

90-DAY FINDING PETITION REVIEW FORM

LISTING AS A THREATENED OR AN ENDANGERED SPECIES

Federal Docket No. FWS-R6-ES-2022-0028

90-DAY FINDING ON THREE PETITIONS TO LIST THE YELLOWSTONE BISON (*BISON BISON BISON*) AS AN ENDANGERED OR A THREATENED “DISTINCT POPULATION SEGMENT” UNDER THE ENDANGERED SPECIES ACT

Petitioned action being requested:

- List as an endangered or a threatened species
- Reclassify (uplist) from a threatened species to an endangered species
- Other

Petitioned entity:

- Species
- Subspecies
- DPS of vertebrates of a non-listed species

Background

Section 4(b)(3)(A) of the Endangered Species Act (Act) requires that we make a finding on whether a petition to list, delist, uplist (reclassify the species from a threatened species to an endangered species), or downlist (reclassify the species from an endangered species to a threatened species) a species presents substantial scientific or commercial information indicating that the petitioned action may be warranted. Our regulations provide that, for a petition to meet the “substantial scientific or commercial information” standard, we must determine in the 90-day petition finding that the petition includes “credible scientific or commercial information in support of the petition’s claims such that a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted” (50 CFR § 424.14(h)(1)(i)).

We note that designating critical habitat is not a petitionable action under the Act. Petitions to designate critical habitat (for species without existing critical habitat) are reviewed under the Administrative Procedure Act and are not addressed here. See 50 C.F.R. § 424.14(j). To the maximum extent prudent and determinable, any proposed critical habitat will be addressed concurrently with a proposed rule to list a species, if applicable.

Petition History

On November 14, 2014, we received a petition from Western Watersheds Project and Buffalo Field Campaign, requesting that Plains bison in and around Yellowstone National Park (Yellowstone bison) be listed as threatened or endangered under the Act (first petition). The first petition clearly identified itself as such and included the requisite identification information from the petitioner, required at 50 CFR 424.14(c). On March 2, 2015, we received a petition from James Horsley, which also requested that Yellowstone bison be listed as threatened or endangered under

the Act (second petition). We published a single finding for both petitions, concluding that the petitions did not provide substantial scientific or commercial information indicating that the petitioned action may be warranted (81 FR 1368, January 12, 2016). On September 26, 2016, petitioners from the first petition as well as a third party (Friends of Animals) brought suit under the Endangered Species Act and the Administrative Procedure Act asserting that our determination was arbitrary and capricious. An additional petition from James Horsley was filed in 2017 but was not accepted by the U.S. Fish and Wildlife Service (Service) because it did not meet requirements to coordinate with the State agencies. On January 31, 2018, the United States District Court for the District of Columbia (Court) remanded the finding on the first two petitions to the Service to conduct a new 90-day finding. The Court found that the Service “simply adopted White and Wallen’s conclusion that ‘maintenance of subpopulation genetic differentiation and overall genetic diversity may not be crucial for preserving genes’ and that the Service therefore need not maintain two subpopulations” (Memorandum Opinion 2018, p. 10). The Court found that the Service did not provide an explanation for why conclusions from Halbert *et al.* (2012), that the two Yellowstone bison herds each need a population large enough to ensure that each herd can survive, were not accepted.

On March 16, 2018, we received a new petition from James Horsley, which requested emergency listing for Yellowstone bison (third petition). This petition clearly identified itself as such and included the requisite identification information from the petitioner, required at 50 CFR 424.14(c). Because the Act does not provide for petitions to emergency list, we considered it as a petition to list Yellowstone bison. Listing a species on an emergency basis is not a petitionable action under the Act, and the question of when to list on an emergency basis is left to the discretion of the Service. If the Service determines that the standard for emergency listing in section 4(b)(7) of the Act is met, the Service may exercise that discretion to take an emergency listing action at any time.

