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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF ARIZONA

Desert Tortoise Council, a non-profit
organization; Tucson Herpetological Society, a
non-profit organization; Western Watersheds
Project, a non-profit organization; and
WildEarth Guardians, a non-profit
organization,

Plaintiffs,

vs.

Doug Burgum, as Secretary of the Department
of the Interior; the United States Department
of the Interior, a federal department; Paul
Souza, as the official exercising the delegated
authority of the Director of the U.S. Fish and
Wildlife Service; and the U.S. Fish and
Wildlife Service, a federal agency,

Federal-Defendants.

No.

COMPLAINT

INTRODUCTION

1. The Desert Tortoise Council, Tucson Herpetological Society, Western Watersheds Project, and WildEarth Guardians (collectively “Plaintiffs”), bring this civil action against the above-named Federal-Defendants (collectively the “U.S. Fish and Wildlife Service” or “the Service”) under the citizen suit provision of the Endangered Species Act (“ESA”), 16 U.S.C. § 1540(g), and the Administrative Procedure Act (“APA”), 5 U.S.C. § 706, for violations of the ESA.

2. This case challenges the Service’s February 2022 finding that the Sonoran desert tortoise (*Gopherus morafkai*) is not warranted for listing as an endangered or threatened species under the ESA. *Endangered and Threatened Wildlife and Plants; 12-Month Finding for the Sonoran Desert Tortoise*, 87 Fed. Reg. 7,077 (Feb. 8, 2022).

3. The Service’s 2022 not warranted finding contradicts the Service’s previous findings in 2010, 2011, 2012, 2013, and 2014 that the species was warranted for listing, due to various threats including increased drought and cumulative threats likely to occur in the foreseeable future. No new scientific information, data, or findings support the Service’s change in position.

4. The Service’s not warranted finding also conflicts with the best available science. The finding is premised on the unsupported assumption there are hundreds of thousands of tortoises strewn across high, moderate, and low-quality habitat in Arizona and Mexico. This assumption was extrapolated from very little actual demographic data. Further, the

1 little population data that does exist from 17 long-term monitoring sites in high quality
2 habitat in Arizona was misconstrued, manipulated, and misinterpreted by the Service.

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4 5. The Service's not warranted finding also fails to acknowledge population declines
5 in Sonoran desert tortoise populations that have and continue to occur. The Service's not
6 warranted finding also downplays the significant threat from climate change, including
7 severe drought conditions in Arizona which are likely to result in alarming population
8 declines (likely exceeding 80% of the entire population) in the foreseeable future. Scientists
9 are already sounding the alarm due to a lack of *any* documented juvenile recruitment in
10 some tortoise populations. Cumulative threats from climate change, habitat loss from
11 development, the rise in invasive non-native species, grazing, and other threats were also
12 overlooked by the agency. The Service's not warranted finding also arbitrarily relies on non-
13 binding voluntary conservation measures included in a 2015 conservation agreement with
14 Arizona and fails to properly evaluate whether the species warrants listing in a significant
15 portion of its range.
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20 6. Plaintiffs, a coalition of conservation organizations and biologists dedicated to
21 ensuring the survival and recovery of the Sonoran desert tortoise in the wild and ensuring
22 the Service utilizes the best available science when making listing decisions, are therefore
23 compelled to bring this civil action.
24

25 JURISDICTION AND VENUE

26 7. This Court has jurisdiction over this action under 28 U.S.C. § 1331, 16 U.S.C. §
27 1540(c). This Court has the authority to review the Service's action(s) complained of herein
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1 and grant the relief requested under the ESA's citizen suit provision, 16 U.S.C. § 1540(g),
2 and the APA, 5 U.S.C. § 706.

3 8. All requirements for judicial review required by the ESA are satisfied. Plaintiffs e-
4 mailed and mailed a sixty-day notice of intent to sue letter to the Service on May 22, 2024.
5 This letter notified the Service of Plaintiffs' intent to file a civil action to rectify the legal
6 violations described in the letter. The Service responded to Plaintiffs' notice letter on July
7 26, 2024. More than sixty days have elapsed since the Service received Plaintiffs' notice of
8 intent to sue for violating the ESA letter.

9 9. The relief sought is authorized by 28 U.S.C. § 2201, 28 U.S.C. § 2202, 16
10 U.S.C. § 1540, and 5 U.S.C. § 706.

11 10. Venue is proper in this Court under 16 U.S.C. § 1540(g)(3)(A) and 28 U.S.C. §
12 1391(e).

13 11. Plaintiffs satisfy the minimum requirements for Article III standing. Plaintiffs –
14 including their members, supporters, and staff – have suffered and continue to suffer
15 injuries to their interests in Sonoran desert tortoises from the Service's not warranted
16 finding. This Court can redress these injuries. There is a present and actual controversy
17 between the Parties.

18 PARTIES

19 12. Plaintiff, the DESERT TORTOISE COUNCIL ("the Council"), is a non-profit
20 organization dedicated to ensuring the survival and recovery of desert tortoises, including
21 the Sonoran desert tortoise, throughout their historic ranges. The Council focuses its
22 efforts on the tortoise species complex that occurs in the southwestern United States and
23 northwestern Mexico. The Council engages in and advises others on the proper
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1 management, conservation, and protection of desert tortoises and their habitat. The
2 Council also supports and advocates for measures that contribute to ensuring the
3 continued survival of desert tortoises and the maintenance of their habitats in a natural
4 condition and promotes and encourages studies on the ecology, biology, management, and
5 protection of desert tortoises and their habitats. The Council brings this action on behalf
6 of itself, its members, and its supporters. This action furthers the organizational goals and
7 interests of the Council and its members and supporters.
8

9 13. Plaintiff TUCSON HERPTOLOGICAL SOCIETY (“the Society”), is a non-
10 profit organization dedicated to conserving, researching, and educating the public about
11 amphibians and reptiles of Arizona and México, including the Sonoran desert tortoise. The
12 Society has earned the reputation as being the foremost research and conservation-based
13 herpetological society in the Nation. The Society engages in conservation actions and
14 research on amphibians and reptiles and has developed a range of education and outreach
15 programs and educational publications (including a monthly newsletter). The Society also
16 has a student chapter at the University of Arizona. The Society brings this action on behalf
17 of itself, its members, and its supporters. This action furthers the organizational goals and
18 interests of the Society and its members and supporters.
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20 14. Plaintiff, the WESTERN WATERSHEDS PROJECT (“WWP”), is a non-profit
21 membership organization with offices throughout the West, including in Arizona. WWP
22 has over 14,000 members and supporters including many who reside and routinely recreate
23 in Arizona and areas occupied by Sonoran desert tortoises. WWP, its staff, members, and
24 supporters are dedicated to protecting and conserving the public lands, wildlife, and
25 natural resources of watersheds in the West. WWP, its staff, members, and supporters are
26 dedicated to ensuring the long-term survival and recovery of Sonoran desert tortoises.
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1 WWP brings this action on behalf of itself, its members, and its supporters. This action
2 furthers the organizational goals and interests of WWP and its members and supporters.

