



December 17, 2013

Public Comments Processing  
Attn: FWS-HQ-ES-2013-0073  
Division of Policy and Directive Management  
United States Fish and Wildlife Service  
4401 N. Fairfax Drive  
Arlington, VA 22203

**Re: Removing the Gray Wolf (*Canis lupus*) From the List of Endangered and Threatened Wildlife and Maintaining Protections for the Mexican Wolf (*Canis lupus baileyi*) by Listing It as Endangered**

Please accept the following comments on behalf of the Center for Biological Diversity,<sup>1</sup> Cascadia Wildlands, Klamath-Siskiyou Wildlands Center, and Greenpeace U.S. in response to the U.S. Fish and Wildlife Service (Service) proposed rule *Removing the Gray Wolf (Canis lupus) From the List of Endangered and Threatened Wildlife and Maintaining Protections for the Mexican Wolf (Canis lupus baileyi) by Listing It as Endangered* (hereafter Proposed Rule). We strongly oppose this arbitrary and capricious proposal, which prematurely cuts short recovery efforts for gray wolves in the lower 48 States, blatantly violates the plain meaning and intent of the Endangered Species Act (ESA or Act), and fails to follow the best available scientific information regarding the conservation of the gray wolf.

The Proposed Rule undermines the ESA by embracing a museum approach to conservation that would relegate wolves to a small fraction of their historic range and ignoring the fundamental purpose of the Act “to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved.”<sup>2</sup> While efforts to recover gray wolves in the northern Rockies and western Great Lakes have been successful, since removal of federal protections, states within these areas have enacted aggressive hunting and trapping regulations that are leading to wolf declines. More importantly, these two areas represent less than five percent of the historic range of the gray wolf—a fraction of suitable habitat identified by scientists that can still support wolves, including the southern Rockies, California, the Pacific Northwest and Northeast.

The Service argues in the Proposed Rule that the “Act does not require us to restore the gray wolf (or any other species) to all of its historical range or even to a majority of the currently

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<sup>1</sup> The Center for Biological Diversity (“Center”) is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has more than 625,000 members and online activists dedicated to the protection and restoration of endangered species and wild places. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life. We appreciate the opportunity to provide comment.

<sup>2</sup> Endangered Species Act, 16 U.S.C. § 1531(b) (1973).

suitable habitat. Instead, the Act requires that we recover listed species such that they no longer meet the definitions of ‘threatened species’ or ‘endangered species,’ *i.e.*, are no longer in danger of extinction now or in the foreseeable future.”<sup>3</sup> In making this statement, however, the Service has truncated the definition of threatened and endangered species. The full definition of an endangered species in the Act is “any species which is in danger of extinction throughout all or a significant portion of its range,” and the full definition of a threatened species is “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”<sup>4</sup> The statute thus makes clear that the Service does have a duty to recover gray wolves to all but insignificant portions of their range.

With wolves at low numbers or absent from both large portions of their historic range and suitable habitat in the southern Rocky Mountains, Northeast, California, the Pacific Northwest and other areas, there is no rational basis for concluding they are recovered to all significant portions of range as required by the Endangered Species Act. The proposed rule gets around this requirement in part by utilizing an unsupported and plainly illegal definition of the term “range.” Following a draft policy, the rule defines “range” to only mean “current range.” Excluding consideration of historic range has been extensively criticized in the literature for amounting to a shifting baseline, in which past losses are ignored and the bar for recovery is arbitrarily set to the time of listing.<sup>5</sup> This is but one of many problems with the proposed rule.

The Service twists itself into multiple policy contortions to justify delisting in the lower 48 states and in various regions. In arguing that wolf populations in the lower 48 States outside of the northern Rockies and western Great Lakes can no longer be protected, the proposed rule violates the Service’s own policy on the recognition of distinct population segments (DPS) of vertebrate species by, for the first time ever, requiring an extant population be present prior to the designation of a DPS unit. Even in cases where wolves are present, however, the Service still denied recognition of a DPS. In the Pacific Northwest, the proposed rule concludes that no discrete DPS could be designated because wolves there are not discrete from wolves in the northern Rockies. This conclusion is inconsistent with the Service’s own past practice, and denies gray wolves needed protection in Washington, Oregon, Nevada, and California. In order to deny wolves protection in the Northeast, the Service violated the requirement in Section 4 of the Act that all listing and delisting decisions be made “solely on the basis of the best available scientific and commercial data.” To accomplish this, the Service deemed a new species into existence, *Canis lycaon*, the Eastern Timber Wolf, when no such species is recognized under all scientifically accepted taxonomic standards. In doing so, the Proposed Rule repeatedly and egregiously misstates and misrepresents the scientific literature regarding the taxonomy of the gray wolf.

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<sup>3</sup> Removing the Gray Wolf (*Canis lupus*) From the List of Endangered and Threatened Wildlife and Maintaining Protections for the Mexican Wolf (*Canis lupus baileyi*) by Listing It as Endangered, 78 Fed. Reg. 35664, 35674 (proposed June 13, 2013) (to be codified at 50 C.F.R. pt. 17) [hereinafter “PROPOSED RULE”].

<sup>4</sup> 16 U.S.C. § 1532(6) & (20).

<sup>5</sup> See Bruskotter et al. 2013. *Removing protections for wolves and the future of the U.S. Endangered Species Act*, CONSERVATION LETTERS, 2013 (in press) (See Appendix Three); see also Waples, R. S., P. B. Adams, J. Bohnsack, and B. L. Taylor, *Legal Viability, Societal Values, and SPOIR: response to D’Elia et al.*, 22 CONSERVATION BIOLOGY, 2008, at1075–1077.

The Service further violated the Act by basing many of the above decision to delist the gray wolf on considerations of social tolerance, economic conflict, political acceptability, and overall feasibility rather than solely on the basis of the best available scientific information.

Finally, the Proposed Rule is arbitrary and capricious because it fallaciously argues that the *only* way that the Mexican gray wolf, *Canis lupus baileyi*, can be listed as a separate, endangered subspecies is through a nationwide review of *Canis lupus*. This is plainly incorrect, is refuted by existing practice by the Service, and puts in jeopardy the recovery of the Mexican gray wolf by tying the subspecies' future to a convoluted, nonsensical, and illegal delisting proposal.

**I. The Fundamental Premise of the Proposed Rule is Incorrect. The Service has the Authority to Protect a “Non-DPS Remnant” if it Furthers the Intent of the ESA.**

The Proposed Rule claims that the currently protected entity of *Canis lupus*, which covers 42 States, is no longer a “valid entity” for protection under the ESA.<sup>6</sup> The Proposed Rule also argues that due to a “gross mismatch”<sup>7</sup> the remaining 42 States do not constitute a DPS that should be protected under the ESA, and that therefore it would be “more logical to take a fresh comprehensive look at the status of gray wolves” in the remaining 42 States. Such an approach is not logical, is not precautionary, and arbitrarily denies a valid listed entity protection that it is already entitled to under the ESA.

When the Service listed *Canis lupus* as a species in March of 1978 as threatened in Minnesota and endangered in the remaining 48 States, the Service did so under existing, valid authority. The Endangered Species Act of 1973 defined “species” to include “any subspecies of fish or wildlife or plants and any other *group of fish or wildlife of the same species or smaller taxa in common spatial arrangement that interbreed when mature.*”<sup>8</sup> Although not explicit in its reasoning, the 1978 regulation protected gray wolves as a group of wildlife in common spatial arrangement that interbreed when mature because, as the Proposed Rule notes, the Service did not protect either the full global species of *Canis lupus* or a particular subspecies.<sup>9</sup>

A few months after the 1978 listing, Congress amended the ESA, replacing the phrase regarding “groups of fish or wildlife” with a new phrase: “any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.”<sup>10</sup> The Senate began debate on the 1978 Amendments to the ESA just one month after the March 1978 listing of the gray wolf. Had Congress wished to weigh in on the Service’s listing of the gray wolf under this “groups of wildlife” authority or more generally require the Service to revise or revisit listings made under the 1973 statutory authority, it could easily have done so. Congress never repealed or invalidated listing made under the 1973 Act authority; nor did it require the Service to revise listings under the 1966 or 1969 predecessors to the ESA. Thus the March 1978 listing remains a valid listing under the ESA to this date.

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*See generally* PROPOSED RULE], 78 Fed. Reg. 35664.

<sup>7</sup> PROPOSED RULE, 78 Fed. Reg. at 35675.

<sup>8</sup> Endangered Species Act, Pub.L. No. 93-205, § 3(11), 87 Stat. 884, 886 (1973) (emphasis added).

<sup>9</sup> PROPOSED RULE, 78 Fed. Reg. at 35666.

<sup>10</sup> Endangered Species Act, Pub.L. No. 95-632, § 2(16), 92 Stat. 3751,3752 (1978) (codified as 16 U.S.C. § 1532 (16)).

In essence, the Proposed Rule argues that, following the delisting of the northern Rocky Mountain DPS and western Great Lakes DPS, that the remaining non-DPS remnant covering 42 States is no longer valid. As explained in *National Wildlife Federation v. Norton*, such an argument is simply not correct. Nothing in the ESA prevents the Service “from creating a ‘non-DPS remnant’ designation, especially when the remnant area was already listed as endangered.”<sup>11</sup> In 2003, the Service attempted to remove the ESA’s protections for gray wolves by lumping “a core population with a low to non-existent population outside of the core area.” However, in that case, the Court rightly concluded that the Service’s claim that it could not protect the non-DPS remnant portions of the range “conflicts with the overarching purpose of the ESA—protect a species and its habitat from extinction.”<sup>12</sup> Given that the 2003 delisting proposal would have protected wolves in substantially more areas in the United States than the current Proposed Rule, the Court’s reasoning is even more compelling here.

Just as the Service could not downlist or delist gray wolves in the northeast in 2003 by lumping that “non-existent population” within the larger western Great Lakes DPS,<sup>13</sup> the Service cannot delist the gray wolf in those States where wolves have not yet recovered by drawing a line around the core population and excluding previously protected non-core areas and claiming there is no species to protect. The ESA is designed to protect and recover portions of the range of species that represent extirpated or “non-existent populations.”<sup>14</sup> The 1978 listing for the gray wolf provides the protections of the ESA in areas where wolves have not yet recovered. Within that area, there are millions of acres of suitable habitat that the Service itself recognizes could support wolves (See Figure One). Keeping the original listing intact furthers the purpose of the ESA by taking a precautionary approach to wolf conservation.

The 1978 listing of the gray wolf was enacted pursuant to existing statutory authority through a regulation that complied with the Administrative Procedure Act’s requirements for public notice and comment. The DPS Policy—a non-binding guidance document put forward by the Services 18 years after the wolf was listed—does not bear any weight on whether the 1978 listing is valid. The Service cannot simply deem a listed entity invalid because of the consequences of how it used, as well as misused,<sup>15</sup> later-enacted statutory authority in conjunction with an even more recent policy guidance document. It cannot use a purely legal argument to overcome the ESA’s requirement that decisions to delist a species be based on the best available science only. The best available science indicates that there are large geographic areas within the historic range of the gray wolf that could support gray wolf recovery. The 1978 listing addressed recovery in these areas and remains valid, despite the existence of two more-recent DPS units that were delisted.

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<sup>11</sup> *Nat’l Wildlife Fed’n v. Norton*, 386 F.Supp.2d, 553, 565 (D. Vt. 2005).

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> Given that the Courts have invalidated multiple attempts to create the NRM DPS unit, there is more than a little irony in claiming that it is because of that DPS unit that wolves can no longer be protected in the western United States. *Defenders of Wildlife v. Salazar*, 729 F. Supp. 2d 1207 (D. Mont. 2010).

## II. The Service's Definition of "Significant Portion of its Range" Violates the ESA.

One of the most substantial changes effected by the passage of the Endangered Species Act of 1973 was the ability to protect species "which are in trouble in any significant portion of their range, rather than threatened with worldwide extinction."<sup>16</sup> This change provided a greater degree of protection than previous versions of the ESA and allowed a species to be protected prior to the point it faced global extinction. The Service's "significant portion of its range" (hereafter "SPOIR") analysis ignores the mandate of the 1973 Act by relying on an arbitrary and capricious definition of "range" and sets a threshold for "significance" at an impermissibly high level that violates the ESA.

The Service's SPOIR analysis in the Proposed Rule is virtually identical to its 2011 draft policy on SPOIR.<sup>17</sup> Despite repeated indications that this policy would be finalized in 2012 and 2013, the Service has still failed to respond to public comments or finalize the policy, thereby leaving the public in a state of limbo regarding how a final interpretation of the SPOIR policy will affect listed species. This procedural delay violates the APA and creates a Catch-22 making it more difficult to resolve whether the Service's draft SPOIR policy is consistent with the ESA.

### A. Excluding Lost Historic Range from the Significant Portion of a its Range Analysis for the Gray Wolf Violates the Plain Meaning of the ESA.

As part of its rationale for prematurely delisting the gray wolf, the Proposed Rule makes the broad claim that "[t]he word 'range' refers to the range in which the species current exists..."<sup>18</sup> There is no legal basis or justification for this broad statement that clearly violates the plain meaning of the ESA. As a consequence of this arbitrary and capricious definition, the Proposed Rule fails to properly consider whether ESA protections are required for the gray wolf to recover across millions of acres of its historic range in the western United States where suitable habitat remains present.

The ESA makes abundantly clear that "range" includes both current and historic range. The Service's interpretation<sup>19</sup> that the ESA does not require a consideration of historic range is invalid. Section 3(5) provides the Service with authority to designate critical habitat in "specific areas outside the geographical area occupied by the species at the time it is listed...upon a determination by the Secretary that such areas are essential for the conservation of the species."<sup>20</sup> The definition of "conservation" includes "propagation, live trapping, and transplantation" all of which implies that conservation actions will occur outside of the current range of a species.<sup>21</sup> Finally, Section 10(j) allows the Service to reintroduce experimental populations of listed species

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<sup>16</sup> H.R. REP. No. 93-412, at 2 (1973).

<sup>17</sup> Draft Policy on Interpretation of the Phrase "Significant Portion of Its Range" in the Endangered Species Act's Definitions of "Endangered Species" and "Threatened" Species, 76 Fed. Reg. 76987 (Dec. 9, 2011) [hereinafter "DRAFT SPOIR POLICY"].

<sup>18</sup> PROPOSED RULE, 78 Fed. Reg. at 35673..

<sup>19</sup> See Appendix Two

<sup>20</sup> 16 U.S.C. § 1532(5)(A)(ii).

<sup>21</sup> 16 U.S.C. § 1532(3).

“outside the *current* range of such species if the Secretary determines that such releases will further the conservation of such species.”<sup>22</sup>

If the Proposed Rule is correct, and “range” only includes the current range of the species at the time of listing, then implementation of the Act becomes immediately problematic. Such a meaning conflicts with other provisions in the ESA that speak directly to historic range. Section 4(c)(1) states that the Service shall “specify...over what portion of its range a species is endangered or threatened, and specify any critical habitat *within* such range.”<sup>23</sup> As staff from the National Oceanic and Atmospheric Administration General Counsel and Department of Interior Solicitor’s Office noted, if “range” is limited to only current range, how could unoccupied habitat that is outside the current range of the species at the time of listing be designated as critical habitat?<sup>24</sup> Similarly, if “range” is limited to only current range, then a species could only be protected inside its “current range” at the time of listing meaning that there could be “no protections outside that area and any reintroduced populations would have no protections [under the ESA].”<sup>25</sup>

Congress was deeply concerned with addressing lost historic range and gave the Service a variety of tools to facilitate the recovery of species in areas of lost historic range. But under the Proposed Rule definition, historic range is *completely* irrelevant for the recovery of gray wolf—both in the context of its entire historic range and in significant portions of its historic range. Because the gray wolf still occupies only 5% of its historic range in the lower 48 States, the deliberate decision to ignore the conservation implications of these lost areas of historic range is arbitrary and capricious. This decision is especially egregious since the Service itself has determined—and presented its conclusions to State Fish and Game agencies in its 2010 Structured Decision Making (SDM) process—that there are extensive areas within the historic range of the gray wolf where suitable habitat remains unoccupied.<sup>26</sup> See Figure One.

While it might be reasonable for the Service to conclude that recovery of the gray wolf in the central United States is not required by the ESA because restoring suitable habitat there would likely require “dismantling of our own civilization,”<sup>27</sup> the Service cannot ignore those areas where extensive suitable habitat remains simply because it is not within the current range of the gray wolf. In attempting to avoid acknowledging this undisputed fact, the Proposed Rule indefensibly states:

Within the likely historical range of *C. l. nubilus* in the central United States, the Southern Rocky Mountains and Colorado Plateau, and the Pacific Northwest of the United States, wolves were extirpated soon after colonization and

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<sup>22</sup> 16 U.S.C. § 1539(j)(2)(B).

<sup>23</sup> 16 U.S.C. § 1533(c)(1).

<sup>24</sup> NAT’L MARINE FISHERIES SERV. AND U.S. FISH AND WILDLIFE SERV. SPR TEAM, WHITE PAPER: OPTIONS FOR INTERPRETING THE PHRASE “SIGNIFICANT PORTION OF ITS RANGE (2010) (available at regulations.gov in Docket # FWS-R9-ES-2011-0031).

<sup>25</sup> *Id.*

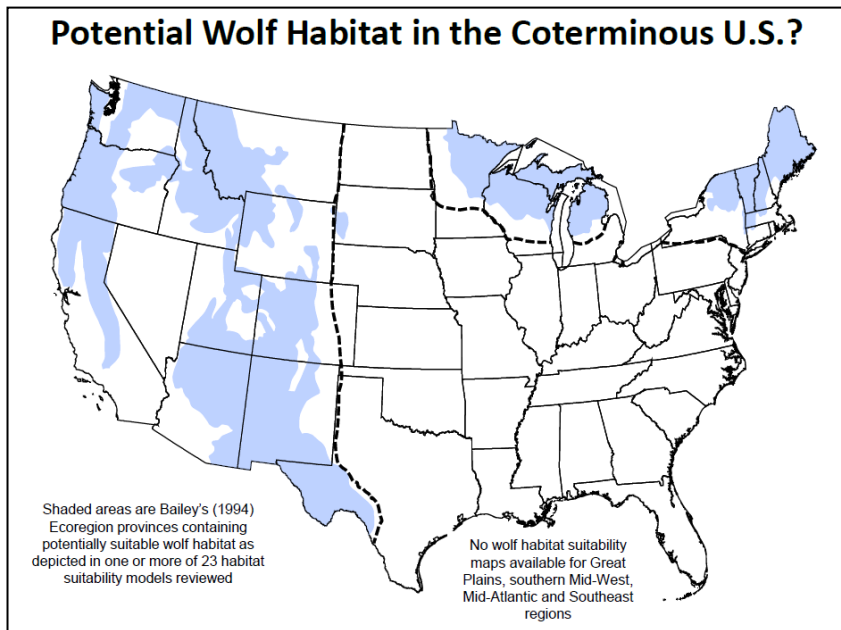
<sup>26</sup> Public Employees for Environmental Responsibility, *Politics Dominated Wolf Delisting Meetings*, available at <http://www.peer.org/news/news-releases/2013/06/26/politics-dominated-wolf-de-listing-meetings/> (June 27, 2013) (all documents from the PEER FOIA request are attached as Appendix One) [hereinafter “PEER 2013 FOIA”].

<sup>27</sup> H.R. REP. NO. 93-412, at 5 (1973).

establishment of European-style agriculture and livestock growing. *This range contraction appears to be permanent* (with the exception of the Pacific Northwest, which is actively being recolonized) and does not appear to be contracting further at this time.<sup>28</sup>

This statement is false. The Service possesses no scientific information to support the statement that the range of the wolf has permanently contracted in the Southern Rocky Mountains and Colorado Plateau when individual gray wolves have dispersed there in the past and the Service's own information indicates that vast areas of suitable habitat remain available for wolf recovery efforts. For instance, the Service ignores scientific literature that has assessed the feasibility of restoration in Colorado, including potentially successful reintroduction locations within that state.<sup>29</sup>

**Figure One. Suitable Wolf Habitat<sup>30</sup>**



The Ninth Circuit has made clear that the Service may not ignore lost historic range in the listing (and therefore recovery) of threatened and endangered species. In *Defenders of Wildlife v. Norton*, the court concluded “consistently with the Secretary’s historical practice, that a species can be extinct ‘throughout...a significant portion of its range’ if there are major geographical areas in which it is no longer viable but once was.”<sup>31</sup> The Court explained that when “the area in which the [species] is expected to survive is much smaller than its historical range, the Secretary must at least explain her conclusion that the area in which the species can no longer live is not a ‘significant portion of its range.’”<sup>32</sup> On the appeal of the remanded decision in that case, the

<sup>28</sup> PROPOSED RULE, 78 Fed. Reg. at 35678.

<sup>29</sup> See Carroll et al., *Impacts of Landscape Change on Wolf Restoration Success: Planning a Reintroduction Program Based on Static and Dynamic Spatial Models*, 17 Conservation Biology, 2003, at 536–548.

<sup>30</sup> PEER 2013 FOIA, at 19.

<sup>31</sup> *Defenders of Wildlife v. Norton*, 258 F.3d 1136, 1145 (9th Cir. 2001).

<sup>32</sup> *Id.*

Ninth Circuit specifically clarified that it had indeed held that Service *must* analyze whether lost historical range is a significant portion of its range.<sup>33</sup> The Ninth Circuit’s interpretation of the SPOIR language has been followed by a number of other courts and remains well-accepted legal precedent.<sup>34</sup> The Proposed Rule repeatedly acknowledges that the gray wolf at the species level, *Canis lupus*, and in particular, the newly designated subspecies of *C.l. nubilus*, no longer occupy large portions of their historic range.<sup>35</sup> However, the Proposed Rule completely fails to consider whether *any* portion of the lost historical range for *Canis lupus* or *C.l. nubilus* is a SPOIR.<sup>36</sup> By failing to consider lost historic range as a SPOIR, the Proposed Rule is arbitrary and capricious.

The myopic and legally invalid framing of historic range for the purpose of the SPOIR analysis in the Proposed Rule has also been widely criticized in the scientific literature for being inconsistent with the goal of species conservation.<sup>37</sup> Notably, when the same definition of range was proposed in the 2007 Solicitor’s M-Opinion, several NMFS biologists explained in a peer reviewed paper in *Conservation Biology* the biological consequences of defining “range” in terms of current range only:

It is easy to show through *reductio* argumentation that this approach is logically flawed. Consider the hypothetical example illustrated...At time 1, an ESA ‘species’ consists of 10 populations, 9 of which are on the verge of extinction/extirpation while the tenth is relatively healthy...Most frameworks would probably consider this species to be at risk in a significant portion of its range. After a (perhaps short) period of time, the 9 at-risk populations wink out, leaving a single remnant population...Clearly, the status of this species has declined from time 1 to time 2, because extirpation of 90% of its historical populations occurred during that interval. Under the shifting baseline framework articulated in the

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<sup>33</sup> *Tucson Herpetological Soc’y v. Salazar*, 566 F.3d 870 (9th Cir. 2009).

<sup>34</sup> See, *Defenders of Wildlife v. Dept. of the Interior*, 354 F.Supp.2d 1156, 1167 (D. Or. 2005) (final rule downlisting wolves in Eastern and Western DPSs vacated, since Secretary failed to take into account historic range outside of core recovery areas, where the wolf was once viable); *National Wildlife Fed’n v. Norton*, 386 F.Supp.2d 553 (D. Vt. 2005) (final rule downlisting wolves in Eastern and Western DPSs vacated, since Secretary failed to take into account historic range); *Defenders of Wildlife v. Norton*, 239 F.Supp.2d 9 (D.D.C. 2002) (holding that FWS acted arbitrarily and capriciously when it failed to consider key areas of Canada lynx’ historic range); *Envtl. Prot. Information Ctr. V. Nat’l Marine Fisheries Serv.*, No. C-02-5401 (N.D. Cal. Mar. 2, 2004) (NMFS failed to analyze whether lost spawning habitat of green sturgeon was an SPOIR).

<sup>35</sup> According to FWS, the historical range of the gray wolf was “the central and western United States, including portions of the western Great Lakes region, the Great Plains, portions of the Rocky Mountains, the Intermountain West, the Pacific states and portions of the Southwest.” PROPOSED RULE, 78 Fed. Reg. at 35670.

<sup>36</sup> See, e.g., PROPOSED RULE, 78 Fed. Reg. at 35715 (“We consider the range of *C. lupus* to include *portions* of North America...).

<sup>37</sup> Bruskotter, J.T. and S.A. Enzler., *Narrowing the Definition of Endangered Species: Implications of the U.S. Government’s Interpretation of the Phrase “A Significant Portion of its Range” Under the Endangered Species Act of 1973*, 14 HUMAN DIMENSIONS OF WILDLIFE, 2009, 73 – 88; Carroll, C., et al., *Geography and Recovery Under the US Endangered Species Act*, 24 CONSERVATION BIOLOGY, 2010, at 395-403; Vucetich, J.A., et al., 20 *The Normative Dimension and Legal Meaning of Endangered and Recovery in the U.S. Endangered Species Act*. CONSERVATION BIOLOGY, 2006, at 1383-1390; Enzler, S.A. and J.T. Bruskotter., *Contested Definitions of Endangered Species: The Controversy Regarding How to Interpret the Phrase “A Significant Portion a Species’ Range,”* 27 VIRGINIA ENVTL. L.J., at 1-65 (2009); Greenwald, D., *Effects on Species’ Conservation of Reinterpreting the Phrase “Significant Portion of its Range” in the US Endangered Species Act*, 23 CONSERVATION BIOLOGY, 2009, at 1374-1377.



Solicitor’s Opinion, however, the species can now be considered to be not at risk, because the sole remaining population occupies most or all of the current range of the species...<sup>38</sup>

The Proposed Rule’s attempts to avoid the unambiguous legal requirement to consider whether historic range constitutes a SPOIR through generic statements such as “[t]he Act does not require us to restore the gray wolf (or any other species) to all of its historical range or even to a majority of the currently suitable habitat” and “recovery...is driven by a species’ biological needs affecting viability and sustainability, and not by an arbitrary percent of a species’ historical range or currently suitable habitat.”<sup>39</sup> These statements are not legally sufficient to avoid a SPOIR analysis of historic range. As the Ninth Circuit observed in *Defenders of Wildlife*, questions about a species’ viability—its global extinction risk—are addressed by the ESA’s statutory provisions regarding threats *throughout all* of a species range, not through the SPOIR authority.

The Service can rightly conclude that a species is not threatened or endangered throughout all of its range even when a majority of the historic range of that species remains unoccupied. But because the SPOIR concept dictates a broader scope of what it means to be threatened or endangered, the Service cannot unequivocally state that lost historic range is irrelevant. By eliminating any inquiry on lost historic range as a SPOIR, the Proposed Rule makes the same mistake as in *Defenders of Wildlife* conflating (1) the “distinct ESA protections for species facing extinction throughout ‘all’ and throughout ‘a significant portion’ of their range with (2) the separate protections for ‘threatened’ and for ‘endangered species.’”<sup>40</sup>

When the Service proposed its policy interpreting SPOIR in 2011, it included an identical meaning for “range” as current range only.<sup>41</sup> The draft policy itself admitted that this definition would have no real-world distinction between “endangered” in a SPOIR and “threatened” throughout the range:

Because a determination of significance means that, without that portion, the species would be endangered throughout its range, a determination that the species *is in fact likely to be without that portion* (that is, likely to be extirpated from it) within the foreseeable future, is also a determination that the species is likely to become endangered throughout its range in the foreseeable future. *The species would therefore currently also meet the definition of threatened throughout its range.*<sup>42</sup>

The Proposed Rule’s definition of range has the effect of nullifying any potential, real-world conservation benefits for gray wolves by narrowing the SPOIR inquiry to current range only.

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<sup>38</sup> Waples, R. S., P. B. Adams, J. Bohnsack, and B. L. Taylor. 2008. Legal viability, societal values, and SPOIR: response to D’Elia et al. *Conservation Biology* 22:1075–1077.

<sup>39</sup> PROPOSED RULE, 78 Fed. Reg. at 35674.

<sup>40</sup> *Defenders of Wildlife v. Norton*, 258 F.3d at 1142.

<sup>41</sup> DRAFT SPOIR POLICY, 76 Fed. Reg. at 76996.

<sup>42</sup> *Id.* at 76996 (emphasis added).

## B. The Threshold for Significance Violates the Plain Meaning of the ESA.

A species can be protected under the SPOIR authority regardless of its overall global viability—extinction risk—as a species. In language identical to the 2011 Policy, the Proposed Rule states that a portion of the range is significant if its “contribution to the viability of the species is so important that, without that portion, the species would be in danger of extinction.”<sup>43</sup> This definition, like the illegal definition in *Defenders of Wildlife v. Norton*, fails to give an independent meaning to the SPOIR authority because it fails to recognize that a species can be protected even if it is abundant in some portions of its range such that it has no extinction risk whatsoever. The legislative history shows that Congress intended to provide the Service with the ability to declare “a species endangered within the United States where its principal range is in another country, such as Canada or Mexico, and members of that species are only found in this country insofar as they exist on the periphery of their range.”<sup>44</sup> In 1972, the Department of Interior itself concluded that the SPOIR authority was designed to:

provide the Secretary with the authority to protect a population unique to some portion of the country without regard to its taxonomic status, or a population that is now endangered over a large portion of its range even if the population inhabiting that portion of the range is not recognized as a distinct subspecies *from a more abundant population occurring elsewhere*.<sup>45</sup>

Use of the draft SPOIR policy’s definition of “significant” in the Proposed Rule conflicts with this historic understanding of the SPOIR authority. If a species is abundant elsewhere, either within the United States or abundant in another country, then under the Proposed Rule’s logic the Service would be precluded from being able to invoke the SPOIR authority to protect that species. Just like the Proposed Rule’s attempt to limit “range” to current range, this definition is invalid because it again conflates a species’ overall extinction risk with the risk of extirpation in a portion of its range, rendering SPOIR as legislative surplusage.<sup>46</sup>

Simply put, there is no functional, real-world difference between “threatened” throughout its range and “endangered” or “threatened” within an SPOIR so long as the Service bases the SPOIR analysis on a species’ viability. If a portion of the gray wolf’s range is so important as to implicate its viability as a species, then, at the moment in time when that portion does become threatened or endangered, by definition, the gray wolf becomes threatened throughout its range. Whatever linguistic differences might appear in the theoretical framing of SPOIR, once the threshold is crossed in fact, all differences fall away and SPOIR becomes identical to “throughout” its range. For example, despite acknowledging “at the regional level some populations are facing significant threats,” the Proposed Rule concludes that none of these areas represent a SPOIR because the threats are not of a magnitude that the entire species of gray wolf is put at risk of extinction. However, had the Service found *opposite*—threats at the regional level were of a magnitude that the entire species was put at risk—gray wolves would also qualify for protection under the ESA as threatened or endangered throughout its range at that moment.

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<sup>43</sup> PROPOSED RULE, 78 Fed. Reg. at 35714.

<sup>44</sup> *Id.*

<sup>45</sup> Environmental Impact Statement accompanying H.R. 13111, 92nd Congress (1972).

<sup>46</sup> See *United Food and Commercial Workers Union Local 571 v. Brown Group, Inc.*, 517 U.S. 544, 550 (1996).

The Proposed Rule attempts to mask this fatal flaw by discussing how it will apply the scientific concepts of representation, redundancy, or resiliency to its SPOIR analysis. The Proposed Rule states that the Service will determine for each significant portion “whether, without that portion, the representation, redundancy, or resiliency of the species would be so impaired that the species would have an increased vulnerability to threats to the point that the overall species would be in danger of extinction (i.e. would be endangered).”<sup>47</sup> But again, once this inquiry is applied to a real world fact set, the flaw of this approach becomes clear.

When the threats become real to gray wolves in a portion of their range, to such a level that the loss in representation, redundancy, or resiliency threatens the species as a whole — at that moment, the gray wolf would qualify as threatened or endangered throughout its range. The SPOIR inquiry remains collapsed within the range-wide endangerment inquiry.

The Proposed Rule defines “representation” as “the range of variation found in the species.” This is an incorrect definition of representation. In many of its past actions, the Service has somewhat more accurately defined “representation” as, for example, “conserving ‘some of everything’ with regard to genetic and *ecological diversity* to allow for future adaptation and maintenance of evolutionary potential.”<sup>48</sup> This definition recognizes that representation focuses on a species distribution in different ecological systems, a characteristic that does not necessarily relate to its viability as a species. Had the Proposed Rule used a definition of representation that was similar to the past definition it had issued on other occasions, it may have come to a different SPOIR analysis for the gray wolf.

The Proposed Rule’s definition of “representation” stands at odds with the definition put forward by Mark Shafer and Bruce Stein, the two scientists who coined the “Three-Rs” concept. They explained that representation: “means saving more than the species themselves. It means saving the ecological and evolutionary patterns and processes that not only maintain but also generate those entities we call species.” Using the mountain lion (*Felis concolor*) as an example, Shafer and Stein explained that truly conserving the mountain lion requires conservation actions across a range of temperate and tropical ecosystems from Canada to Tierra del Fuego. They explain that allowing the species to disappear in large portions of its range, while “maintaining them only in Canada” does not fully accomplish biodiversity conservation.<sup>49</sup> The same is true for the Proposed Rule and the conservation of the gray wolf. Saving the gray wolf only in Canada, Alaska and a small fraction of its range in the lower 48 States does not accomplish the larger conservation goal of maintaining representation of the gray wolf.

Similarly, Carroll et al. (2006) noted that representation, by focusing on geographic distribution, “applies primarily to a population itself (e.g., by examining whether the species’ absence in a portion of its range would have significant ecological consequences or whether a given portion of a species’ range includes ecosystem types not found elsewhere in the species’ range) rather

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<sup>47</sup> PROPOSED RULE, 78 Fed. Reg. at 35714.

<sup>48</sup> Determination of Endangered Species Status for the Austin Blind Salamander and Threatened Species Status for the Jollyville Plateau Salamander Throughout Their Ranges, 78 Fed. Reg. 51278 (Aug. 20, 2013).

<sup>49</sup> Shaffer M.L. and B.A. Stein, *Safeguarding Our Precious Heritage*, in PRECIOUS HERITAGE: THE STATUS OF BIODIVERSITY IN THE UNITED STATES (Stein B.A., L.S. Kutner, I.S. Adams, eds., 2000).

than to a population's contribution to the entire species." Adopting an approach to SPOIR that focuses on geographic representation in different ecosystem types avoids the logical pitfalls of a SPOIR definition that is tied to a species' viability.

### **III. The Service's DPS Analysis is Contrary to Existing Service Policy and Violates the Plain Meaning of the Endangered Species Act.**

The Proposed Rule states that "before applying the discreteness and significance tests laid out in the DPS Policy, we must first identify one or more populations and the spatial arrangement or range which they share."<sup>50</sup> According to Proposed Rule, there must be an extant population in "common spatial arrangement" prior to designating a DPS.<sup>51</sup> This has *never* been required previously by the Service in any past action where it designated a DPS unit, and the attempt to include this new procedural requirement here violates the language of the ESA and the intent of Congress, the Service's own policy, and past Service practice. As a result, the Service failed to properly consider whether it should designate a DPS of gray wolf, *Canis lupus*, at the species level in the southern Rocky Mountains in Colorado and Utah, the Northeast or elsewhere where there is significant unoccupied wolf habitat. The Proposed Rule also utterly fails to consider whether any portions of any *subspecies* of *Canis lupus* should be protected in the lower 48 States.

#### **A. The Proposed Rule Violates the DPS Policy and Conflicts with Past Service Practice**

The Service's statement that "[f]undamental to identification of a possible DPS is the existence of a population" is simply false and conflicts with the 1996 DPS Policy.<sup>52</sup> There is nothing within the DPS Policy that requires "the existence of a population" as a prerequisite for establishing a DPS. Instead, the DPS Policy acknowledges that the term "population":

...is an important term in a variety of contexts. For instance, a population may be circumscribed by a set of experimental conditions, or it may approximate an ideal natural group of organisms with approximately equal breeding opportunities among its members, or it may refer to a loosely bounded, regionally distributed collection of organisms. In all cases, the organisms in a population are members of a single species or lesser taxon.<sup>53</sup>

The DPS Policy expressly recognizes the importance of interpretation "in a clear and consistent fashion."<sup>54</sup> The *only* three requirements for the protection of a population segment are that the (1) discreteness of the population segment, (2) the significance of the population segment, and (3) the conservation status of the population segment.<sup>55</sup> There is no requirement that a "population" be present for a DPS to be designated and this change represents an inconsistent application of the Policy.

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<sup>50</sup> PROPOSED RULE, 78 Fed. Reg. at 35674.

<sup>51</sup> *Id.*

<sup>52</sup> *Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act*, 61 Fed. Reg. 4722 (Feb. 7, 1996) [hereinafter "DPS POLICY"].

<sup>53</sup> *Id.* at 4722.

<sup>54</sup> *Id.*

<sup>55</sup> *Id.* at 4725.

Moreover, the new “requirement” to have an extant population as a prerequisite to the designation of a DPS thwarts the overall goal of conserving biological diversity contained within the ESA. If a population segment is on the verge of extirpation or has already been extirpated from an area, it is these population segments that are in the greatest need of protection under the ESA. For example, when the Service published its 2003 final rule listing the Columbia Basin DPS of the Pygmy Rabbit (*Brachylagus idahoensis*) as endangered, the species was on the verge of being extirpated from the wild.<sup>56</sup> By 2004, the Service confirmed that the last known colony of rabbits had vanished from the wild.<sup>57</sup> All known pygmy rabbits had already been brought into captivity with the hope that they would be reintroduced into the wild at a later date. By the logic of the gray wolf Proposed Rule, the pygmy rabbit should not have been protected as a DPS because, even if there were a few individuals still present on the landscape, there was no longer a “population” of breeding adults that were producing viable offspring. If the listing of the pygmy rabbit DPS had been delayed for one more year, when the last known individuals disappeared from the wild, then could a DPS still be designated? The logic of the Proposed Rule would create a perverse incentive that would encourage those opposed to listing a DPS for a particular species to accelerate those actions that would cause the extirpation of a species because, once that extirpation line was crossed, that area would no longer be eligible as a DPS.

The Service’s DPS Policy clearly states that one of the purposes of the DPS authority is to protect against a “gap in the range of a species.”<sup>58</sup> Multiple court decisions have affirmed this understanding of the DPS Policy and affirmed the ability to species at the periphery of their ranges because failing to do so would leave a “gap at the end of the fence.”<sup>59</sup> But the logic in the Proposed Rule contradicts this goal by effectively stating that once the gap in the range becomes a total gap (e.g. no individuals are present), the DPS authority cannot be used. This violates the fundamental purpose of the ESA, protecting species that are extirpated from the wild. By claiming that a population must be present prior to the establishment of a DPS,<sup>60</sup> the Proposed Rule avoids conducting a more rigorous analysis as to whether a DPS of gray wolf at the species level should be protected in areas where wolves have recently dispersed and where suitable wolf habitat still exists (See Figure One). By creating this new requirement, the Service failed to even consider whether a DPS unit could be established in the Southern Rockies in Utah and Colorado, the Northeast or elsewhere. This renders the Proposed Rule arbitrary and capricious.

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<sup>56</sup> Final Rule to List the Columbia Basin Distinct Population Segment of the Pygmy Rabbit (*Brachylagus idahoensis*) as Endangered, 68 Fed. Reg. 10388, at 10407 (Mar. 5, 2003) (Extirpation from the wild “may occur at any time.”).

<sup>57</sup> US FISH AND WILDLIFE SERV., RECOVERY PLAN FOR THE COLUMBIA BASIN DISTINCT POPULATION SEGMENT OF THE PYGMY RABBIT (*BRACHYLAGUS IDAHOENSIS*), iv (2012).

<sup>58</sup> DPS POLICY, 61 Fed. Reg. at 4724.