We published a single finding for three petitions (the first and second petitions from the 90-day finding remanded on January 31, 2018 and the third petition received March 16, 2018), concluding that the petitions did not provide substantial scientific or commercial information indicating that the petitioned action may be warranted (84 FR 46927, September 6, 2019). On March 23, 2020, petitioners from the first petition as well as a third party (Friends of Animals) brought suit under the Endangered Species Act and the Administrative Procedure Act asserting that our determination was arbitrary and capricious.

On January 12, 2022, the Court again remanded the finding for the Service to conduct a new 90-day finding. The Court found that the Service “has continued to disregard the Halbert study without explaining why the study does not, at the very least, show that there is substantial disagreement among reasonable scientists regarding genetic differentiation between the herds” (Memorandum Opinion 2022, p. 18).

This finding addresses the three petitions from the 90-day finding remanded on January 12, 2022.

Evaluation of Three Petitions to List the Yellowstone Bison as an Endangered or a Threatened Species Under the Act

Species and Range

Do the petitions identify an entity that may be eligible for listing as a threatened or an endangered species (i.e., is the entity a species, subspecies, or DPS)?

Yes

No

All three petitions identify Yellowstone bison as a potential Distinct Population Segment (DPS) of the Plains bison. The second and third petitions identify two breeding herds of Yellowstone bison as separate potential DPSs. Bison is recognized as a valid species by the Integrated Taxonomic Information System. The division of bison into two subspecies (Plains bison [*Bison bison bison*] and wood bison [*Bison bison athabascaae*]) has been the subject of debate among experts; however, we recognize Plains bison as a valid subspecies, following the American Society of Mammalogists (Reynolds 2003, p. 1010) and the American Bison Specialist Group of the International Union for Conservation of Nature (IUCN; Gates *et al.* 2010, pp. 15–18).

- Plains bison in and around Yellowstone National Park (YNP; population of [*Bison bison bison*]), referred to as Yellowstone bison
- Historical Range: approximately 7,720 square miles (mi²; 20,000 square kilometers [km²]) in and around YNP
- Current Range: approximately 1,226 mi² (3,175 km²) in and around YNP

Listable Entity Evaluation

When evaluating a petition, we must consider whether the petitioned entity may be a listable entity under the Act, i.e., a species, a subspecies, or a potential DPS of a vertebrate species or subspecies. The evaluation of the taxonomic status of a species, subspecies, or DPS centers on whether the information presented in the petition reaches the substantial information threshold. Substantial information is that amount of information that would lead a reasonable person to believe that the requested action may be warranted. It is not within our purview to determine the taxonomic status in a 90-day petition evaluation, but rather to evaluate information submitted by the petitioners to determine whether the information indicates the petitioned entity *may be* a “listable entity” under the Act. We will not expand the scope of our evaluation beyond the petitioned entity, including various combinations of a distinct population segment (DPS).

Evaluation of the Yellowstone Bison Petitioned Entities as Distinct Population Segments

To interpret and implement the DPS provisions of the Act, the Service and the National Oceanic and Atmospheric Administration published the Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act in the Federal Register on February 7, 1996 (61 FR 4722) (DPS Policy). Under the DPS Policy, three elements are considered in the decision regarding the establishment and classification of a population of a vertebrate species as a possible DPS: (1) The discreteness of a population segment in relation to the remainder of the species to which it belongs; (2) the significance of the population segment to the species to which it belongs; and (3) the population segment’s conservation status in relation to the Act’s standards for listing, delisting, or reclassification. Both discreteness and significance are used to determine whether the population segment constitutes a valid DPS. If it does, then the population segment’s conservation status is used to consider whether that DPS warrants listing.

Discreteness and Significance

Under the DPS policy, a population segment of a vertebrate species may be considered discrete if it satisfies either one of the following conditions: (1) It is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors (quantitative measures of genetic or morphological discontinuity may provide evidence of this separation); or (2) it is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act.

Under the DPS policy, a discrete population segment of a vertebrate species may be considered significant if there is: (1) Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon; (2) evidence that loss of the discrete population segment would result in a significant gap in the range of the taxon; (3) evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historical range; or (4) evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

Petitions 1, 2, and 3: All three petitions include information regarding consideration of the Yellowstone bison as a DPS.