3 15. Plaintiff, WILDEARTH GUARDIANS (“Guardians”), is a non-profit
4 conservation organization dedicated to protecting and restoring the wildlife, wild places,
5 wild rivers, and the health of the West. Guardians is specifically committed to ensuring the
6 survival and recovery of native species, including the Sonoran desert tortoise, in the United
7 States and Mexico. Guardians has approximately 238,000 active members and supporters
8 across the West, including many who reside in Arizona. Many of Guardians’ members and
9 supporters also reside and routinely recreate in areas occupied by the Sonoran desert
10 tortoise in Arizona and Mexico. Guardians has a long history of working to protect and
11 restore native species, including the Sonoran desert tortoise. Guardians brings this action
12 on behalf of itself, its members, and its supporters. This action furthers the organizational
13 goals and interests of Guardians and its members and supporters.

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16 16. Plaintiffs’ members, supporters, and staff are dedicated to ensuring the long-
17 term survival and recovery of the Sonoran desert tortoise and ensuring the Service
18 complies with the ESA and basis all listing decisions on the best scientific and commercial
19 data available (“best available science”).

20
21 17. Plaintiffs’ members, supporters, and staff live in or near and/or routinely
22 recreate in or near areas occupied by the Sonoran desert tortoise. Plaintiffs’ members,
23 supporters, and staff enjoy studying and observing – or attempting to observe – Sonoran
24 desert tortoises, including signs of the desert tortoise’s presence and observing, studying,
25 and/or photographing Sonoran desert tortoises in areas where they are known to exist and
26 travel. The opportunity to view Sonoran desert tortoises or signs of tortoises in the wild is—
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1 by itself—of significant interest and value to Plaintiffs’ members, supporters, and staff and
2 increases their use and enjoyment of the area.

3 18. The Service’s February, 2022 decision not to provide endangered or threatened
4 status to the Sonoran desert tortoise under the ESA, challenged in this lawsuit, has harmed
5 and continues to harm Plaintiffs’ interests in the species and its conservation. Plaintiffs’
6 members, supporters, and staff derive aesthetic, recreational, scientific, inspirational,
7 educational, spiritual, and other benefits from Sonoran desert tortoises, recreating in areas
8 occupied by and used by Sonoran desert tortoises, and in working to protect Sonoran
9 desert tortoises from human-caused mortality and disturbance and in working to restore
10 and recover Sonoran desert tortoises in the United States and Mexico. In furtherance of
11 these interests, Plaintiffs’ members, supporters, and staff have worked and continue to
12 work to protect and conserve Sonoran desert tortoises. The 2008 petition to list the species
13 and this subsequent civil action is part of that effort.

14 19. Plaintiffs’ interests have been, are being, and unless the requested relief is
15 granted, will continue to be harmed by the Service’s February, 2022 decision not to list the
16 species under the ESA. If this Court issues the relief requested, the harm to Plaintiffs’
17 interests will likely be alleviated and/or lessened.

18 20. Defendant DOUG BURGUM is sued in his official capacity as Secretary of the
19 United States Department of the Interior. As Secretary, Mr. Burgum is the federal official
20 with responsibility for all Service officials’ inactions and/or actions challenged in this
21 complaint.

22 21. Defendant UNITED STATES DEPARTMENT OF THE INTERIOR is the
23 federal department responsible for applying and implementing the federal laws and
24 regulations challenged in this complaint.

1 26. Sonoran desert tortoises use inter-mountain valleys as part of their home ranges
2 and for dispersal at all age classes. Juveniles often disperse outside their natal areas.

3 27. Sonoran desert tortoises are known to make long-distance movements between
4 populations in adjacent mountain ranges. These movements may be tied to nest site
5 selection, seasonal migration, departure from unfavorable habitat conditions, or breeding
6 opportunities. Long distance movements by the Sonoran desert tortoise indicates meta-
7 population relationships between local populations inhabiting regional areas and hillsides.
8 Sonoran desert tortoises exist as a metapopulation in Arizona and Mexico.
9

10 28. Sonoran desert tortoises in Arizona generally occur within elevations from 510
11 to 5,300 feet. Sonoran desert tortoises in Mexico are generally found between roughly
12 1,000 to 1,640 feet elevation.
13

14 29. Sonoran desert tortoises are herbivores that eat a wide variety of plants,
15 including herbs, woody plants, grasses, and succulents. Native forbs are a critically
16 important food source for Sonoran desert tortoises and provide more nitrogen and water
17 than nonnative forbs.
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30. Precipitation, particularly summer monsoons, are critical to the foraging needs of Sonoran desert tortoises as they encourage the growth of new vegetation consumed by the species.

31. The bladder of the Sonoran desert tortoise is unique and serves an important function in its survival. Sonoran desert tortoises are capable of drinking large amounts of water when it is available (and may even construct water catchments by digging earthen depressions). The bladder of the Sonoran desert tortoise is large and divided into two lobes which gives the species the ability to store water, dilute excess dietary salts and metabolic wastes, and reabsorb water into the bloodstream. This allows tortoises to forage on dried vegetation while reducing the effect of dehydration. When free-standing water for drinking becomes available, Sonoran desert tortoises drink to flush salts and reset the electrolytic balance in preparation for the next dry period.