<sup>59</sup> See *Nat’l Ass’n of Home Builders v. Norton*, 340 F. 3d 835 (9th Cir. 2003); see also Endangered Status for the Peninsular Ranges Population Segment of the Desert Bighorn Sheep in Southern California, 63 Fed. Reg. 13134, 13136 (Mar. 18 1999) (“The loss of Peninsular bighorn sheep in the United States would isolate bighorn sheep populations in Mexico...from all other bighorn sheep”); Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Southern California Distinct Vertebrate Population Segment of the Mountain Yellow-Legged Frog (*Rana muscosa*), 67 Fed. Reg. 44382 at 44385 (July 2, 2002) (“the loss of the southern California frogs on the periphery of the species’ range” would create a gap in the range); 12-Month Finding for a Petition To List the Wash. Population of the Western Sage Grouse, 66 Fed. Reg. 22,984 (May 7, 2001) (the loss of “the extreme northwestern extent of greater sage grouse range” would create a gap in the range of the taxon).

<sup>60</sup> PROPOSED RULE, 78 Fed. Reg. at 35675.

B. Requiring an Extant “Population” Prior to Designating a DPS Violates the Plain Meaning and Intent of Congress

The Endangered Species Act of 1973 defined “species” as “any subspecies of fish or wildlife or plants and any other *group of fish or wildlife of the same species or smaller taxa in common spatial arrangement that interbreed when mature.*”<sup>61</sup> Shortly thereafter, the Service published a set of regulations expanding on the provisions of the 1973 Act and included in that initial set of regulations a definition for the term “population” using very similar phrasing to the Act itself: “a group of fish or wildlife in the same taxon below the subspecific level, in common spatial arrangement that interbreed when mature.”<sup>62</sup> The preamble to the 1975 definition, which has not been updated since, was added to address the exemptions for Alaskan natives from certain provisions in the Act, how to address pre-Act wildlife, the “new concept of captive, self-sustaining populations” and the similarity-of-appearance provisions in the Act.<sup>63</sup> This definition was *not* promulgated with respect to listing species under the ESA. For the Service to claim, for the first time ever, that the meaning of population for the purposes of listing and delisting must conform to this regulatory definition of population is arbitrary and capricious.

In 1978, Congress amended the definition of the term “species,” striking the old language of regarding “groups of fish or wildlife” with a new phrase: “any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.”<sup>64</sup> What a DPS could encompass in terms of listable entities was not further defined or explained by Congress. However, if Congress had wished to restrict the Service’s listing authority to protect only those extant “populations” below the subspecific in common spatial arrangement, then it would not have amended the ESA’s definition of species because that is what the original 1973 ESA envisioned.

By requiring an existing “population” as a prerequisite to protecting a DPS, the Service has basically overlaid the nearly identical, original statutory language from 1973 back into the current definition of “distinct population segment” under the ESA. This new, self-imposed restriction on their own listing authority goes against all canons of statutory construction and the intent of Congress. Had the Congress wanted to limit the definition of “species” to groups of fish and wildlife, it would not have deleted that phrase from the law in the first instance. To claim, for the first time ever, that the Service lacks the authority to protect extirpated populations as a DPS runs counter to the larger goal of the Act—to prevent the outright extinctions of species.

C. The Proposed Rule’s Requirement of Two Breeding Pairs for a DPS Unit is Arbitrary and Capricious.

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<sup>61</sup> Endangered Species Act, Pub.L. No. 93-205, § 3(11), 87 Stat. 884, 886 (1973).

<sup>62</sup> 50 C.F.R. § 17.3.

<sup>63</sup> Reclassification of American Alligator and Other Amendments, 40 Fed. Reg. 44412 (Sept. 26, 1975).

<sup>64</sup> Endangered Species Act, Pub.L. No. 95-632, § 2(16), 92 Stat. 3751,3752 (1978) (codified as 16 U.S.C. § 1532 (16)).

In addition to the requirement that wolves be extant to be protected as a DPS, the Service has further defined a “population” of wolves in the Proposed Rule to mean “at least 2 breeding pairs of wild wolves successfully raising at least 2 young each year (until December 31 of the year of their birth), for 2 consecutive years.”<sup>65</sup> This new requirement is also arbitrary and capricious.

The Service’s definition of a wolf “population” was specifically created to implement a *different* part of the ESA—Section 10(j)—in order to facilitate the reintroduction of an “experimental population” of wolves into Idaho and Wyoming. The two court cases cited by the Service, *Wyoming Farm Bureau Federation v. Babbitt*<sup>66</sup> and *U.S. v. McKittrick*<sup>67</sup> that support this definition of population have nothing to do with the legal requirements or limitations on the ability to designate a DPS unit under the ESA.

*Wyoming Farm Bureau* addressed the difficult question as to whether an experimental population could be established in an area where one or a few scattered individual wolves might still be present. The court upheld the definition for wolf populations for three reasons: (1) Section 10(j) allowed the Service to develop a set of special rules for each experimental (2) the definition of “population” for Section 10(j) avoided “potentially complicated problems of law enforcement,” and (3) the definition furthered the overarching objective of 10(j) to recover listed species.<sup>68</sup> Likewise, *McKittrick* upheld the validity of the Service’s definition for wolf “populations” in the context of a criminal prosecution within the 10(j) area. Nothing in the holdings or dicta of either of these cases supports the Service’s statements in the Proposed Rule that a “population” must be present prior to the designation of a DPS.

#### **IV. The Proposed Rule’s DPS Analysis for the Pacific Northwest is Arbitrary and Capricious.**

The Proposed Rule’s DPS analysis for the Pacific Northwest is arbitrary and capricious because it included the improper “population” prerequisite, improperly narrowed the discreteness analysis, and completely failed to consider whether a DPS should be designated to protect either *C. lupus* at the species level or *C. l. nubilus* subspecies in the Northwest.

##### **A. The Proposed Rule’s Inclusion of the “Population” Requirement is Arbitrary and Capricious**

In the Proposed Rule, the Service wrongly begins its analysis with an analysis as to whether a viable “population” exists under its Section 10(j) definition of wolf populations. After noting that the Lookout pack in northern Washington had produced at least two pups per year in 2007, 2008, and 2009,<sup>69</sup> and that the Teanaway pack produced at least two pups per year in 2011 and 2012,<sup>70</sup> the Service concludes that “our standard for a population has not yet been satisfied” in the Pacific Northwest. The Service’s conclusion illustrates the absurdity of this unprecedented

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<sup>65</sup> PROPOSED RULE, 78 Fed. Reg. at 35711.; *see also* Establishment of a Nonessential Experimental Population of Gray Wolves in Central Idaho and Southwestern Montana, 59 Fed. Reg. 60252 (Nov. 22, 1994).

<sup>66</sup> 199 F.3d 1224 (10th Cir. 2000).

<sup>67</sup> 142 F.3d 1170 (9th Cir. 1998), cert. denied 525 U.S. 1072 (1999).

<sup>68</sup> 199 F.3d at 1235-36 (10th Cir. 2000).

<sup>69</sup> PROPOSED RULE, 78 Fed. Reg. at 35710.

<sup>70</sup> *Id.* at 37511.

approach to conducting a DPS analysis. Despite acknowledging that “additional breeding pairs have gone undetected or that documented breeding pairs have successfully bred in consecutive years without detection”<sup>71</sup> the Service states that its arbitrary definition of “population” has not been achieved because the Lookout pack, which was illegally poached, and the Teanaway pack failed to coordinate their breeding efforts during the same two year time period. When populations are highly imperiled, breeding success becomes less likely on a year to year basis. Thus, the requirement of two breeding pairs for two consecutive years is inapposite of the goal of conserving species under the Endangered Species Act.

Perhaps seeming to realize this, the Service admits that its arbitrary “standard” will “likely be met in the next few years” and therefore conducts its DPS analysis anyway for the Pacific Northwest.<sup>72</sup> But if this requirement is in fact “[f]undamental to identification of a possible DPS” how can the Service turn around and ignore this requirement in the Pacific Northwest? If the Service believes that a DPS *cannot*, as a matter of law, be established unless a population is present, then its decision to conduct a DPS analysis in the Pacific Northwest violates the ESA. This statement again clearly shows that this new “standard” has no place in the DPS analysis and illustrates the arbitrariness of the Service’s decision making throughout this Proposed Rule.

## B. The Discreteness Analysis is Arbitrary and Capricious

### 1. The Proposed Rule Contradicts the 2007 Wolf Delisting Rule Regarding the Discreteness of the Pacific Northwest Population

In 2007, the Service claimed that it could establish a northern Rocky Mountains DPS of gray wolf based in part on its discreteness with wolf populations in the Pacific Northwest:

Until recently, no wild wolves had been confirmed west of the DPS boundary (although we occasionally got unconfirmed reports and 2 wolves were killed close to that boundary). Then, in July 2008, a wolf pack (2 adults and 6 pups) was discovered near Twisp, Washington (just east of the North Cascades and west of the DPS boundaries). These wolves did not originate from the NRM DPS; instead they likely originated from south central British Columbia (Allen 2008). The pack’s territory is outside the NRM DPS and remains discrete from the NRM gray wolf population. The pack is being monitored via radio telemetry by Washington Department of Fish and Wildlife. *Should this pack persist and other wolves follow, they would remain separated from the NRM DPS by unsuitable wolf habitat.*<sup>73</sup>

It is arbitrary and capricious for the Service to state that, just three years earlier, the NRM DPS was discrete from wolves in the Pacific Northwest based on an area of unsuitable wolf habitat between the two populations. The habitat between wolves in the Pacific Northwest has not

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<sup>71</sup> *Id.*

<sup>72</sup> PROPOSED RULE, 78 Fed. Reg. at 35711.

<sup>73</sup> Final Rule To Identify the Northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment and To Revise the List of Endangered and Threatened Wildlife, 74 Fed. Reg. 15123, 15128 (Apr. 2, 2009) (emphasis added).



become suitable in the intervening time. The only thing that has changed is the Service's commitment to wolf recovery in the Pacific Northwest.

2. The Proposed Rule Misapplies the Criteria for Wolf Discreteness by Analyzing Peripheral Wolf Packs Rather than Core Wolf Populations

The Proposed Rule is also arbitrary and capricious because it misapplies the criteria developed in the 2009 NRM DPS rule regarding dispersal distance. The Proposed Rule argues that because the Lookout pack is only 55 miles from the nearest pack inside the northern Rocky Mountain DPS (NRM DPS) and the Teanaway pack is only 110 miles from the nearest pack in the NRM DPS, there is insufficient distance between the NRM DPS and the current "population" of wolves in the Pacific Northwest to be able to meet the discreteness inquiry under the DPS Policy. Resorting to yet another arbitrary and self-contradicting statement, the Proposed Rule argues that the Service cannot designate a wolf DPS unless the DPS unit is separated by 60 to 190 miles "from a core wolf population."<sup>74</sup>

This "standard" makes no sense and is egregiously misapplied by the Service. The Service first developed this standard in the context of the NRM DPS rulemaking. Aside from the inexplicable decision by the Service to change the dispersal cut-off distance from 180 to 190 miles, both the language from the 2007 rulemaking clearly illustrates how blatantly the Service is misapplying its own standard:

We determined that 180 mi (290 km), three times the average dispersal distance, was a breakpoint in our data for unusually long distance dispersal out from existing wolf pack territories. Only 8 wolves (none of which subsequently bred) have dispersed farther and remained in the United States. No wolf traveling that far has ever come back to the *core population in Montana, Idaho, or Wyoming*.<sup>75</sup>

The 2013 Proposed Rule itself recognizes where the core wolf populations are located:

As a result of colonization from *core wolf habitats in Yellowstone and central Idaho* where wolves were reintroduced in the mid-1990s, breeding wolf packs became reestablished in northeastern Oregon and eastern Washington (Service *et al.* 2011, p. 5). Because of their connectivity to *core habitats in central Idaho*, wolves in the eastern third of Oregon and Washington are now considered part of the NRM DPS...

These statements make abundantly clear that the core wolf populations of the NRM DPS are Idaho, Wyoming, and Montana. But, the Proposed Rule analyzes proximity of the Teanaway pack and Lookout pack to the Strawberry pack, which is located in *Washington* state, and is one of the most peripheral wolf packs in the NRM DPS. As the Proposed Rule admits, the "*outer edge of the NRM wolf population* is now very close to the western boundary of the NRM DPS in

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<sup>74</sup> PROPOSED RULE, 78 Fed. Reg. at 35712.

<sup>75</sup> Designating the Northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment and Removing This Distinct Population Segment From the Federal List of Endangered and Threatened Wildlife, 72 Fed. Reg. 6106, 6113 (Feb. 8, 2007).

northeast Washington.”<sup>76</sup> Under the plain meaning of the Service’s own discreteness standard for wolves, the “outer edge” of the population is not equivalent to the “core wolf population.”

But, by analyzing the distance between the peripheral Strawberry pack on the outer edge of the NRM DPS to existing wolf packs that would comprise a Pacific Northwest DPS, the Service analysis becomes arbitrary and capricious. Had the Service properly analyzed the distance between the Lookout pack or Teanaway pack to the “core wolf population” of the NRM DPS, it would have come to the same conclusion as it did in 2007, when the Service concluded that the NRM DPS was discrete from wolves in the Pacific Northwest.

Furthermore, by only focusing on the distance between the two most proximate wolf packs in the Pacific Northwest to the most peripheral pack of the NRM DPS, the Proposed Rule fails to consider where the core wolf populations in a Pacific Northwest DPS might eventually occur. By not considering the distance between potential core wolf habitats in the Pacific Northwest and core populations in the NRM DPS, the Proposed Rule’s discreteness analysis is simply arbitrary.

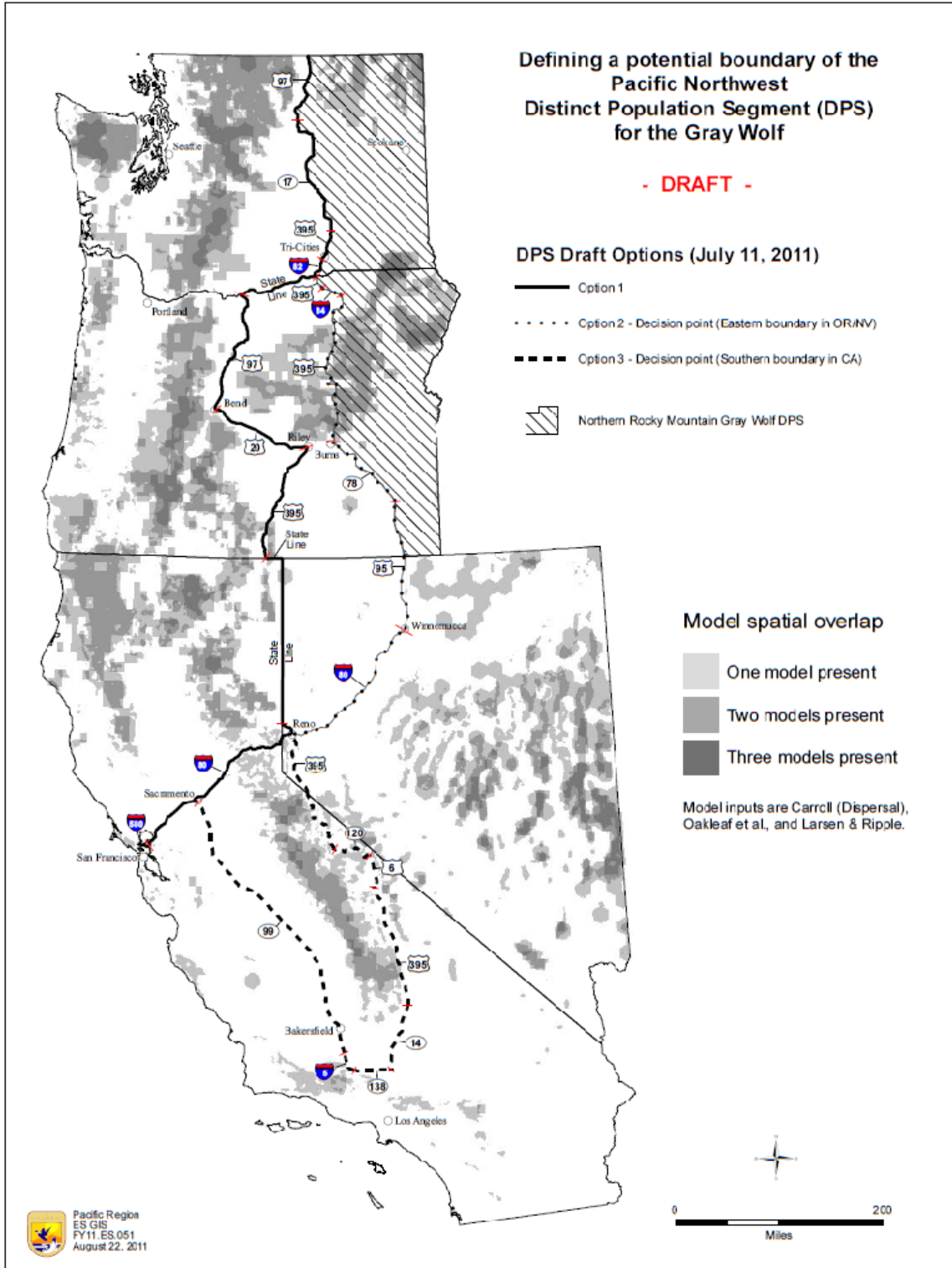
This sleight-of-hand in the discreteness analysis attempts to avoid the fact that the Service itself had considered in August of 2011 at least three different DPS configurations for the Pacific Northwest (See Figure Two). Two of these options are particularly notable because they illustrate substantial discreteness between the NRM DPS and the Pacific Northwest. In option one, the Service evaluated a boundary line for a Pacific Northwest DPS that was shifted substantially to the west from the NRM DPS boundary, creating a substantial gap between the NRM DPS and a future Pacific Northwest DPS. In option three, the DPS boundary was extended south through the Sierra Nevada mountains almost to Los Angeles.

Certainly, future core wolf populations in the southern Sierra Nevada Mountains would be sufficiently “discrete” from the NRM DPS core wolf populations in Idaho, Montana, and Wyoming. Likewise, a core wolf population in the Cascades Mountains of Oregon or a core wolf population on the Modoc plateau of California would be sufficiently discrete from the core of the NRM DPS. But by limiting the DPS discreteness analysis to the most peripheral wolf pack, the Proposed Rule distorts the correct inquiry regarding the discreteness of any future DPS in the Pacific Northwest.

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<sup>76</sup> PROPOSED RULE, 78 Fed. Reg. at 35712.

**Figure Two. Possible DPS Configurations for the west coast of the United States.**



C. The Service's Complete Failure to Consider Whether A DPS Unit Should Be Established to Protect the Subspecies *Canis lupus nubilus* is Arbitrary and Capricious

A DPS unit can be established to protect a population segment of either a full taxonomic species or subspecies under the ESA. As the DPS Policy explains, “The Services maintain that the authority to address DPSs extends to species *in which subspecies are recognized*, since anything included in the taxon of lower rank is also included in the higher ranking taxon.”<sup>77</sup> The Proposed Rule completely fails to consider whether any distinct population segment of *Canis lupus nubilus* should be protected under the ESA—despite its pages of explanation decrying the invalid legal position of protecting *Canis lupus* in the lower 48 States, and the need to conduct an analysis for each of the three subspecies of *Canis lupus* that the Service believes the best available science recognizes. As the Proposed Rule explains, the Service only considered whether it should protect “the species (*C. lupus*), or a subspecies (*C. l. nubilus*, *C. l. occidentalis*, *C. l. baileyi*), or a DPS of *C. lupus*.”<sup>78</sup> The Service did not consider whether a DPS of one of its recognized subspecies warranted protection and only focused its “discreteness” analysis of gray wolves at the *species* level. By failing to consider whether there were DPS units at the *subspecies* level that possessed the necessary discreteness and significant, the Service violated its own DPS policy. Such an omission is arbitrary and capricious.

According to the Proposed Rule, in the lower 48 States *C. l. occidentalis* historically occupied the northern Rocky Mountains. This subspecies was bordered on its west, south, and east by *C. l. nubilus*, whose historic range included “the contiguous United States from the Pacific to the Great Lakes region.”<sup>79</sup> Figure Three below illustrates the relative range of these two subspecies and was included in the leaked draft delisting rule for the gray wolf. It is unclear why this map was deleted from the published draft rule by the Services, except perhaps because it graphically illustrates that several additional DPS units of the subspecies *C. l. nubilus* are clearly eligible for protection under the ESA.

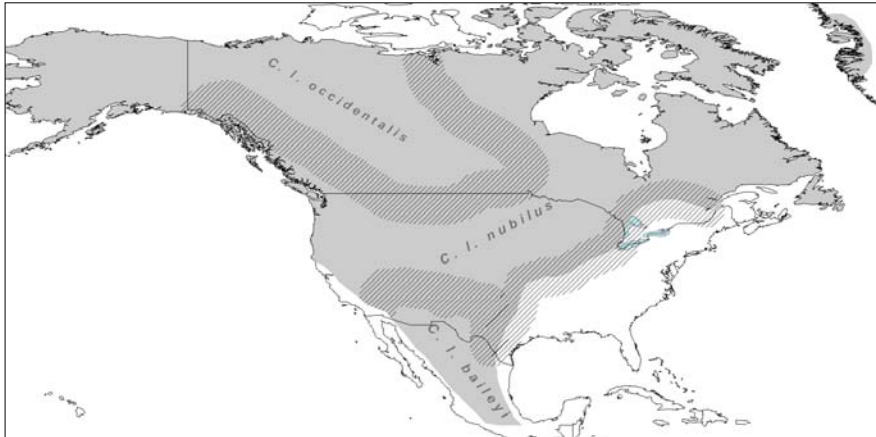
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<sup>77</sup> DPS POLICY at 4724.

<sup>78</sup> Proposed Rule at 35677.

<sup>79</sup> *Id.* at 35679.

**Figure Three. Service’s Proposed Historic Range for Three Subspecies of Gray wolf.<sup>80</sup>**



Today, *C.l. nubilus*’ range has contracted in the lower 48 States and is only represented by the Western Great Lakes DPS (WGL DPS) and by a few gray wolves of this subspecies that have dispersed from British Columbia to Washington State (e.g. the alpha male of the Lookout pack). The Service’s DPS Policy clearly states that one of the purposes of the DPS authority is to protect against a “gap in the range of a species.”<sup>81</sup> Courts and Service practice have made clear that the DPS Policy can also be used to protect a “gap at the end of the fence.”<sup>82</sup> For *C. l. nubilus*, the current gap in the subspecies’ range starts at the western edge of the WGL DPS and runs across North and South Dakota, through Nebraska, Colorado, Utah, Nevada, California, Oregon, and Washington all the way to the extant wolf population of this subspecies in British Columbia. This represents a massive gap in the range of the species that a DPS analysis should have considered.

The Service’s failure in the Pacific Northwest is particularly egregious because *C. l. nubilus* will become isolated in coastal British Columbia if there is no attempt to reconnect populations of the wolf there to its historic range in the lower 48 States. Rather than analyze whether this 1500 mile gap across 24 degrees of longitude should be protected to conserve *C. l. nubilus*, the Service has simply ignored its duty here to do so. The Service seems unconcerned that the *C. l. occidentalis* subspecies of gray wolf from the NRM DPS would potentially displace *C. l. nubilus* in the Pacific Northwest stating only “the mechanisms for a subspecific divide in British Columbia is unknown and the ultimate recolonization pattern of wolves in the Pacific Northwest

<sup>80</sup> Julie Cart, *U.S. Plans to Drop Gray Wolves from Endangered List: The Planned Ruling Would Eliminate Protection for the Top Predators, but Scientists and Conservationists Say the Proposal is Flawed*. L.A. TIMES (Apr. 25, 2013), available at <http://articles.latimes.com/2013/apr/25/local/la-me-wolves-20130426> (last visited Dec. 11, 2013).

<sup>81</sup> DPS POLICY, 61 Fed. Reg. at 4724.

<sup>82</sup> See *Nat’l Ass’n of Home Builders v. Norton*, 340 F. 3d 835 (9th Cir. 2003); see also *Endangered Status for the Peninsular Ranges Population Segment of the Desert Bighorn Sheep in Southern California*, 63 Fed. Reg. 13134, 13136 (Mar. 18 1999) (“The loss of Peninsular bighorn sheep in the United States would isolate bighorn sheep populations in Mexico...from all other bighorn sheep”); *Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Southern California Distinct Vertebrate Population Segment of the Mountain Yellow-Legged Frog (Rana muscosa)*, 67 Fed. Reg. 44382 at 44385 (July 2, 2002) (“the loss of the southern California frogs on the periphery of the species’ range” would create a gap in the range); *12-Month Finding for a Petition To List the Wash. Population of the Western Sage Grouse*, 66 Fed. Reg. 22,984 (May 7, 2001) (the loss of “the extreme northwestern extent of greater sage grouse range” would create a gap in the range of the taxon).

region of the United States and the extent of any future separation from the NRM DPS is unpredictable.”<sup>83</sup>

If the Service believes that there are two distinct subspecies of gray wolf in the West and also states that *C. l. nubilus* was the subspecies that was historically present in the Pacific Northwest, then it cannot simply walk away from protecting that subspecies as a DPS (or as an SPOIR of the subspecies) based on uncertainty regarding exactly where the boundary is between these two subspecies. Such an approach to conservation is not precautionary and represents a clear failure by the FWS to properly follow the ESA’s mandate.

#### 1. A Pacific Northwest DPS is Discrete from the NRM DPS

Core wolf populations in a Pacific Northwest DPS would likely be located in the Cascades Mountains of Washington and Oregon, the Olympic Peninsula, northern California, and the Sierra Nevada mountains where the largest areas of suitable habitat are present. These core wolf populations would be discrete from the core wolf populations of the NRM DPS. The habitat modeling by Carroll et al. (2006) and the analysis conducted by the Service in 2011 shows that there is a substantial area of non-suitable habitat separating suitable habitat in the Cascades and Sierra Nevada from that in the NRM DPS (See Figure 2).

The boundaries of a Pacific Northwest DPS would be formed by a combination of non-suitable habitat, the Pacific Ocean, and the international border with Canada. In the Sierra Nevada, the eastern and southern boundary would consist of the Mojave Desert, while further north in California, Oregon and Washington, the eastern boundary would consist of the Great Basin Desert. The Pacific Ocean would form the western boundary, and the Canadian border the northern boundary. As shown by Option One and Option Two in Figure Two, the eastern boundary of the northern portion of the DPS could be delineated by the western extent of the NRM DPS in Washington, but could also be moved further west near the east slope of the Cascades.

A Pacific Northwest DPS would also qualify for meeting the discreteness criterion because *C. l. nubilus* is genetically distinct from *C. l. occidentalis*, making it markedly separate from other populations of the same taxa. Finally, the habitat of the Cascades and the Sierra Nevada mountains is markedly different from those in the NRM DPS. The U.S. Forest Service has created a hierarchical classification system that divides the United States into ecoregions based on vegetation and climate with the highest level of classification being domains, followed by divisions and provinces.<sup>84</sup> Under this system, the Pacific Northwest is in a different domain (humid temperate domain), different divisions (marine and Mediterranean), and different provinces (Cascade Mixed Forest–Coniferous Forest–Alpine Meadow and Sierran Steppe–Mixed Forest–Coniferous Forest–Alpine Meadow Provinces) from any other wolf population in the lower 48 states. Overall, differences in vegetation and climate in these areas include dense coniferous forests, abundant precipitation both as rain and snow, and mild temperatures. The area also includes a unique prey base made up of black-tailed deer, mule deer, Roosevelt elk and

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<sup>83</sup> PROPOSED RULE, 78 Fed. Reg. at 35713.

<sup>84</sup> MCNAB, W.H. ET AL., U.S. FOREST SERV., U.S. DEPT. OF AGRICULTURE, DESCRIPTION OF ECOLOGICAL SUBREGIONS: SECTIONS OF THE CONTERMINOUS UNITED STATES (2005).

salmon, the latter of which is highly unique. Darimont et al. (2003) documented wolf foraging on salmon in coastal British Columbia and concluded that “preying on salmon may be adaptive, as this nutritious and spatially constrained resource imposes lower risks of injury compared with hunting large mammals.”<sup>85</sup> Furthermore, in areas of California within the DPS, feral hogs would also serve as part of the prey base (and wolf predation on these hogs would help to conserve the ecosystem disrupted through the pigs’ unnatural herbivory). For all of these reasons, wolves in the Pacific Northwest occur in a unique ecological setting, which would provide another basis for finding that the DPS would be discrete.

## 2. A Pacific Northwest DPS Would be Significant

The Pacific Northwest DPS of the gray wolf is significant because its loss would result in a significant gap in range of *C. l. nubilus*, wolves persist in a unique ecological setting, and existing wolves are markedly genetically different from wolves in the NRM DPS and elsewhere. The Pacific Northwest contains extensive habitat for wolves. Carroll et al. (2006) identified habitat in the DPS that could support an estimated wolf population of more than 600 wolves. Habitat capable of supporting viable wolf populations was found on the Olympic Peninsula, Washington, Oregon Cascades, northern California, and the Sierra Nevada with Oregon Cascades providing the largest and most viable core habitat.<sup>86</sup>

Loss of the habitat for wolves in the Pacific Northwest DPS would clearly create a significant gap in range for the taxon as a whole, resulting in a loss of 13.5 degrees of latitude and 6.5 degrees of longitude on the West Coast of the U.S., including a total of over 20 million acres of habitat. The habitat amounts to 15% of current gray wolf habitat in the western U.S. not including habitat for the Mexican gray wolf, which was defined in a 2003 rule-making as south of Interstate 70. Abandonment of protection and recovery for wolves in this extensive habitat would be a significant setback for wolf recovery in the lower 48 states. The presence of wolves in ecosystems not found elsewhere in the United States and several unique prey sources not found elsewhere make a Pacific Northwest DPS significant for the species as a whole.

Finally, there is evidence indicating that wolves in the Pacific Northwest differ markedly in their genetic characteristics. VonHoldt et al. (2011) found that wolves in the British Columbia coast formed a distinct genetic grouping, stating: “Other genetic partitions were defined in North America as well, including distinct populations on the British Columbian coast, Northern Quebec, and interior North America.”<sup>87</sup> Likewise, Munoz-Fuentes et al. (2009) analyzed mtDNA and found “strong genetic differentiation between adjacent populations of grey wolves from coastal and inland British Columbia,” leading them to conclude that “given their unique ecological, morphological, behavioral and genetic characteristics, grey wolves of coastal British Columbia should be considered an Evolutionary Significant Unit (ESU) and, consequently,

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<sup>85</sup> Darimont, C.T., T.E. Reimchen, and P.C. Paquet, *Foraging Behavior by Gray Wolves on Salmon Streams in Coastal British Columbia*, 81 CANADIAN J. OF ZOOLOGY, 2003, at 349–353.

<sup>86</sup> Carroll, C., et al. 2006. *Defining recovery goals and strategies for endangered species using spatially-explicit population models: the wolf as a case study*. Bioscience 56: 25-37.

<sup>87</sup> vonHoldt, B.M., et al., *A genome-wide perspective on the evolutionary history of enigmatic wolf-like canids*, GENOME RESEARCH, 2011, at 1-3.

warrant special conservation status.”<sup>88</sup> It is likely that wolves from the British Columbia coast will continue to be a source of wolves moving into the Pacific Northwest DPS. For all of the above reasons, wolves in the Pacific Northwest clearly qualify as a DPS of *C. l. nubilus* that deserves the protection of the Endangered Species Act.

## **V. The Best Available Scientific Data do not Support the Conclusion that the Eastern Timber Wolf is a Species.**

The Proposed Rule’s determination by fiat that *Canis lycaon* is a taxonomically valid species is arbitrary and capricious because it does not represent the best available science. The Proposed Rule repeatedly misstates and mischaracterizes the existing scientific literature, in error if not in an attempt to justify this unsupported determination. The recognition of a new species by administrative fiat violates the procedures set forth by the ESA for evaluating potential species to list under the Act and it violates the fundamental directive that already listed species like the gray wolf, *Canis lupus*, be given the benefit of the doubt in decisions that will have significant conservation implications.

### A. The Proposed Rule Violates the ESA by Prematurely Determining that *Canis lycaon* Should be Recognized as a Species

The Proposed Rule declares with finality that *Canis lycaon* is a valid taxonomic species. The Proposed Rule states the Service is “assessing the extent and status of *C. lycaon*, the species native to the Northeastern United States” and will decide whether the species should be protected under the ESA at a later date.<sup>89</sup> This statement and many similar ones strongly imply that the Service has irrevocably decided that *Canis lycaon* is a valid species. At the beginning of the Proposed Rule, the Service requests “[i]nformation concerning the genetics *and taxonomy* of the eastern wolf, *Canis lycaon*.”<sup>90</sup> Likewise, the formal Request for Proposals (RFP) that the Service put out to peer review the Proposed Rule asks: “Is there additional information not considered in the rule concerning the genetics *and taxonomy* of the eastern wolf, *Canis lycaon*? We are not requesting information on the status of *C. lycaon* because we are conducting a status review for this *species* and peer review of that document will occur separately.”<sup>91</sup> If the taxonomy of the eastern wolf is resolved, why is the Service still requesting information on its taxonomy? If the taxonomy of the eastern wolf is not resolved, how can the Service conduct a status review of the species? By muddling this situation, the Service has violated its own regulations, defeated the purpose of the ESA and Administrative Procedure Act in gathering meaningful public comment, and has put recovery of gray wolves in an untenable position.

### 1. The Service Decision Fails to Follow its Own Procedures for Listing a Species under the ESA

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<sup>88</sup> Munoz-Fuentes, V., et al., *Ecological Factors Drive Differentiation in Wolves from British Columbia*, 36 J. OF BIOGEOGRAPHY, 2009, at 1516–1531.

<sup>89</sup> PROPOSED RULE, 78 Fed. Reg. at 35718.

<sup>90</sup> *Id.* at 35665.

<sup>91</sup> U.S. FISH AND WILDLIFE SERV., STATEMENT OF WORK: PEER REVIEW (WITHOUT ATTRIBUTION) OF THE SCIENTIFIC FINDINGS IN THE PROPOSED RULE: REMOVING THE GRAY WOLF (*CANIS LUPUS*) FROM THE LIST OF ENDANGERED AND THREATENED WILDLIFE AND MAINTAINING PROTECTIONS FOR THE MEXICAN WOLF (*CANIS LUPUS BAILEYI*) BY LISTING IT AS ENDANGERED (June, 2013).



The ESA makes clear that the Service has only two options for listing or delisting species under the Act. One, the Service may on its own initiate a “status review” of a species to determine if it should be listed; or two, the Service must respond to a petition requesting that a species be listed under the Act. With respect to Service-initiated status reviews, the Service is required under 50 C.F.R. § 424.15(a) to provide notice to the public in the Federal Register that a status review is occurring for a species whose listing “may be warranted, but that the available evidence is not sufficiently definitive to justify proposing the action at that time.”<sup>92</sup> As explained in *Center for Biological Diversity v. Norton*, the Service “typically does not provide an explanation for this decision but instead publishes a brief, one-line notice in the Federal Register identifying the species as a ‘candidate’ for protection under the ESA.”<sup>93</sup> Candidate species include “any species being considered by the Secretary for listing as an endangered or a threatened species, but not yet the subject of a proposed rule.”<sup>94</sup> Here, the Service failed to follow either of the two regulatory options for evaluating species, but instead is attempting to place *Canis lycaon* in a state of limbo while the Service considers what to do.

This decision to recognize *Canis lycaon* as a species but not as a candidate for listing is a procedural mess and clearly violates the Service’s regulations and almost every long-standing agency practice regarding how it evaluates species for protection under the ESA. Had the Service identified *Canis lycaon* as a candidate under 50 C.F.R. § 424.15(a), then it could continue to evaluate whether the species deserved protections under the ESA. But instead, the Service has created a train wreck of procedural ineptitude that frustrates public involvement in the protection of this “species.” In May of 2011, the Service proposed revising its taxonomic classifications by elevating the subspecies *Canis lupus lycaon* to full species status as *Canis lycaon*, and announced a status review of *Canis lycaon*, the gray wolf in the Pacific Northwest, and gray wolves nationwide.<sup>95</sup> Just seven months later, on December 28, 2011, the proposed taxonomic revision was withdrawn due to “the ongoing scientific debate, and the lack of clear resolution concerning the taxonomy of wolves.”<sup>96</sup> The Service announced that “Based on a reevaluation of the available scientific information and the evolving and ongoing scientific debate, we reconsidered our position, as expressed in the proposed rule (76 FR 26086), that the gray wolf subspecies *Canis lupus lycaon* should be elevated to the full species *Canis lycaon*.”<sup>97</sup>

Thus, from the public’s perspective, the “status review” of *Canis lycaon* concluded with a finding that the existing taxonomy would remain in place, e.g. that the proposed taxonomic change was not scientifically warranted. Yet, on February 29<sup>th</sup> 2012, the Service published a 5-year review for the gray wolf, *Canis lupus*, stating that “Status reviews for...the eastern wolf, [] initiated on May 5, 2011, are also ongoing and we anticipate completing these by September 30,

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<sup>92</sup> 50 C.F.R. § 424.15(a).

<sup>93</sup> 254 F.3d at 835 (9th Cir. 2001).

<sup>94</sup> 50 C.F.R. § 424.02(b).

<sup>95</sup> Proposed Rule to Revise the List of Endangered and Threatened Wildlife for the Gray Wolf (*Canis lupus*) in the Eastern United States, Initiation of Status Reviews for the Gray Wolf and for the Eastern Wolf (*Canis lycaon*), 76 Fed. Reg. 26086 (May 5, 2011).

<sup>96</sup> Revising the Listing of the Gray Wolf (*Canis lupus*) in the Western Great Lakes, 76 Fed. Reg. 81666 (Dec. 28, 2011).

<sup>97</sup> *Id.*

2012 as well.”<sup>98</sup> Apparently a stealth status review had continued despite the Service’s official statement two months earlier suggesting the opposite. The Proposed Rule points to a report by Thiel and Wydeven (2012) and claims that this represents a “status review” regarding the “conservation status of *Canis lycaon*,” which the Service somehow thinks legitimizes its ill-founded decision to recognize this species. But, the “status review” by Thiel and Wydeven is not a status review for the purposes of listing under the ESA.<sup>99</sup> The Service should have read the *entire* Thiel and Wydeven (2012) report, which concludes (in the section entitled “Summary/ Recommendations”):

The fact remains these large canids presently *lack official designation* as a species. *We encourage those who promote eastern wolves as a distinct species* petition an international authority such as the International Commission of Zoological Nomenclature, the American Society of Mammalogists, etc., to resolve this issue *so that conservation efforts may proceed*.<sup>100</sup>

Thus, the report that FWS claims is a status review of this purported species, itself notes that *Canis lycaon* is not a recognized species. Rather than completing a legitimate status review which would have determined whether *Canis lycaon* is a species *and* whether it warrants protection under the ESA, as envisioned by 50 C.F.R. § 424.15(a), the Service has apparently tried to segment this decision into as many different reports and documents as possible in a sleight-of-hand attempt to foreclose any wolf protection in the Northeastern United States. Such an approach limits meaningful public participation and thwarts conservation efforts that could otherwise be occurring.

## 2. The Service Violates its Own Regulations and the ESA by Taking the Reckless Position of Recognizing *Canis lycaon*

Despite having no new scientific information before it since its December 2011 decision to retain the existing taxonomic status of gray wolves, the Service has decided to completely change course by simply declaring that *Canis lycaon* is a species. This decision is reckless and goes against every tenet of the ESA, which has been described by Congress and the Supreme Court as “the institutionalization of caution.”<sup>101</sup>

Simply put, what if the Service is wrong about *Canis lycaon*? One possible outcome of a legitimate status review is a conclusion that the best available scientific information does not support the taxonomic classification being considered.<sup>102</sup> If three to five years from now, when the status review is complete, and the Service determines that *Canis lycaon* is not a valid species, then the actions taken in the Proposed Rule would result in gray wolves in the Northeast United States being left unprotected under the ESA.