Discreteness:

- All three petitions claim that the Yellowstone bison exist in a single population with two breeding herds (Plumb *et al.* 2009, p. 2385; Geremia *et al.* 2014, p. 348). Additional sources cited by the petitioners and present in our files note that Yellowstone bison may be discrete from other populations of Plains bison due to physical and geographical isolation (USDOI and USDA 2000, p. 3; Halbert 2003, p. 130; Fuller *et al.* 2007, p. 1930; Halbert *et al.* 2012, p. 360; Pérez-Figueroa *et al.* 2012, p. 160; White *et al.* 2015, p. 120).

Significance:

- All three petitions claim the Yellowstone bison DPS is significant because it exhibits a high level of genetic diversity relative to other bison populations with no evidence of hybridization with cattle (Halbert 2003, p. 94, Halbert and Derr 2007, p. 5)

Petitions 2 and 3: The second and third petitions recommend that the two breeding herds of Yellowstone bison be considered as two DPSs.

Discreteness:

- Petitions 2 and 3 claim that the two breeding herds of Yellowstone bison should be considered as discrete based on the assertion that the two herds are isolated from each other during the breeding season (Olexa and Gogan 2007, p. 1536; Gardipee 2007, p. 9; Halbert *et al.* 2012, p. 367).

Significance:

- Petitions 2 and 3 claim the two breeding herds of Yellowstone bison are significant due to the contention that the central herd descends from wood bison (Skinner and Kaisen 1947, p.158) and the northern herd is non-migratory. We note that information in our files indicates that bison indigenous to central Yellowstone

descended from Plains bison based on genetic evidence (Wilson and Strobeck 1999, p. 493) and delineations in the ranges of wood bison and Plains bison (Hedrick 2009, p. 411; Gates *et al.* 2010, p. 2/7). Additional information in our files indicates that both the northern and central herds make seasonal migrations (White *et al.* 2015, p. 68), although migratory patterns between the two herds differ (Plumb *et al.* 2009, pp. 2382–2383; Geremia *et al.* 2011, p. 6; Halbert *et al.* 2012, p. 368). We will fully evaluate the information regarding the significance of these herds during our 12-month status assessment.

Based on the information above, one or both of these entities of Yellowstone bison may qualify as a DPS; however, we will further evaluate the validity of these DPS options during our 12-month status assessment.

Statutory and Regulatory Standards for Evaluation of the Petition

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species is an “endangered species” or a “threatened species.” The Act defines an endangered species as a species that is “in danger of extinction throughout all or a significant portion of its range,” and a “threatened species” as a species that is “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” The Act requires that we determine whether any species is an “endangered species” or a “threatened species” because of any of the following factors:

- (A) The present or threatened destruction, modification, or curtailment of its habitat or range;
- (B) Overutilization for commercial, recreational, scientific, or educational purposes;
- (C) Disease or predation;
- (D) The inadequacy of existing regulatory mechanisms; or
- (E) Other natural or manmade factors affecting its continued existence.

These factors represent broad categories of natural or human-caused actions or conditions that could have an effect on a species’ continued existence. In evaluating these actions and conditions, we look for those that may have a negative effect on individuals of the species, as well as other actions or conditions that may ameliorate any negative effects or may have positive effects.

In accordance with 50 CFR 424.14(d), the Service’s determination as to whether the petition provides substantial scientific or commercial information indicating that the petitioned action may be warranted will depend in part on the degree to which the petition includes the following types of information: (1) Information on current population status and trends and estimates of current population sizes and distributions, both in captivity and the wild, if available; (2) Identification of the factors under section 4(a)(1) of the Act that may affect the species and where these factors are acting upon the species; (3) Whether and to what extent any or all of the factors alone or in combination identified in section 4(a)(1) of the Act may cause the species to be an endangered species or threatened species (i.e., the species is currently in danger of extinction or is likely to become so within the foreseeable future), and, if so, how high in magnitude and how imminent the threats to the species and its habitat are; (4) Information on adequacy of regulatory protections and effectiveness of conservation activities by States as well as other parties, that have been initiated or that are ongoing, that may protect the species or its habitat;

and (5) A complete, balanced representation of the relevant facts, including information that may contradict claims in the petition.