1 32. The Sonoran desert tortoise is a long-lived species. The lifespan of a Sonoran
2 desert tortoise varies from 30 to over 100 years. The generational time for the Sonoran
3 desert tortoise is 25 years.
4

5 33. The breeding season for Sonoran desert tortoises generally occurs from July
6 through October. Female desert tortoises may lay one clutch of 1-12 eggs per year, generally
7 around the onset of the summer rainy season. The eggs hatch in September and October
8 following the end of the monsoon season. Female desert tortoises may store sperm for up
9 to two years, meaning that one season's mating produces the following season's clutch of
10 eggs. Extreme drought years can reduce or eliminate ovarian follicle development in the
11 subsequent reproductive season. When annual rainfall is below average, half of females
12 that developed follicles of near-ovulatory size fail to reproduce.
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16 34. Sexual maturity and first reproduction in female Sonoran desert tortoises occurs
17 between 12 to 22 years of age. Reproduction is influenced by precipitation trends.
18

19 35. Sonoran desert tortoise surface activity largely mimics the warm-season
20 precipitation pattern. During the winter months from mid-November through mid-
21 February, Sonoran desert tortoises are largely dormant within their shelters (although they
22 may emerge to bask in response to thermoregulatory needs, move between shelter sites, or
23 rehydrate after a rain event).
24

25 36. To acquire energy for egg development, females emerge during the spring to
26 forage on spring annual plants that grew in response to winter rains. The primary active
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1 surface season for all sexes and age classes coincides with the summer monsoon season
2 (July through September).

3 37. The availability of free-standing water, both spatially and temporally (for
4 drinking) is critical to the survival of Sonoran desert tortoises. Severe droughts in Arizona
5 have resulted in significant population declines. Severe drought is a significant threat to the
6 survival of Sonoran desert tortoises in the wild.
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9 *The 2008 petition to list the Sonoran desert tortoise.*

10 38. In 2008, two organizations – Western Watersheds Project and WildEarth
11 Guardians – submitted a petition to the Service to list the Sonoran desert tortoise as a
12 threatened or endangered species under the ESA. The petition requested the Service
13 provide protective ESA status to all desert tortoises within the Sonoran population (east
14 and south of the Colorado River).
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17 39. In 2009, the Service issued a positive 90-day finding on the petition. The Service
18 determined that the petition to list a Sonoran desert tortoise under the ESA included
19 substantial information indicating that listing may be warranted.
20

21 40. Following the positive 90-day finding, the Service initiated a status review of the
22 Sonoran desert tortoise.
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24 *The Service's 2010 warranted finding*

25 41. In 2010, the Service issued a 12-month finding that listing the Sonoran desert
26 tortoise as a threatened species was warranted under the ESA. The Service determined,
27 however, that listing was precluded by higher priority actions.
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1 42. The Service's 2010 warranted finding was based on its review of the best
2 available science.

3 43. The Service's 2010 warranted finding was based on the Service's review of
4 various threats to the Sonoran desert tortoise, including cumulative threats.

5 44. The Service documented threats from the invasion and cultivation of non-native
6 plant species which significantly increase the risk of wildfire (in an ecosystem that evolved
7 without fire). The Service documented threats from loss of habitat and increased habitat
8 fragmentation (making dispersal and genetic exchange more difficult) from habitat
9 conversion related to human population growth development. The Service documented
10 threats from loss of habitat from ironwood and mesquite harvesting and livestock grazing
11 (particularly in Mexico). The Service concluded that loss of the Sonoran desert tortoise's
12 habitat and range is an immediate threat of high magnitude both now and in the
13 foreseeable future.

14 45. The Service's 2010 warranted finding also documented threats from illegal
15 collection of desert tortoises in the wild. The Service documented threats from predation,
16 mainly from feral domestic dogs and humans. The Service documented threats from the
17 inadequacy of existing regulatory mechanisms. The Service found that while federal and
18 state land management agencies consider desert tortoises in their planning documents,
19 there are serious deficiencies in them with respect to the conservation of desert tortoises.
20 The Service found a lack of regulatory mechanisms needed to protect the species from
21 various threats, including off-highway vehicle use, predation, climate change, and invasive
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1 plant species. The Service also found that although the species is considered “threatened”
2 in Mexico, there are no conservation planning or enforcement regulations in place to
3 protect the species in that country.
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5 46. The Service’s 2010 warranted finding determined that the Sonoran desert
6 tortoise was, in combination with other threats, likely threatened by other natural or
7 manmade factors in the foreseeable future. The Service identified localized threats to local
8 sub-populations from ingestion of trash and vehicle strikes.
9

10 47. The Service’s 2010 warranted finding recognized that while the effects (direct
11 and indirect) from climate change “remain uncertain,” impacts from climate change in the
12 future “will likely exacerbate the current and ongoing threat of habitat loss caused by other
13 factors.”
14

15 48. The Service’s 2010 warranted finding determined that many of the threats
16 facing the Sonoran desert tortoise “act in synergistic combination in their effects to the
17 tortoise” and that such threats “are predicted to increase in the foreseeable future.” The
18 Service determined that collectively, the threats to the Sonoran desert tortoise will result in
19 the loss of a significant amount of habitat for the Sonoran desert tortoise and fragment
20 remaining populations, “threatening the long-term genetic fitness of the tortoise and
21 precluding their recolonization ability in the event of population extirpations.”
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23 49. In 2010, the Service projected that roughly 98 percent of the Sonoran desert
24 tortoise habitat in Mexico and 47 percent of the species’ habitat in Arizona “will be lost or
25 adversely modified in the foreseeable future.”
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1 50. The Service's 2010 warranted finding was based on the best available science on
2 Sonoran desert tortoises and threats to the species.

3 51. The Service's 2010 warranted finding incorporated data and information from
4 17 long-term monitoring sites on Sonoran desert tortoises in Arizona.