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<sup>98</sup> U.S. Fish and Wildlife Service. 2012. Lower 48-State and Mexico Gray wolf (*Canis lupus*) listing, as revised. 5-Year Review: Summary and Evaluation. Washington Office, Arlington, Virginia, USA.

<sup>99</sup> PROPOSED RULE at 35717.

<sup>100</sup> THIEL, R.P., AND A.P. WYDEVEN, U.S. FISH AND WILDLIFE SERV., EASTERN WOLF (*CANIS LYCAON*) STATUS ASSESSMENT REPORT: COVERING EAST-CENTRAL NORTH AMERICA (2012). (emphasis in original).

<sup>101</sup> *Tennessee Valley Authority v. Hill*, 437 U.S. 153 (1978).

<sup>102</sup> 50 C.F.R. § 424.11(d)(3).

The reckless action in this proposed rule to recognize *Canis lycaon* has immediate consequences because it eliminates any consideration by the Service of whether gray wolves should be protected in the northeast United States as either a subspecies or a DPS unit. If the Service is truly confident that *Canis lycaon* exists, then it should petition a recognized scientific organization to recognize this species. Right now, *Canis lycaon* is not recognized by the International Commission of Zoological Nomenclature.<sup>103</sup> Nor is it recognized by the American Society of Mammalogists<sup>104</sup> or the Smithsonian Institution.<sup>105</sup> The decision to recognize at this time *Canis lycaon* violates the Service’s own regulations at 50 C.F.R. § 424.11(a), which requires the Service to follow “standard taxonomic distinctions and the biological expertise of the Department and the scientific community” when making taxonomic decisions that impact conservation, because the decision to elevate this species is not precautionary.<sup>106</sup>

While adherence to standard taxonomy is not always required by the Service in making decisions under the ESA, the case law and Service practice makes absolutely clear that the Service should give listed species the benefit of the doubt where taxonomic disputes occur. For example, in *Center for Biological Diversity v. Lohn*, the Court recognized that “[w]hen the best available science indicates that the ‘standard taxonomic distinctions’ are wrong...NMFS must apply that best available science.”<sup>107</sup> In that case, the Court noted that changes in killer whale taxonomy may lag behind scientific research due to the extreme difficulty in collecting skull samples in the marine environment would be both “difficult” and “problematic.”<sup>108</sup> There, both the “the biological expertise of the Department and the scientific community” demonstrated that the standard taxonomic distinction for killer whales was no longer up to date. Substantial morphological, behavioral, and genetic evidence indicated that the classification of killer whales (*Orcinus orca*) as a globally-distributed taxon was inaccurate—the best information indicated that resident and transient killer whales in fact did not belong to the same taxon. Most importantly, by failing to take action to protect resident killer whales as a DPS based on the lack of taxonomic recognition, NMFS failed to act in a precautionary manner. Because the best available science standard gives the benefit of the doubt to the species the decision “to deny listing of a species simply because one scientific field has not caught up with the knowledge in other fields does not give the benefit of the doubt to the species and fails to meet the best available science requirement.”<sup>109</sup>

The situation in *Center for Biological Diversity v. Lohn* illustrates the deficiencies of the Service’s approach in the Proposed Rule. In this situation, the best available scientific information does *not* indicate that current taxonomic classification of gray wolves is wrong—there is a legitimate scientific dispute and neither side of the dispute is demonstrably wrong. If

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<sup>103</sup> INT’L COMM’N ON ZOOLOGICAL NOMENCLATURE, OFFICIAL LISTS AND INDEXES OF NAMES AND WORKS IN ZOOLOGY: SUPPLEMENT 1986-2000, available at [http://iczn.org/sites/iczn.org/files/names\\_works\\_supplement.pdf](http://iczn.org/sites/iczn.org/files/names_works_supplement.pdf).

<sup>104</sup> AMERICAN SOC’Y OF MAMMALOGIST, MAMMALIAN SPECIES, available at <http://www.mammalsociety.org/publications/mammalian-species>.

<sup>105</sup> SMITHSONIAN NAT’L MUSEUM OF NATURAL HISTORY, WILSON AND REEDER’S MAMMAL SPECIES OF THE WORLD, available at <http://vertebrates.si.edu/msw/mswCFApp/msw/index.cfm>.

<sup>106</sup> 50 C.F.R. § 424.11(a).

<sup>107</sup> 296 F. Supp 2d. 1223 (W.D. Wash. 2003) (emphasis added), vacated as moot, 483 F.3d 984 (9<sup>th</sup> Cir. 2007).

<sup>108</sup> *Id.* at 1239.

<sup>109</sup> *Id.*

anything, the Proposed Rule makes clear that *Canis lycaon* is still not recognized by the majority of the scientific community:

While Chambers *et al.* (in prep.) provide a scientific basis for arguing the existence of eastern wolves as a distinct species, *this represents neither a scientific consensus nor the majority opinion of researchers on the taxonomy of wolves*, as others continue to argue that eastern wolves are forms of gray wolves...In light of the ongoing scientific debate, and the lack of clear resolution concerning the taxonomy of wolves in the western Great Lakes, we are at this time continuing to recognize *C. lupus* as the only species that occurs in the WGL.

In the intervening 18 months, *nothing* has changed with respect to the debate on *Canis lycaon*. The Service has essentially the same universe of scientific papers before it as it had in 2011 and scientists continue to question the *C. lycaon* theory.<sup>110</sup> The only difference between 2011 and the situation in 2013 is that the Chambers *et al.* 2012 paper was published. However, the Service had the draft of this paper before it as early as 2010, so no new data was drawn from this source in the intervening years. In 2011, the lack of scientific consensus and the lack of a majority opinion compelled the Service to continue recognizing only one species of gray wolf. The Service acknowledges that the debate on wolf taxonomy will continue on this “for years if not decades to come, and scientific opinion on what represents the current best available science could well shift over time.”<sup>111</sup> This is a far cry from concluding that the established taxonomy for gray wolves is wrong, as *CBD v. Lohn* requires.

By recognizing *Canis lycaon* at this time, the Service is taking an action that reduces protections to an already listed species. As the rule explains, “any wolves that were to disperse to the northeast United States would no longer be protected under the Act.”<sup>112</sup> This does not give the benefit of the doubt to gray wolves because if the Service is incorrect, gray wolves would have to be re-listed at a future time and would go unprotected during that interim period.

3. The Decision to Recognize *Canis lycaon* Conflicts with Long-standing Practice to Resolve Taxonomic Disputes in Favor of Consensus Scientific Opinion

The Proposed Rule also stands in stark contrast to its past practice with regard to other listed species that have been subject of a scientific taxonomic dispute. In its decision to continue to recognize and protect the Preble’s meadow jumping mouse (*Zapus hudsonius preblei*) as a valid subspecies, the Service followed the “widely recognized” classification of the scientific community rather than a minority position based on a genetic study.<sup>113</sup> This decision gave the Preble’s meadow jumping mouse the benefit of the doubt to retain its listed status.

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<sup>110</sup> See *e.g.*, Koblmüller S, *et al.*, *Origin and Status of the Great Lakes Wolf*, 18 MOLECULAR ECOLOGY, 2009, at 2313–2326.

<sup>111</sup> PROPOSED RULE at 35670.

<sup>112</sup> *Id.* at 35717.

<sup>113</sup> 12-Month Finding on Two Petitions to Delist the Preble’s Meadow Jumping Mouse, 78 Fed. Reg. 31680 at 31686 (May 24, 2013).

In continuing to protect the California gnatcatcher (*Polioptila californica californica*) as a valid subspecies, the Service followed “100 years of previously published taxonomic treatments recognizing morphological distinctiveness,” its recognition by the American Ornithologists Union, and other behavioral traits rather than a minority position based primarily on a single genetic study.<sup>114</sup> This decision gave the benefit of the doubt to the California gnatcatcher. In short, in the history of the ESA there are zero instances where the Service has adopted the minority position on the taxonomic classification of a species or subspecies that resulted in an overall reduction in protection afforded to imperiled species.

B. The Service Misstates the Conclusions of the Scientific Literature Regarding the Status of *Canis lycaon*

The proposed rule contains numerous misstatements regarding the conclusions from the scientific literature regarding the status of *Canis lycaon*. Collectively, these mislead the public regarding the scientific validity of *Canis lycaon*'s status as a valid taxonomic species. For example, the Proposed Rule (when referencing Wilson et al. 2000, Wilson et al. 2003, Wheeldon and White 2009, Wilson et al. 2009, Fain et al. 2010, Wheeldon et al. 2010, Rutledge et al. 2012 and Nowak 1995, 2000, 2002, 2003) states:

These studies show that the mid-Atlantic and southeastern states historically were occupied by the red wolf (*C. rufus*) and that the Northeast and portions of the upper Midwest (eastern and western Great Lakes regions) historically were occupied by *C. lycaon*; they also indicate that the gray wolf did not occur in the eastern United States.”<sup>115</sup>

This statement is false. The three Nowak studies do *not* conclude that *C. lycaon* is a species at all—Nowak's research indicates that subspecific status is warranted for the eastern timber wolf.<sup>116</sup> The Rutledge et al. (2012) paper does *not* conclude that *C. lycaon* was restricted to the northeast. It argues instead that *C. lycaon* may have evolved “independent of the gray wolf in the regions east of the Mississippi River.”<sup>117</sup> Moreover, Rutledge et al. (2012) does *not* unequivocally state that *C. lycaon* exists, rather it only concludes that “that a three-species model of *Canis* evolution in North America is not rejected by the data and *deserves further investigation* with more representative samples that.”<sup>118</sup> Wilson et al. (2000) does *not* discuss the historic distribution and range of *C. lycaon* and, more importantly, argues that the red wolf

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<sup>114</sup> 90-Day Finding on a Petition to Delist the Coastal California Gnatcatcher as Threatened, 76 Fed. Reg. 66255 at 66257 (Oct. 26, 2011).

<sup>115</sup> PROPOSED RULE, 78 Fed. Reg. at 35670.

<sup>116</sup> Nowak, R.M., *Another Look at Wolf Taxonomy*, in *ECOLOGY AND CONSERVATION OF WOLVES IN A CHANGING WORLD*, 375-397 (Carbyn L.N., S.H. Fritts, and D.R. Seip eds., 1995); Nowak, R. M., *The Original Status of Wolves in Eastern North America*, 1 *SOUTHEASTERN NATURALIST*, at 95-130 (2002); Nowak, R.M., *Wolf Evolution and Taxonomy*, in *WOLVES: BEHAVIOR, ECOLOGY, AND CONSERVATION*, 239--258 (Mech., L.D. and L. Boitani eds., 2002).

<sup>117</sup> Rutledge, L.Y., et al, *Conservation Genomics in Perspective: A Holistic Approach to Understanding *Canis* Evolution in North America*, 155 *BIOLOGICAL CONSERVATION*, 2012, at 186-192.

<sup>118</sup> *Id.*

and the eastern wolf are conspecific—that they represent a single species.<sup>119</sup> Wheeldon *et al.* (2010) does *not* discuss the historic distribution and range of *C. lycaon*.<sup>120</sup>

Had the Service provided an unbiased synopsis of the scientific literature, it would not have concluded that the gray wolf, *C. lupus*, did not occur in the eastern United States. Instead if it had summarized Nowak (1995) correctly, it would have concluded that the range of the gray wolf extended into the eastern United States “to a limited extent, primarily at somewhat higher elevations (Nowak 1995).”<sup>121</sup> The Service’s careless and casual misstatements regarding the conclusions from the scientific literature mislead the public regarding the historic range of wolves in the United States as well as the current scientific opinion on this issue.

For example, in another location, the Proposed Rule states:

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) published an assessment and status report on *C. lupus* in 2001 (COSEWIC 2001, entire). The assessment evaluates the status and protection level of wolves across jurisdictions. Assessments are complete for *C. l. nubilus*, *C. l. occidentalis*, and *C. lycaon*.<sup>122</sup>

This statement is fundamentally misleading and disingenuous. The 2001 COSEWIC report did evaluate gray wolves across Canada’s jurisdiction, but did so with the eastern wolf being recognized as a *subspecies* of the gray wolf—*Canis lupus lycaon*. COSEWIC has *never* completed an assessment for *C. lycaon* because *C. lycaon* is still being evaluated as to whether it qualifies as a species in Canada. By including such an ambiguous statement, the Proposed Rule again attempts to mislead the public regarding the positions of the larger scientific community regarding the existence of *C. lycaon* as a valid species.

#### C. The Proposed Rule’s Statements Regarding the Distribution of Gray Wolves in the Southeast Conflict with its own Past Conclusions and Current Data

In a further attempt to end federal protections for the gray wolf, the Proposed Rule states, without any significant scientific support that no gray wolves, neither *Canis lupus* nor “*Canis lycaon*” existed in the eastern United States:

Combining the erroneous inclusion of the southeastern United States in the 1978 reclassification with the new data further restricting the historical range of *C. lupus*, we determine that essentially the entire eastern third of the contiguous United States was erroneously included in the 1978 listing, and is still included in the current listing.<sup>123</sup>

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<sup>119</sup> Wilson, P. J., et al., DNA Profiles of the Eastern Canadian Wolf and the Red Wolf Provide Evidence for a Common Evolutionary History Independent of the Gray Wolf, 78 Canadian Journal of Zoology, 2000, at 2156-2166.

<sup>120</sup> Wheeldon, T., B. Patterson, and B. N. White, Sympatric Wolf and Coyote Populations of the Western Great Lakes Region Are Reproductively Isolated, 19 Molecular Ecology, 2010, 4428-40.

<sup>121</sup> PROPOSED RULE, 78 Fed. Reg. at 35670.

<sup>122</sup> *Id.* at 35680.

<sup>123</sup> *Id.* at 35674.

This overly broad statement ignores the Service’s own past conclusions regarding the historic range and distribution of the red wolf on the landscape. In 1991, the Service discussed the relationship of the gray wolf and the red wolf in the eastern United States:

The gray wolf (*Canis lupus*) is believed to have frequented the range north and west of the red wolf *but also occurred among the higher elevations of the Appalachian Mountains as far south as Georgia and Alabama*. Fossil records indicate both species inhabiting these higher elevations at one time or another. Historical evidence, however, seems to characterize the red wolf as most common in the once vast pristine bottomland riverine habitats of the Southeast and especially numerous in and adjacent to the extensive “canebrakes” that occurred in these habitats.<sup>124</sup>

Given that large prey such as elk (*Cervus canadensis*) used to inhabit the eastern United States including in the Appalachian Mountains, and that the Appalachian Mountains are ecologically similar to areas further north in Canada, the historic presence of gray wolf in these areas is not surprising. The possibility that gray wolves could exist in the eastern United States is supported by dispersal events from the WGL DPS, when most recently, a gray wolf was killed by a hunter in Hart County, Kentucky in 2013.<sup>125</sup> The Service must explain why gray wolves or “eastern wolves” were not historically found in the higher elevation regions of Pennsylvania, Maryland, Virginia, West Virginia, Tennessee, Kentucky, Georgia, and North Carolina since the *only* recent scientific literature, Nowak (1995),<sup>126</sup> and the Service’s past statements strongly support the conclusion that gray wolves were found in these high elevation areas.

## **VI. The Service Used an Improper Pre-decisional Process by Considering Political and Economic Factors in Determining Scope of Wolf Recovery.**

The Service is required to make ESA listing determinations “solely on the basis of the best scientific and commercial data available to him after conducting a review of the status of the species.”<sup>127</sup> Section 4(c) of the Act as well as the implementing regulations for the ESA make clear that this mandate applies equally to all delisting determinations.<sup>128</sup> As several courts have found, an agency may not use political concerns or predetermined policy goals to drive its scientific process.<sup>129</sup> By considering factors including feasibility, economic concerns, recovery program resources, and political opposition, the Proposed Rule fails to meet Section 4’s mandate.

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<sup>124</sup> Determination of Experimental Population Status for an Introduced Population of Red Wolves in North Carolina and Tennessee, 56 Fed. Reg. 56325, 56326 (Nov. 4, 1991).

<sup>125</sup> Kentucky Dept. of Fish and Wildlife Resources, *Federal Officials Confirm Gray Wolf Taken in Kentucky*, available at <http://fw.ky.gov/app/news/newsdetail.aspx?id=1334>.

<sup>126</sup> Nowak, R.M., *Another Look at Wolf Taxonomy*, in *ECOLOGY AND CONSERVATION OF WOLVES IN A CHANGING WORLD*, 375-397 (Carbyn L.N., S.H. Fritts, and D.R. Seip eds., 1995).

<sup>127</sup> 16 U.S.C. § 1533(b)(1)(A).

<sup>128</sup> 16 U.S.C. § 1533(c).

<sup>129</sup> See, *Earth Island Inst.e v. Hogarth*, 494 F.3d 757 (9th Cir. 2007) (internal memorandum discussed that a “finding of ‘no significant adverse impact’” would satisfy the Mexican government’s concerns.”); *Northwest Envtl. Advocates v. Envtl. Prot. Agency*, 855 F. Supp. 2d 1199, 1230-31 (D. Or. 2012) (Biological opinion found invalid due to concerns regarding “feasibility” of implementing the most protective standard that “might set unattainable expectations, and ultimately could undermine the credibility of the water quality standards program”).

In 2010, the Service began what it described as a “Structured Decision Making” process (“SDM”) to “lay out a cohesive and coherent approach to addressing wolf conservation needs” in accordance with the Act’s requirements.<sup>130</sup> Documents produced in response to a recent Freedom of Information Act request submitted by Public Employees for Environmental Responsibility (“PEER”) show that the SDM process heavily weighed inappropriate policy factors in shaping the Service’s decision-making regarding wolf recovery in the United States. Rather than basing its decision to delist the wolf on scientific concerns only, these factors instead appear to have primarily driven the development of the Proposed Rule.

As shown in Appendix One, in August 2010, the Service invited representatives of State Fish and Game agencies from 13 states to participate in the SDM process. During the SDM meeting, the Service explained that one of the key aspects of “Structured Decision Making” is a “focus on values” where the participants would “[d]etermine objectives (values) first, and let them drive the analysis.”<sup>131</sup> According to a flow-chart prepared by the Service, the SDM would entail first consideration of the “problem,” then the “objectives,” then the “alternatives,” then the “consequences,” then the “tradeoffs and optimization” and finally to “decide & take action.” It is only during the evaluation of the “consequences” that FWS would consider “data.”<sup>132</sup> The Service used multiple, improper policy factors in deciding whether and how to protect wolves in the lower 48 States:

- As opposed to basing its decisions on the best available science, FWS raised the following questions to the group: “Where can wolves exist? Where *should* wolves exist? What does the ESA require? What does the public want? What can the public tolerate?”<sup>133</sup>
- The FWS’s stated goal was to “Identify a set of geographic units that reflect the taxonomy and population biology of wolves, and which...Capture other relevant objectives...*Have the support of stakeholders*, particularly those with a cooperative management role.”<sup>134</sup>
- FWS also indicated that it intended to take public perception and public support for wolf delisting into account – “Does the service believe it has the discretion to use ‘social tolerance’ as an objective under the ESA? (GF – Yes, we use it in our basic approach to wolf recovery e.g. wolves which prey on livestock. Not all courts agree with this approach). David – there might be a conflict with real-world scenario (i.e., we account for public acceptance in our decision making) and legal outcomes with listing (i.e., this can fall down in court).”<sup>135</sup>

These statements show that Service’s delisting proposal is a departure from the “best available science” standard, and that the agency acted arbitrarily and capriciously when issuing the Proposed Rule.

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<sup>130</sup> PROPOSED RULE, 78 Fed. Reg. at 35667.

<sup>131</sup> Appendix One at 7.

<sup>132</sup> *Id.* at 8.

<sup>133</sup> *Id.* at 3.

<sup>134</sup> *Id.* at 5.

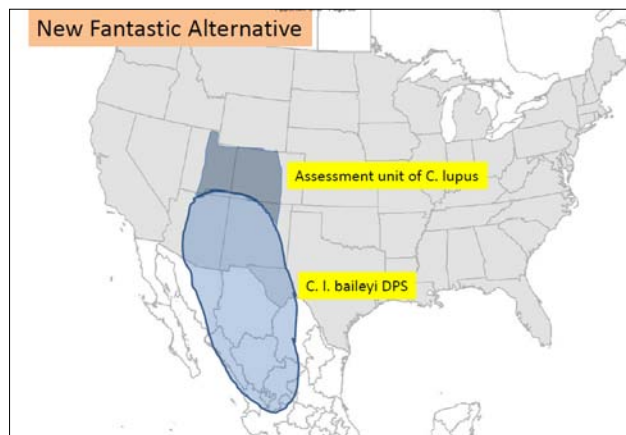
<sup>135</sup> *Id.* at 105.



During this process, the Service provided the representatives from State Fish and Game agencies with different geographic configurations for wolf recovery in portions of the gray wolf's range. The Service divided the participants into an Eastern group, a Western group, and a Southwest group. Each group was provided with different alternatives using DPS boundaries, subspecies boundaries, and SPR boundaries to determine how to reclassify wolves.<sup>136</sup> Different configurations were ranked based on “biological integrity,” “legal defense,” “public burden,” and “understandable.”<sup>137</sup> Participants were able to factor in how such alternatives could “Minimize regulatory burden induced by ESA,” “Provide full-spectrum of consumptive and non-consumptive wildlife availability for current and future generations,” “Compatibility with State laws: Units support management at the state level (UT and WY, Michigan and Washington),” “facilitate management at the State level i. Long-term (when things become delisted) ii. Short-term (nature of units determine how States can manage).”<sup>138</sup> With the exception of “biological integrity” none of the other factors are permissible for consideration under the ESA’s science only mandate for listing and delisting decisions.

Moreover, at the workshop, participants created new alternatives not even considered by the Service itself as legitimate for the purposes of wolf reclassification. For example, after being presented thirteen alternatives on how to address wolves in the southwest United States, the State Fish and Game agencies developed their own “Fantastic Alternative,” which created an “assessment unit” of *C. lupus* in Colorado and Utah.<sup>139</sup> See Figure Four.

**Figure Four. Example from SDM Workshop on Mexican Wolf Potential Listing Units.**



The SDM process also highlights the arbitrary approach the Service employed in reaching its decision regarding the validity of *Canis lycaon* as a species. At the August meeting, the Service stated to participants that “This report has not yet been finalized nor adopted by FWS.” Nevertheless, in the very next bullet point of its powerpoint, the Service adopted all of the key findings of the Chambers report by stating “*C. lupus*, *C. lycaon*, and *C. rufus* are separate species.”<sup>140</sup> The Chambers et al. review had not even been accepted by the Service journal

<sup>136</sup> *Id.* at 37-94.

<sup>137</sup> *Id.* at 57.

<sup>138</sup> *Id.* at 121.

<sup>139</sup> *Id.* at 53.

<sup>140</sup> *Id.* at 17.

*North American Fauna*, and was not published until two years after the SDM meeting. Yet, the Service invited Steve Chambers, Bud Fazio, and Steven Fain, three of the four authors of the Chambers et al. review to participate in the SDM process, thereby presenting a biased and one-sided perspective regarding wolf taxonomy.<sup>141</sup> The Service did not invite any non-Service scientists that disagree with the conclusions regarding *C. lycaon* to participate.

As a result, all discussions at the August 2010 meeting improperly began from an analytical framework that *C. lycaon* was a legitimate taxonomic species. In the Northeast working group, all discussions regarding future wolf conservation in the Northeastern United States accepted that *C. lycaon* was a legitimate taxonomic species, and therefore accepted the flawed conclusion that there were no gray wolves in the eastern United States. Of the eleven “alternatives” presented by the Service to the stakeholder groups, all of them accepted the flawed premise that only *C. lycaon* was present in the northeast and that only the red wolf was present in the remainder of the eastern seaboard.<sup>142</sup>

## **VII. The Mexican Wolf Should be Protected as an Endangered Subspecies Independent of the Rulemaking to Delist the Gray Wolf, *Canis lupus*, at the Species Level.**

The Center strongly supports protecting the Mexican wolf (*Canis lupus baileyi*) as an endangered subspecies throughout its range. However, by linking this separate listing for Mexican wolf to the fate of the entire Proposed Rule, the Service unnecessarily puts at greater risk the implementation of urgently needed recovery actions to save this subspecies. It is simply not correct that if the Proposed Rule is found legally invalid, then the Mexican wolf must continue to be protected under the 1978 listing. The Service has the authority, and indeed the obligation, to list the Mexican wolf subspecies as a separate, listed entity independent of any action to revise the gray wolf listing nationwide because the Mexican wolf is critically endangered in the wild. The Proposed Rule contains the following statement:

We recently published a not warranted 12-month finding on petitions to list the Mexican wolf as a subspecies or DPS. Our finding was based on the fact that the population in question was already fully protected as endangered under the Act...However, our finding further stated that we could not, consistent with the requirements of the Act, take any action that would remove the protections accruing to the southwestern population under the existing *C. lupus* listing without first determining whether the Mexican wolf warranted listing separately as a subspecies or a DPS, and, if so, putting a separate listing in place....<sup>143</sup>

The Center agrees that the Service could not remove the ESA’s protections for *C. lupus* in the southwest without making a finding that the Mexican wolf warrants listing separately as a subspecies and that it should put a separate listing in place. However, this fact does not preclude the Service from listing the Mexican wolf subspecies as a separate unit under the list of endangered species even if the original 1978 listing remains unchanged. Cynically, just six

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<sup>141</sup> *Id.* at 166-168.

<sup>142</sup> *Id.* at 77-87.

<sup>143</sup> PROPOSED RULE, 78 Fed. Reg. at 35708.

months prior to the Proposed Rule, the Service refused to list the Mexican wolf as a separate subspecies, stating:

Were the Service to separately list each constituent subspecies or potential DPS comprising an already listed entity, the endangered and threatened list would almost certainly be expanded several fold, and the limited resources of the Service would be consumed for years by the task, only to give again the protection of the Act to individual plants and animals that already had it.<sup>144</sup>

No one is asking the Service to list each constituent subspecies for each listed species under the ESA. That would be a waste of time and resources. The Center petitioned for listing this *one* particular subspecies of gray wolf because, as the Service recognized in 2010, the current recovery effort for Mexican wolves “is not thriving.” Unless significant changes are made to the recovery program for this subspecies, it faces an even greater risk of extinction in the wild. Although the Service claims that recovery planning continues for the Mexican wolf, recovery planning is on hold. The Service has failed to update the Mexican Wolf Recovery Plan since it was first released in 1982, and did not meet its 2013 goal of releasing a draft revision for the plan.<sup>145</sup> No one knows if or when the revision will be released.

It is important to note that in 2003,<sup>146</sup> when the Service tried to delist the gray wolf using the same flawed logic as in the current Proposed Rule, it also tried to elevate and establish an endangered Mexican wolf DPS unit. When the 2003 rule was held invalid, the consequence of those court decisions was the invalidation of the Mexican wolf DPS and the suspension of recovery planning efforts for the Mexican wolf.<sup>147</sup> When the 2013 Proposed Rule is found to be invalid, because it contains the same fatally flawed legal reasoning, the result is likely that the Mexican wolf subspecies component will fall as well. In effect, the Service has taken the Mexican wolf hostage to its larger delisting agenda. This was unnecessary. The Service should revisit its 2012 12-month finding or consider issuing an emergency rule listing the Mexican wolf as an endangered subspecies so that recovery planning and recovery actions can resume.

## VIII. CONCLUSION

The Proposed Rule prematurely cuts short recovery efforts for gray wolves in the lower 48 States and blatantly violates the Endangered Species Act. The Proposed Rule totally fails to follow the best available scientific information regarding the gray wolf. We recommend that the Proposed

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<sup>144</sup> Endangered and Threatened Wildlife and Plants; 12-Month Finding on Petitions to List the Mexican Gray Wolf as an Endangered Subspecies or Distinct Population Segment With Critical Habitat, 77 Fed. Reg. 195 (Oct. 9, 2012) [Hereinafter “12-MONTH FINDING”].

<sup>145</sup> See U.S. FISH AND WILDLIFE SERVICE, MEXICAN WOLF RECOVERY PROGRAM: PROGRESS REPORT #15, 4 (2013) (stating a new Mexican Wolf Recovery Team and that a draft plan will be submitted for public and peer review prior to the release of the final recovery plan, but provided no further description of the Team’s activities).

<sup>146</sup> Endangered and Threatened Wildlife and Plants; Final Rule to Reclassify and Remove the Gray Wolf from the List of Endangered and Threatened Wildlife in Portions of the Conterminous United States; Establishment of Two Special Regulations for Threatened Gray Wolves, 68 Fed. Reg. 15804 (Apr. 1, 2003).

<sup>147</sup> *Defenders of Wildlife v. U.S. Dept. of the Interior*, 354 F.Supp.2d 1156 (D. Or. 2005); *Nat’l Wildlife Fed’n v. Norton*, 386 F.Supp.2d, 553 (D. Vt. 2005).

Rule be withdrawn and that an emergency listing for the Mexican wolf as an endangered subspecies be promulgated immediately.

Respectfully submitted,



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## APPENDIX ONE

# August 2010 SDM Workshop

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# What we want to attempt

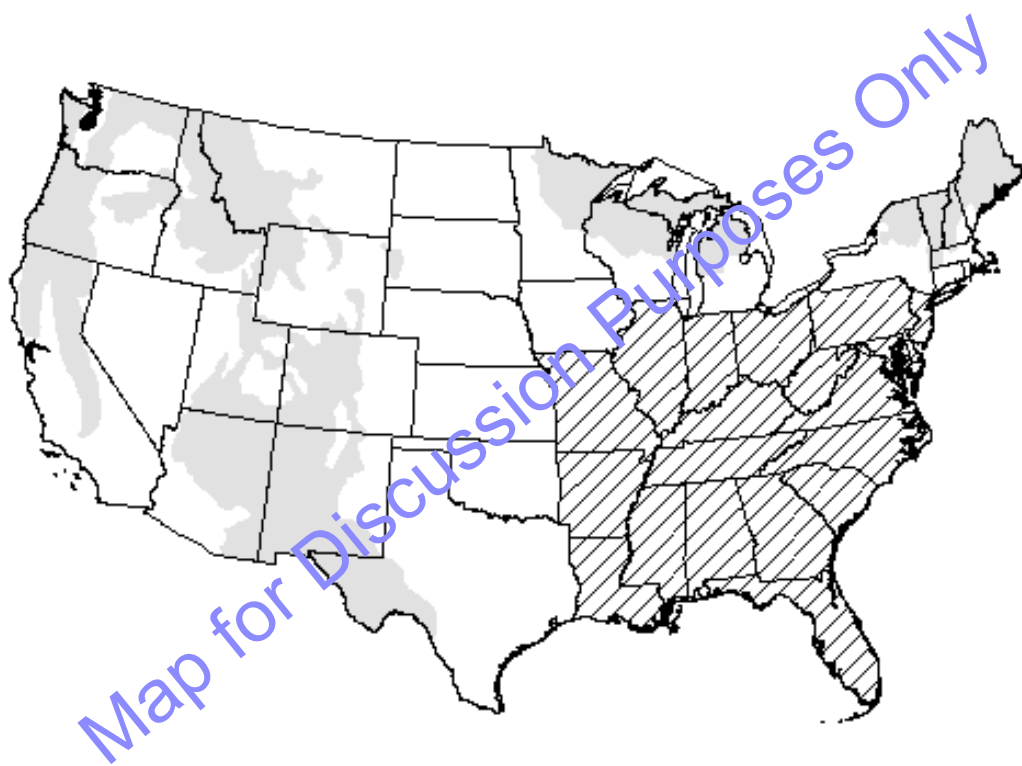
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- Suppose the ESA had just been enacted and we were evaluating wolves under the Act for the first time
  - Today's biological status
  - Today's understanding of the law
- How would we proceed?



# Some Questions



- Where can wolves exist?
- Where *should* wolves exist? What does the ESA require? What does the public want? What can the public tolerate?
- Which areas have sustainable populations at the current time?
- Which populations need active recovery and which simply need continued protection?



# Broad Framework

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- Identify geographic units for assessment (FOCUS of workshop)
  - What taxonomic or sub-taxonomic units (sp, ssp, or DPS) make sense in terms of assessing wolf status as it pertains to ESA requirements, public interests, our capability for conservation, and other objectives?
  
- Status assessments
  - What is the current status of wolves in those units, and how should each be classified under the ESA?
  
- Listing/reclassification/delisting decisions
  - Promulgate one or more rulemakings to implement this understanding.
  
- Recovery planning
  - Proceed with recovery planning for any listed entities.



# Purpose

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- Identify a set of geographic units that reflect the taxonomy and population biology of wolves, and which
  - Conform to the ESA
  - Promote an comprehensive vision for wolf recovery in the lower 48, as it relates to North America
  - Allow delisting to proceed with the same units as listing
  - Capture other relevant objectives
  - Have the support of stakeholders, particularly those with a cooperative management role



# Brief Overview of SDM

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# Two key elements of SDM

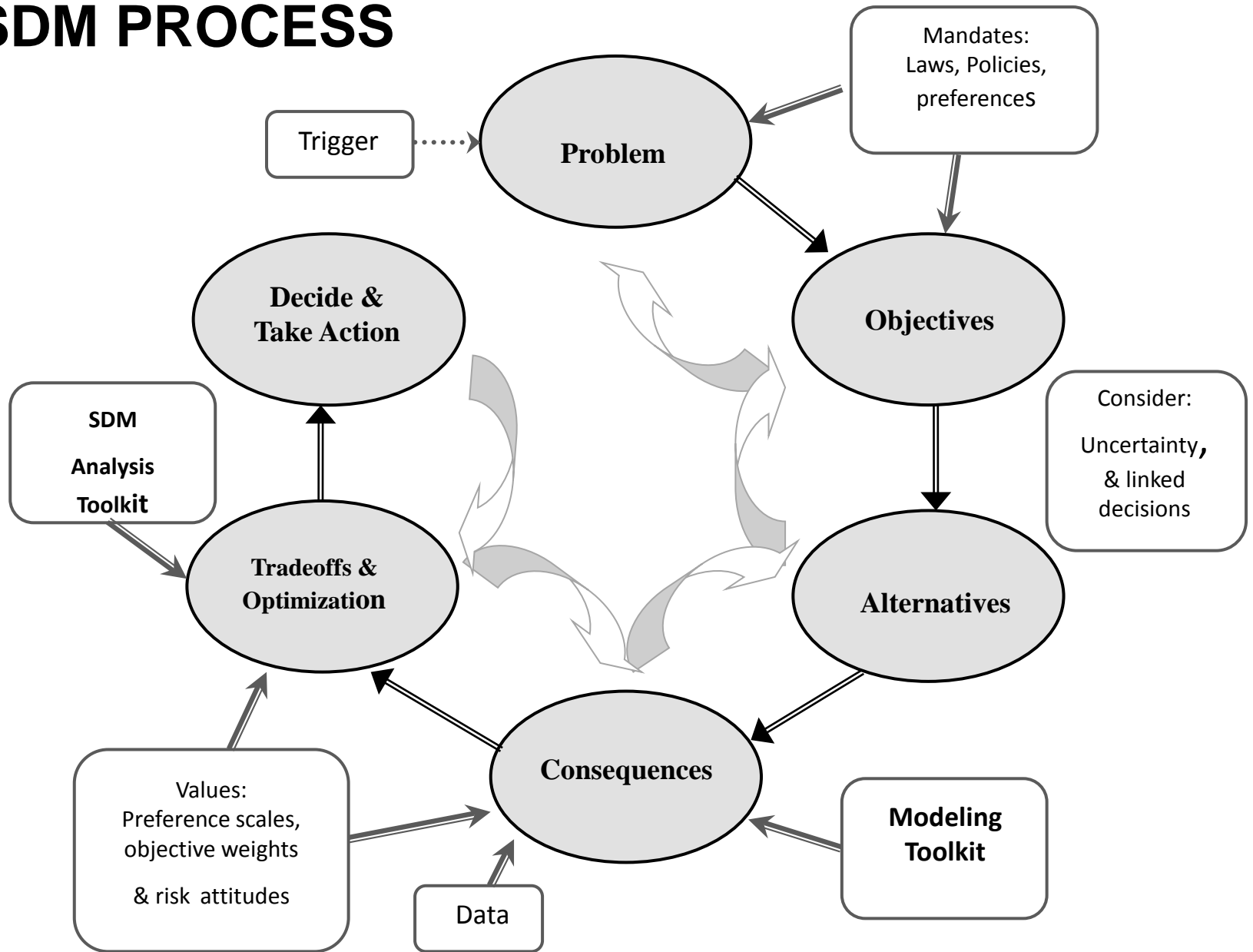
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- Problem decomposition
  - Break the problem into components (separate policy from science).
  - Analyze relevant components.
  - Recompose the parts to make a decision.
- Focus on values
  - Determine objectives (values) first, and let them drive the analysis.
  - Contrast this with intuitive decision-making, which usually jumps straight to alternatives.



# SDM PROCESS



# Benefits of SDM

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- Decision processes that are
  - Transparent
  - Explicit
  - Deliberative
  - Able to be documented
  - Replicable
- If someone disagrees with the decision, they have the explicit argument in hand and need to point out where you went wrong



# Proposed SDM process (1)

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- Purpose:

Identify a set of geographic units ...

- that spans the US (and implicitly North America).
- within which it is necessary and appropriate to assess the status of wolves under the ESA.



# Proposed SDM process (2)

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- Articulate objectives, including:
  - Legal requirements, definitions, and policy constraints under the ESA
  - Stakeholder concerns
  - Practical limitations
- Organize objectives
  - Objectives hierarchy
  - Fundamental vs. means





# Proposed SDM process (3)

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- **Identify individual geographic units**
  - Species, subspecies, or distinct population segments
  - Driven by ESA definitions, current understanding of taxonomy, and population biology
  
- **Identify alternative *sets* of geographic units**
  - Each set is a portfolio of individual units.
  - Each set accounts for all of the Lower 48.
  - We can enumerate all possible combinations, but it may be more appropriate to screen alternative sets based on criteria that arise from the objectives.



# Proposed SDM process (4)

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- Analyze how each alternative set achieves the fundamental objectives
  - Multiple-objective tradeoff analysis
- Select a set of geographic units
  - Provide a recommendation to the Director of the Service.
  - This paves the way for status assessment.