Evaluation of Information in the Petitions

When evaluating a petition, we assess the information in the petition and may use any readily available information (e.g., in our files or published literature that we are aware of) to determine the credibility of the information presented in the petition. Our implementing regulations at 50 CFR 424.14(h)(1)(i) state conclusions drawn in the petition without the support of credible scientific or commercial information will not be considered “substantial information.” “Credible scientific or commercial information” may include all types of data, such as peer-reviewed literature, gray literature, traditional ecological knowledge, etc. Thus, we first must determine whether the information provided in the petition is credible. In other words, the Service must evaluate whether the information in the petition is substantiated and not mere speculation or opinion. Any claims that are not supported by credible scientific or commercial information do not constitute substantial information and will not be further evaluated. Next, we determine whether the conclusions drawn in the petition are reasonable (i.e., actually supported by that credible information).

After identifying the claims in the petition that are supported by credible information, we consider those claims in the context of the factors in section 4(a)(1) of the Act. When evaluating information presented in the petition, we consider factor D in light of the other factors, not independently. In other words, we consider whether the petition presents substantial information indicating that existing regulatory mechanisms may be inadequate to address the magnitude or imminence of threats identified in the petition related to the other four factors; therefore, we can consider factor D only after we have determined that the petition has presented substantial information that the species may warrant listing due to those other factors.

To complete our analysis for a 90-day petition finding to list or uplist, we first identify the claims in the petition that are supported by credible information indicating that a potential threat is occurring or is likely to occur within the species’ range. After identifying the claims that are supported by credible information, we next determine if the petition has presented credible information that any one of those threats affects the species at a population or species level, after taking into account any mitigating actions or conditions that may ameliorate those threats. If we find that the petition does not present substantial information that the petitioned action may be warranted based the information provided regarding the status and trends of the species or on one or more factors, we consider the cumulative impact of all of the threats that are supported by credible information. Based on these steps, we draw our conclusion and petition finding based on the standard for 90-day findings, which is whether the petition presents “credible scientific or commercial information in support of the petition’s claims such that a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted.”

Claims Addressing Threats

We first assess whether the claims in the petition are supported by credible information (i.e., whether the petition has presented credible information that the threat is occurring or is likely to occur and that the species may be exposed to the threat) (Table 1). If the supporting information

indicates that the threat is occurring or is likely to occur in the future and that the species may be exposed to it, we then assess whether the petition presented credible information that reasonably indicates the presence of negative effects on the species as a whole).

If there are no population-level effects, our analysis of that individual threat presented in the petition is complete, as there would be no species-level effects; we may then analyze that threat later if we need to evaluate cumulative effects. If the credible information about the particular threat indicates species level effects, our analysis of that individual threat presented in the petition is complete. If the credible information about the particular threat does not indicate species-level effects but does indicate population-level effects, we assess the extent to which the credible information in the petition indicates that the scale of the effects of that threat are such that a reasonable person would conclude that listing or uplisting may be warranted.

If, for any one threat, we find that there is credible information indicating that the threat is having or is likely to have a negative effect on the species as a whole, we can stop and make a positive “substantial information” finding. We would then evaluate all of the threats in detail based on the best scientific and commercial data available when we conduct the status assessment and make the 12-month finding. If we do not find substantial information indicating that any one threat is having an impact at a species-level, we conduct a cumulative analysis of the effects of all of the threats.

In accordance with 50 CFR 424.14 (h)(1)(iii), the “substantial scientific or commercial information” standard must be applied in light of any prior reviews or findings the Services have made on the listing status of the species that is the subject of the petition. In our previous 90-day finding, we concluded that the petitions did not provide substantial scientific or commercial information indicating that the petitioned action may be warranted. However, our previous 90-day finding was remanded on January 12, 2022. Therefore, we are now reevaluating the petitions in light of the issues raised by the Court.