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6 *The Service's 2011, 2012, 2013, and 2014 warranted findings*
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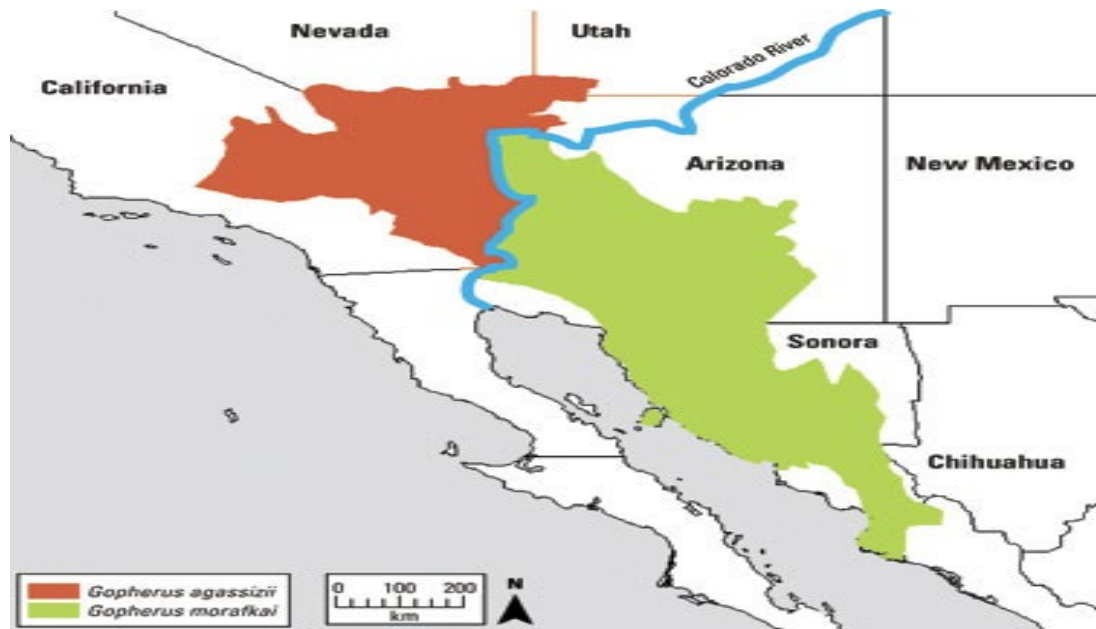
8 52. In 2011, the Service conducted a status review for the Sonoran desert tortoise.
9 In the 2011 status review, the Service reaffirmed its finding that the Sonoran desert
10 tortoise is warranted for listing as a threatened species under the ESA.

11 53. In 2012, the Service conducted a status review for the Sonoran desert tortoise.
12 In the 2012 status review, the Service reaffirmed its finding that the Sonoran desert
13 tortoise is warranted for listing as a threatened species under the ESA.
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15 54. In the 2012 status review, the Service stated that recent phylogenetic research
16 confirmed that the Sonoran desert tortoise is a distinct species from the Mojave desert
17 tortoise. The Sonoran desert tortoise was previously one of two populations of desert
18 tortoises (*Gopherus agassizii*), with the Sonoran population occurring south and east of the
19 Colorado River and the Mojave population occurring north and west of the Colorado
20 River. The Colorado River has been an effective geographic barrier separating the two
21 populations (now recognized as separate species) of desert tortoises for millions of years.
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23 55. In the 2012 status review, the Service relied on Murphy (2011) for this finding
24 that two distinct species exist. Murphy (2011) found genetic differentiation between the
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Mojave desert tortoise and the Sonoran desert tortoise. The boundaries and genetic basis for the species delineation found by Murphy (2011) are along the Colorado River.



56. In response to the 2012 status review and Murphy (2011), the Service elevated the Sonoran population of desert tortoises (all desert tortoises occurring south and east of the Colorado River) to full species status (*Gopherus morafkai*). This change prompted the Service to raise the species' listing priority number under the ESA.

57. In 2013, the Service conducted a status review for the Sonoran desert tortoise. In the 2013 status review, the Service reaffirmed its finding that the Sonoran desert tortoise is warranted for listing as a threatened species under the ESA.

58. In 2014, the Service conducted a status review for the Sonoran desert tortoise. In the 2014 status review, the Service reaffirmed its finding that the Sonoran desert tortoise is warranted for listing as a threatened species under the ESA.

1 59. In 2014, the Service prepared and published a comprehensive species status
2 assessment for the newly recognized Sonoran desert tortoise species (*Gopherus morafkai*).
3

4 60. The 2014 species status assessment incorporated all available scientific literature
5 produced on the species as of March, 2013, including all available literature on threats
6 facing the species. The 2014 species status assessment incorporated data and information
7 from 17 long-term monitoring sites in Arizona.
8

9 61. The 2014 species status assessment recognized there were problems with
10 extrapolating the results of data from the 17 monitoring sites when making range-wide
11 assessments of species' demographics outside that area. The Service said the 17 monitoring
12 sites do not represent a random sample of the species entire range in Arizona. For support,
13 the Service cited and relied on Averill-Murray (2000).
14
15

16 62. The 2014 species status assessment recognized climate change as a threat to the
17 Sonoran desert tortoise. The Service said climate change is likely to result in more droughts
18 and more severe and prolonged droughts which may result in declines in local tortoise
19 populations. The Service said the effects of drought have been shown to result in
20 significant declines in tortoise populations. The Service recognized that the threat from
21 climate change and severe drought are likely to adversely affect some tortoise populations
22 more than others. The Service said localized cases of population decline as a result of
23 drought are likely to become more common due to climate change.
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26 63. The 2014 species status assessment recognized cumulative threats to the
27 Sonoran desert tortoise.
28

1 64. The 2014 species status assessment recognized that threats to the Sonoran desert
2 tortoise differ geographically.

3 65. The 2014 species status assessment recognized the Sonoran desert tortoise as a
4 metapopulation.

5 66. In the 2014 species status assessment, the Service reaffirmed that the Sonoran
6 desert tortoise warranted listing as a threatened species under the ESA.
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9 *The Service's change in position and not warranted finding*

10 67. In 2015, the Service published a candidate conservation agreement with various
11 cooperating state and federal agencies for the Sonoran desert tortoise.
12

13 68. The 2015 conservation agreement discusses the threats to the species from the
14 Service's earlier findings. The 2015 conservation agreement recognizes the Sonoran desert
15 tortoises' current status as a species warranted for listing as a threatened species under the
16 ESA. The "overarching goal" of the 2015 conservation agreement was to achieve
17 conservation that is necessary to preclude the ESA listing of the Sonoran desert tortoise in
18 Arizona "through reduction or amelioration of threats in Arizona."
19

20 69. The 2015 conservation agreement says the parties involved will implement
21 actions to reduce or eliminate threats to the Sonoran desert tortoise in Arizona.
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23 70. The 2015 conservation agreement includes no binding commitments from the
24 parties involved to take affirmative steps to conserve the Sonoran desert tortoise.
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26 71. The 2015 conservation agreement includes no regulatory requirements to
27 conserve the Sonoran desert tortoise. Any party to the 2015 conservation agreement may
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1 withdraw from the agreement at any time upon sixty days written notice to the other
2 parties.