# Working Assumptions

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- There are some working assumptions about this endeavor
- These are not binding
  - But they do represent about two years worth of internal FWS deliberation about the legal, policy, and biological status
- These are offered as a starting point for discussion
  - And to help convey the framework FWS has in mind for this workshop



# Working Assumptions: Goals

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- Proper classification facilitates recovery and delisting
- The set of units should provide complete coverage of potential range in North America
- The units are *assessment* units, not necessarily *listing* units
- Potential listing units should equate to intended delisting units



# Working Assumptions: Discretion

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- Where valid subspecies are identified
  - FWS has discretion to list at species or subspecies level
  - If in addition, valid DPSs can be identified, FWS has discretion to list DPSs at species or subspecies level
- Where DPSs can be identified, FWS has some discretion to lump them
- If an entity meets the criteria for both a subspecies and a DPS, FWS has discretion to use either, although subspecies is preferred default
- FWS has discretion to use or not use international boundary to define DPSs



# Working Assumptions: Taxonomy

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- The Chambers et al. review provides a synthesis of the best available information
  - This report has not yet been finalized nor adopted by FWS.
  - We will need to explicitly deal with this scientific uncertainty at the workshop
  
- Taxonomy: key conclusions
  - *C. lupus*, *C. lycaon*, and *C. rufus* are separate species
  - *C. lupus baileyi* (Mexican wolf) is a valid subspecies
  - *C. l. occidentalis* (northern timber wolf), *C.l. nubilus* (plains wolf) are also valid subspecies



# Working Assumptions: Caveats

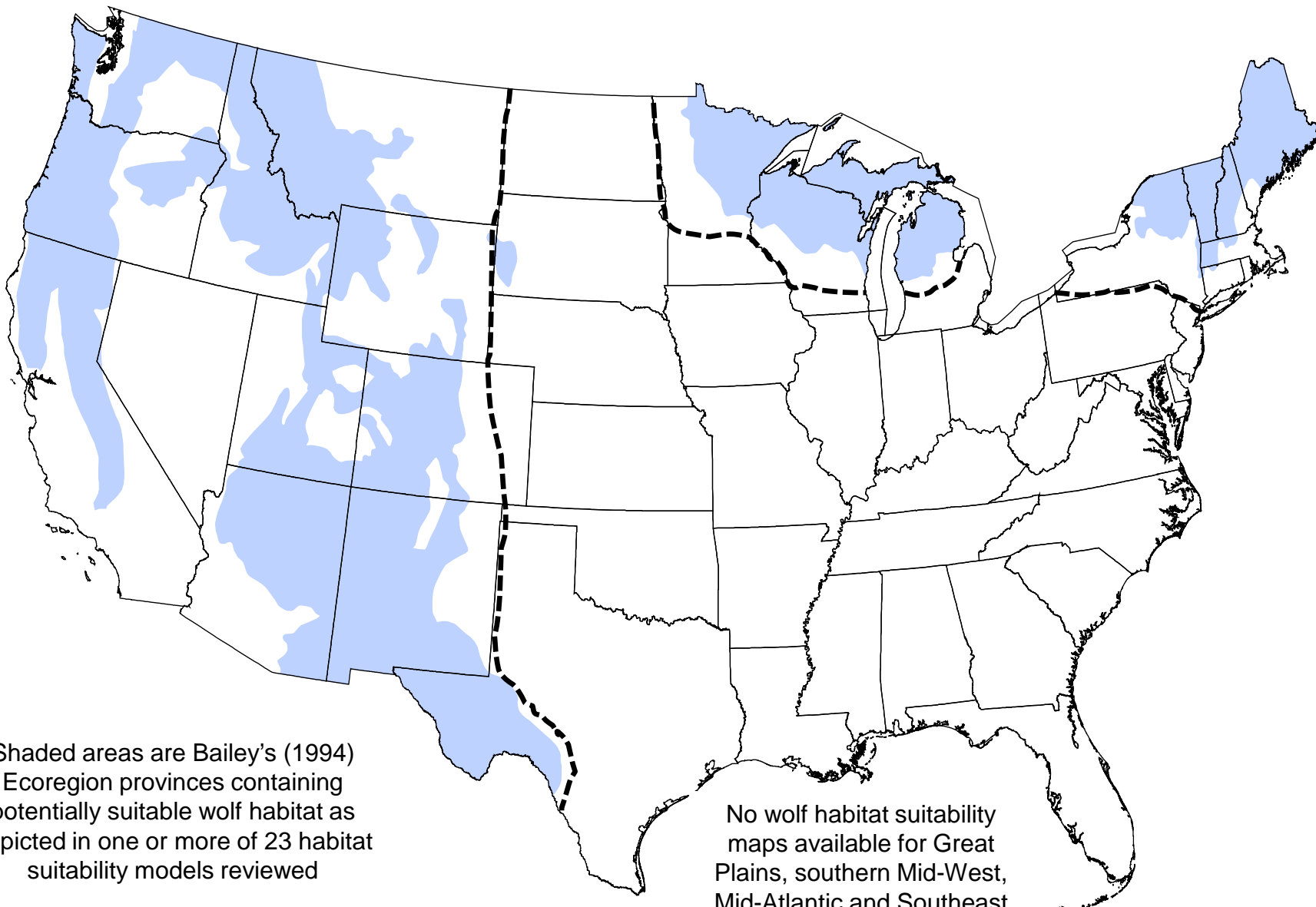
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- All boundaries are rough approximations at this stage, and may have to be refined at a rulemaking stage
- With regard to subspecies, boundaries may or may not be designated at the rulemaking stage. Regardless, we must be clear about expectations and intent for recovery.
- We are not tied to currently identified entities.
- Historic subspecific range lines are approximate and malleable because of intergradation. Unit boundaries can extend beyond these, in recognition of natural mixing processes.



# Potential Wolf Habitat in the Coterminous U.S.?



Shaded areas are Bailey's (1994) Ecoregion provinces containing potentially suitable wolf habitat as depicted in one or more of 23 habitat suitability models reviewed

No wolf habitat suitability maps available for Great Plains, southern Mid-West, Mid-Atlantic and Southeast regions



## Alternative Assessment Units

### Big Picture –

1. North American DPS of *lupus* (sense Chambers et al.)
2. *lycaon* sp
3. Lower 48 DPS of *lupus*
4. Western DPS of *lupus*
5. *C. l. nubilus* ssp
6. Lower 48/Mexico DPS of *lupus*
7. *rufus* sp
8. Lower 48 DPS of *C. l. nubilus*
9. *C.l. occidentalis* ssp

### Central –

10. ? Potential Great Plains DPS of *C. l. nubilus*

### SW –

11. DPS of *lupus* (SW)
12. *C. l. baileyi* ssp
13. DPS of *C. l. baileyi* (US)
14. ? Potential DPS of *baileyi* (MX)
15. DPS of *C. l. baileyi* (TX, AZ, NM)

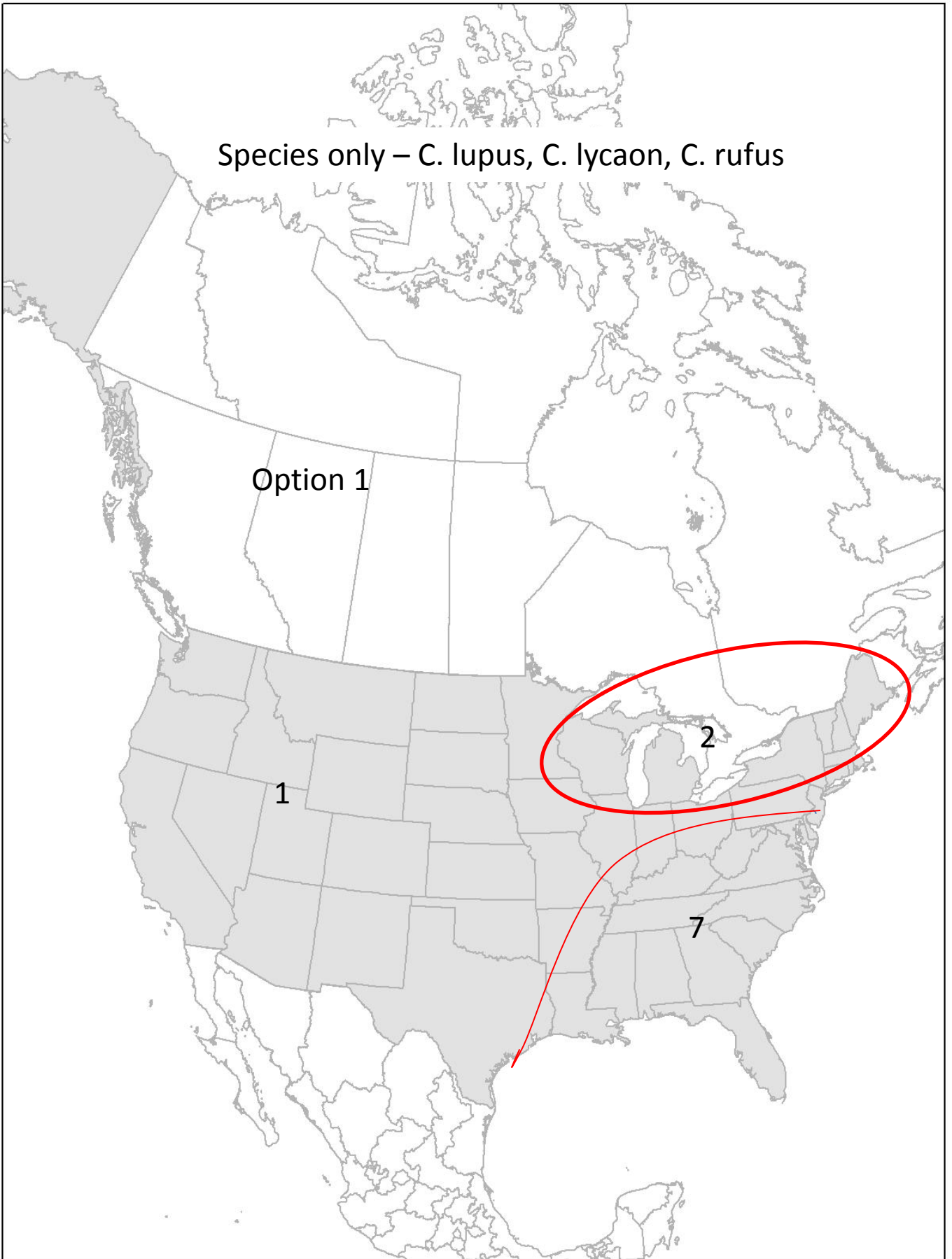
### NW –

16. NRM DPS of *lupus*
17. PNW DPS of *lupus*
18. PNW DPS of *C. l. nubilus*
19. NW DPS of *lupus*
20. ? Potential Central Rockies DPS of *C. l. nubilus*

### East –

21. DPS of *lycaon* - Historic *lycaon* range without WGL (Southeastern Canada/Northeast US)
22. DPS of *lycaon* (WGL)
23. DPS of MN, WI, MI gray wolves (*lupus*, *lupus* x *lycaon* hybrids)
24. DPS of *C. l. nubilus* (WGL)
25. DPS of *lupus* (WGL)
26. ? Potential combined DPS of *Canis* (*lupus/lycaon*) (WGL)
27. Eastern Canadian DPS of *lycaon*
28. Northeast DPS of *lycaon*
29. Lower 48 DPS of *lycaon* (Northeast/WGL)
30. DPS of *lycaon* (WGL and Canada without Northeast US)

Species only – *C. lupus*, *C. lycaon*, *C. rufus*



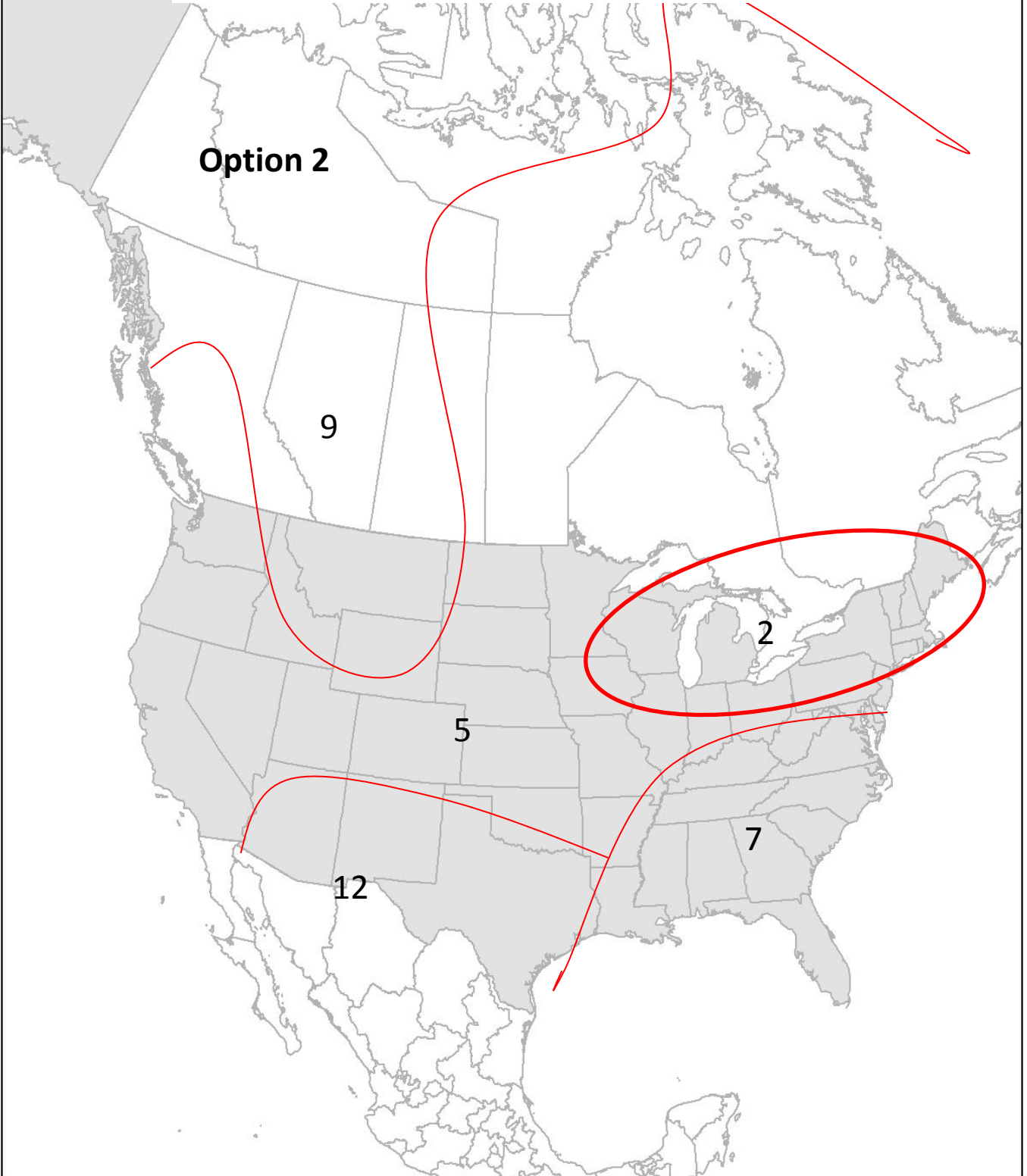
Option 1

1

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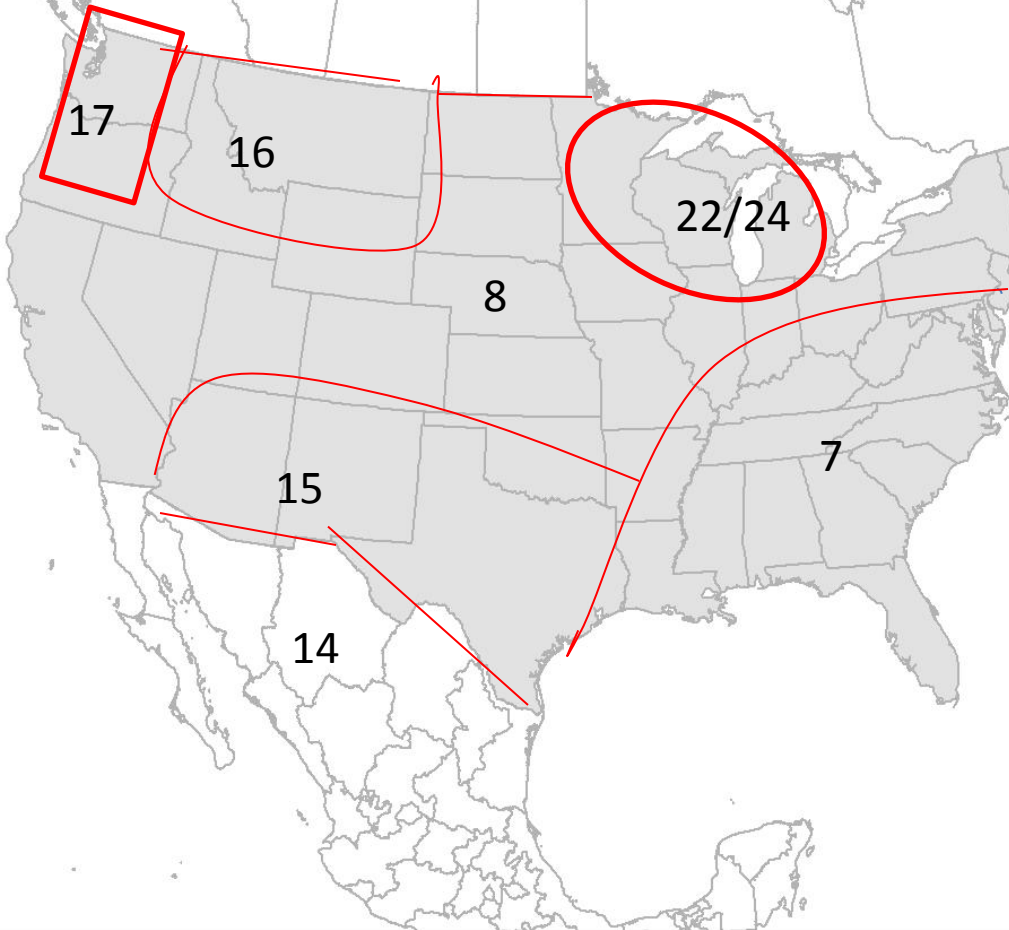
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Subspecies set – *C. l. Occidentalis*, *C. l. nubilus*,  
*C. l. baileyi*, *C. lycaon*, *C. rufus*

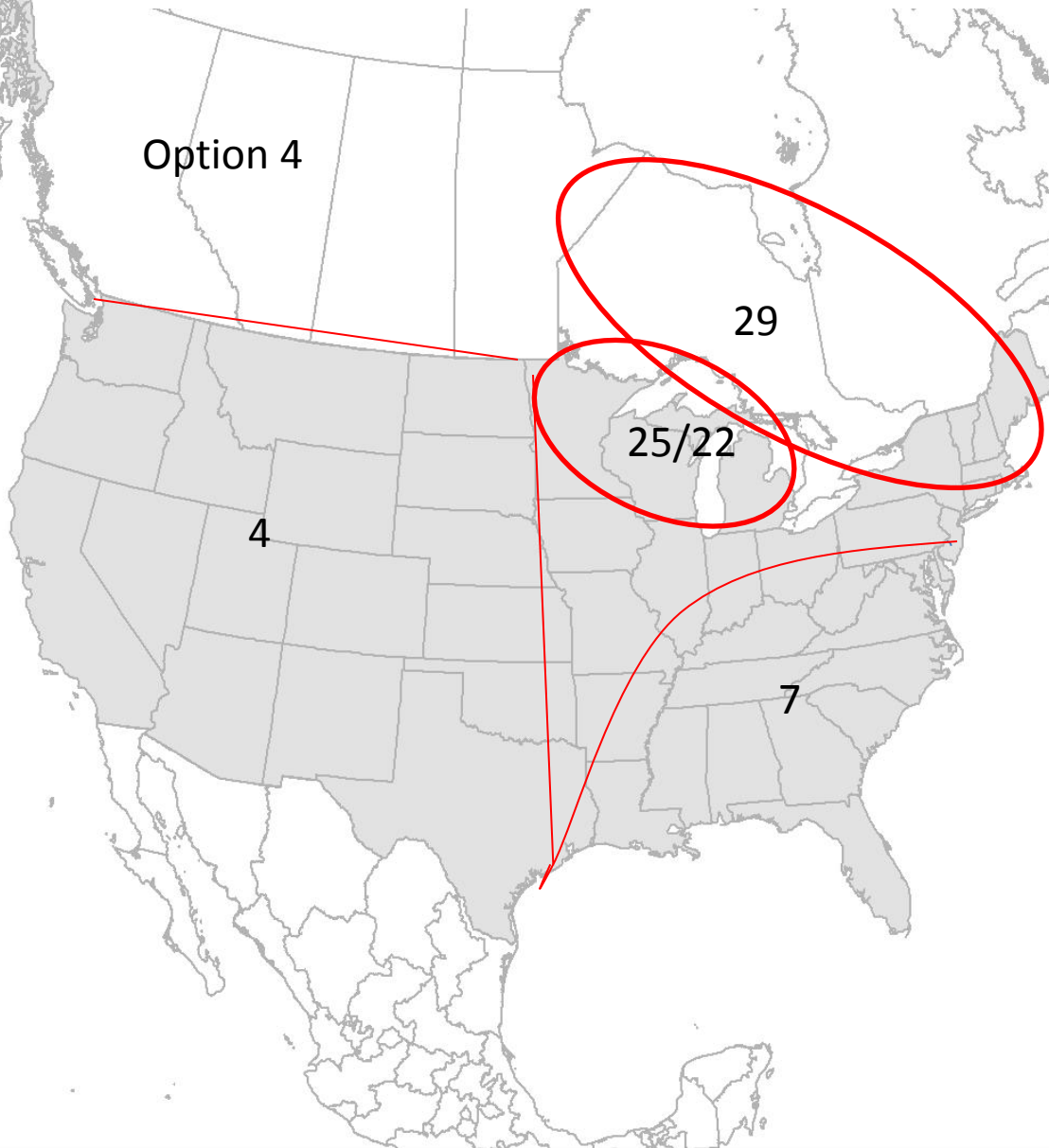


DPS set – MX DPS baileyi, US DPS baileyi,  
NRM DPS lupus, PNW DPS lupus, WGL DPS  
lycaon, WGL DPS nubilus, C. rufus

Option 3



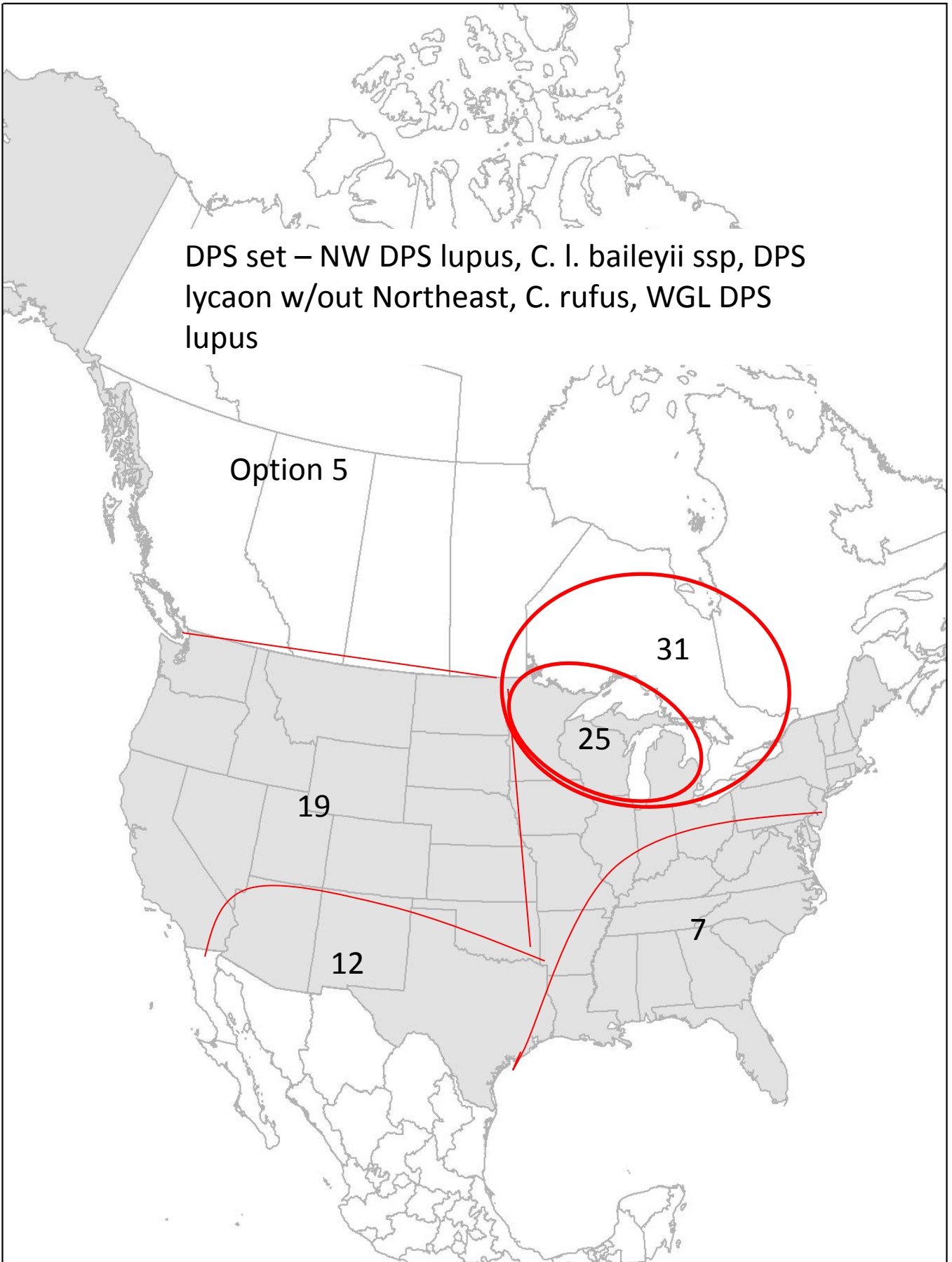
DPS set (big) – Western DPS lupus, WGL DPS lupus, DPS C. lycaon w/out WGL (Southeastern Canada/Northeastern US), WGL DPS C. lycaon, C. rufus





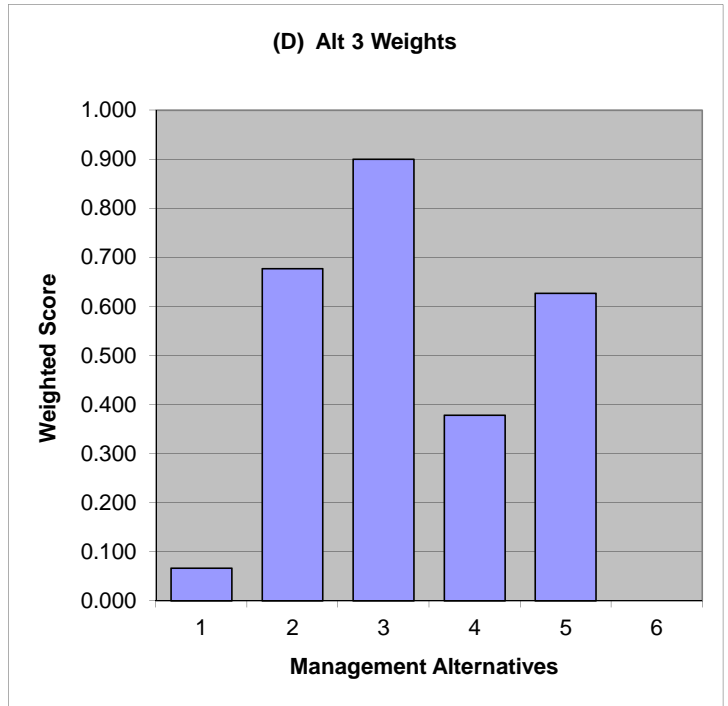
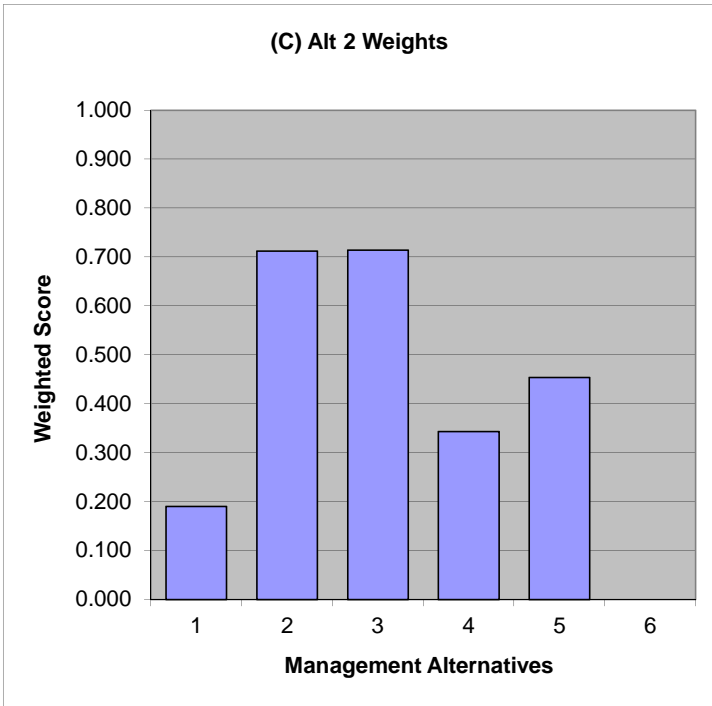
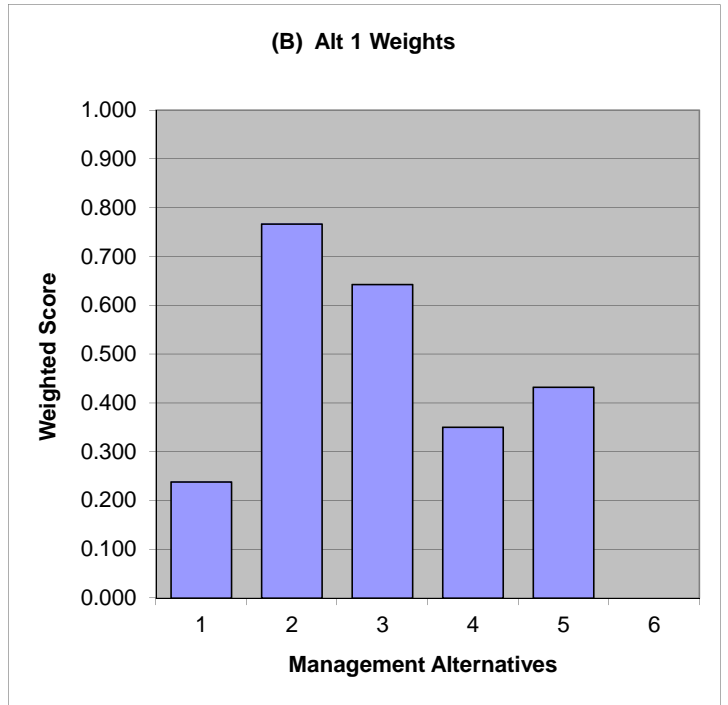
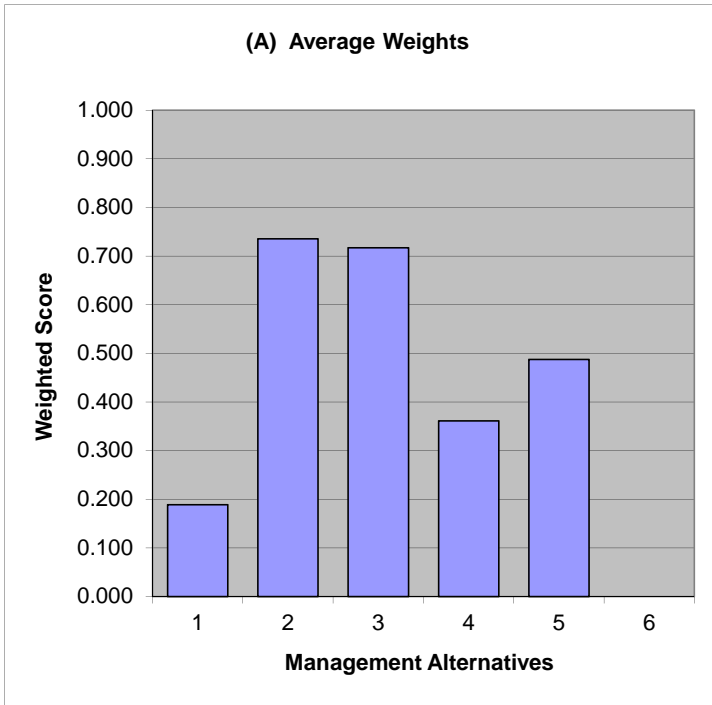
DPS set – NW DPS lupus, *C. l. baileyi* ssp, DPS  
lycaon w/out Northeast, *C. rufus*, WGL DPS  
lupus

Option 5



**Group measurable attributes**

1. Legal defensibility groups
  - Qualitative scale based on sense of the probability of prevailing chance of being litigated
    - o High (5) to Low (1)
2. Public acceptance group
  - clarity of public and time/area regulated
  - Leichardt scale – 1-5 scale. Subjective expert ranking
    - o Very high acceptance (5),
    - o High acceptance (4)
    - o Acceptance (3)
    - o Some acceptance (2)
    - o very low acceptance (1 = very active opposition – e.g. people bringing notices, people ringing congress etc) ...
3. Wolf Conservation
  - Units designated to maintain/maximize genetic diversity of genus across units
  - Qualitative 1-3 ranking
    - o 3 = high probability of contributing to wolf conservation
    - o 2 = Med probability of contributing to wolf conservation
    - o 1 = Low probability of contributing to wolf conservation
4. Efficiency
  - Used a qualitative scale,
    - o 1-3 (Low to High)
  - Based on 4 components
    - o Efficiency
    - o Expediency
    - o Enduring
    - o Potential for petitions
  - Used modified Delphi approach





Consequence Table

Management Alternative		Mean Response			
#		Legal Defense	Public Acceptance	Wolf Conserv	Efficiency
		1-5	1-5	1-3	1-3
		max	max	max	max
1	Species only	4.0	1.0	1.0	1.0
2	Subspecies only	5.0	2.1	2.5	2.0
3	Small DPSs	2.0	3.3	3.0	2.5
4	Large DPSs	3.0	1.6	2.0	1.5
5	Hybrid	2.0	2.1	2.75	2.0

Management Alternative		Normalized Responses				Weighted Score (avg)
#		Legal Defense	Public Acceptance	Wolf Conserv	Efficiency	
1	Species only	0.667	0.000	0.000	0.000	0.189
2	Subspecies only	1.000	0.478	0.750	0.667	0.736
3	Small DPSs	0.000	1.000	1.000	1.000	0.717
4	Large DPSs	0.333	0.261	0.500	0.333	0.361
5	Hybrid	0.000	0.478	0.875	0.667	0.488
Normalized scale: Worst Case		2	1	1	1	
Normalized scale: Best Case		5	3.3	3	2.5	
Weight (avg)		0.283	0.259	0.281	0.178	

Weight (alt 1)	0.357	0.179	0.179	0.286
Weight (alt 2)	0.286	0.357	0.214	0.143
Weight (alt 3)	0.100	0.300	0.400	0.200

Weighted Score		
Alt 1	Alt 2	Alt 3
0.238	0.190	0.067
0.767	0.712	0.677
0.643	0.714	0.900
0.350	0.343	0.378
0.432	0.454	0.627

Swing Weights

Alt	Objective				Score
	Legal	Public	Cons	Efficiency Rank	
baseline	2	1	1	1	5
A	5	1	1	1	
B	2	3.3	1	1	
C	2	1	3	1	
D	2	1	1	2.5	
	1-5	1-5	1-3	1-3	

Decision Maker	Scores				Weights				
	1	2	3	4	5	1	2	3	4
R1	60	80	100	40	0.214	0.286	0.357	0.143	
R2	95	75	100	45	0.302	0.238	0.317	0.143	
R3	100	60	80	40	0.357	0.214	0.286	0.143	
R4	50	90	100	70	0.161	0.290	0.323	0.226	
R5	100	50	50	80	0.357	0.179	0.179	0.286	
R6	70	60	100	75	0.230	0.197	0.328	0.246	
R9	65	70	100	30	0.245	0.264	0.377	0.113	
WA	100	70	60	30	0.385	0.269	0.231	0.115	
UT	80	100	30	70	0.286	0.357	0.107	0.250	
WY	100	95	95	30	0.313	0.297	0.297	0.094	
AZ	100	79	80	25	0.352	0.278	0.282	0.088	
NM	70	100	75	80	0.215	0.308	0.231	0.246	
ND	80	100	60	40	0.286	0.357	0.214	0.143	
WI	85	90	100	50	0.262	0.277	0.308	0.154	
MN	90	50	100	30	0.333	0.185	0.370	0.111	
MI	100	50	70	80	0.333	0.167	0.233	0.267	
NY	100	80	95	75	0.286	0.229	0.271	0.214	
VT	25	75	100	50	0.100	0.300	0.400	0.200	
NH	100	75	85	50	0.323	0.242	0.274	0.161	
ME	100	75	70	65	0.323	0.242	0.226	0.210	
					0.283	0.259	0.281	0.178	

# Elegant and Efficient units

# Understandable, Elegant Units:

- Fundamental assumption that we have full coverage
- Then, we have a combination of the following:
  1. Something that conforms to wolf biology and wolf recovery.
  2. Easily definable boundaries that can be easily understood and communicated to people.

# **For each unit on a map we compute a score based on the following, then average across a map**

RANK: (most to least important, with score)

6 = DPS species (hard boundary)

5 = DPS subspecies (hard boundary)

4 = Species (units are full species)

3 = Subspecies (units are full subspecies)

2 = DPS (soft boundaries)

1 = DPS multiple species (all hard boundaries)

# Efficiency

- Minimize money and time spent by people for wolf recovery (State, Tribes and Feds)
  - Care about the workload (= years spent) and money (= \$ spent). So, we measure in:

**Time (years) x complexity (\$/year)**

NB/ Assume cost is the \$ spent on recovery per year (and recovery includes depredation control)

For today's purpose, we do not have expertise and information available, so are just looking at complexity

Scale:

3 = Least complex situation to recover

2 = Moderately complex situation to recover

1 = Highly complex situation to recover

NB/ Again, do this unit by unit and average across a map.

## Measurable Attributes (8/26/2010)

### Objective 1. Promote and Sustain Wolf Recovery

2 measurable attributes:

#### 1.a. Biological Integrity: Within Units -

Unit Size	Connectivity	Unit Score
Small	no connectivity	0
Small	with connectivity	1
Medium	no connectivity	1
Medium	with connectivity	3
Large	no connectivity	2
Large	with connectivity	4

Size: occupied or suitable habitat, taking into account geographic distribution, to support

Small = fewer than 10 packs, ballpark 5000 – 10,000 mi<sup>2</sup>

Medium = 10 – 30 packs, between

Large = > 30 packs, ~70-100,000 mi<sup>2</sup>

When evaluating at regional level, score = mean of unit scores

#### 1.b. Biological Integrity: Across Units -

Proportion: Count the number of “Bailey Ecoregion Provinces” with wolf potential (i.e., suitable habitat)

contained within assessment units in a region. Divided by the number of provinces in that region within suitable habitat.

### Objective 2.a./b. Legal Defensibility

What should be the criteria for making a judgment? Number of controversial issues and the seriousness of the issues –

- DPS – including but not limited to: Boundaries, size, multiple sp/multiple ssp., Discreteness/Significance, Existence of a population
- Science – including but not limited to: Taxonomy
- Consistency with previous FWS statements
- Consistency with prior case law

#### Measure is probability of a successful rule –

0 – Very low chance of successfully being defended (likely fatal flaw)

1 – Somewhat low (one or more significant issues or many minor issues)

2 – Moderate chance of success (no significant issues but several minor issues)

3 – Very high chance of success (no significant issues and few to no minor issues)

### Objective 3.c. State Management

Two measurable attributes:

3.c.i. Long-term: When can states gain management authority; consider time to delisting and space

Time to delist:

0-3 years (1)

3-6 years (.3)

More than 6 (.1)

Area: Number of states with sizable population divided by total number of states in the unit

Average across units: [Time + Area for each unit]



**3.c.ii. Short-term:** Based on the potential for complex management

1 potential status per state (state undivided) =1

2 + potential statuses per state (state divided) =0

Metric: Sum across states. (ranges from 0 to # of states in the region)

**Objective 5.a. Minimize public burden –****Impact on Producers – costs are associated with constraints of wolves being managed under ESA**

Why measure this? There is a direct economic cost to producer/cost to state/cost to public tolerance/biological cost to wolves. We are scoring the set of units.

**Relative scale given the alternatives:**

1 = Alternative with the least impact on producers

5 = Alternative with the greatest impact on producers

Remaining alternatives are ranked 1-5 relative to your least/greatest alternatives

**Objective 5.c.ii. Public Values - Understandable, Elegant Units**

- Fundamental assumption that we have full coverage
- Then, we have a combination of the following:
  1. Something that conforms to wolf biology and wolf recovery.
  2. Easily definable boundaries that can be easily understood and communicated to people.

