quarry waste materials to improve water quality in Meads Quarry Cave. Resiliency was projected to improve for half of the AUs under this scenario.

84. The Service did not identify plans or commitments for any of the possible future conservation efforts that it relied upon for Scenarios 1 and 2.

85. Under Scenario 3, conservation measures would remain limited, and no improvements in conservation above the status quo would be assumed as in the other two scenarios. Half of all salamander populations would face potential extirpation under this scenario.

86. The Service then predicted the likelihood of these three scenarios occurring over two different time periods: 11 years and 61 years. At 11 years, without pointing to any evidence for planned or site-specific conservation improvements, the Service predicted that Scenario 1 was very likely to occur, Scenario 2 was likely, and Scenario 3 was unlikely. The Service then concluded that all three scenarios are “as likely as not” to occur at the 61-year timeframe but noted that “because there is potential for implementation of conservation actions, our confidence in scenario 3 transpiring . . . is less than for scenario 2.”

87. The Service acknowledged elsewhere in the Status Assessment that, to date, conservation work in the watersheds occupied by the salamander “has been limited” and that it was “not certain of the Berry Cave salamander’s potential response to conservation measures.”

88. The Service’s not-warranted finding then relied on the future viability modeling in the Status Assessment to conclude that the Berry Cave salamander does not warrant listing as threatened or endangered. The not-warranted finding specifically pointed to the Status Assessment’s analysis of future threats as indicating that stressors are not projected to greatly

reduce the overall species resiliency and that conservation measures are likely to counteract some sources of stress to Berry Cave salamander populations.

89. The Decision Form and not-warranted finding did not identify any planned or proposed conservation efforts for the species. Nor did they assess the adequacy of existing regulatory mechanisms to protect the species.

90. While the Service generally claimed it had developed a better understanding of the Berry Cave salamander since 2011 thanks to additional population surveys and the Status Assessment, it did not offer any explanation or evidence as to why threats previously identified to the species had been adequately addressed or population trends had sufficiently improved since its most recent finding such that the species was no longer at risk of extinction.

91. The Service did not disclose numeric data available to it regarding water pollution, including measures of fecal coliform bacteria contamination in the salamanders' caves.

92. The Service did not explain its conclusions as to why future development in the salamander's habitat would cause only "limited" effects on water quality. Nor did the Service reconcile its acknowledgements in the Status Assessment that climate change could extirpate half of existing salamander populations without additional conservation measures above the status quo with its conclusion that the species is not threatened by climate change.

93. The Service did not present any quantitative analysis of population survey results or measures of population decline. The Service also failed to provide a rationale for its assumption that viable and resilient populations persisted in several caves where only one salamander had ever been observed.

94. By ignoring population trends and relying on persistence, the Service then concluded that the salamander's continued or assumed persistence across the six AUs indicates

that threats to the species are not enough to cause it to be threatened or endangered, because the species' resiliency is sufficient at each AU that the stressors are acting at the individual level and not raising to the population level.

95. Based on these flawed assumptions, and the Status Assessment's reliance on unsubstantiated future conservation actions to address threats to the species, the Service ultimately concluded that the stressors acting on the Berry Cave salamander are not projected to substantially reduce the overall resiliency, redundancy, or representation of the species in the near term or within the next 50 years.

CLAIMS FOR RELIEF

FIRST CLAIM FOR RELIEF:

Defendants Arbitrarily and Capriciously Reversed Their Prior Findings that the Berry Cave Salamander Warranted Listing as Threatened or Endangered

96. Plaintiff incorporates by reference the allegations of the preceding paragraphs as if set forth in full.

97. Under the APA, 5 U.S.C. §§ 551 *et seq.*, a reviewing court shall "hold unlawful and set aside agency action, findings, and conclusions" that are, *inter alia*, "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2).

98. An agency action is arbitrary and capricious under the APA where "the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *State Farm*, 463 U.S. at 43.

99. If an agency chooses to depart from a conclusion it made in a prior instance, it must provide a reasoned explanation for that departure.

100. When making a not-warranted finding, the Service must articulate a satisfactory explanation for its action, including a rational connection between the facts found and the choice made.

101. The Service's not-warranted finding fails to provide a reasoned explanation for the agency's decision to reverse its six consistent findings issued between 2011 and 2016 concluding that the Berry Cave salamander warranted listing as threatened or endangered under the ESA.