3
4 72. In September 2015, the Service published a second, revised species status
5 assessment for the Sonoran desert tortoise. The Service said it prepared a second species
6 status assessment to “inform the listing decision.”

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8 73. The 2015 species status assessment does not evaluate and address all the threats
9 to the Sonoran desert tortoise, including threats previously identified in the 2014 species
10 status assessment.

11
12 74. The 2015 species status assessment includes a new habitat model to estimate
13 abundance. The 2015 species status assessment includes a population viability analysis to
14 estimate total population numbers, densities, and trends.

15
16 75. The 2015 species status assessment includes information and data from the 17
17 long-term monitoring plots in Arizona. The 2015 species status assessment extrapolates the
18 results of the 17 monitoring sites to make range-wide assessments across Arizona and
19 Mexico.

20
21 76. The 2015 species status assessment does not include information on Sonoran
22 desert tortoise abundance, density, and habitat in Mexico. The 2015 species status
23 assessment does not include demographic information on Sonoran desert tortoises in
24 Arizona, except for information obtained from the 17 long-term monitoring sites.

25
26 77. The 2015 species status assessment assumes a single population of Sonoran
27 desert tortoises exists in Arizona. The 2015 species status assessment assumes a single
28

1 population of Sonoran desert tortoises exists in Mexico. The 2015 species status assessment
2 does not recognize that Sonoran desert tortoises exhibit metapopulation dynamics.

3
4 78. The 2015 species status assessment does not recognize differences in tortoise
5 populations geographically in Arizona. The 2015 species status assessment does not
6 recognize that different threats may occur to different tortoise populations.

7
8 79. The 2015 species status assessment uses a “predicted potential habitat” model to
9 measure Sonoran desert tortoise representation (the breadth of the genetic makeup of the
10 species) and redundancy (the number and distribution of populations).

11
12 80. The 2015 species status assessment does not discuss, reference, or utilize any
13 data or evidence on actual Sonoran desert tortoise numbers or density in specific areas or
14 any studies on numbers and density (outside information available from the 17 long-term
15 monitoring sites).

16
17 81. The Service’s estimate of Sonoran desert tortoise representation and
18 redundancy in Arizona and Mexico in the 2015 species status assessment are based solely
19 on the habitat model.

20
21 82. The 2015 species status assessment’s viability findings were based on a habitat
22 model. The Service used three criteria for the habitat model: elevation, vegetation type, and
23 slope. The habitat model did not evaluate or consider the presence of shelter sites. The
24 Service described this habitat model as “a very coarse habitat model” that does not include
25 many other physical factors that are important for defining habitat for Sonoran desert
26 tortoises (e.g., shelter sites).
27
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1 83. The 2015 species status assessment's habitat model estimated that roughly
2 38,000 square miles of potential habitat for the Sonoran desert tortoise exists in Arizona
3 and Mexico. According to the model, 64 percent of this potential habitat exists in Arizona
4 and 36 percent in Mexico.
5

6 84. In the 2015 species status assessment, the Service classified all potential Sonoran
7 desert tortoise habitat as "high" value potential habitat, "medium" value potential habitat,
8 or "low" value potential habitat across the species' range.
9

10 85. The 2015 species status assessment assumed that "high" value potential habitat
11 (as defined by the model and its three parameters) includes roughly 43.3 adult Sonoran
12 desert tortoises per square mile. The 2015 species status assessment assumed that
13 "medium" value potential habitat includes roughly 24.3 adult Sonoran desert tortoises per
14 square mile. The 2015 species status assessment assumed that "low" value potential habitat
15 includes roughly 5.2 adult Sonoran desert tortoises per square mile.
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18 86. The Service used the same density estimates for Arizona and Mexico.
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20 87. Occurrence records for Sonoran desert tortoises reveal that the vast majority of
21 tortoises only occur in potential habitat deemed of "high" value.
22

23 88. All 17 long-term monitoring plots for Sonoran desert tortoises are located in
24 "high" value potential habitat in Arizona.
25

26 89. Based on the assumptions in the habitat model, the 2015 species status
27 assessment estimated the adult population of Sonoran desert tortoises in Arizona and
28

1 Mexico to be in the range of 470,000 to 970,000 individuals. The Service rounded its
2 abundance estimates of tortoises to the nearest 10,000.

3
4 90. The 2015 species status assessment includes no information or data on
5 recruitment. The 2015 species status assessment includes no information or data on
6 juvenile survival. The 2015 species status assessment includes no demographic information
7 or data on Sonoran desert tortoises outside the 17 monitoring plots.
8

9 91. The 2015 species status assessment reviewed “a number of potential factors”
10 that could affect the Sonoran desert tortoise population. The 2015 species status
11 assessment determined that none of these factors would have a population-level impact on
12 the species given its “relatively large current estimated population size.”
13

14 92. The 2015 species status assessment estimated the probability of quasi-extinction
15 for the Arizona and Mexico populations of the Sonoran desert tortoise over a 200-year
16 period. It determined the risk of quasi-extinction for the Sonoran desert tortoise ranged
17 from 11 to 32 percent over a 200-year period.
18

19
20 93. In October 2015, the Service issued a not warranted finding on the 2008
21 petition to list the Sonoran desert tortoise as a threatened species.
22

23 94. The Service’s 2015 not warranted finding was based on the 2015 species status
24 assessment, including the habitat model and population estimate.

25 95. The Service’s 2015 not warranted finding recognized some threats to the
26 Sonoran desert tortoise but downplayed their effects due to high abundance numbers and
27 range estimates (based on the habitat model).
28

1 96. The Service concluded that many of the stressors facing the Sonoran desert
2 tortoise are ameliorated by the 2015 conservation agreement and ongoing conservation
3 efforts undertaken by state and federal agencies.
4

5 97. In 2019, Western Watersheds Project and WildEarth Guardians (the 2008
6 petitioners) brought a legal challenge to the Service's 2015 not warranted finding for the
7 Sonoran desert tortoise, alleging the decision conflicted with the best available science on
8 threats to the species and the ESA. This legal challenge resulted in a settlement agreement,
9 approved by the U.S. District Court for the District of Arizona, *WildEarth Guardians v.*
10 *Bernhardt*, CV-19-00441-TUC-CKJ (D. Arizona Sept. 5, 2019), which required the Service
11 to reconsider its 2015 not warranted finding.
12
13