**For each unit on a map we compute a score based on the following, then average across a map**

**RANK: (most to least important, with score)**

6 = DPS species (hard boundary)

6 = DPS subspecies (hard boundary)

4 = Subspecies (units are full subspecies where found)

3 = Species (units are full species where found)

1= DPS (where found)

1= DPS multiple species (all hard boundaries)

**Objective 6.a. Efficiency**

Minimize money and time spent by people for wolf recovery (State, Tribes and Feds)

- Care about the workload (= years spent) and money (= \$ spent). So, we measure in:

**Time (years) x complexity (\$/year)**

NB/ Assume cost is the \$ spent on recovery per year (and recovery includes depredation control)

**For today's purpose, we do not have expertise and information available, so are just looking at complexity**

**Scale for time –**

0-3 (1.5) yr

3-6 (4.5) yr

6-10 (8) yr

10-20 (15) yr

20+ (30) yr

**Scale for cost/yr -**

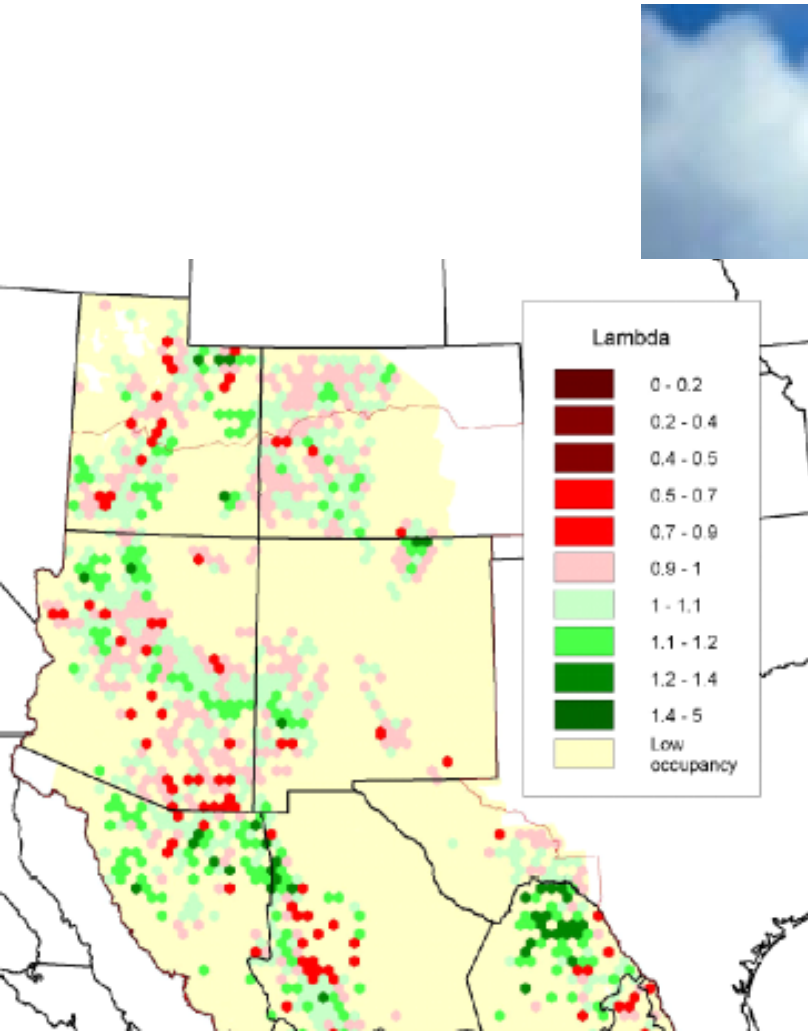
1 = Least complex situation to administer

2 = Moderately complex situation to administer

3 = Highly complex situation to administer

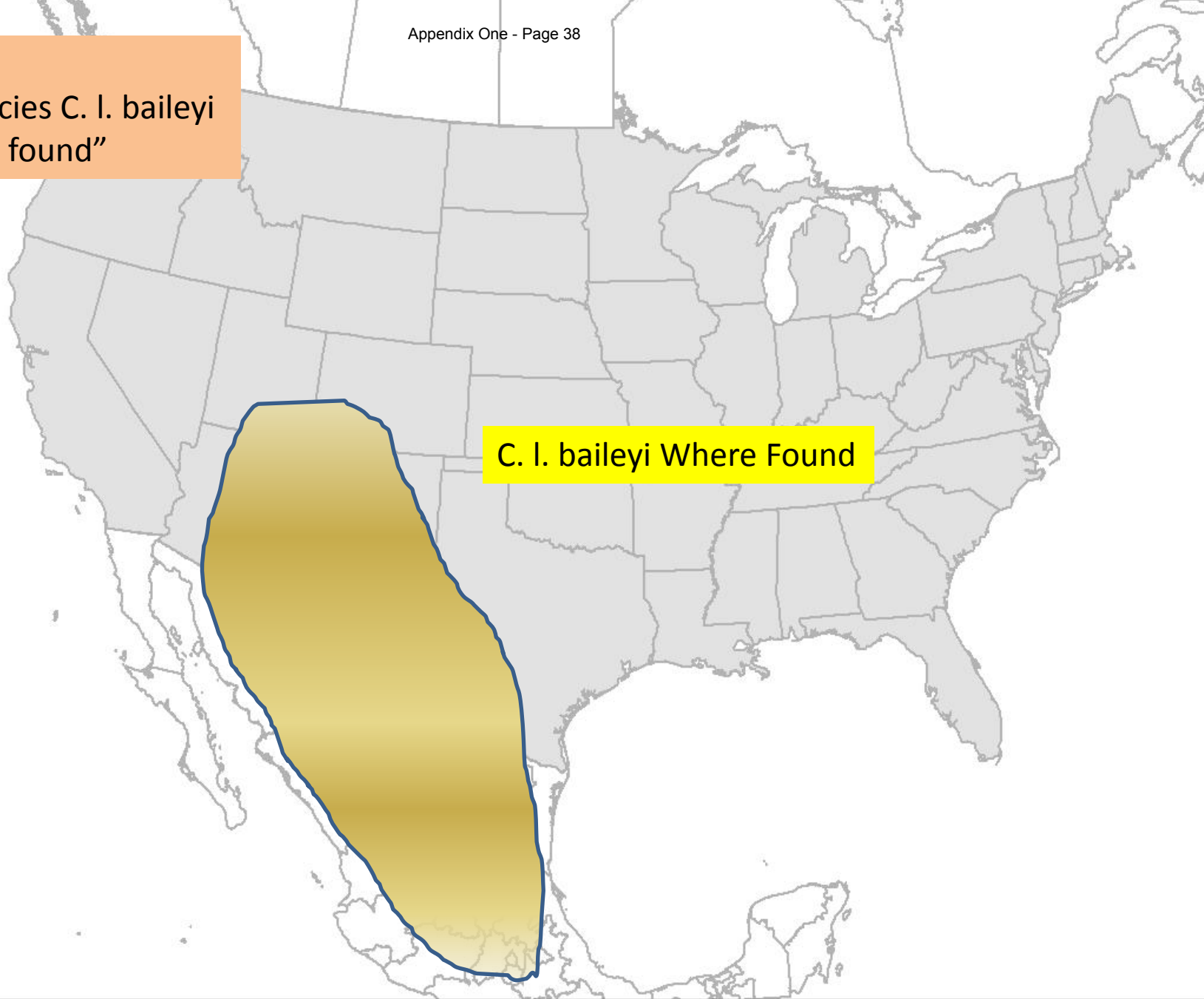
NB/ Again, do this unit by unit and average across a map.

# Southwest



ALT 1

Subspecies *C. l. baileyi*  
"where found"



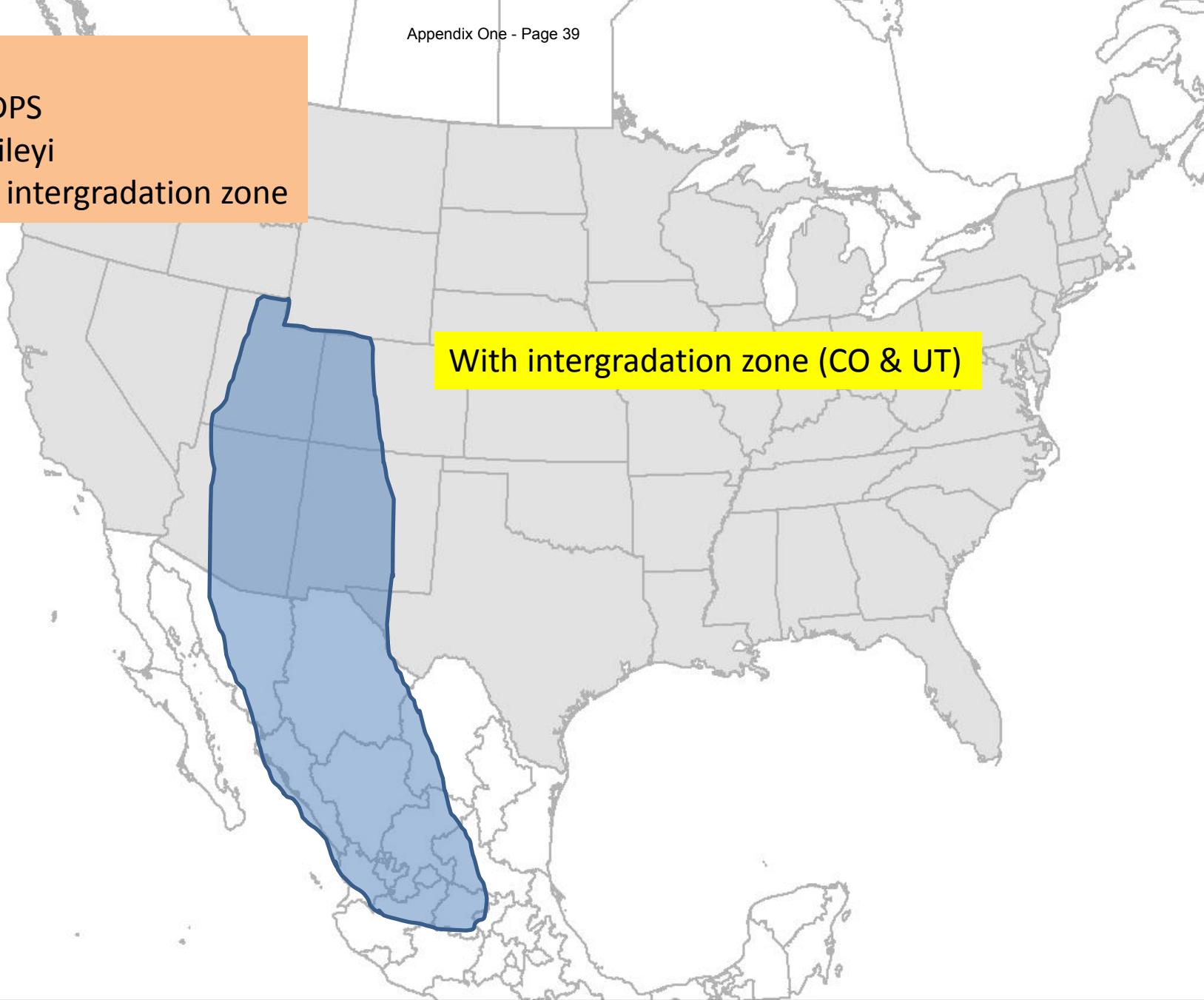
*C. l. baileyi* Where Found

ALT 2

Single DPS

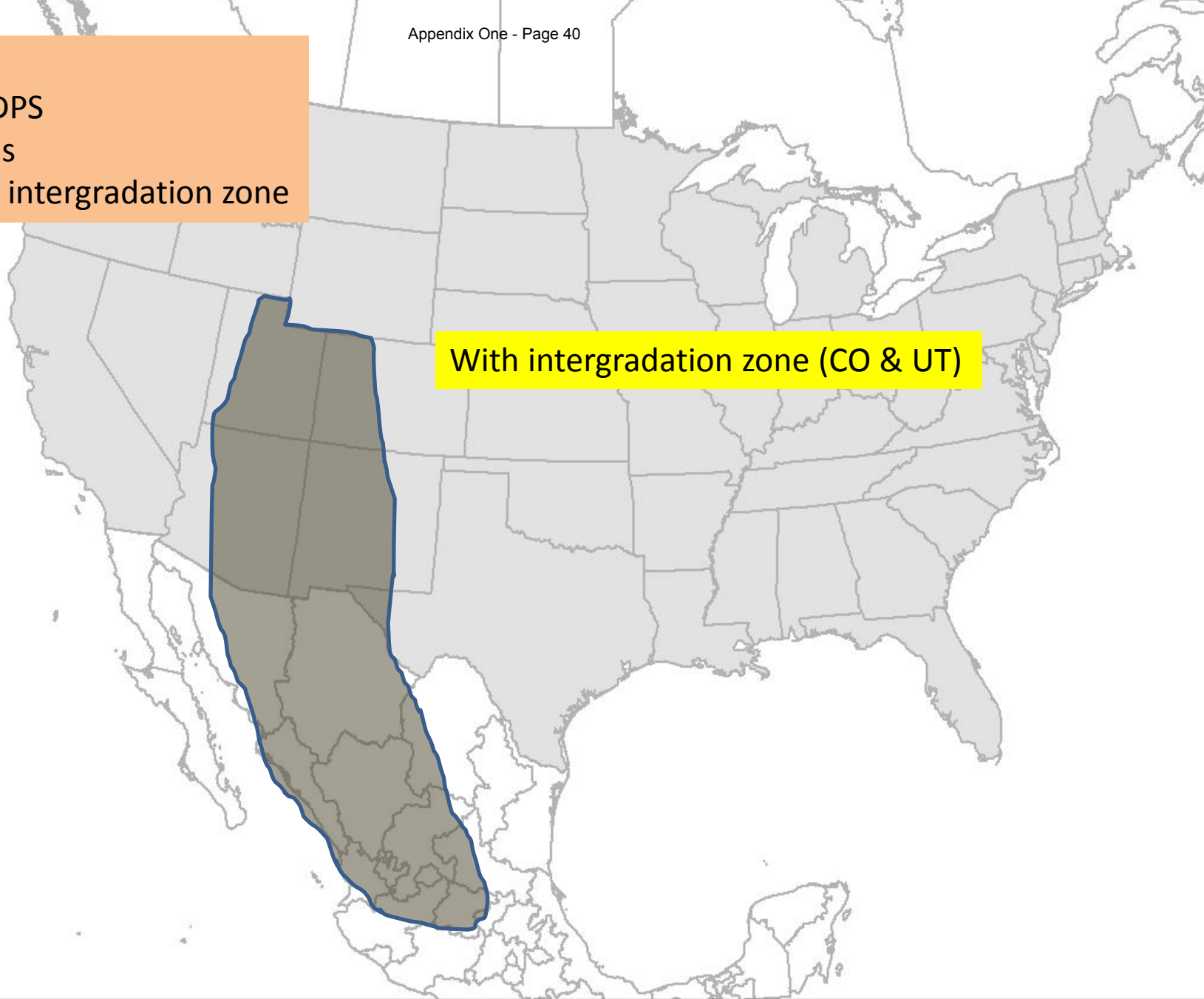
*C. l. baileyi*

Include intergradation zone



With intergradation zone (CO & UT)

ALT 3  
Single DPS  
*C. lupus*  
Include intergradation zone



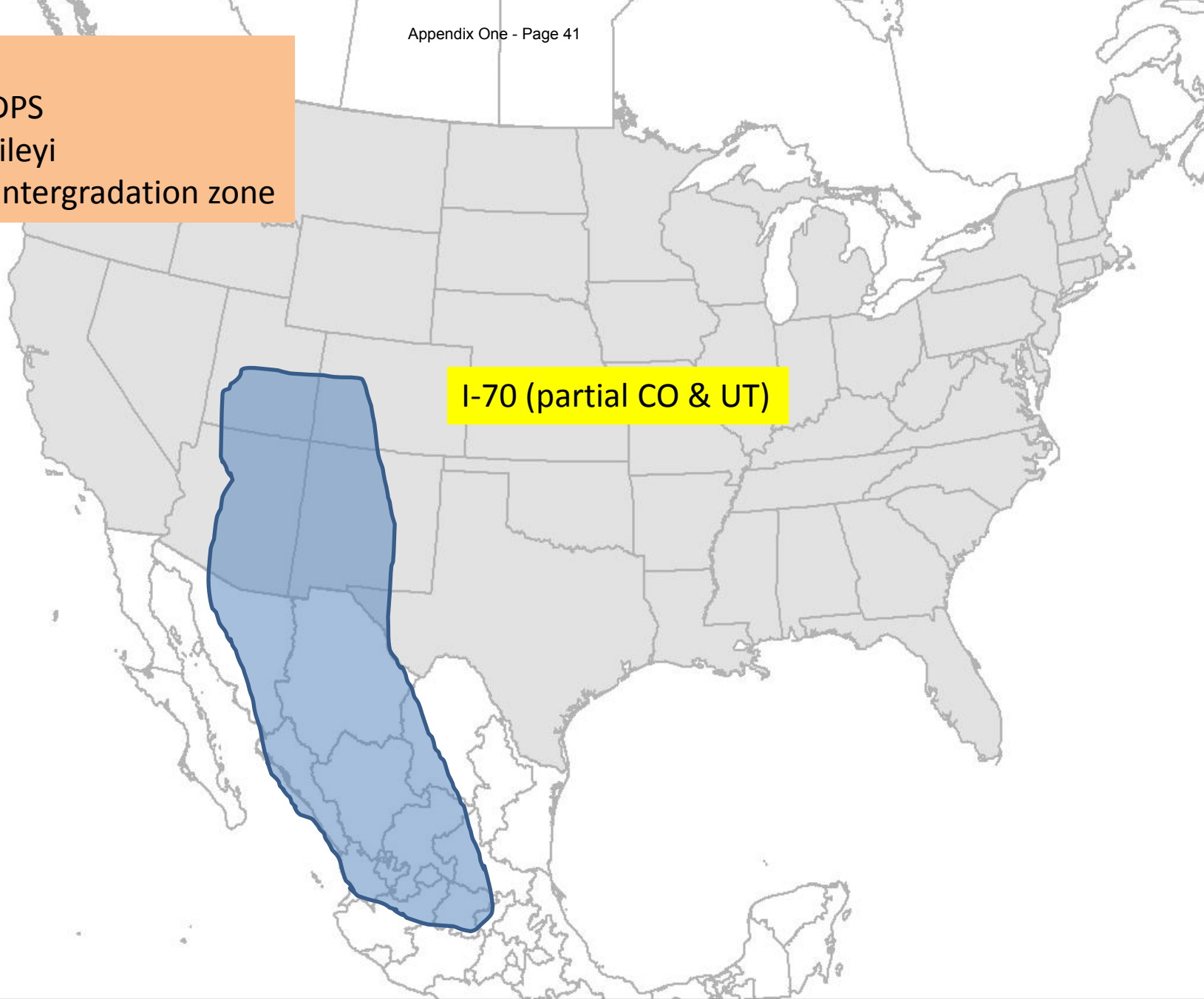
With intergradation zone (CO & UT)

ALT 4

Single DPS

*C. l. baileyi*

Partial intergradation zone



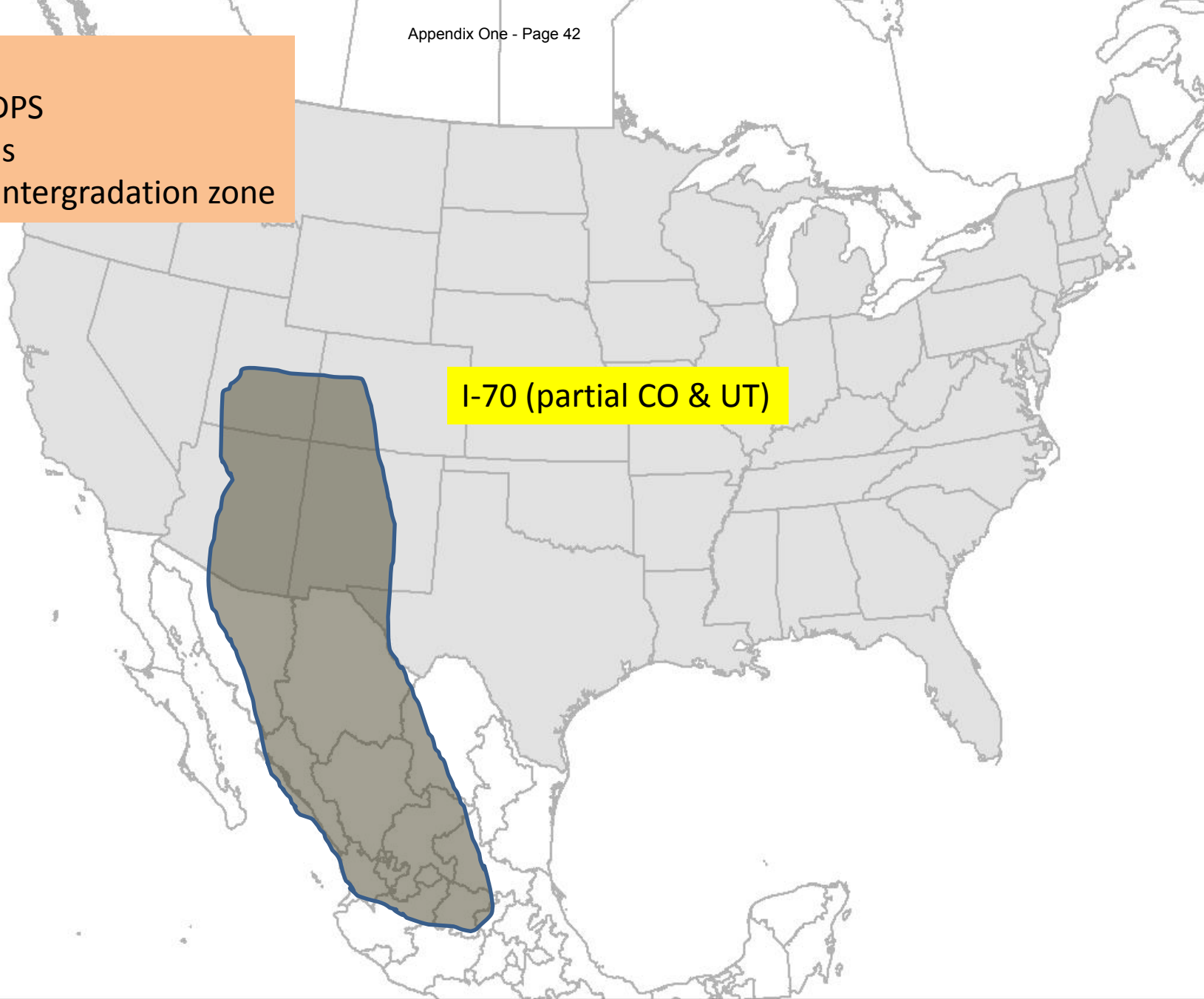
I-70 (partial CO & UT)

ALT 5

Single DPS

*C. lupus*

Partial intergradation zone



I-70 (partial CO & UT)

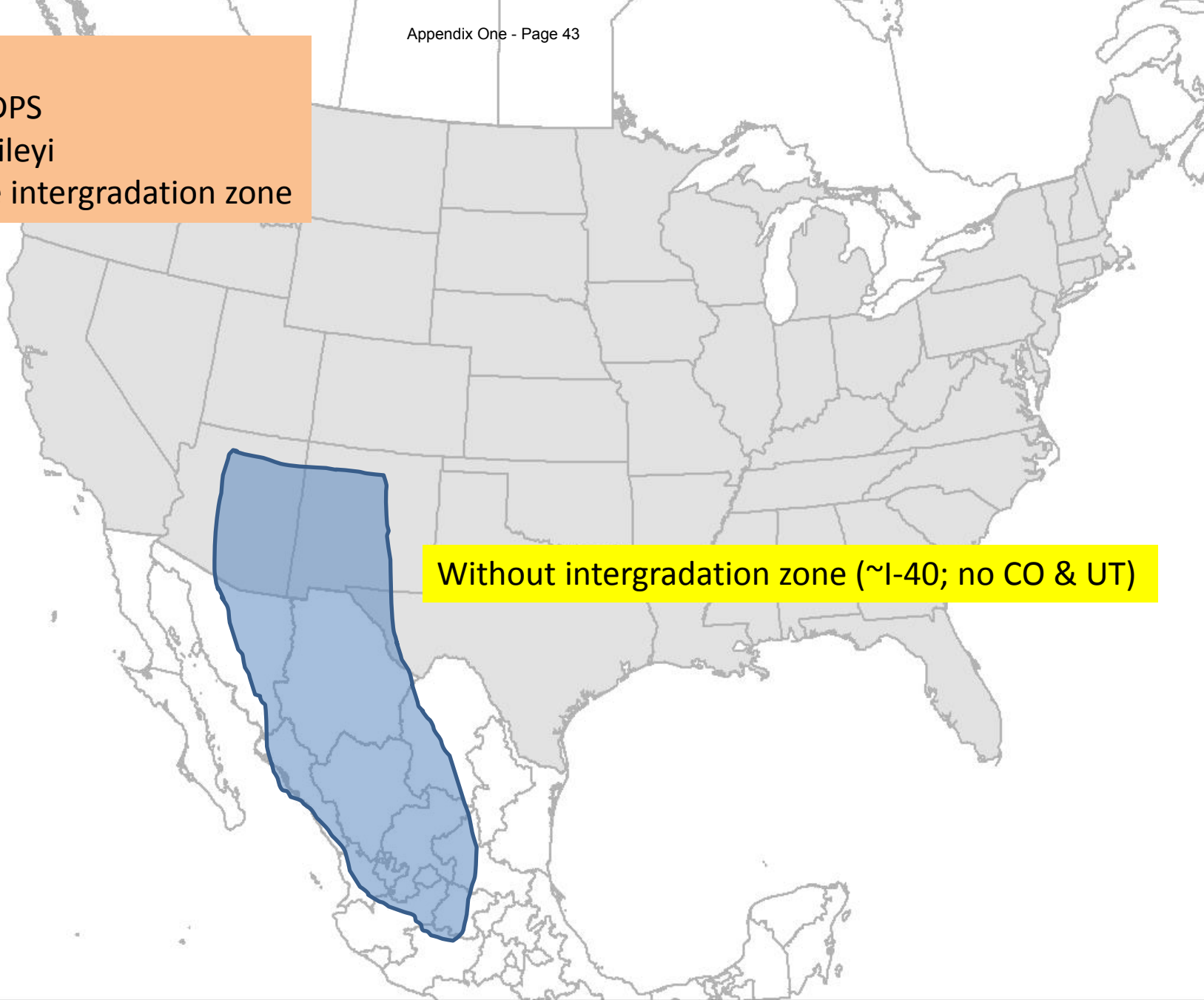


ALT 6

Single DPS

*C. l. baileyi*

Exclude intergradation zone



Without intergradation zone (~I-40; no CO & UT)

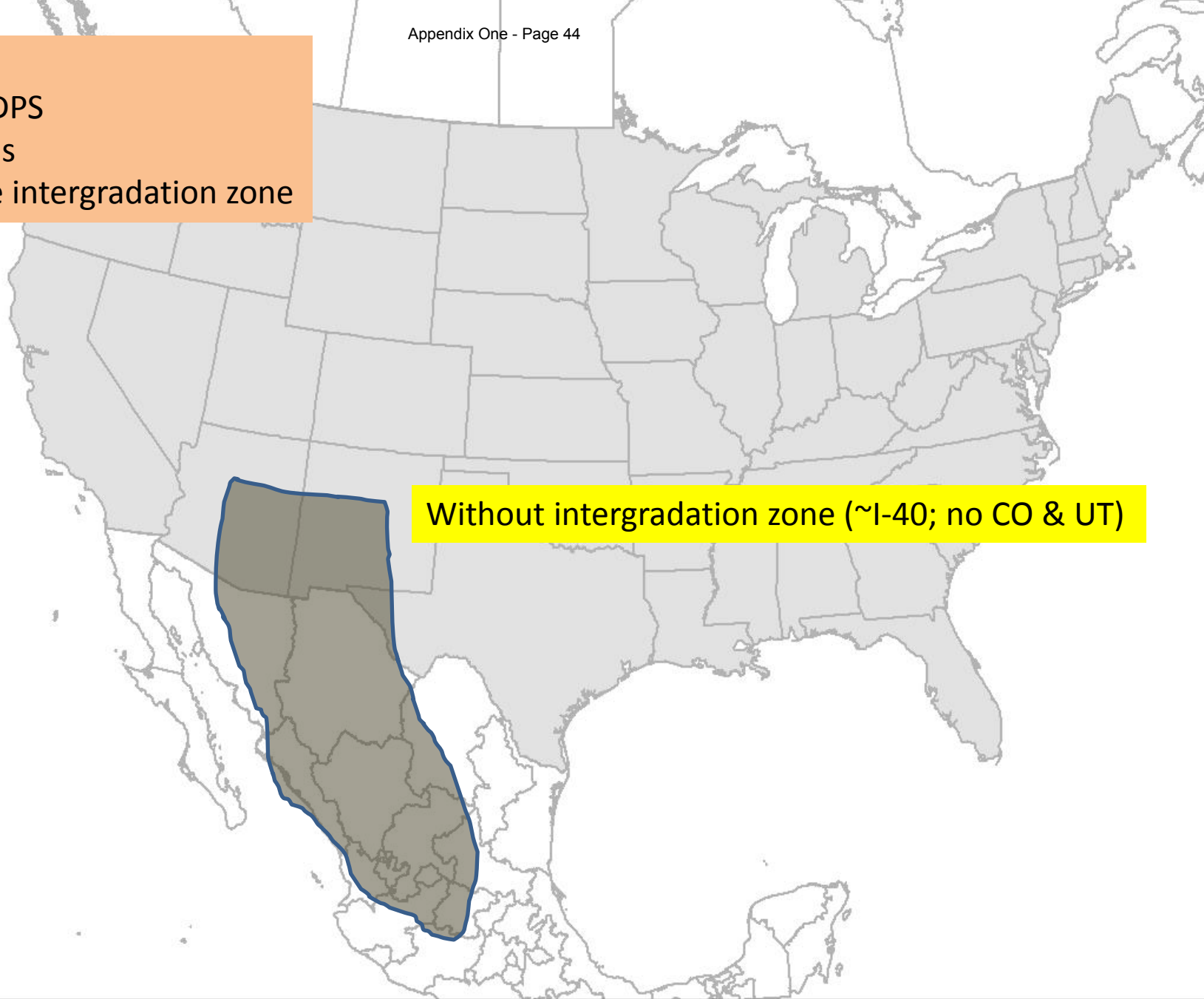


ALT 7

Single DPS

*C. lupus*

Exclude intergradation zone



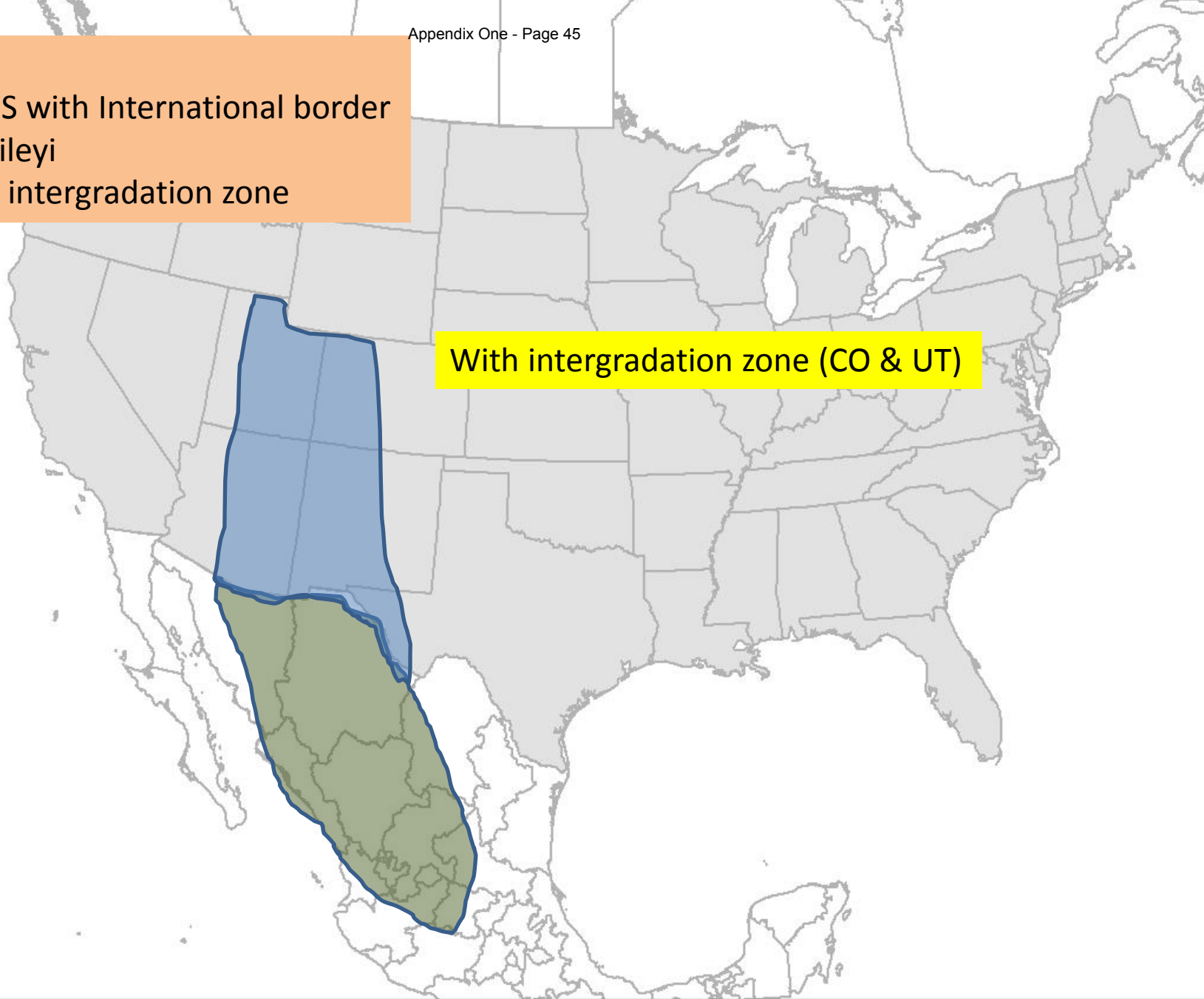
Without intergradation zone (~I-40; no CO & UT)

ALT 8

Two DPS with International border

*C. l. baileyi*

Include intergradation zone



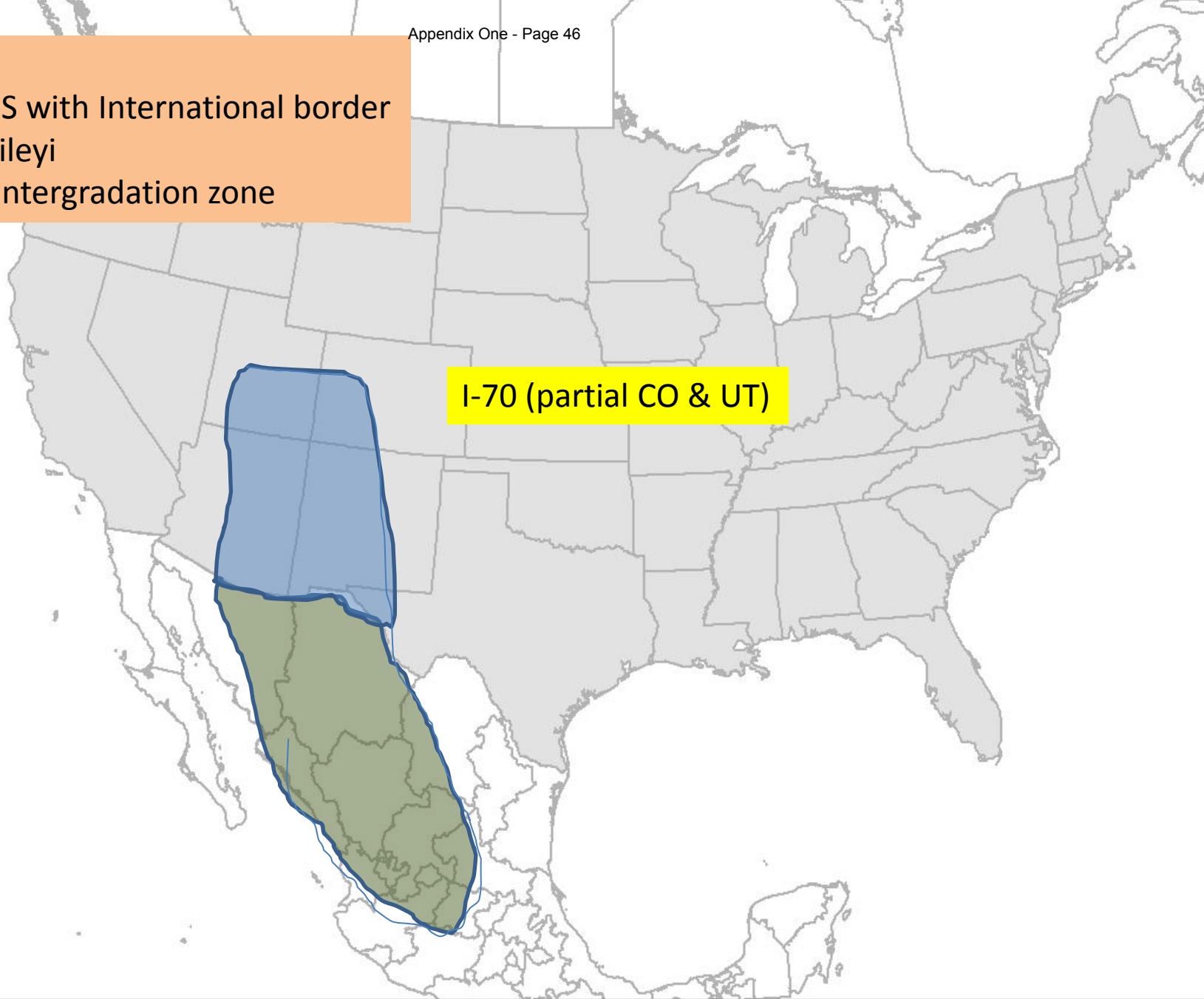
With intergradation zone (CO & UT)

ALT 9

Two DPS with International border

*C. l. baileyi*

Partial intergradation zone



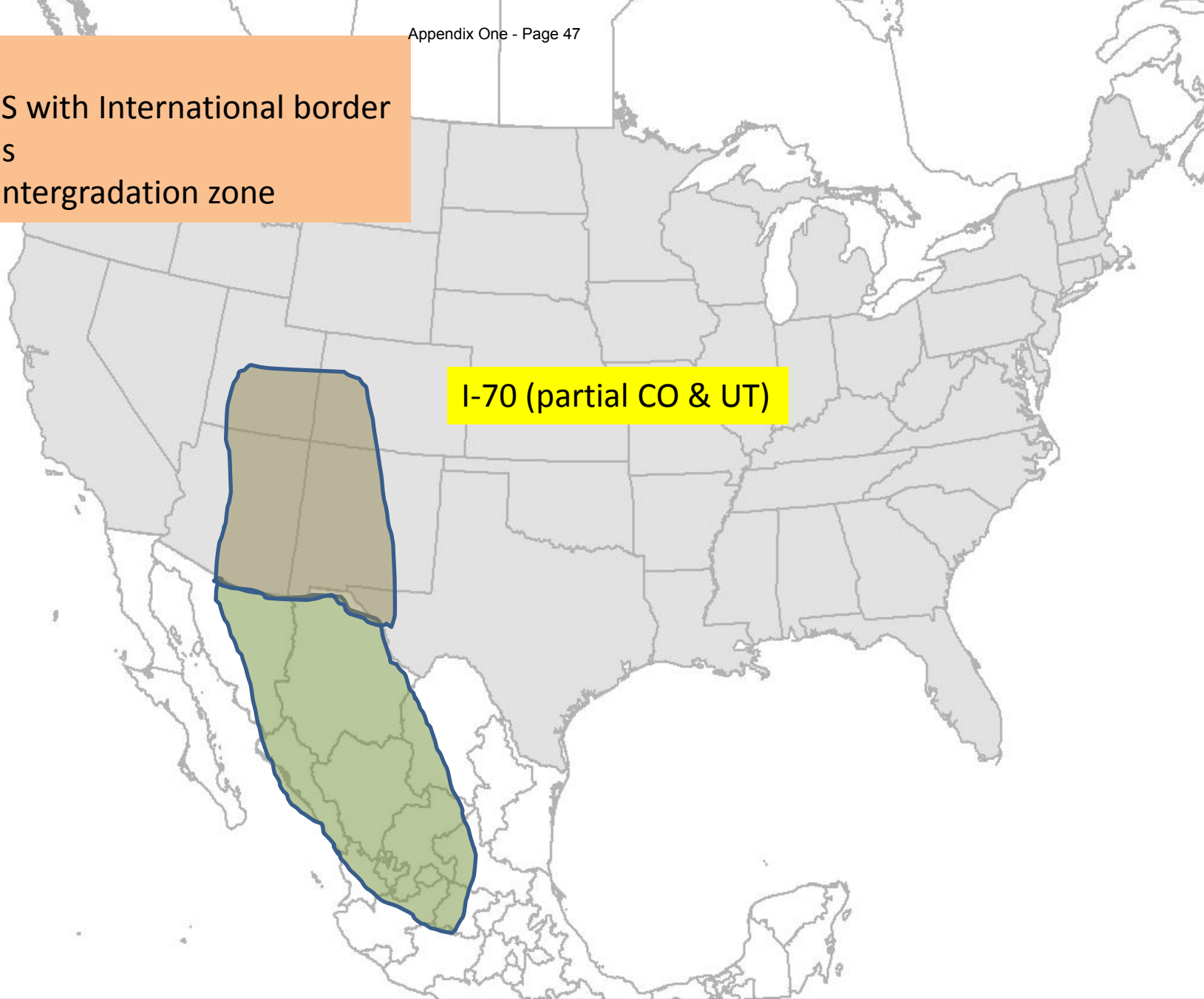
I-70 (partial CO & UT)