102. For these and additional reasons, the Service's not-warranted finding is arbitrary, capricious, an abuse of discretion, and not in accordance with law and should be set aside. 5 U.S.C. § 706(2)(A).

SECOND CLAIM FOR RELIEF:

Defendants Violated the ESA by Relying on Future Hypothetical Conservation Actions to Address Threats to the Berry Cave Salamander

103. Plaintiff incorporates by reference the allegations of the preceding paragraphs as if set forth in full.

104. Section 4 of the ESA requires Defendants to list the Berry Cave salamander as endangered if it is "is in danger of extinction throughout all or a significant portion of its range," and as threatened if it "is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." 16 U.S.C. §§ 1533(a), 1532(6), 1532(20).

105. Defendants must make their listing determination "solely on the basis of the best scientific and commercial data available." 16 U.S.C § 1533(b)(1)(A). Defendants must include in

their determination a summary of the data on which the determination is based and must show the relationship of that data to the listing determination. *Id.* § 1533(b)(8).

106. The Service violated Section 4 of the ESA, 16 U.S.C. § 1533, in issuing its 2019 not-warranted finding because the Service relied on hypothetical future voluntary conservation actions that it deemed necessary to prevent the Berry Cave Salamander from being threatened or endangered without properly considering whether the alleged conservation actions would occur or have the effect of reducing threats to the species. *Id.* §§ 1533(a)(1)(D), (b)(1)(A).

107. Because the Service impermissibly relied on hypothetical, unenforceable, and voluntary conservation efforts to address threats to the salamander, its conclusions violated the ESA and were arbitrary, capricious, an abuse of discretion, and not in accordance with law and should be set aside. *See* 16 U.S.C. § 1533(a)(1), (a)(1)(D); 5 U.S.C. § 706(2).

THIRD CLAIM FOR RELIEF:

Defendants Violated the ESA by Ignoring the Best Available Science and Arbitrarily Evaluating Threats to the Berry Cave Salamander

108. Plaintiff incorporates by reference the allegations of the preceding paragraphs as if set forth in full.

109. The ESA requires the Service to rationally determine, among other things, whether the Berry Cave salamander is threatened by “the present or threatened destruction, modification, or curtailment of its habitat or range,” “disease or predation,” “the inadequacy of existing regulatory mechanisms,” and/or “other natural or manmade factors affecting its continued existence.” 16 U.S.C. §§ 1533(a)(1)(A), (C), (D), (E). The statute further requires that, in doing this, the Service must utilize the “best scientific and commercial data available.” *Id.* § 1533(b)(1)(A).

110. The Service's not-warranted finding fails to provide a rational connection between the threats facing the Berry Cave salamander and the finding that the salamander does not warrant listing as an endangered or threatened species because it fails to rationally apply the five statutory listing factors to the available data and disregards the best available scientific data regarding the status of, and imminent threats to, the species, including small population size, population decline, water pollution, habitat degradation, disease, and climate change; and contradicts the Service's own recognition in the Status Assessment and elsewhere that the Berry Cave salamander is in danger of extinction throughout all or a significant portion of its range from numerous threats.

111. The Service's not-warranted finding therefore violates the ESA and is arbitrary, capricious, an abuse of discretion, and not in accordance with law arbitrary, capricious, an abuse of discretion, and not in accordance with law and should be set aside. *See* 16 U.S.C. § 1533; 5 U.S.C. § 706(2).

REQUEST FOR RELIEF

WHEREFORE, Plaintiff respectfully requests that this Court:

1. Declare that the Service acted arbitrarily and capriciously and violated the ESA in issuing its October 7, 2019, not-warranted finding for the Berry Cave salamander;
2. Vacate and remand the October 7, 2019, not-warranted finding to the Service for further analysis and a new listing determination by a date certain that is consistent with the ESA and this Court's decision;
3. Retain jurisdiction over this matter until such time as Defendants have complied fully with the Court's Order;

4. Award Plaintiff its reasonable attorneys' fees and costs associated with this action; and

5. Grant such additional relief as the Court deems just and proper.

This the 7th day of May 2024.

Respectfully submitted,

/s/ Elizabeth Rasheed
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