14 98. In September 2021, the Service revised the 2015 species status assessment for
15 the Sonoran desert tortoise.
16

17 99. In the 2021 species status assessment, the Service once again relied on
18 population surveys at 17 long-term monitoring sites in Arizona to estimate abundance
19 across the species' range in Arizona and Mexico.
20

21 100. In the 2021 species status assessment, the Service extrapolated the results of
22 the 17 monitoring sites to make range-wide assessments for Sonoran desert tortoise
23 population numbers in Arizona and Mexico. The Service did not have population survey
24 information or data on tortoise abundance or densities outside the 17 long-term
25 monitoring sites. The Service did not have population survey information or data on
26 tortoise abundance or densities in Mexico.
27
28

1 101. In the 2021 species status assessment, the Service classified suitable tortoise
2 habitat as high, moderate, or low. All 17 long-term monitoring plots are in high suitable
3 tortoise habitat.
4

5 102. In the 2021 species status assessment, the Service estimated that “high”
6 suitable habitat areas likely have 46 tortoises per square mile. This is an increase from the
7 2015 species status assessment. The Service estimated that “moderate” suitable habitat
8 areas likely have 25 tortoises per square mile. This is an increase from the 2015 species
9 status assessment. This number was derived from the high suitable habitat number
10 (roughly half). The Service estimated that “low” suitable habitat area likely has 6 tortoises
11 per square mile. This is an increase from the 2015 species status assessment. This number
12 was derived from the high suitable habitat number.
13
14

15 103. All 17 long-term monitoring sites relied on in the 2021 species status
16 assessment are in “high” value habitat. All 17 long-term monitoring sites were selected
17 because they are areas with known high densities of tortoises. The Service never surveyed
18 moderate suitable habitat areas. The Service never surveyed low suitable habitat areas.
19
20

21 104. The Service never conducted on-the-ground surveys to identify high, moderate,
22 and low probability areas outside the 17 monitoring plots.
23

24 105. In the 2021 species status assessment, the Service used a habitat model to
25 identify high, moderate, and low probability areas for Sonoran desert tortoises. The model
26 does not include key habitat features important for Sonoran desert tortoises. The model
27 does not account for the availability of shelter sites.
28

1 106. In the 2021 species status assessment, the Service explains no attempt was
2 made to define actual, on-the-ground Sonoran desert tortoise habitat.

3 107. In the 2021 species status assessment, the Service explains that its habitat
4 model is “very coarse” and does not include a number of physical factors that would be
5 required for a “more robust intensive model.”
6

7 108. The Service has no demographic information on Sonoran desert tortoises
8 outside the 17 monitoring plots.
9

10 109. During peer review of the 2021 species status assessment, one reviewer noted
11 that the lack of such demographic information means there could be plenty of habitat but
12 no tortoises.
13

14 110. To estimate tortoise abundance, the Service used the “mean” densities from
15 the 17 long-term monitoring plots. The mean number is 46 tortoises per square mile. The
16 median number is 23 tortoises per square mile. The median number more accurately
17 reflects the likely densities at the 17 long-term monitoring sites because half the sites had a
18 density below 23 and half above 23.
19
20

21 111. In the 2021 species status assessment, the Service evaluated future threats to
22 the Sonoran desert tortoise over a 125-year time period. The best available science reveals
23 the most significant declines to tortoises are likely to occur between 80 and 125 years.
24

25 112. Under a “high” climate change effects scenario, the 2021 species status
26 assessment anticipates a median decline in Sonoran desert tortoise abundance of roughly
27 86.8% in Arizona over the next 125 years.
28

1 113. Under a “high” climate change effects scenario, the 2021 species status
2 assessment anticipates a median decline in Sonoran desert tortoise abundance of roughly
3 82.6% in Mexico over the next 125 years.
4

5 114. In the 2021 species status assessment, the Service states that it is “highly
6 confident” that drought will be more severe in the Sonoran desert as a result of climate
7 change over the next 50 to 100 years.
8

9 115. The best available science reveals severe drought is likely in the foreseeable
10 future in Arizona and Mexico.
11

12 116. In the 2021 species status assessment, the Service states that it is “highly
13 confident” that precipitation is the most important ecological variable affecting Sonoran
14 desert tortoise population trends over time.
15

16 117. In February 2022, and based on the findings in the 2021 species status
17 assessment, the Service issued a formal, 12-month finding that the Sonoran desert tortoise
18 is not warranted for ESA protected status as either an endangered or threatened species.
19 The Service’s 2022 not warranted finding was based on information, including the habitat
20 model, abundance estimates, and population viability analysis included in the 2021 species
21 status assessment.
22
23

24 118. The Service’s 2022 not warranted finding assumes that the Sonoran desert
25 tortoise occupies most of its historical range in Arizona and Mexico.
26
27
28

1 119. The Service's 2022 not warranted finding assumes there are hundreds of
2 thousands of adult tortoises in Arizona and Mexico. The Service's population abundance
3 estimates are based on a habitat model.
4

5 120. The Service's population abundance estimates are based on population
6 monitoring data collected on 17 long-term monitoring sites. The Service does not have
7 abundance estimates based on survey data at any sites other than the 17 long-term
8 monitoring sites. The Service does not have abundance estimates based on survey data in
9 Mexico.
10

11 121. The Service's 2022 not warranted finding assumes there have been no declines
12 in Sonoran desert tortoise populations.
13

14 122. The Service's 2022 not warranted finding assumes there is an adequate
15 amount of juvenile recruitment within Sonoran desert tortoise populations.
16

17 123. The Service's 2022 not warranted finding recognizes that climate change and
18 urban development will have the greatest impact on the viability of the species but
19 maintains there are an ample number of tortoises and habitat available to withstand such
20 threats now and through the end of the century.
21

22 124. The Service's 2022 not warranted finding evaluated future threats out to 2100
23 or roughly 75 years (three generations of tortoises). The Service's 2022 not warranted
24 finding did not evaluate climate change threats during the 80-125 year period when
25 declines are likely to become most significant.
26
27

28 **FIRST CAUSE OF ACTION**

(ESA violation – threats)

125. Plaintiffs incorporate all preceding paragraphs.

126. Pursuant to section 4(a)(1) of the ESA, the Service is required to determine whether a species is threatened or endangered because of any of the following factors: (A) the present or threatened destruction, modification, or curtailment of the species' range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; and (E) other man-made factors affecting the species' continued existence. 16 U.S.C. § 1533(a)(1); 50 C.F.R. § 424.11(c). These five threat factors are listed in the disjunctive so any one or combination of them can be sufficient for a finding that a species qualifies as threatened or endangered.