ALT 10

Two DPS with International border

*C. lupus*

Partial intergradation zone



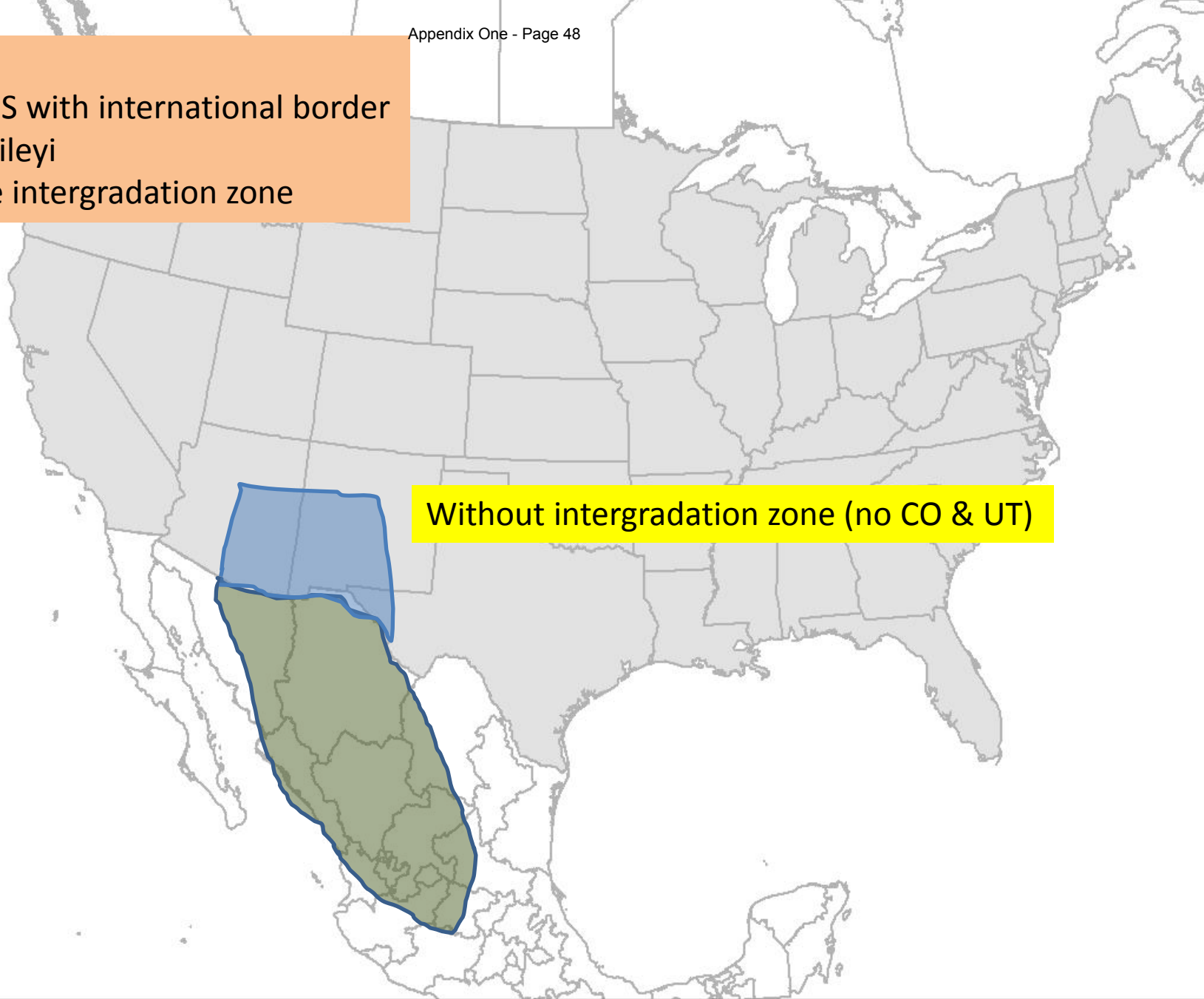
I-70 (partial CO & UT)

ALT 11

Two DPS with international border

*C. l. baileyi*

Exclude intergradation zone



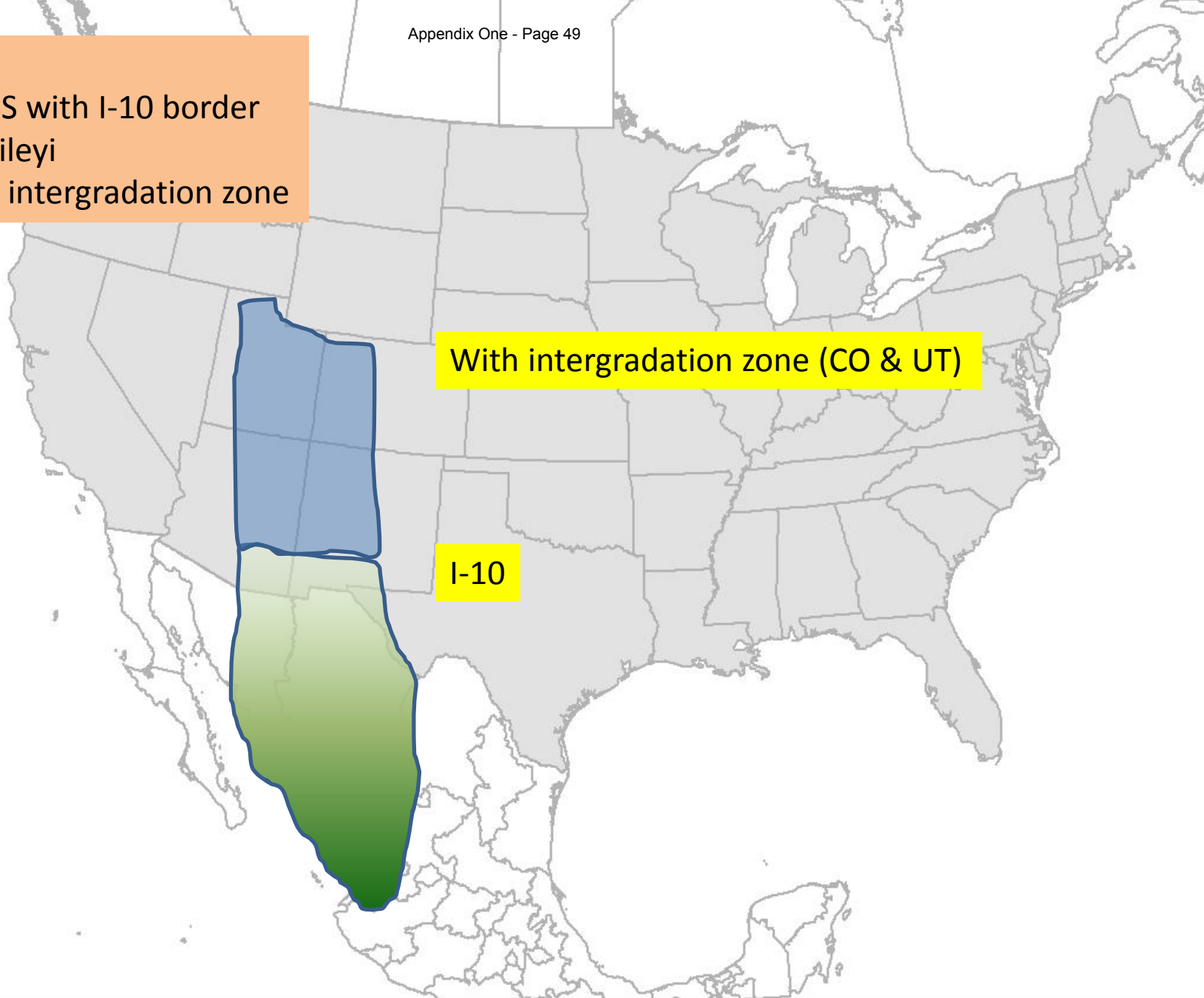
Without intergradation zone (no CO & UT)

ALT 12

Two DPS with I-10 border

*C. l. baileyi*

Include intergradation zone



With intergradation zone (CO & UT)

I-10

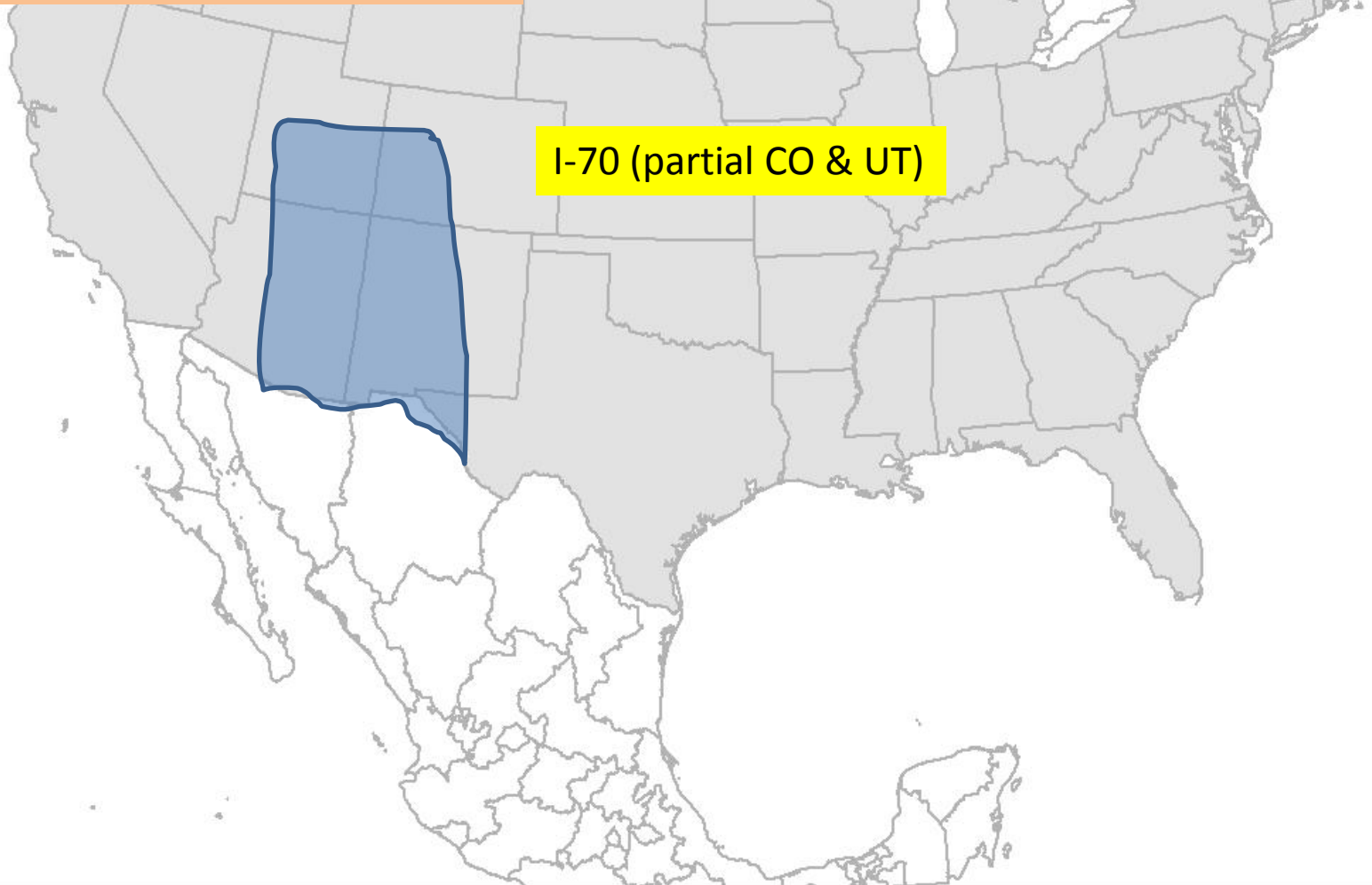


ALT 13

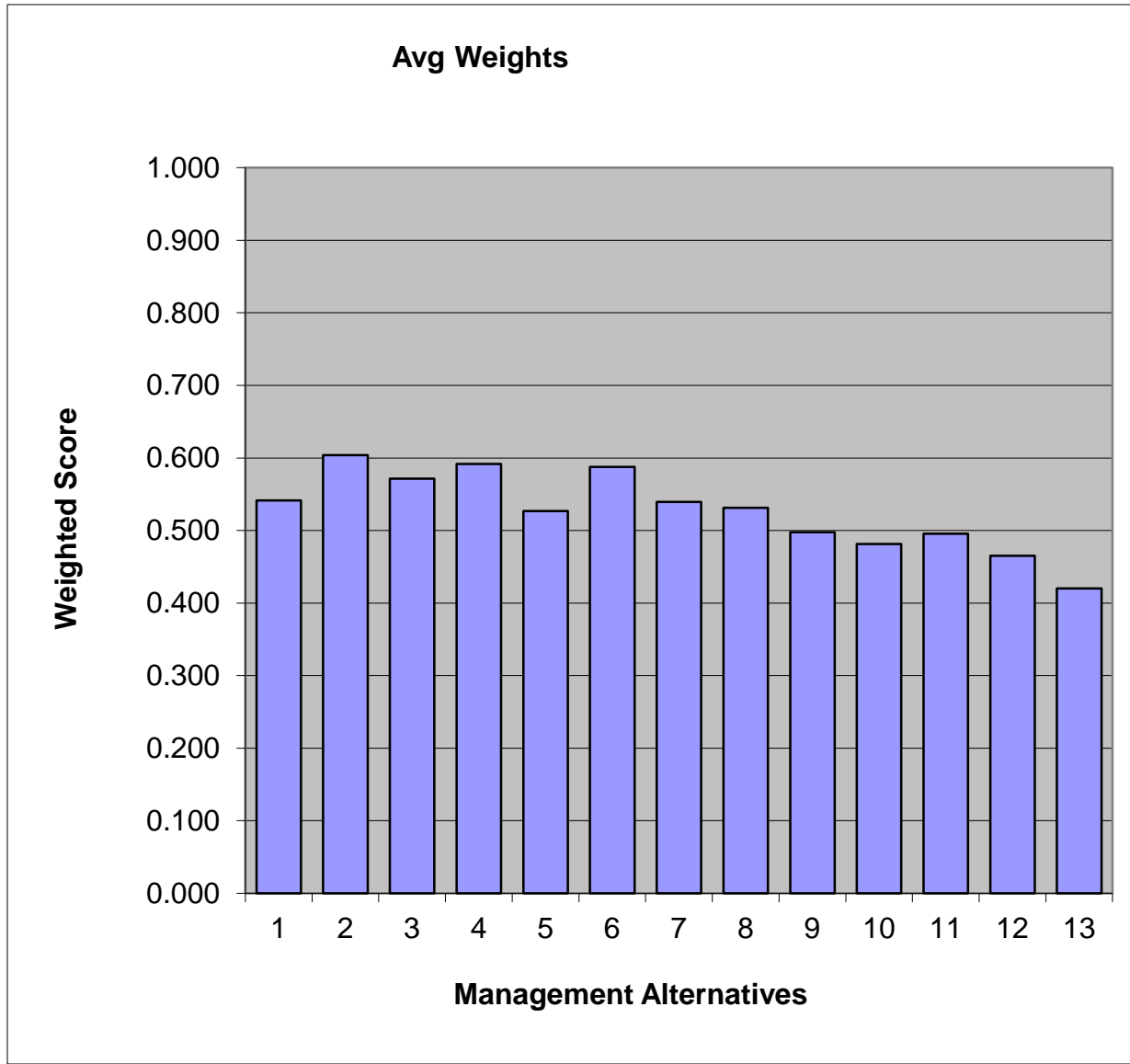
Single DPS with International border  
(no unit in Mexico)

*C. l. baileyi*

Partial intergradation zone

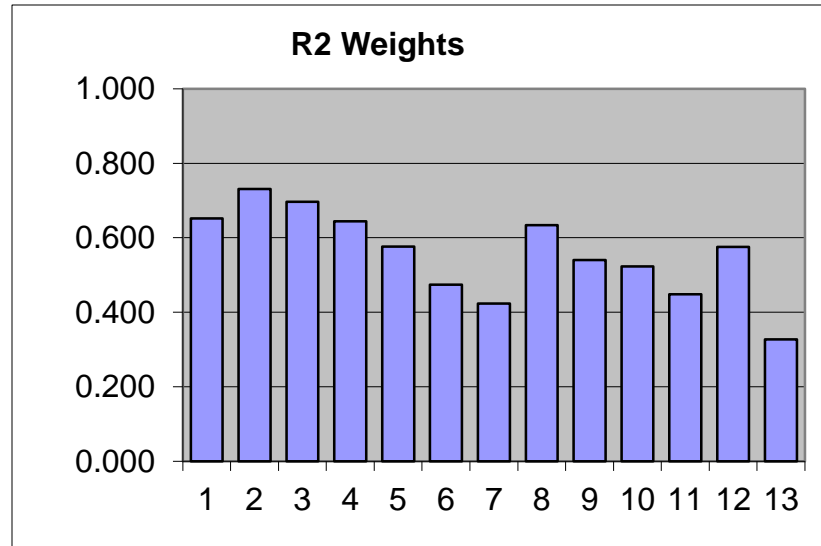
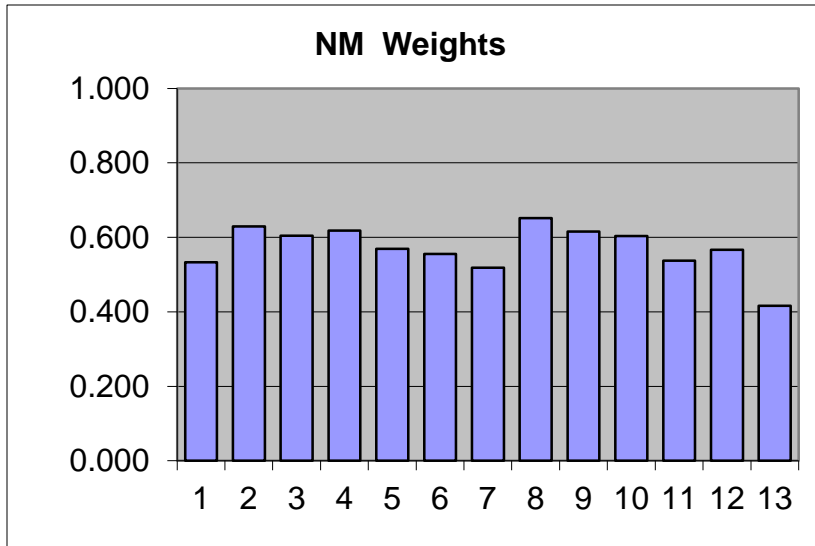
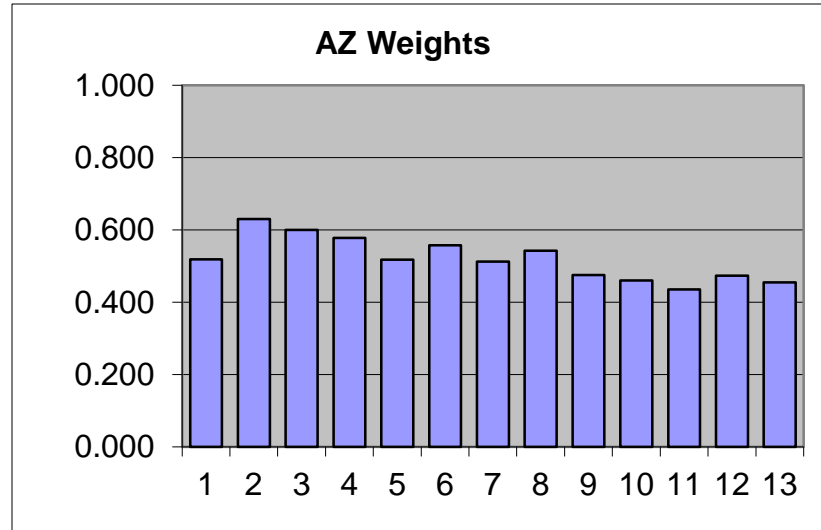
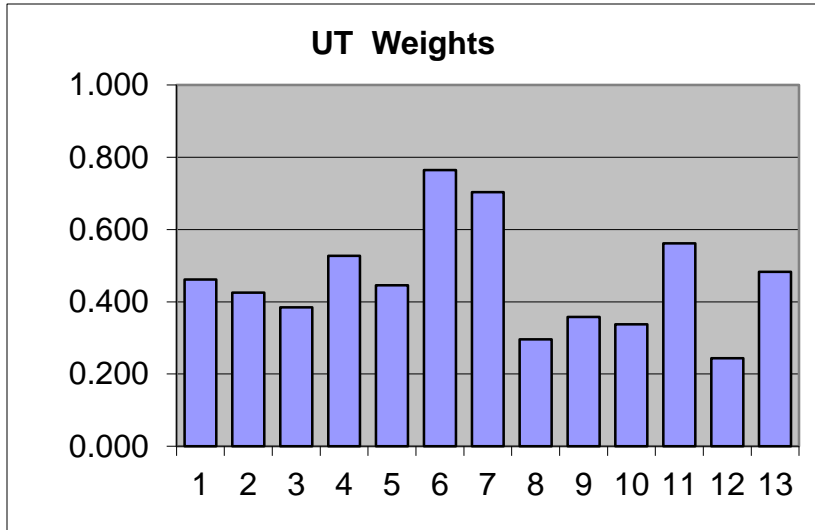


# Results

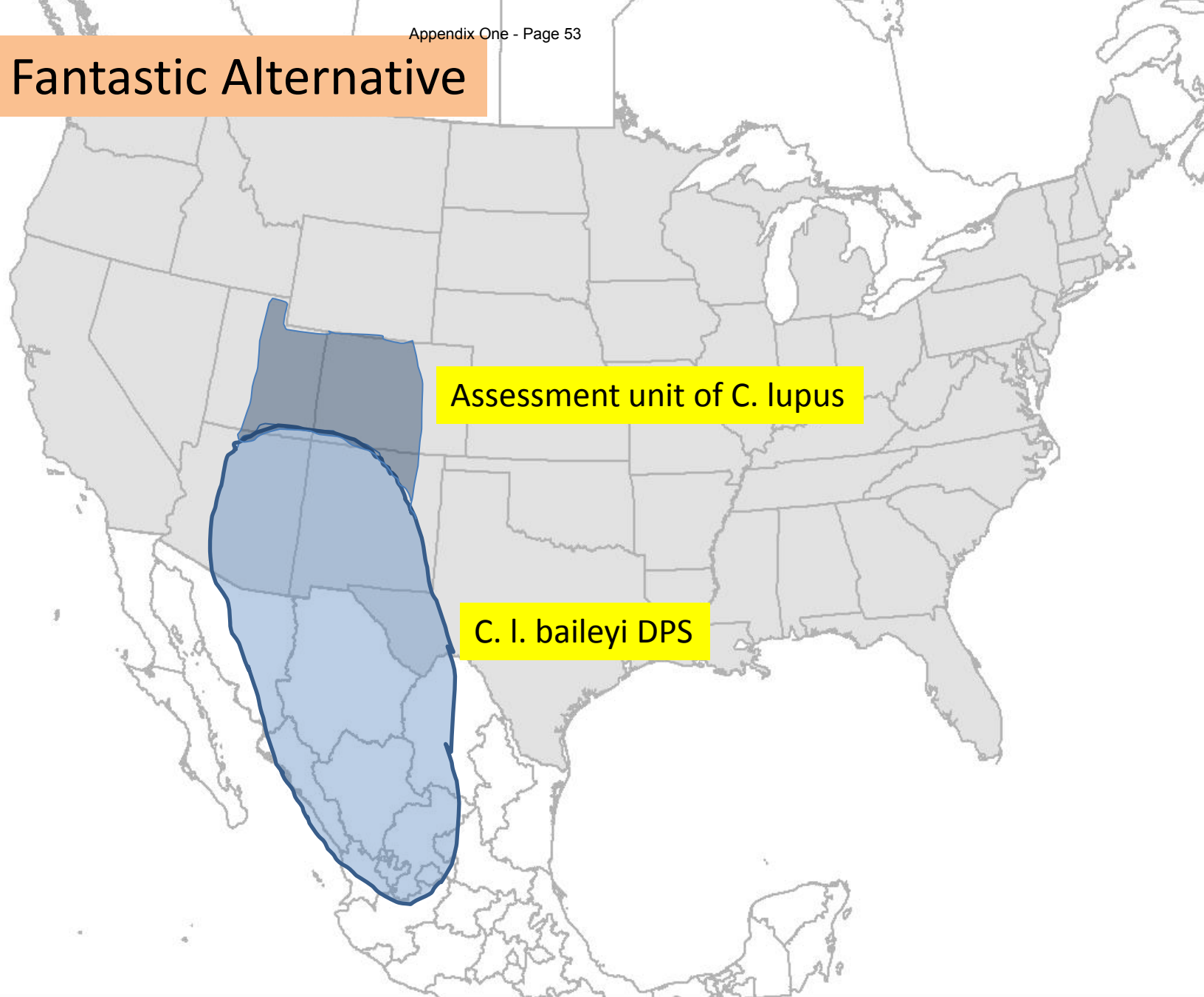




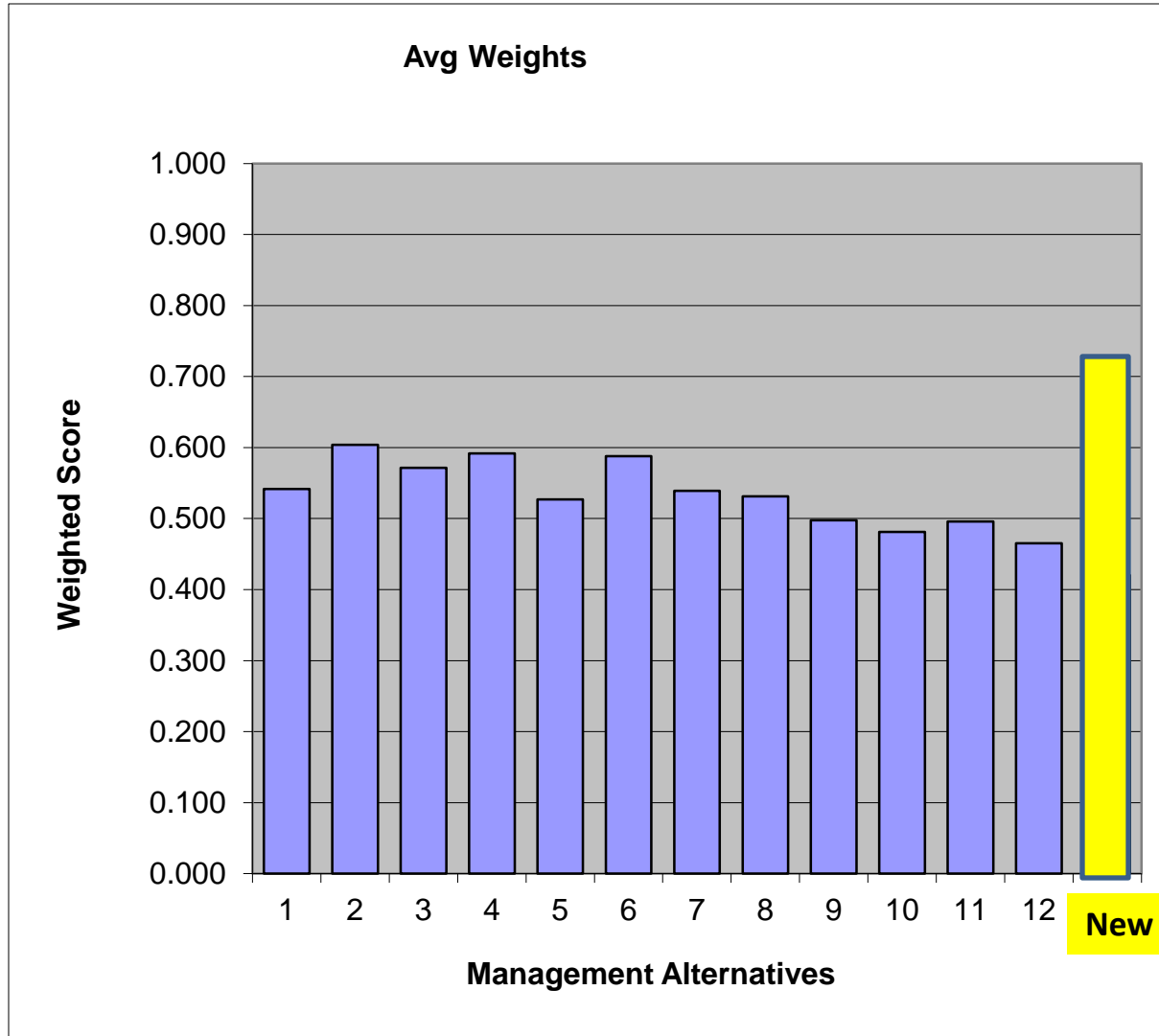
# Alt Decision Maker's Weights



# New Fantastic Alternative

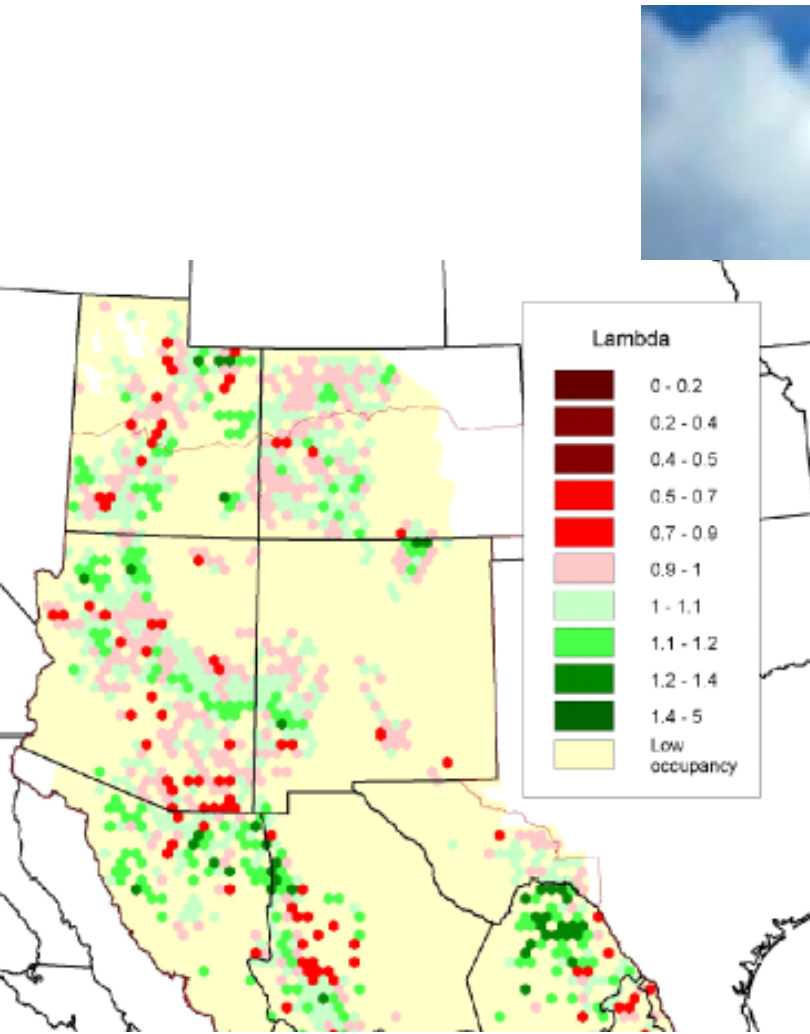


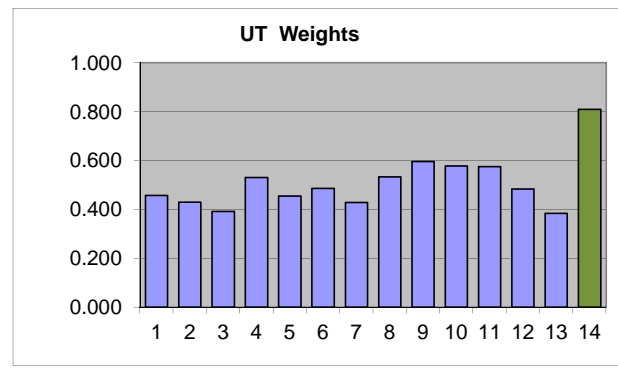
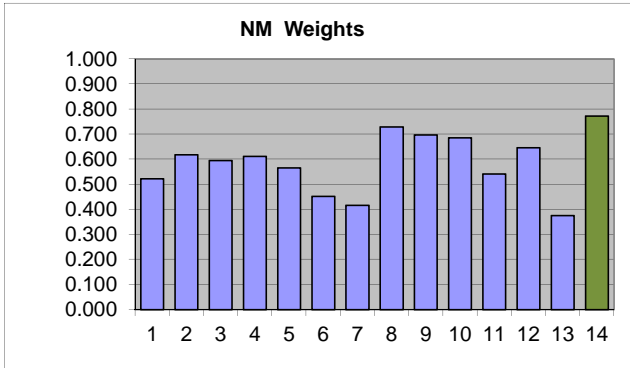
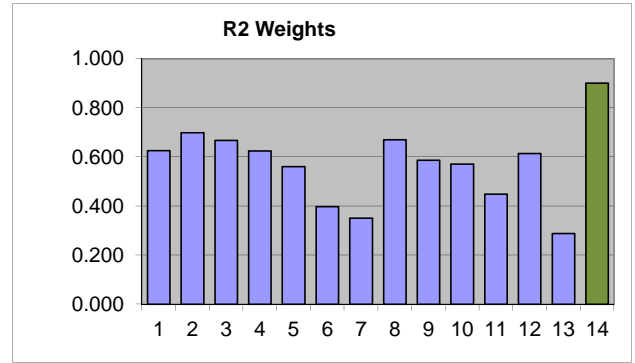
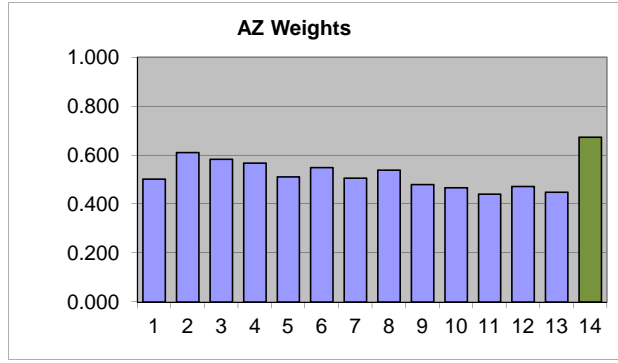
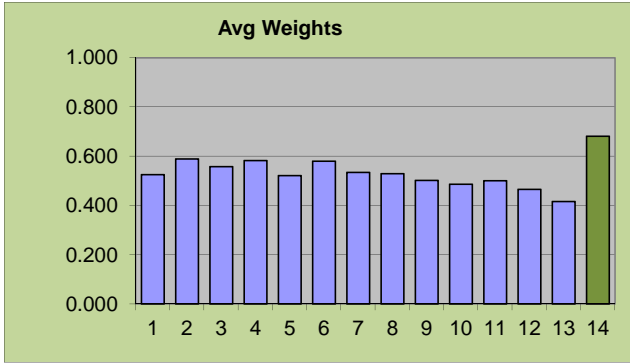
# New Alternative



- Team Insights

# Southwest





Consequence Table

Management Alternative		Mean Response							
#		1a: Biol.	1b: Biol.	2: Legal	3.c.i. Long-	3.c.ii.	5.a. Public	5.c.ii.	6.a.
		Integ w/	Integ b/	Defense	term state	Short-term State	Burden	Understan dable	Efficiency
		0-4	0-1	0-3	0-2	0-# states	1-5	1-6	yr
		max	max	max	MAX	max	min	max	min
1		2.7	1	2.8	0.43	0	5	4	73.6
2		3.3	1	1.5	0.43	0	4	6	73.6
3		3.3	1	1.2	0.43	0	4	6	73.6
4		2.7	1	1.8	0.43	0	3	6	75
5		2.7	1	1.2	0.43	0	3	6	75
6		2.2	0.8	1.5	0.6	0	1	6	78
7		2.2	0.8	1.0	0.6	0	1	6	78
8		2.8	1	1.3	0.3	0	4	6	61.7
9		2.3	1	1.3	0.3	0	3	6	64.5
10		2.3	1	1.2	0.3	0	3	6	64.5
11		2.0	1	1.0	0.433	0	1	6	78
12		2.8	1	1.0	0.3	0	4	6	67.7
13		2.7	0.5	0.5	0.50	0	2	6	69
NEW		3.5	1	3	0.27	0	3	6	78

Management Alternative		Normalized Responses								Weighted Score (avg)
#		1a: Biol.	1b: Biol.	2: Legal	3.c.i. Long-	3.c.ii.	5.a. Public	5.c.ii.	6.a.	
		Integ w/	Integ b/	Defense	term state	Short-term State	Burden	Understan dable	Efficiency	
1	0	0.444	1.0	0.9	0.49	0	0	0	0.27	0.526
2	0	0.889	1.0	0.4	0.49	0	0.25	1	0.27	0.588
3	0	0.889	1.0	0.3	0.49	0	0.25	1	0.27	0.558
4	0	0.444	1.0	0.5	0.49	0	0.5	1	0.18	0.582
5	0	0.444	1.0	0.3	0.49	0	0.5	1	0.18	0.522
6	0	0.111	0.6	0.4	1.00	0	1	1	0.00	0.579
7	0	0.111	0.6	0.2	1.00	0	1	1	0.00	0.534
8	0	0.556	1.0	0.3	0.09	0	0.25	1	1.00	0.529
9	0	0.222	1.0	0.3	0.09	0	0.5	1	0.83	0.502
10	0	0.222	1.0	0.3	0.09	0	0.5	1	0.83	0.486
11	0	0.000	1.0	0.2	0.49	0	1	1	0.00	0.500
12	0	0.556	1.0	0.2	0.09	0	0.25	1	0.63	0.465
13	0	0.444444	0.0	0.0	0.70	0	0.75	1	0.55	0.416
NEW		1	1.0	1.0	0.00	0	0.5	1	0.00	0.681
Normalized scale: Worst Case		2	0.5	0.5	0.27	0	5	4	78	
Normalized scale: Best Case		3.5	1	3	0.6	0	1	6	61.7	
Weight (avg)		0.151	0.148	0.227	0.150	0.000	0.155	0.078	0.091	