TABLE 1: Assessment of the credibility of scientific and commercial information in the petition and the extent to which claims supported by credible scientific or commercial information in the petition corroborates the presence of negative impacts to populations or the species.

Threat or Activity	Exposure. Is the claim of the threat in the petition supported by credible scientific and commercial information? Does the petition support the claim that there is a potential threat and it is occurring or is likely to occur within the range of the species? If no, explain. If yes, include brief summary statement and citations to the credible information.	Response (Populations/Species). Do the claims and the supporting information indicate negative effects to one or more populations and if so, to the species as a whole? Yes or no. Explain and describe below?
Curtailment of the range of Yellowstone bison (Factor A)	Yes. All three petitions assert that the range of Yellowstone bison is curtailed by disease risk-management operations conducted through the Interagency Bison Management Plan (IBMP). The petitions claim that these operations limit winter movement of Yellowstone bison beyond the northern and western boundaries of	Yes. All three petitions present substantial information that range curtailment may impact Yellowstone bison such that listing may be warranted due to the loss of migration routes, the lack of tolerance for bison beyond YNP boundaries, and habitat loss (Meagher 1973, pp. 13–14; Gates <i>et al.</i> 2005 p. 28; Plumb <i>et al.</i> 2009, pp. 2377–

	<p>YNP through both lethal (culling and hunting) and non-lethal (hazing and quarantine) measures (Plumb <i>et al.</i> 2009, p. 2383). These actions are taken to control the potential spread of brucellosis, an infectious bacterial disease that can induce pregnant cattle, elk, and bison to abort their calves, from Yellowstone bison to cattle grazing on public and private lands adjacent to YNP. The second and third petitions acknowledge that there is some tolerance of Yellowstone bison that migrate across the western boundary to calve in Hebgen Basin.</p>	<p>2378). Existing bison management through the IBMP may exacerbate the potential threat from range curtailment because of management actions (culling, hunting, hazing) taken to control the potential spread of brucellosis from Yellowstone bison to cattle grazing on adjacent lands. The petitions claim that large-scale culling has differentially affected the size and productivity of the two breeding herds of the Yellowstone bison (White <i>et al.</i> 2011, p. 1331).</p>
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Cumulative Effects of Claims Supported by Credible Information

Because we have found that the petitions presented substantial information that one or more threats are having an impact on the species to the point that there may be population or species-level effects, the petition presents substantial information indicating that the species may warrant listing. We do not need to assess cumulative effects at the 90-day finding stage because we will address cumulative effects of all threats in the 12-month finding.

Evaluation of Information Summary – The petitioners provided credible information indicating that range curtailment (Factor A) may be a potential threat to the Yellowstone bison. The petitioners also provide credible information that management actions taken under the IBMP may curtail the species’ available winter habitat through culling, hunting, hazing, and quarantine (Factor D). Therefore, the petitions present substantial information indicating that one or more of the petitioned entities may warrant listing. We will evaluate these and all other potential threats in detail based on the best scientific and commercial data available when we conduct the status assessment and make the 12-month finding.

Petition Finding

Substantial Finding:

We reviewed the petitions, sources cited in the petitions, and other readily available information. We considered the factors under section 4(a)(1) and assessed the effect that the threats identified within the factors—as potentially ameliorated or exacerbated by any existing regulatory mechanisms or conservation efforts—may have on the species now and in the foreseeable future. Based on our review of the petitions and readily available information regarding range curtailment (Factor A) and associated regulatory mechanisms (Factor D), we find that the petitions present substantial scientific or commercial information indicating that listing the Yellowstone bison as a threatened or endangered DPS of Plains bison (*Bison bison bison*) may be warranted. The petitioners also presented information suggesting that overutilization (Factor B), disease (Factor C), and loss of genetic diversity due to culling (Factor E) may be threats to the Yellowstone bison. We will fully evaluate all of these potential threats during our 12-month status review, pursuant to the Act’s requirement to review the best scientific and commercial information available when making that finding.

Author

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