127. The Service's 2022 not warranted finding for the Sonoran desert tortoise fails to consider and adequately analyze Section 4(a)(1)'s threat factors in accordance with the ESA and the implementing regulations.

128. The Service failed to adequately analyze and evaluate the cumulative threats to the Sonoran desert tortoise.

129. The Service failed to adequately analyze and evaluate all threats to the Sonoran desert tortoise that were previously identified and evaluated in the 2014 warranted finding and 2014 species status assessment.

130. The Service failed to adequately analyze and evaluate the threat from climate change, including increases in severe drought and aridity and increases in wildfire.

131. The Service failed to adequately analyze and evaluate the threat from increased human development.

1 132. The Service failed to adequately analyze and evaluate the threat from invasive
2 species.

3 133. The Service failed to recognize and evaluate threats that varied by geographic
4 area. The Service failed to recognize and evaluate threats in Mexico. The Service never
5 evaluated threats to the Sonoran desert tortoise in different geographic areas (or recognized
6 such threats existed). The Service never evaluated the threats from increased
7 fragmentation. The Service never evaluated the threats from a breakdown in
8 metapopulation dynamics. The Service assumed threats to the Sonoran desert tortoise did
9 not vary by geographic location. The Service assumed the Sonoran desert tortoise
10 population in Arizona (and Mexico) is panmictic (i.e., can interbreed without restriction).
11

12 134. The Service never accounted for or discussed the alarming lack of juvenile
13 recruitment in Sonoran desert tortoise populations.

14 135. The Service never accounted for or discussed the declining trend in Sonoran
15 desert tortoise populations.

16 140. The Service erroneously discounted and did not adequately consider how the
17 lack of existing regulatory mechanisms for the Sonoran desert tortoise may impact the
18 Sonoran desert tortoise and its habitat now and into the foreseeable future.
19

20 141. The Service's failure to adequately analyze and evaluate the threats to the
21 Sonoran desert tortoise violates the ESA and is "arbitrary, capricious, an abuse of
22 discretion, or otherwise not in accordance with law" and/or constitutes "agency action
23 unlawfully withheld or unreasonably delayed." 5 U.S.C. §§ 706 (2)(A), 706 (1).
24

25 **SECOND CAUSE OF ACTION**
26 **(ESA violation – best available science)**

27 142. Plaintiffs hereby incorporate all preceding paragraphs.
28

1 143. Pursuant to section 4(b)(1)(A) of the ESA, 16 U. S.C. § 1533 (b)(1)(A), the
2 Service must make all listing determinations solely on the basis of the best available
3 science. Under the ESA, the Service cannot infer from a lack of data or uncertainty that
4 the population of Sonoran desert tortoises remains viable and not threatened or
5 endangered.

6 144. The Service's 2022 not warranted finding for the Sonoran desert tortoise fails
7 to utilize the best available science on the Sonoran desert tortoise, including demographics,
8 trends, biology, abundance, density, habitat needs, population dynamics, and threats.

9 145. The Service's 2022 not warranted finding for the Sonoran desert tortoise
10 ignores, misinterprets, and/or misconstrues the best available science on the existing
11 Sonoran desert tortoise population in the wild (both in numbers and trends), the needs
12 and threats facing the Sonoran desert tortoise, and the likely future threats to the species in
13 the foreseeable future.

14 146. The Service's 2022 not warranted finding misinterprets and/or misconstrues
15 data and information on population monitoring for the Sonoran desert tortoise, including
16 monitoring from the 17 long-term monitoring plots.

17 147. The Service's 2022 not warranted finding is based on a habitat model or proxy
18 that conflicts with the best available science. The habitat model does not mirror reality.
19 The habitat model is based on pure speculation. The habitat model is not based on data or
20 surveys.

21 148. The Service's 2022 not warranted finding is based on a habitat model,
22 abundance estimates, and viability analysis that include faulty assumptions, misleading
23 information, and misinterpretations of the relevant data, and that does not mirror reality,
24
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1 excludes critical data and information, excludes information on the demography of the
2 Sonoran desert tortoise, and is based on pure speculation.

3 149. The Service's failure to utilize the best available science when issuing its not
4 warranted finding violates the ESA and is "arbitrary, capricious, an abuse of discretion, or
5 otherwise not in accordance with law" and/or constitutes "agency action unlawfully
6 withheld or unreasonably delayed." 5 U.S.C. §§ 706 (2)(A), 706 (1).

7
8 **THIRD CAUSE OF ACTION**
9 **(ESA violation – foreseeable future)**

10 150. Plaintiffs hereby incorporate all preceding paragraphs.

11 151. Pursuant to the ESA, a species is "threatened" if it is "likely to become an
12 endangered species within the foreseeable future throughout all or a significant portion of
13 its range." 16 U.S.C. § 1532(20).

14 152. The term foreseeable future is not defined in the ESA. The Service's
15 regulations define "foreseeable future" as extending "as far into the future as the Services
16 can make reasonably reliable predictions about the threats to the species and the species'
17 responses to those threats." 50 C.F.R. § 424.11. When defining the foreseeable future the
18 Service shall utilize "the best available data and tak[e] into account considerations such as
19 the species' life-history characteristics, threat-projection timeframes, and environmental
20 variability." *Id.*

21
22 153. In determining the Sonoran desert tortoise is not warranted for listing as a
23 threatened species under the ESA, the Service failed to properly define the "foreseeable
24 future."
25
26
27
28

1 161. Plaintiffs hereby incorporate all preceding paragraphs.