CALCULATION CORRECTED TO MAX PUBLIC BURDEN				
Weighted Score (avg)	Weighted Score			
	AZ	NM	UT	R2
1	0.502	0.521	0.457	0.626
2	0.611	0.618	0.430	0.699
3	0.583	0.595	0.392	0.667
4	0.567	0.612	0.531	0.624
5	0.511	0.565	0.455	0.561
6	0.549	0.451	0.486	0.398
7	0.506	0.416	0.429	0.350
8	0.539	0.729	0.533	0.670
9	0.480	0.697	0.596	0.587
10	0.466	0.686	0.577	0.571
11	0.441	0.541	0.575	0.449
12	0.472	0.646	0.483	0.614
13	0.449	0.374	0.383	0.288
NEW	0.674	0.772	0.810	0.901

ORIGINAL CALCULATION WITH MIN PUBLIC BURDEN				
Weighted Score (avg)	Weighted Score			
	AZ	NM	UT	R2
1	0.526	0.502	0.533	0.462
2	0.588	0.611	0.629	0.426
3	0.558	0.583	0.605	0.385
4	0.582	0.567	0.619	0.527
5	0.522	0.511	0.569	0.446
6	0.579	0.549	0.556	0.765
7	0.534	0.506	0.518	0.703
8	0.529	0.539	0.652	0.296
9	0.502	0.480	0.616	0.358
10	0.486	0.466	0.603	0.338
11	0.500	0.441	0.537	0.562
12	0.465	0.472	0.567	0.244
13	0.416	0.449	0.416	0.483
NEW	0.681	0.674	0.674	0.540

Weight (alt 1) AZ	0.200	0.105	0.211	0.168	0.000	0.105	0.105	0.105
Weight (alt 2) NM	0.109	0.217	0.174	0.098	0.000	0.130	0.109	0.163
Weight (alt 3) UT	0.032	0.032	0.286	0.270	0.000	0.317	0.032	0.032
R2	0.263158	0.23684211	0.236842	0.06578947	0	0.0657895	0.0657895	0.0657895
AVG	0.151	0.148	0.227	0.150	0.000	0.155	0.078	0.091

0.433  
0.433  
0.433  
0.433  
0.433  
0.6  
0.6  
0.3  
0.3  
0.3  
0.433  
0.3  
0.5

Swing Weight

	Objective						
	1a: Biol. Integ w/	1b: Biol. Integ b/	2: Legal Defense	3.c.i. Long-	5.a. Public	5.c.ii. Understa	6.a. Efficiency
Worst Case	2	0.5		0.27	5	4	78
Best Case	3.5	1	3	0.6	1	6	61.7

Baseline	2	0.5	0.5	0.27	5	4	78
integrity within	3.5	0.5	0.5	0.27	5	4	78
integrity bet	2	1	0.5	0.27	5	4	78
legal defns	2	0.5	3	0.27	5	4	78
long-t state	2	0.5	0.5	0.6	5	4	78
public	2	0.5	0.5	0.27	1	4	78
understand	2	0.5	0.5	0.27	5	6	78
efficiency	2	0.5	0.5	0.27	5	4	61.7

Rank	Score
8	0

Decision Maker		1a: Biol. Integ w/	1b: Biol. Integ b/	2: Legal Defense	3.c.i. Long-	5.a. Public	5.c.ii. Understa	6.a. Efficiency	Weights							
									1a	1b	2	3ci	3cii	5a	5cii	6a
AZ	#1	95	50	100	80	50	50	50	0.2	0.105263	0.2105	0.16842	0	0.10526	0.10526	0.10526
NM	#2	50	100	80	45	60	50	75	0.108696	0.217391	0.1739	0.09783	0	0.13043	0.1087	0.16304
UT	#3	10	10	90	85	100	10	10	0.031746	0.031746	0.2857	0.26984	0	0.31746	0.03175	0.03175
R2	#4	100	90	90	25	25	25	25	0.263158	0.236842	0.2368	0.06579	0	0.06579	0.06579	0.06579
AVG									0.1509	0.147811	0.2267	0.15047	0	0.15474	0.07787	0.09146

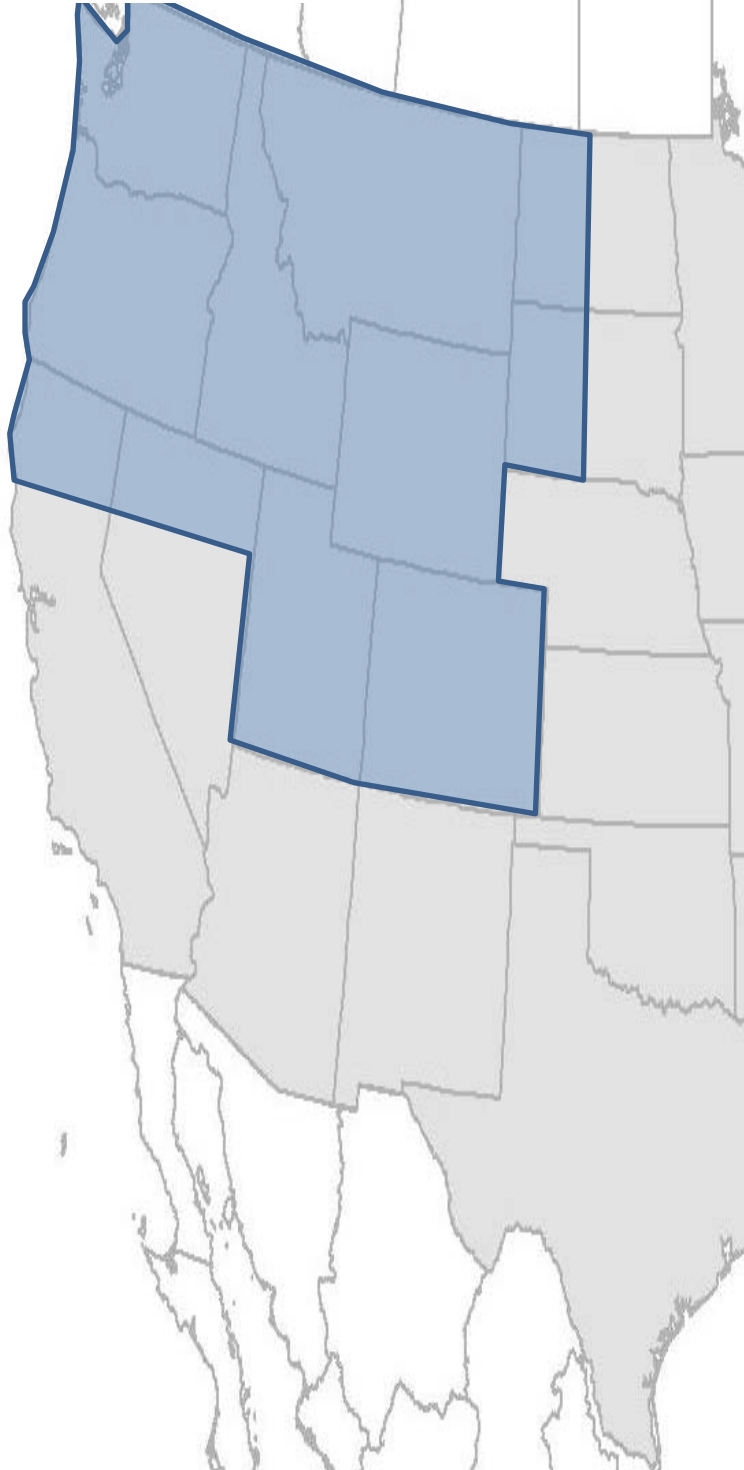
# Western Group Alternative Sets



1.a. NRM + PNW – 7 States  
(WA/OR/ID/MT/WY/all or parts of  
UT/CO)



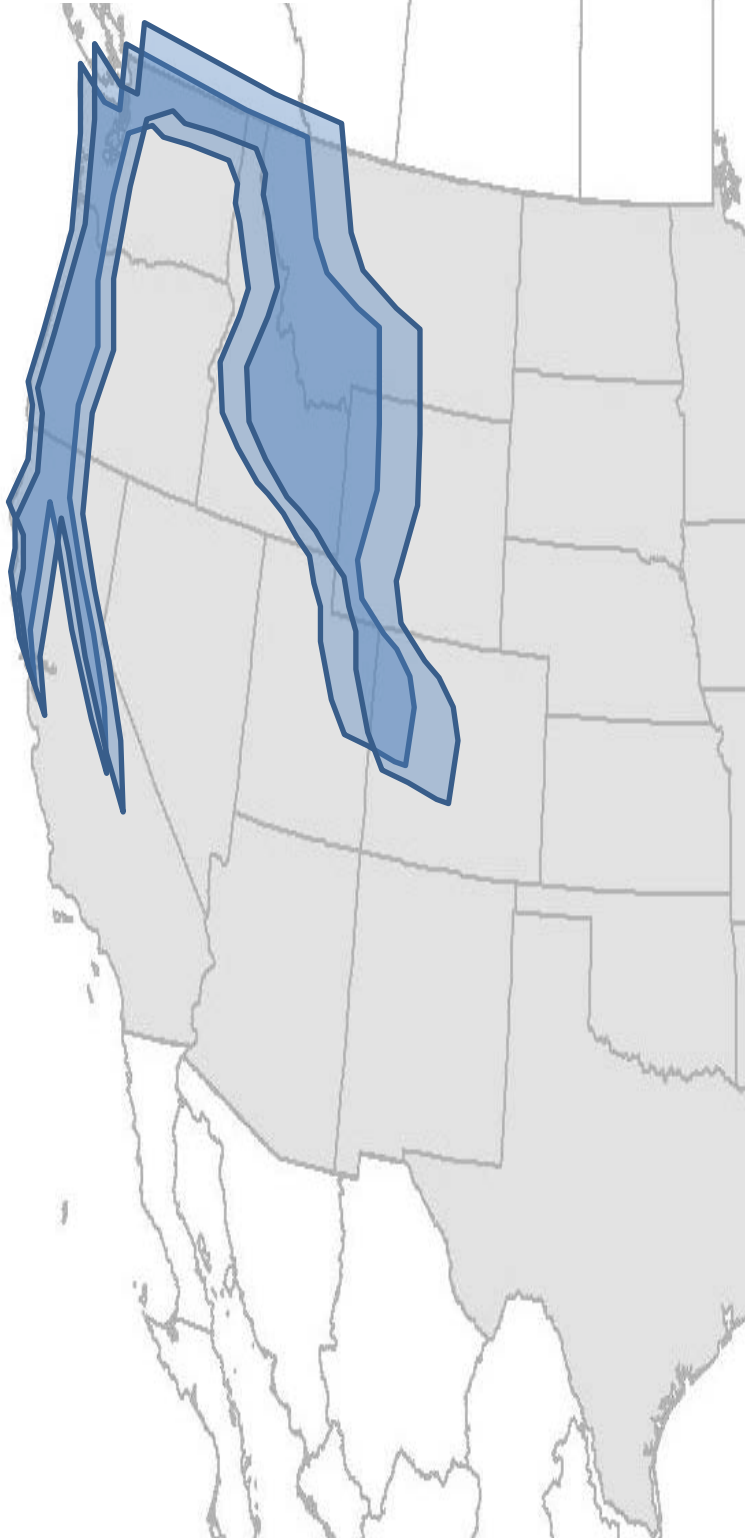
1.b. NRM + PNW – 11 States  
w/ eastern boundary  
bifurcating Dakotas and  
southern boundary including  
parts of CA/NV, and all or  
parts of UT and CO



1.c. NW DPS of lupus –  
defined by suitable habitat  
only.



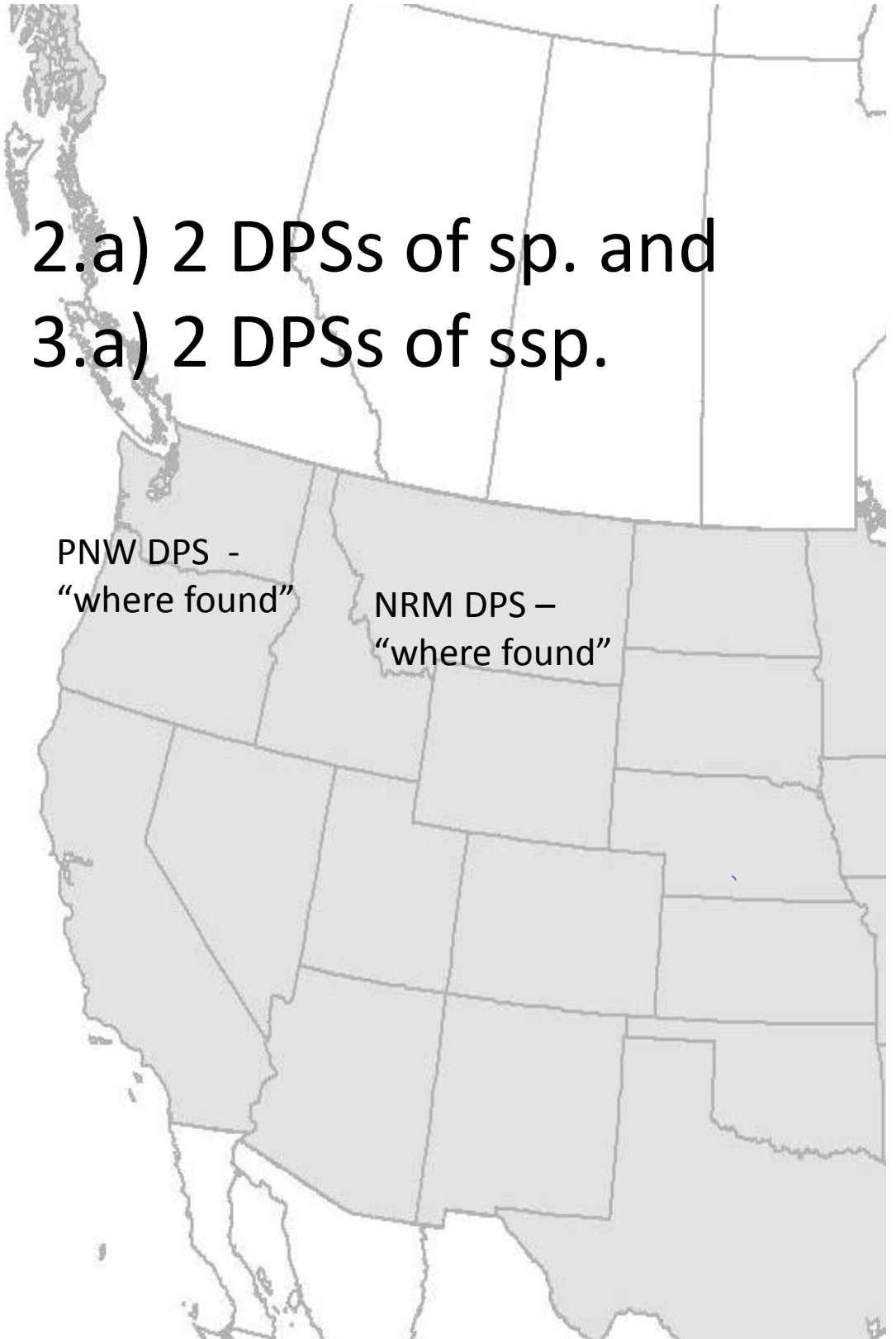
1.d. NW DPS of lupus –  
defined by suitable habitat  
with a buffer



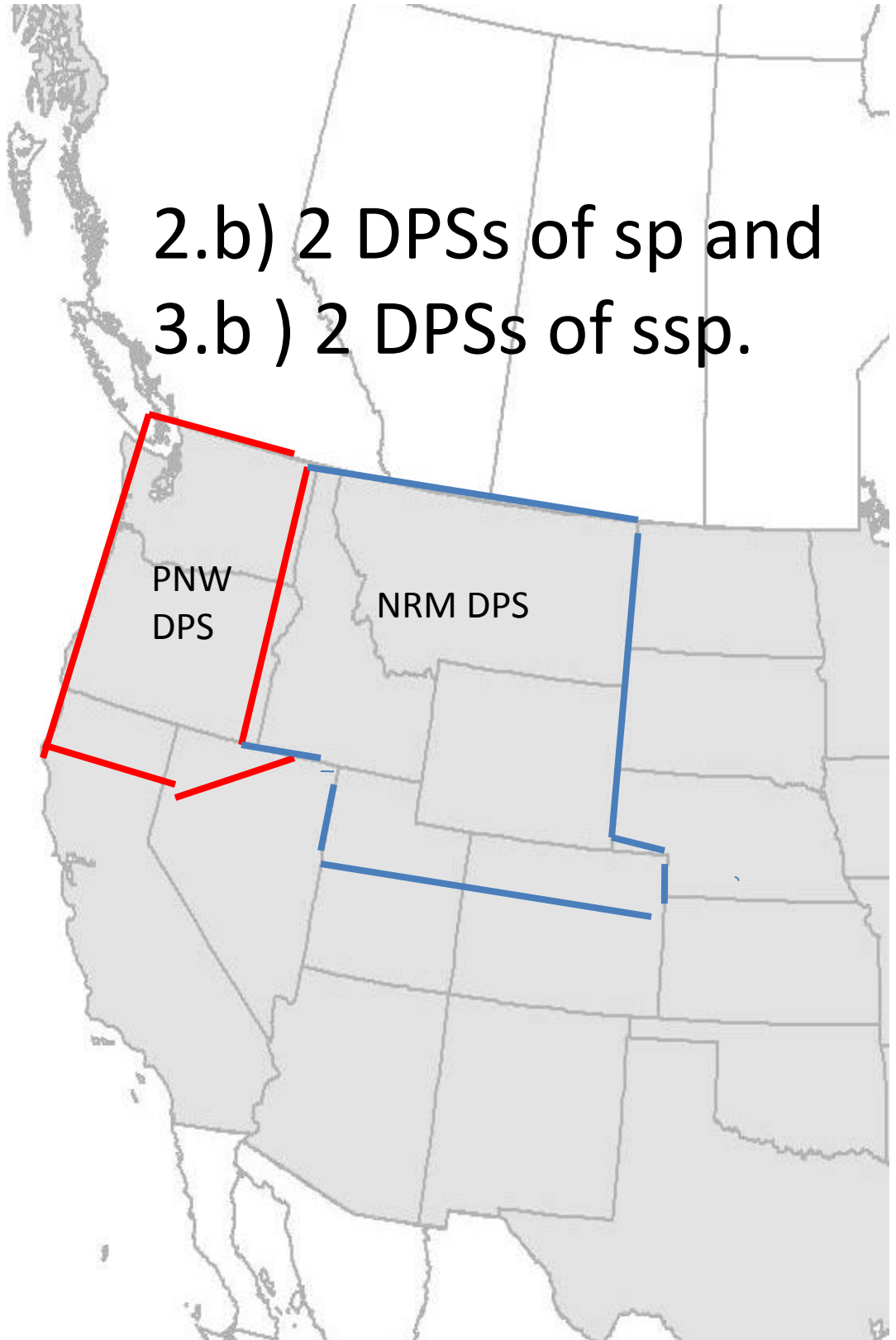
2.a) 2 DPSs of sp. and  
3.a) 2 DPSs of ssp.

PNW DPS -  
“where found”

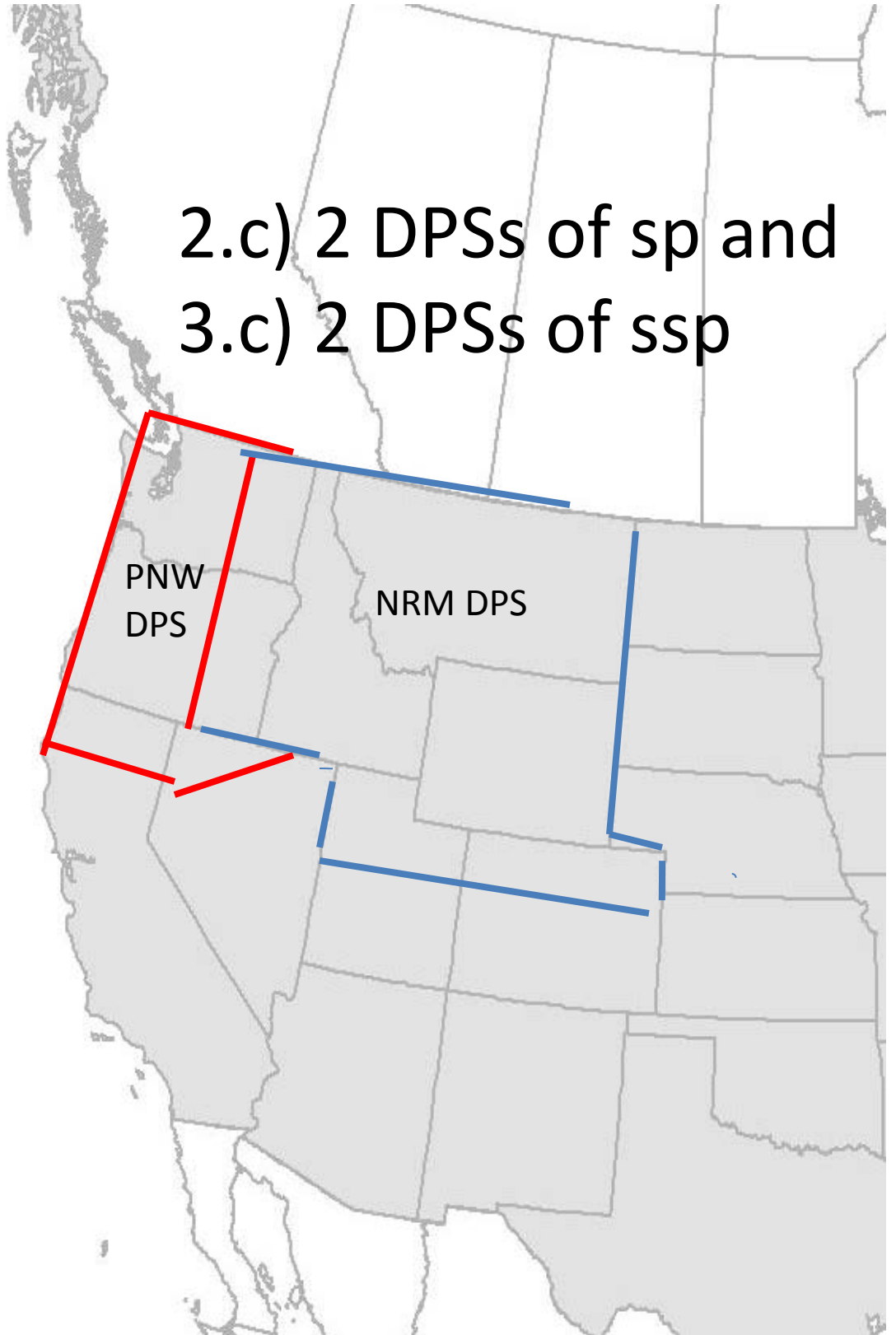
NRM DPS –  
“where found”



2.b) 2 DPSs of sp and  
3.b ) 2 DPSs of ssp.



2.c) 2 DPSs of sp and  
3.c) 2 DPSs of ssp

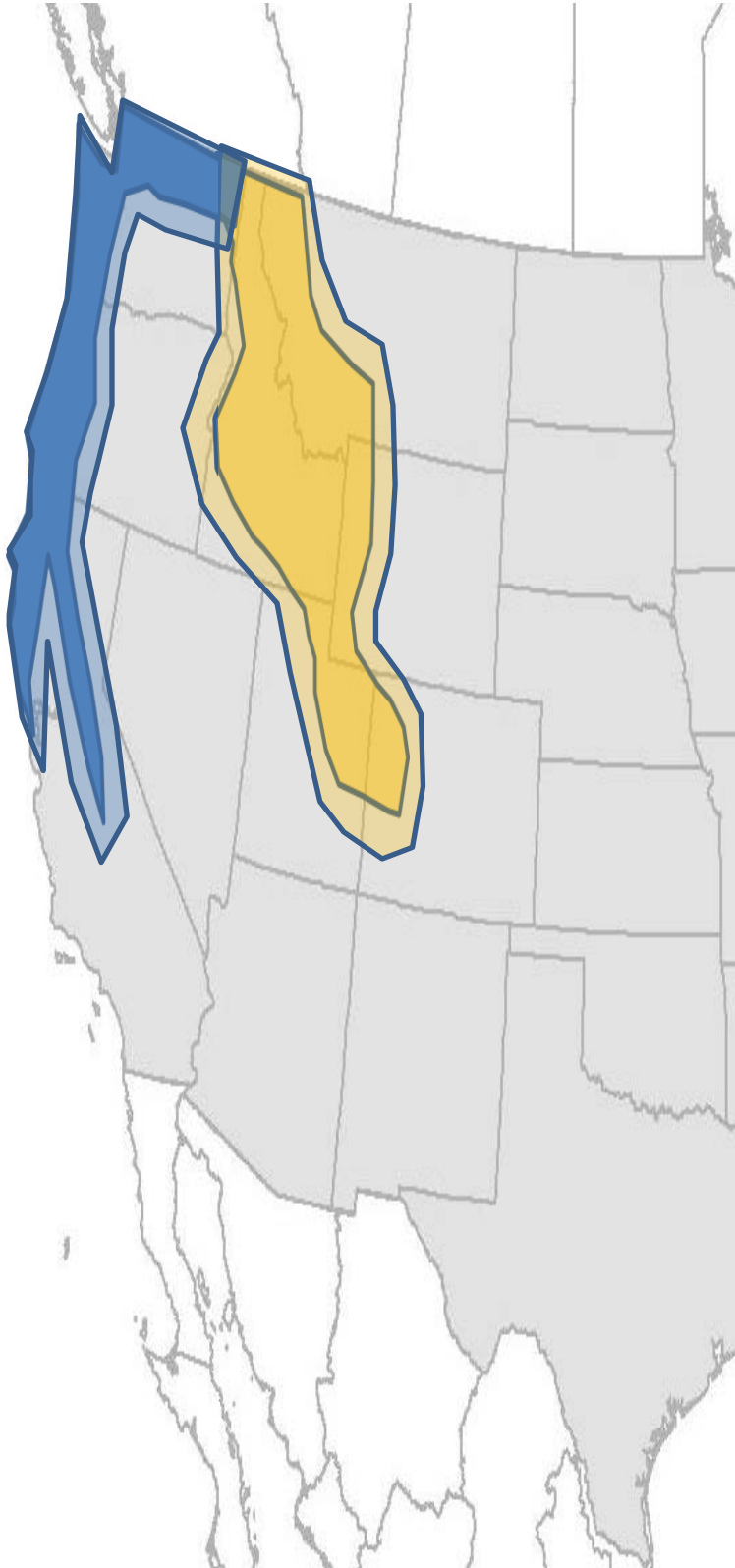


2.d. 2 DPSs of lupus or 3.d. 2 DPSs of ssp -  
defined by suitable habitat





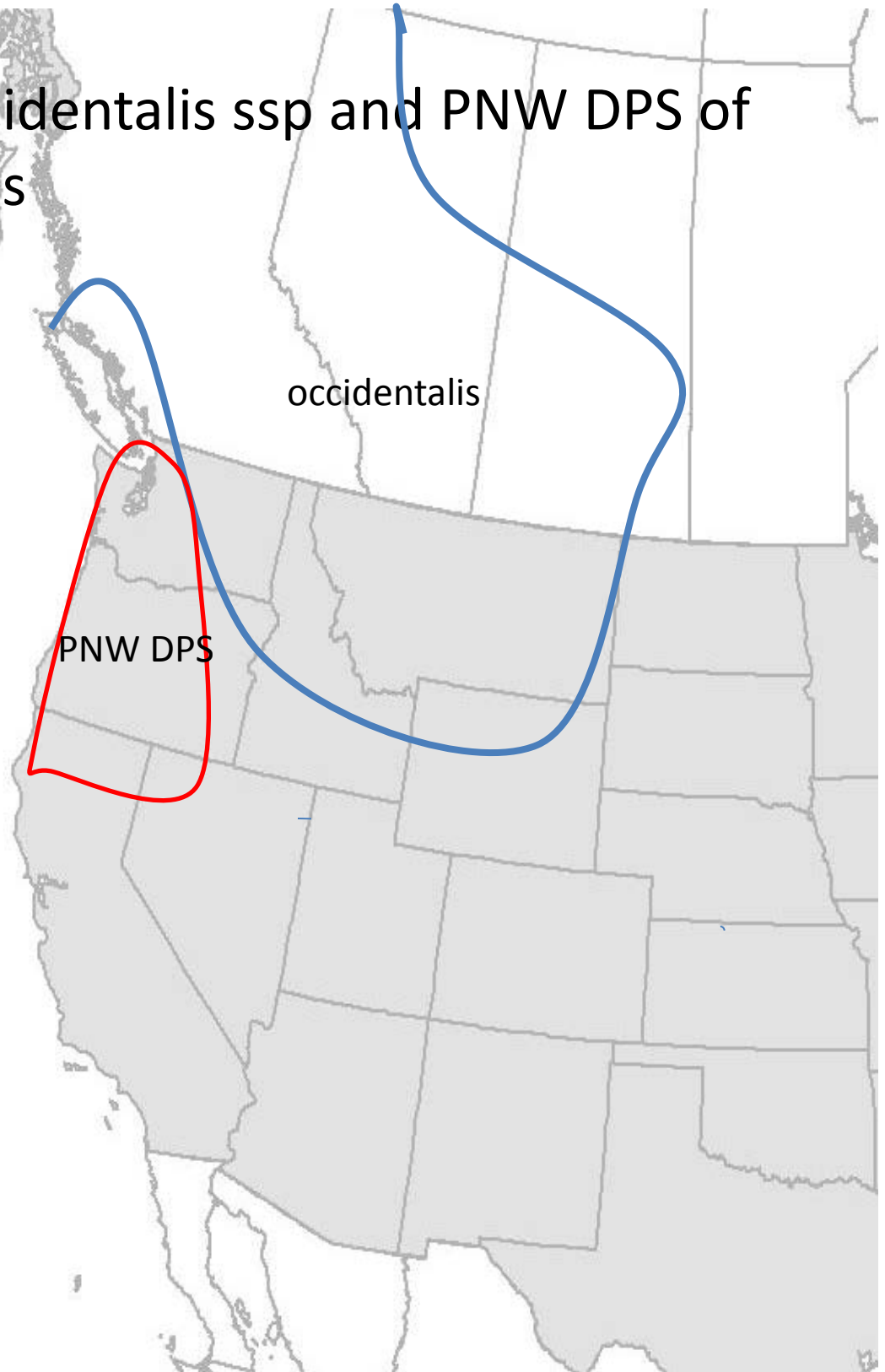
2e. 2 DPSs of lupus or 3.e. 2 DPSs of ssp– defined by suitable habitat with a buffer



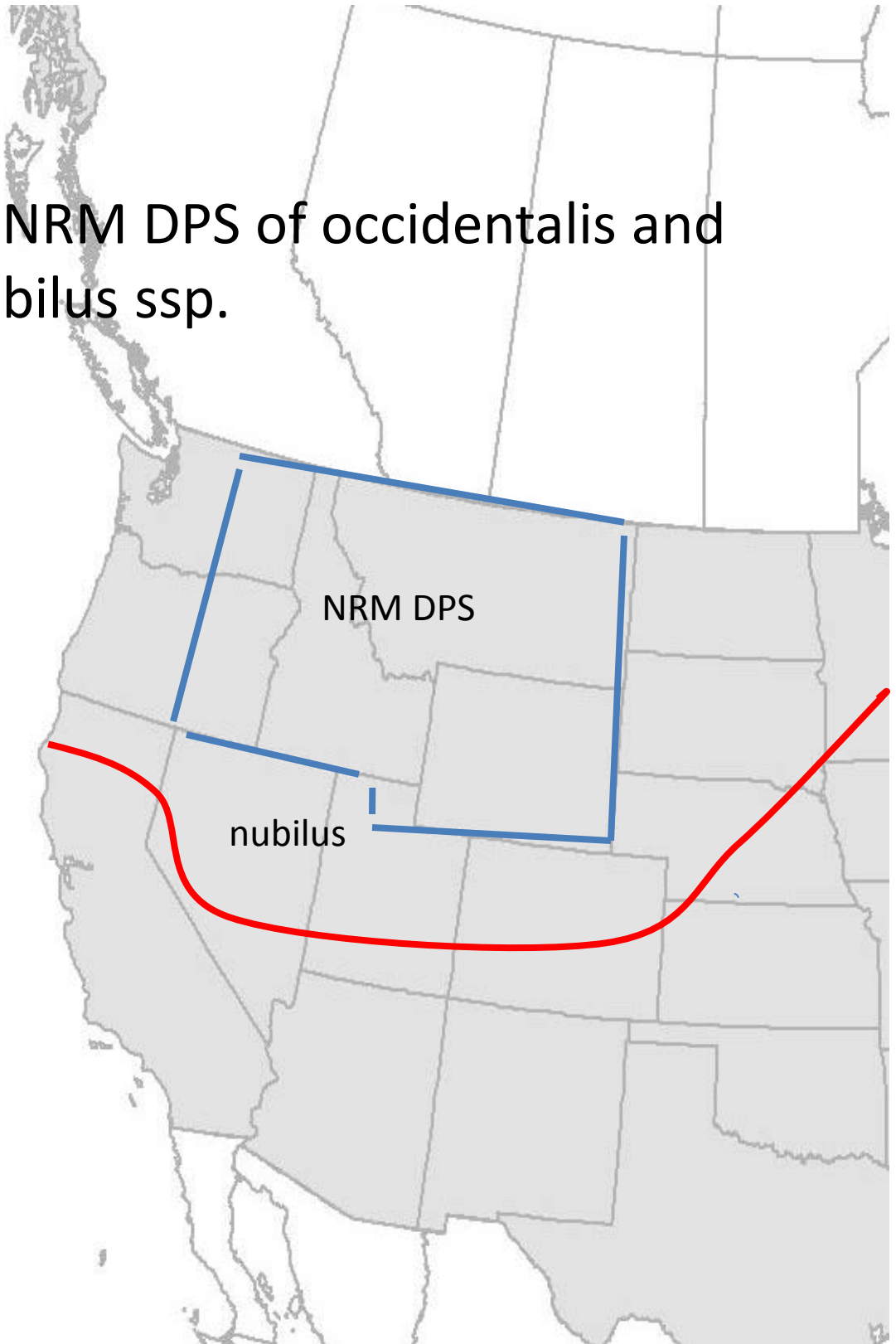
#### 4) 2 subspecies



# 5) Occidentalis ssp and PNW DPS of nubilus



## 6) NRM DPS of occidentalis and nubilus ssp.

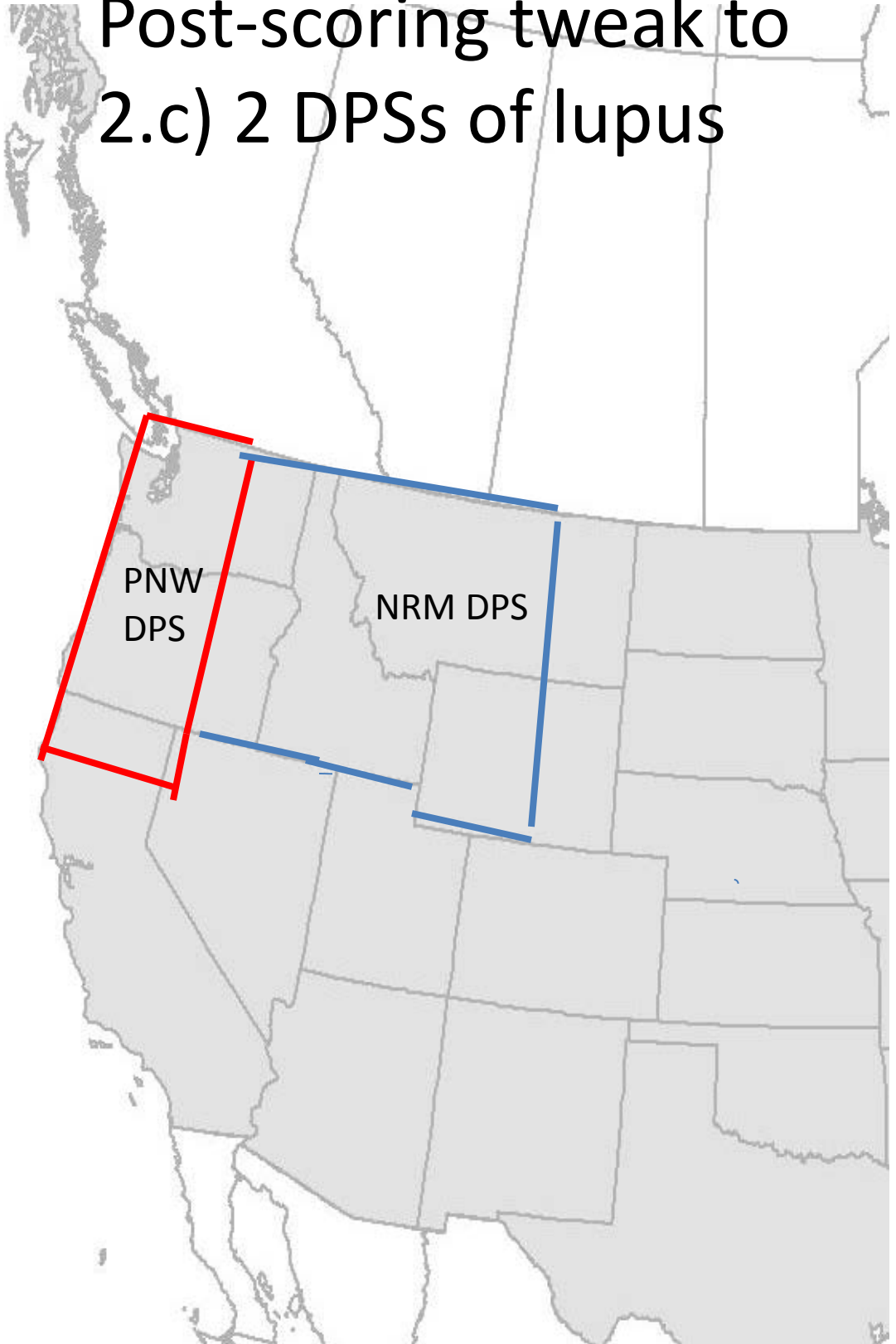


7.

### DPS of lupus - currently occupied habitat



# Post-scoring tweak to 2.c) 2 DPSs of lupus



Thursday, August 26, 2010

Western Alternatives -

1. NW DPS of lupus
  - a. NRM + PNW – 7 states (WA/OR/ID/MT/WY and all or parts of CO/UT)
  - b. NRM + PNW – 11 states with eastern boundary bifurcating Dakotas and southern boundary including parts of CA/NV, and all or parts of UT/CO.
  - c. NW DPS of lupus - defined by suitable habitat only
  - d. NW DPS of lupus - defined by suitable habitat plus a buffer area (approx 60-100 mi)
2. NRM DPS of Lupus (including all or parts of CO/UT) and PNW DPS of Lupus (including parts of CA/NV)
  - a. Both with boundaries of “where found”
  - b. With 2 DPSs meeting at eastern OR/WA state lines
  - c. With 2 DPSs bifurcating OR/WA
  - d. With 2 DPSs defined by suitable habitat only
  - e. With 2 DPSs defined by suitable habitat plus a buffer area (approx 60-100 mi)
3. NRM DPS of *C. l. occidentalis* (not including UT/CO) and PNW DPS of *C. l. nubilus* (including parts of CA/NV)
  - a. Both with boundaries of “where found”
  - b. With 2 DPSs meeting at eastern OR/WA state lines
  - c. With 2 DPSs bifurcating OR/WA
  - d. With 2 DPSs defined by suitable habitat only
  - e. With 2 DPSs defined by suitable habitat plus a buffer area
4. *C. l. occidentalis* and *C. l. nubilus*
5. *C. l. occidentalis* and PNW DPS of *C. l. nubilus*
6. NRM DPS of *C. l. occidentalis* and *C. l. nubilus*
7. NW DPS of lupus defined by currently occupied habitat (no buffer)
8. Tweak to 2c. NRM DPS of Lupus without CO/UT/NV and with parts of CA

## Methods for alternatives

1. Start with sp and subsp delineation from Chambers et al
  - a. rufus (status quo), lycaon and lupus
2. Look at individual units that were generated (21-30)
3. Look at historical and current range (and potential habitat?)
4. Look at map 2 and examine how we can make this better

## **Alternatives:**

1. Status quo (WGL DPS)
2. Historic and current range of c.lupus and historic and current range of c.lycaon (not nubilus, taxonomic quagmire)
3. WGL DPS of lupus (25) and DPS of lycaon in WGL and Southern Ontario, Canada (30)

Ed: Nubilus – wrt WGL – taxonomy of wolves is problematic. If there is the option not to go to subsp of lupus then we should take it. We don't know how certain we are that they are nubilus, or that they will become nubilus. Why not just go with lycaon and lupus and avoid alternatives that deal with shifting subsp. what do you lose with just going to species? Laura – petition component – document it so that we can show how we considered it.