2 162. Under the ESA, a species may warrant listing if it is in danger of extinction or
3 likely to become so throughout all or “a significant portion of its range.” This involves
4 evaluating whether a portion of a species’ range is “significant” and whether the species is
5 in danger of extinction now or likely to become so in the foreseeable future in that portion
6 of its range.
7

8 163. The evaluation of whether *a portion* of the species range is “significant” under
9 the ESA involves a number of variables and factors, including (but not limited to) the size
10 of the area, the percentage of the species’ range, its biological and/or ecological importance
11 to the species, unique factors and habitat conditions, its importance for maintaining
12 connectivity amongst subpopulations and facilitating genetic exchange, and whether its loss
13 would result in the loss of a unique or critical function of the species. The focus of the
14 “significant” analysis must be on the portion itself.
15

16 164. The Service determined that the Sonoran desert tortoise does not qualify for
17 listing in a significant portion of its range.
18

19 165. In determining that the Sonoran desert tortoise is not in danger of extinction
20 in a significant portion of its range the Service only considered the species’ current (not
21 historical) range. The Service never considered major geographic areas where the tortoise
22 was once viable but no longer is.
23
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1 166. In determining that the Sonoran desert tortoise is not in danger of extinction
2 in a significant portion of its range, the Service determined the species is facing more
3 severe threats from human development around the Phoenix and Tucson metropolitan
4 areas. The Service said this area was not significant because it represents a small percentage
5 of the species' range. The Service never analyzed significance. The Service never defined
6 significance.
7

8
9 167. In determining that the Sonoran desert tortoise is not in danger of extinction
10 in a "significant portion of its range" the Service never defined "significant" or explained
11 why areas were or were not "significant."
12

13 168. In determining that the Sonoran desert tortoise is not in danger of extinction
14 in a "significant portion of its range" the Service failed to evaluate all threats (including,
15 but not limited to, climate change and cumulative threats) to the species in particular
16 geographic areas. The threat from severe drought is more severe in some geographic areas
17 (western and southwestern Arizona and Mexico) than others. The Service never evaluated
18 the threat from climate change in particular geographic areas.
19
20

21 169. The Service's determination that the Sonoran desert tortoise is not in danger
22 of extinction in a "significant portion of its range" was made in the absence of any
23 occurrence and/or population data (actual or trend) necessary to make a "significance"
24 finding.
25

26 170. The Service's determination that the Sonoran desert tortoise is not in danger
27 of extinction in a "significant portion of its range" was made in the absence of any
28

1 consideration of whether other, non-urban portions of the tortoise's range may be
2 significant.

3 171. In determining that the Sonoran desert tortoise is not warranted for listing, the
4 Service never evaluated whether portions of the tortoise's Arizona and/or Mexico range is a
5 "significant portion." The Service never evaluated whether certain mountain ranges and
6 subpopulations within the Sonoran desert tortoise's range qualify as "significant." This
7 includes but is not limited to areas facing more severe threats from non-native grasses
8 (including the invasion of buffelgrass) and climate change.

9 172. The Service's determination that the Sonoran desert tortoise is not in danger
10 of extinction in a "significant portion of its range" violates the ESA and is "arbitrary,
11 capricious, an abuse of discretion, or otherwise not in accordance with law" and/or
12 constitutes "agency action unlawfully withheld or unreasonably delayed." 5 U.S.C. §§ 706
13 (2)(A), 706 (1).

14 **FIFTH CAUSE OF ACTION**
15 **(ESA violation – non-binding efforts)**

16 173. Plaintiffs hereby incorporate all preceding paragraphs.

17 174. Pursuant to section 4(b)(1)(A) of the ESA, 16 U. S.C. § 1533 (b)(1)(A), and
18 the Service's implementing regulations, the Service must make listing determinations after
19 "conducting a review of the status of the species and after taking into account those efforts,
20 if any, being made by any State" to protect such species. The Service can rely on
21 conservation efforts, including state-initiated efforts, so long as they are binding and
22 current, not voluntary or future, and have a proven track record of success. Any
23
24
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1 conservation effort relied upon by the Service must also have been submitted for public
2 notice and comment.

3 175. The Service's not warranted finding relies on non-binding efforts in the May,
4 2015 candidate conservation agreement with Arizona.

5 176. The Service's not warranted finding relies on purported "protected areas" in
6 Mexico (where there is a lack of necessary data, public lands, enforcement capacity, or any
7 binding accountability to the species' conservation).
8

9 177. The Service's reliance on non-binding efforts in Arizona and Mexico when
10 deciding not to list the Sonoran desert tortoise violates the ESA and is "arbitrary,
11 capricious, an abuse of discretion, or otherwise not in accordance with law" and/or
12 constitutes "agency action unlawfully withheld or unreasonably delayed." 5 U.S.C. §§ 706
13 (2)(A), 706 (1).
14

15
16 **SIXTH CAUSE OF ACTION**
17 **(ESA violation – arbitrary change in findings)**

18 178. Plaintiffs hereby incorporate all preceding paragraphs.

19 179. Under the ESA and APA, 5 U.S.C. § 706, the Service must provide a
20 reasonable and rational explanation for any changes in its position, including a decision to
21 reverse its previous 2010, 2011, 2012, 2013, and 2014 warranted findings on the Sonoran
22 desert tortoise. An unexplained inconsistency between agency actions is arbitrary and
23 capricious. There must be a rational connection between the facts found and the decision
24 made.
25

26 180. The Service's not warranted finding for the Sonoran desert tortoise contradicts
27 the agency's earlier findings in 2011, 2012, 2013, and 2014. The Service's not warranted
28

1 finding contradicts the agency's findings in the 2014 species status assessment. The
2 Service's not warranted finding is not based on new science or new data since 2014. The
3 Service's not warranted finding creates an unexplained inconsistency. There is no rational
4 connection between the facts previously found by the Service and the not warranted
5 finding.
6

7 181. The Service's change from a warranted to a not warranted finding for the
8 Sonoran desert tortoise violates the ESA and is "arbitrary, capricious, an abuse of
9 discretion, or otherwise not in accordance with law" and/or constitutes "agency action
10 unlawfully withheld or unreasonably delayed." 5 U.S.C. §§ 706 (2)(A), 706 (1)

11 REQUEST FOR RELIEF

12 Plaintiffs respectfully request this Court:

13 A. Declare the Service has violated and continues to violate the law as alleged above;

14 B. Set aside and vacate the Service's 2022 not warranted finding;

15 C. Remand this matter back to the Service with instructions to comply with the
16 ESA and APA, as alleged herein;

17 D. Award Plaintiffs their reasonable attorneys' fees, costs and expenses of litigation;

18 E. Issue other relief that Plaintiffs may subsequently request;

19 F. Issue any other relief this Court deems necessary, just, or proper.

20 Respectfully submitted this 4th day of June, 2025.

21 /s/ David T. Woodsmall

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