## **Eastern Alternatives:**

1. 3 units: WGL DPS of C.lupus (25); WGL and s.Canada (Southern Ontario ) PLE of C.lycaon (30); and NE PLE of C.lycaon.
2. 3 units: WGL DPS of C.lupus; WGL DPS of C.lycaon (overlapping); NE and s.Canada PLE of C.lycaon.
3. Status quo/no change = Lower 48 is listed as lupus (endangered everywhere and threatened in Minnesota)
4. 3 units: WGL DPS of C.l.nubilus; WGL and s.Can PLE of C.lycaon; NE PLE of C. lycaon (= ALT 1 with C.l.nubilus)
5. 2 units: WGL DPS of C.l.nubilus and WGL DPS of C.lyacon; NE and s.Can PLE of C.lyacon (= ALT 2 but subsp version)
6. 2 units: WGL DPS of C.lupus and C.lyacon; NE & s.Can PLE of C.lyacon (=combined DPS in the WGL)
7. 2 units: WGL DPS of C.l.nubilus; and C.lyacon (as a whole)
8. 2 units: WGL DPS of C.lupus in the WGL; and C.lyacon (as a whole) (= ALT 7 but the species version)
9. No geographic border in the US: DPS of C.lycaon AND a DPS of C.l.nubilus, originating in the WGL with the Canadian border as the boundary.

PLE = potentially listable entities (potential DPS)



Key Objectives

- All except tribal management

E Alternative 1

WGL DPS of  
lupus

WGL & s Can PLE  
of lycaon

NE lycaon PLE

C. rufus





E Alternative 3:  
status quo

*C. rufus*





E Alternative 4

WGL & s Can AE  
WGL DPS of C. j. lycaon nubilus  
of lycaon  
NE lycaon AE

C. rufus

E Alternative 5

WGL DPS of IC. L.  
nubilus & WGL  
DPS of lycaon

NE & s Can PLE of  
lycaon

C. rufus





E Alternative 6

WGL Combined  
DPS Canis lupus  
& C. lycaon

NE & s Can PLE of  
lycaon

C. rufus





E Alternative 7

C. lycaon

WGL DPS of C. ;l.  
nubilus







# Eastern group

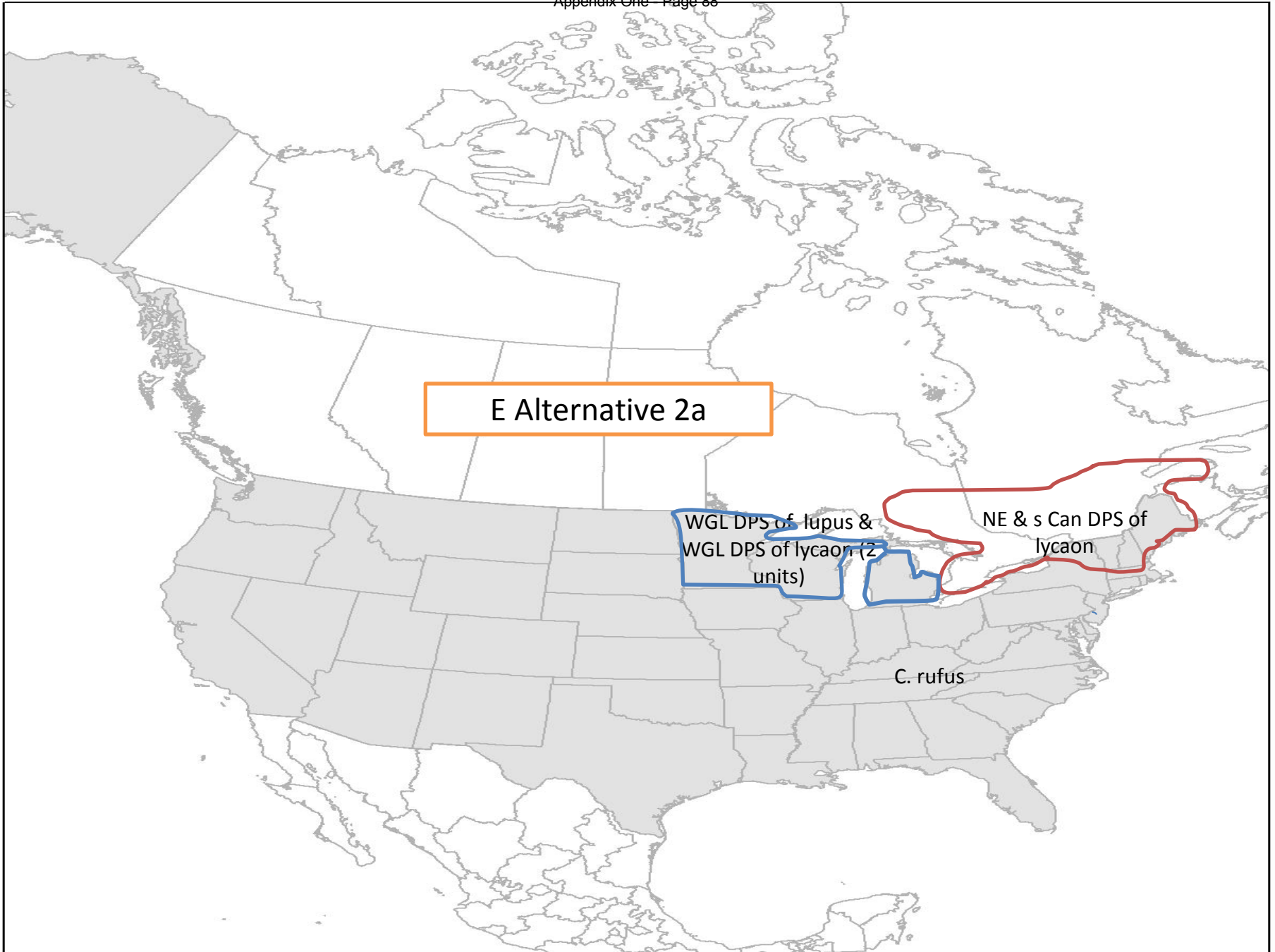
- Which objectives favor which alternatives?  
How did we weight those?
  - Alternatives chose depends on the score and how the objectives are weighted
- Do these alternatives reflect beliefs

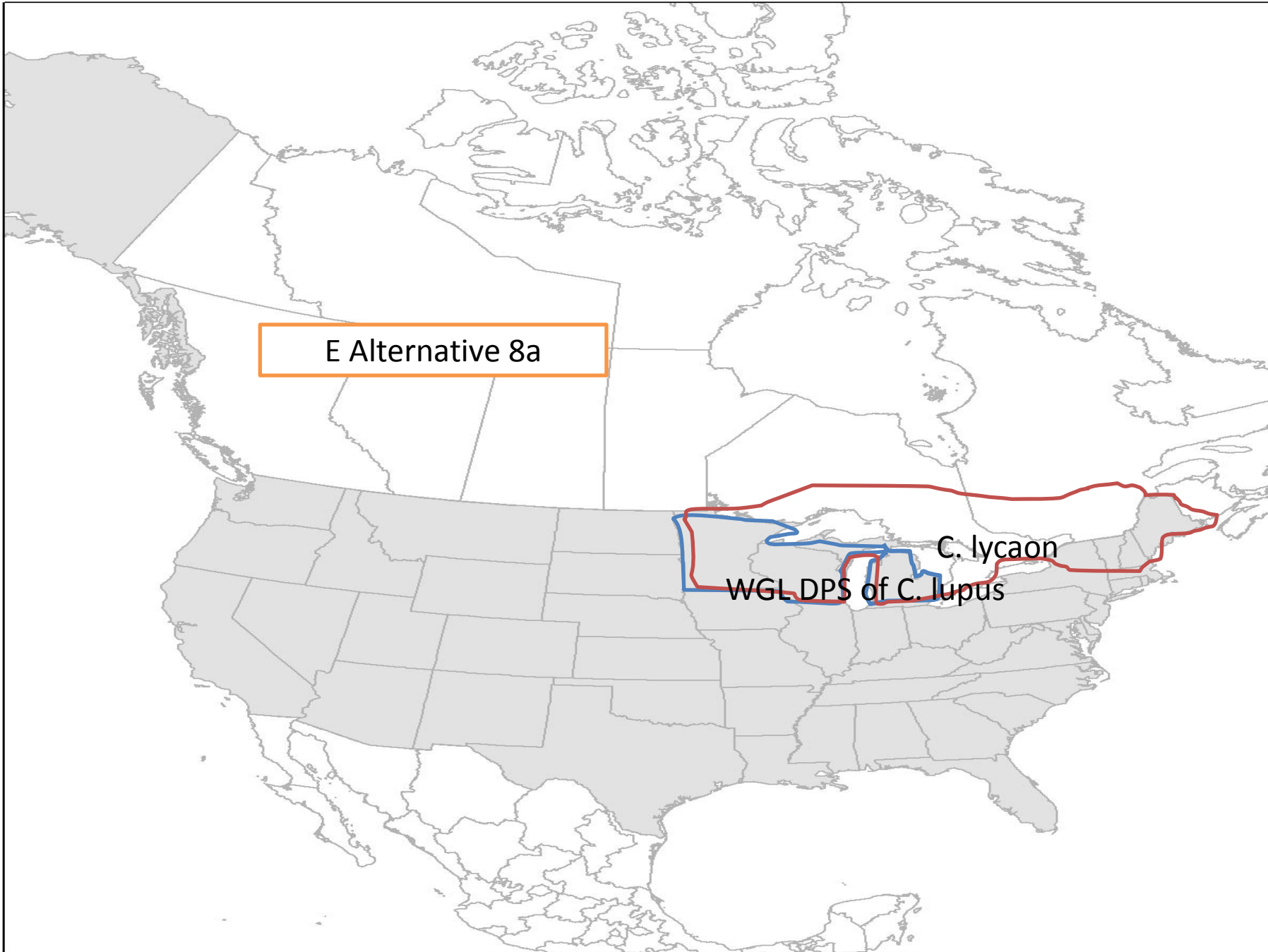
E Alternative 2a

WGL DPS of lupus &  
WGL DPS of lycaon (2  
units)

NE & s Can DPS of  
lycaon

*C. rufus*

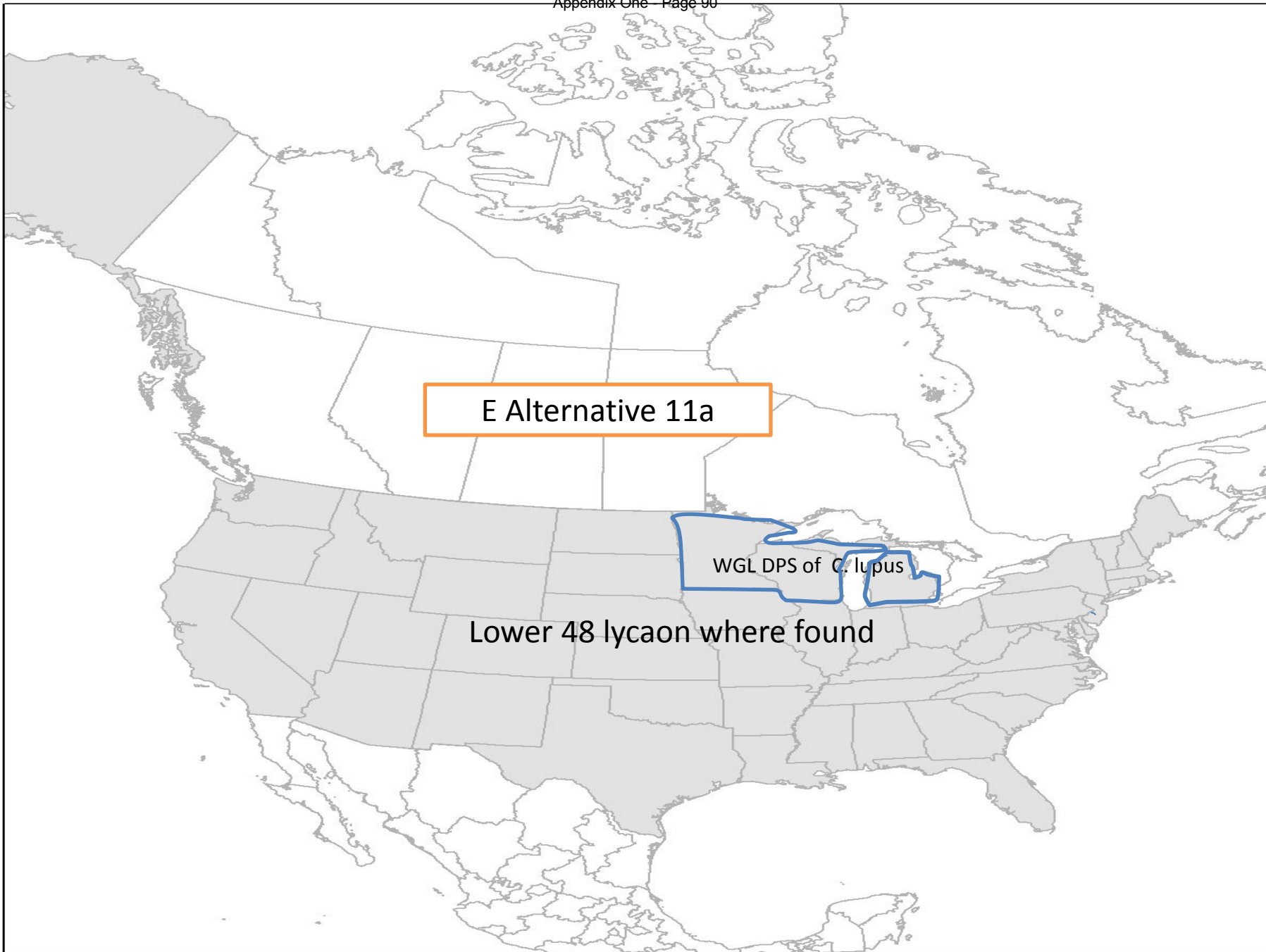




E Alternative 8a

*C. lycaon*

WGL DPS of *C. lupus*



E Alternative 11a

WGL DPS of *C. lupus*

Lower 48 lycan where found

#	1a: Biol. Integ w/	1b: Biol. Integ b/	2: Legal Defense	3.c.i. Long-term state	3.c.ii. Short-term State	5.a. Public Burden	5.c.ii. Underst andable	6.a. Efficiency		
									Weighted Score (avg)	Rank
<b>2a</b>	0.9	1.0	0.7	1.0	0.8	1.0	1.0	0.9	0.9	3
<b>8a</b>	1.0	1.0	0.8	1.0	1.0	1.0	0.7	1.0	0.9	2
<b>11a</b>	1.0	1.0	0.9	1.0	1.0	1.0	0.7	0.9	0.9	1

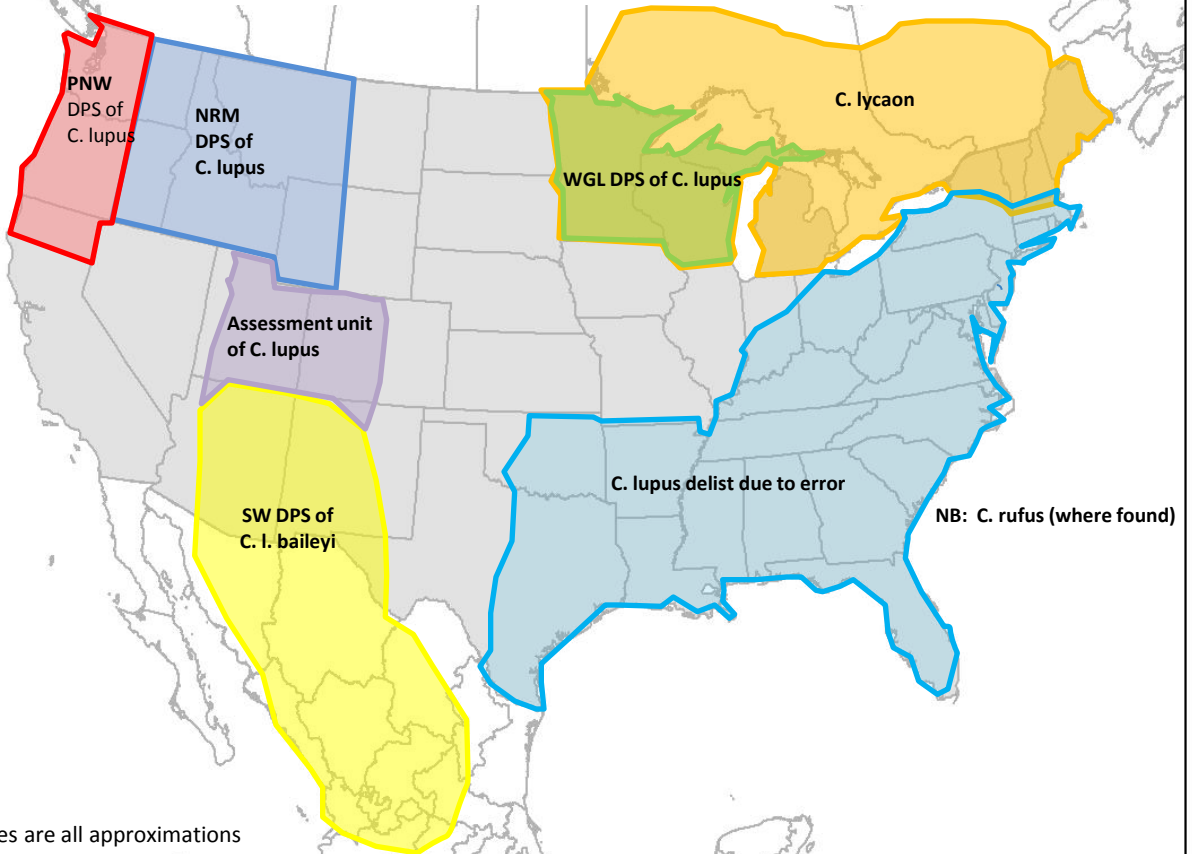


### Compiled Set of Assessment Units, Alternative A (8/27/2010)



**Note:**  
(1) Map lines are all approximations  
(2) All units are assessment units

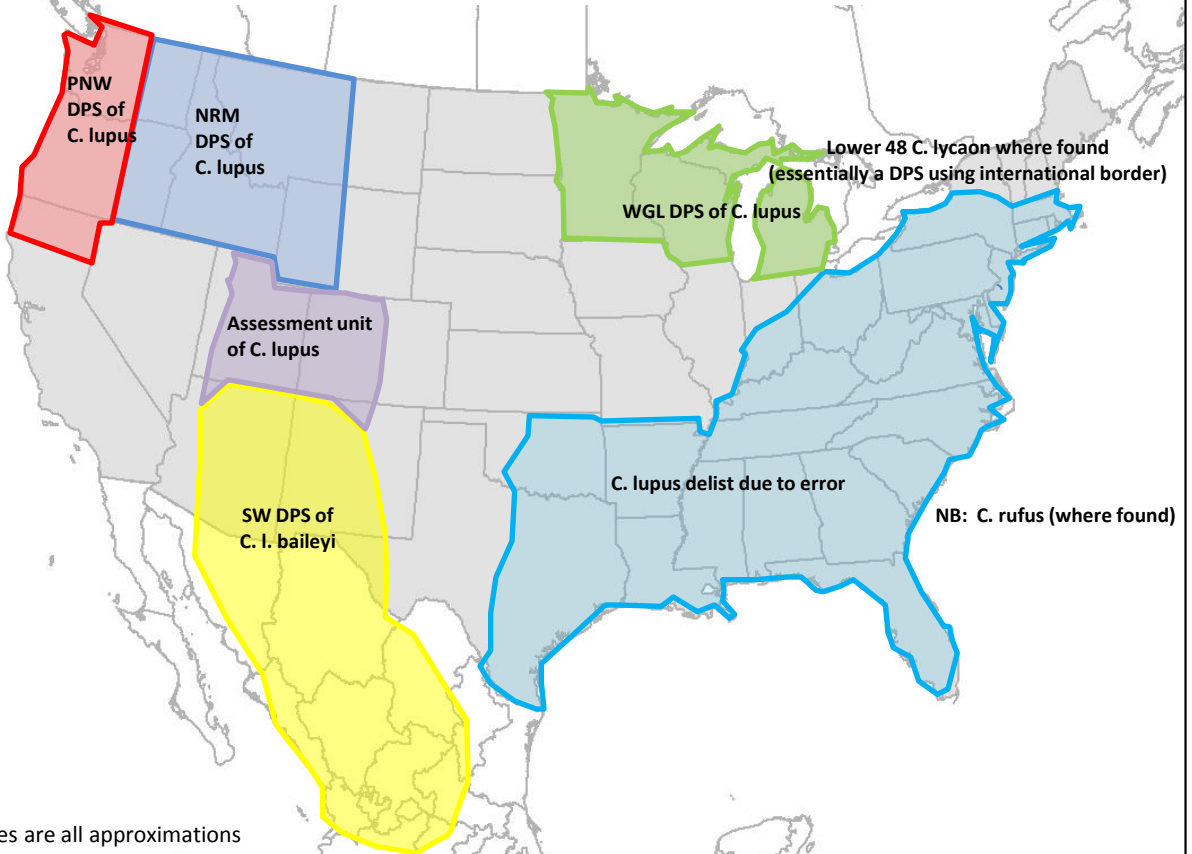
### Compiled Set of Assessment Units, Alternative B (8/27/2010)



**Note:**

- (1) Map lines are all approximations
- (2) All units are assessment units

### Compiled Set of Assessment Units, Alternative C (8/27/2010)



**Note:**

- (1) Map lines are all approximations
- (2) All units are assessment units

Steve W. – what might result in just having 1 alternative would be to have the process the Service would go through anyway is an assessment of lycaon across range with specific ref to assessing each of the component pieces. Just put this on map as alt.

Rick S. – remembering that 2 of the states did not have alt 1 as their preferred.

Mike R. – our decisionmakers didn't need to come to consensus on this so we will want to show the preferred alt for all decisionmakers from ROs and States.....Lets talk about the holes. White space in middle of country and CA/NV. All other areas we have been clear about our mechanism for assessing.

Margot – listed in error, extinct or recovered. In this case the areas are extirpated which is same as extinct.

Mike R. – we need to make argument about white spaces because they are part of historical range.

Massachusetts –map in North East needs to follow suitable habitat (portions of MA are in a unit in NE)

Kevin B. clarification - Northern Boundary for SW DPS – NW corner is CO River. NE up CO River through Lake Powell to the inlet of lake Powell to the San Juan R. down San Juan to the NM border. I-25 south from here. (check with RJ)

Wally – if wolves were restored in NY what is the likelihood of wolves following habitat into PA?

Gary F. – most of white space represents areas where wolves could not establish but CO/UT doesn't fit this well. We will need to do more work to explain the rational in our assessment.

Round robin for decisionmaker's to give opportunity to comment on where this analysis stands –

Where your thoughts are? What needs to happen next?

ME – Thanks Service for opportunity and enjoyed process. We have arrived at something that is workable. HE is ok.

NE – Very appreciative of opportunity. Service was obviously sincere in asking for input. This will be signif in getting wolf recovery to move ahead. **There is still some work to bring in other folks in future.**

VT – Thank you. Good prototype. Blocks are on map as construct. **Looks forward to systematic and comprehensive assessment to get us to something that can be done and is most defensible.**

NY – Thank you. Painful but still useful and worth while. Legal defensibility has figured high in all discussions. It would have been helpful to have a very focused discussion on where the law is today to get people to same understanding. Echo that in **NE there is a strong interest in having states involved in next step including the status assessment of lycaon.** Part goes to concern of legal def because outcome of assessment will have huge impact on legal def. We do have **Indian nations within our borders so his understanding is that at least some will be extremely involved in the wolf issue.**

MA – Thank you for letting us be here. **Want to have states involved in assessment stage.**

MI – Most imp consideration for the state when begun was fastest path to delisting. Their ability to construct some design that could hold up in court was their focus because they have a recovered population. To the extent that the outcome of this is the fastest way then they are good. Feels we are reconciling some issues that need to be addressed.

WI – Thank you. Impressive process. Learned a lot. Need more time to reread obj and think about how the address their situation so wants a little more time. Not sure the route to delisting is now shortened. **Still have concerns about timing of separate assessments for various genetic entities – concerned that they are on diff timescales. We are prob going to need more than 1 assessment for their area but wants them on same timeframe.**

ED – Thank you. Appreciates being involved. Would have been nice if we could have done this a few years ago. Thinking about obj and attributes – biology is good – maybe public ones could be better but probably fine – would have like to weigh legal def higher – overall good process

ND – Reiterate that Dakota's are not suitable habitat and happy that this was recognized. The only hope is that the "white space" on map is not forgotten about.

NM – Elegant map. Legal def is that his sense is that we need to sit down with leadership of those sueing us so that they can understand and appreciate the work that has gone into in. **Tribes in SW need to be talked to. Wishes CO had been here.**

AZ – Thank you – terrific workshop – unique opportunity – wishes that all states had been involved including Tribes in SW – we were a little late on their involvement – **working with MX will be huge. Discussion can not wait until next Trilateral.** This is a great process – frustrating – but our map does covey cohesive strategy. We will have opposition to it due to restoration aspect so to the extent that the entire pkg can be articulated as more than adequate for recovery the better

UT – Thank you – Esp that Gary stayed through the entire process. Mike did great job. Laughed a little bit when map came up because we could have draw this map in first 2 hrs. Shows the value of process because the record will be a critical part of the process. That the end product makes sense validates process. Has been overbearing at times and was intentional but came with specific instructions to articulate that there is more than 1 path forward in order to accomplish recovery (not nec through ESA).

WY – Thank you and Gary/staff. Lots of effort from all. Unfortunate that we couldn't have had this dialogue 12 yrs ago. Lots of water under bridge. Feels better now about the progress that we have made. In WY there is sig opportunities to advance some ideas and hopes the Service and State are prepared to take advantage of this. Happy UT/ND got what they wanted.

WA – Thank you. State came with sole mission and failed miserably. From a standpoint that we could have generated this map in first 2 hrs but what is behind the map and the discussion/work will allow him to return to state to explain how we got to this (how he failed in his mission). Hopes that Service

understands WA concerns as well. This is a dialogue that needs to continue into the future for all species/issues. Nicely done. Very curious about next steps.

Wally – should we begin starting to our constituencies and when?

Mike – lets get back to that

R1 – Key to NW is that CA/OR/MT/ID not here. Will need to check in with them but thinks we might be ok. Service folks have expressed concern about size of PNW DPS and ability to reach recovery.

R2 – Thank you to States for coming. Appreciates time. All gained appreciation for others issues. Although map isn't to different than before it now reflects more interests and issues. Tribes, MX, and Canada need to be engaged sooner rather than later. Also, taking this to some of our other constituents needs to be done. Thanks to facilitation group.

R3 – Thank you States for time and facilitators too. Steps forward are important we have a ton of momentum so don't want to let it drop off. We need to engage the scary NGO portion. Glad to hear the States want to be involved in the status assessments.

R4 – Glad to be involved. If taxonomy takes a diff turn maybe they will. Glad that rufus stays as it was. Painful process but very valuable outcome. Will allow us to paint description of how we got to a rule.

R5 – Was concerned about policy issues that extended from the alternatives at the large scale. Glad to see that taking into account all of these issues even if we couldn't address them all

R6 – Thank you all for extreme level of engagement. Clearly disappointed by lack of rep of the intermountain west but we might need help from other states to get their involvement. To the extent that you saw value in this you may be able to help. This may not meet everyone's timeframe in getting done but hopefully it meets everyone's timeframe in staying done.

R9 – Thank you to everyone that came and especially skillful team of facilitators. Hope you can tell by looking around the room just how important this is to the FWS. State engagement is extraordinary but unfortunate that all states didn't come. Perhaps some kind words from you might help. If anyone has suggestions about how to engage NGOs we would be all ears.

Gary – Thank you to all. Two Steves. Thank facilitators team. Thanks to Mike.

This map and the things we've talked about provide a good road map for a step forward. We will engage others Tribes/NGOs – your help will be needed. Want to do this effectively would appreciate your thoughts. We will sit with Environmental/Hunting communities. Would appreciate your help with identifying who to reach out to in hunting community.

We have to resolve the issues of taxonomy – steves will polish paper and will move through process Service/AFWA have laid out – hopefully within the next month or 2 we will be able to make a decision on this.



Sig press activity about legislation that has been introduced to remove wolves from ESA via act of congress. Decision on NRM ruling – do we appeal. Real world realities of management (states). Working hard to find creative but defensible way to deal with this more near term issue. Well aware that we are reaching 2 yr mark and we know that changes in administration make wolf issues difficult. If we could resolve this by the end of the administration would be great but should not do this at risk of missing something.

We don't have a clear plan because we didn't know where we would be today. Any states ideas? How to work with Tribes? NGO's? Webinars? AFWA meeting is coming up this may be too complex for that but possible.

WA – Specific to NRM and PNW – OR/ID/WA have an upcoming tri-state meeting in 3<sup>rd</sup> week of Sept. Planning to go back and provide a download and briefing to WA Director but also will suggest to WA Director that he and Director co-present this at tri-state and that they have a closed door meeting with ID/OR (?).

Patty (NY) – AFWA has lots of credibility with other NGOs so may be able to provide opportunity for bridging us with National NGOs.

Terry – possibility of considering a series of regional tasks force consisting of State/Feds/Tribes not sure if NGOs could be part of that.

Gary – need to establish a global vision and individual actions that might be on diff timeframes.

Wayne L – Any thought about a broad scale national publication to explain the issue? May grease the skids?

Gary – could help us lay out the vision – cons that it is wolves and that it wouldn't be a vehicle for us to propose solutions etc. We do have a recent petition to develop a national recovery plan.

Seth – we need to do a 5 yr review for wolf

Kevin B. – in terms of maintaining engagement – there is a lot of work to be done – but they want to see something start to happen sooner rather than later. Once it is started need updates along the way – not a black box. Timeline not necessary (probably not possible) but milestones need to be provided.

Gary – could do 1 hr breakouts at AFWA or North American. What do you see as meaningful? We will be dealing with the taxonomy and engaging with the other communities but do we need to do something else soon?

Kevin B – need to manage expectations and articulating the steps that need to get done so that people can see that progress is being made. Email updates would be helpful.

Terry J. – Legal defensibility – could help for folks to have all of the legal cases. Terry would like cliff notes version of court opinions.

Gary – not sure if we can share out solicitors cliff notes, but will look into it

Ed B – Realizes that there will need to be more work. Will things be happening simultaneously or sequentially? Would prefer to the extent possible that some things can get started.

Gary – very cognizant of the window of opportunity we have to get to some decisions during this administration. We will do our best to get things resolved within the next 2 yrs. We don't have the luxury of time.

Mike – need some concrete thoughts about next steps – compiled record of this week. Final obj hierarchy, final assessments, what did we get to?

Gary – sometimes you get images in your head but when you have to write it up you might find issues. Gary wants us to make sure that we really do feel good about the outcome.

Mike – 2 ways to **write report** – show all quantitative steps – or more narrative – have objectives – have alternatives – with narrative interpretation explains our preferences. Assuming we will need some summary – for participants for their reflection and also as a vehicle for reaching out to the states/tribes that were not here. Any other thoughts about immediate things?

WA – Yes that record, **rpt is a very imp part of this – sooner rather than later – hopes it would be provided as a draft with opportunities for comments. Does need this vehicle in order to provide at tristate meeting.**

Mike – will need to figure out what the agencies need to do in order to make a document available to public.

Steve W – narrative report would make it easier for him to provide an effective explanation to others.

Gary – Mike were you thinking that this would be a report that each state owns? He was thinking would be Service's report of their interpretation.

Mike – this would be a better means of dealing with it in that it simplifies the review/approval process.



## EXECUTIVE SUMMARY

An Account of the Taxonomy of North American Wolves from  
Morphological and Genetic Analyses

**Purpose:** This review is being prepared to provide recommendations on the taxonomic standing of North American wolves, including subspecies of the gray wolf, *Canis lupus*, based on a review of the scientific literature.

**Scope:** This review will provide recommendations only on which taxa, species and subspecies, are supported by a preponderance of evidence from the relevant scientific literature, and on the geographic distribution of each taxon. The suitability of any valid taxon as a management unit, distinct vertebrate population segment under the Endangered Species Act, or otherwise an object of management action requires consideration of additional factors and is beyond the scope of this review. It is not a review of the conservation status of any taxon. Extirpation is discussed only as it affects the availability of geographically representative sampling, and reduced population densities are discussed only in how they relate to taxonomically relevant interactions among populations.

**Methods:** The history of the taxonomy of various wolf taxa is briefly reviewed as a context for the comprehensive review of morphological (primarily morphometric or statistical studies) and genetic data that describe relationships among populations. The relationships among gray wolf (*Canis lupus*), red wolf (*Canis rufus*), and coyote (*Canis latrans*) are evaluated in light of these data, as are the species limits of the gray wolf. The taxonomic standing of the eastern wolf is also considered: issues include whether it is a subspecies (*Canis lupus lycaon*) of gray wolf or is itself a species (*Canis lycaon*), and whether that species and the red wolf constitute a single species.

For the evaluation of gray wolf subspecies, the overall strategy in this evaluation was to begin with the most recent taxonomic classification of subspecies of gray wolf (Nowak 1995, 2003; see the accompanying map in Figure 1) and determine whether available morphological and genetic data supported each subspecies. Additional subspecies not recognized in Nowak's classification were considered when the reviewed data indicated that further evaluation was warranted, as in the case of wolves of the Pacific Coast of Canada and the northwest United States.

**Results:**

Results are summarized on Figure 2 at the end of this Executive Summary.

The eastern wolf was considered by Nowak (1995, 2003) to be a subspecies, *Canis lupus lycaon*. However, the recent scientific proposal that the eastern wolf of the Great Lakes region is not a subspecies of gray wolf, but a full species, *Canis lycaon*, is supported by both morphological and genetic data and should be accepted. This species' current range extends westward to Minnesota and Manitoba, and it has hybridized with gray wolves where the two species are in contact. *Canis lycaon* includes wolf populations referred to in the literature by the common names Algonquin wolf and Great Lakes wolf.

The relationship of the eastern wolf to the red wolf: Genetic data support a close relationship between the eastern and the red wolf, *Canis rufus*. They are no more genetically divergent from

one another than major lineages within the gray wolf, *Canis lupus*. They are generally as closely related to one another as each is to coyotes, and both have interbred with coyotes under certain conditions. The available genetic evidence is consistent with the red wolf and the eastern wolf evolving independently from different lineages of common ancestors with coyotes. However, the proposal that they are members of the same species is therefore not clearly supported, and they should continue to be considered as separate species. Regardless, there are important differences in the genetic composition and geographic origin of remaining populations of the two species.

The Mexican wolf (*Canis lupus baileyi*) is a well-supported subspecies. Genetic data from historical specimens indicate that genetic markers from the same lineage as those of extant Mexican wolves once occurred as far north as Nebraska. Its historical relationship to and boundary with the plains wolf (*Canis lupus nubilus*) to the north is uncertain but probably varied over time, as the plains wolf is considered to represent a lineage of gray wolves that invaded North America later than the Mexican wolf, and displaced it over the northern portion of its former range.

The arctic wolf (*Canis lupus arctos*): The available genetic and morphometric data do not provide clear support for the recognition of this subspecies. The most reasonable interpretation of the available genetic data is that populations attributed to this subspecies are recent colonizers of certain Arctic islands, and therefore the weak genetic patterns observed are not of taxonomic significance. The available genetic data, however, are almost entirely limited to one group of genetic markers (microsatellite DNA) that are not definitive on this question. Data from studies using other genetic markers are needed before a reasonably definitive assessment can be made on the taxonomic standing of this subspecies.

The northern timber wolf (*Canis lupus occidentalis*) and the plains wolf (*Canis lupus nubilus*) are valid subspecies. Their recognition is supported by the geographical distribution and phylogenetic relationships of mitochondrial DNA (mtDNA) haplotypes and studies of microsatellite DNA variation.

The wolves of coastal areas of southeastern Alaska and British Columbia were assigned to *Canis lupus nubilus*, the plains wolf, by Nowak (1995). Genetic data indicate differentiation between these coastal populations and adjacent inland populations assigned to *Canis lupus occidentalis*, the northern timber wolf. The mtDNA haplotypes of these coastal populations are most similar to those of historical specimens of *Canis lupus nubilus* from inland areas of the western United States, which supports the interpretation that the coastal populations represent a northward extension of *Canis lupus nubilus*.

The gray wolf displays geographic variation in its genetic composition at a continental scale. The three subspecies of gray wolf recognized here correspond to three major genetic lineages, the ancestors of which independently invaded North America during and immediately following the Pleistocene.

There is support from genetic data for the taxa recognized here, but delineation of exact geographic boundaries is unrealistic. Even significantly different evolutionary histories do not preclude wolf taxa from interbreeding where they come into contact. Researchers have identified current or historical zones where genetic markers from more than one subspecies, or even species, co-occur, and other such areas may be found with more detailed sampling and

analysis. Sharp boundaries between taxa that appear on maps should therefore not be taken literally, but only as the general location of what is in reality a “fuzzy” boundary or intergrade zone of variable width. Furthermore, boundaries between taxa should not be assumed to be fixed or static over time. Genetic studies of historical gray wolf specimens indicate that the geographic distributions of its subspecies have been dynamic over time.

### References cited

Nowak RM. 1995. Another look at wolf taxonomy. Pages 375-397 in Carbyn LN, Fritts SH, Seip DR, editors. Proceedings of the second North American symposium on wolves. Edmonton, Alberta: Canadian Circumpolar Institute, University of Alberta.

Nowak RM. 2003. Wolf evolution and taxonomy. Pages 239-258 in Mech LD, Boitani L, editors. Wolves, behavior, ecology, and conservation. Chicago: University of Chicago Press.

### Figure captions

Figure 1. Ranges of North American *Canis lupus* subspecies recognize by Nowak (1995, 2002) and of *Canis rufus* (after Nowak 2002).

Figure 2. Summary of major conclusions of this review. Solid lines within North American indicate general boundaries of species and subspecies of *Canis* recognized by Nowak (2002). Dashed lines indicate recommended alterations or qualifications of Nowak’s geographic boundaries of taxa. Geographic positions of these lines are approximate. **A.** *Canis lycaon* is recognized as a species, rather than a subspecies of *C. lupus*. The historical boundary between *C. rufus* and *C. lycaon* is uncertain owing to absence of samples from the potential area of contact. **B.** Range of *C. lycaon* is extended westward; the extended area also includes *C. lupus* and *C. lupus* x *C. lycaon* hybrids. **C.** Extension of historical boundary of *C. l. baileyi* northward based on morphometric and genetic data. **D.** Taxonomic standing of *C. l. arctos* is uncertain. **E.** There are genetic discontinuities between Pacific Coast populations assigned by Nowak to *C. l. nubilus* and adjacent *C. l. occidentalis* populations; they are phylogenetically closest to ~~and~~ the limited number of historical samples of western *C. l. nubilus*, which supports Nowak’s contention that they are a northward extension of that subspecies. **F.** Current distribution of *C. l. occidentalis* has extended southward through both natural expansion and reintroduction.

Figure 1

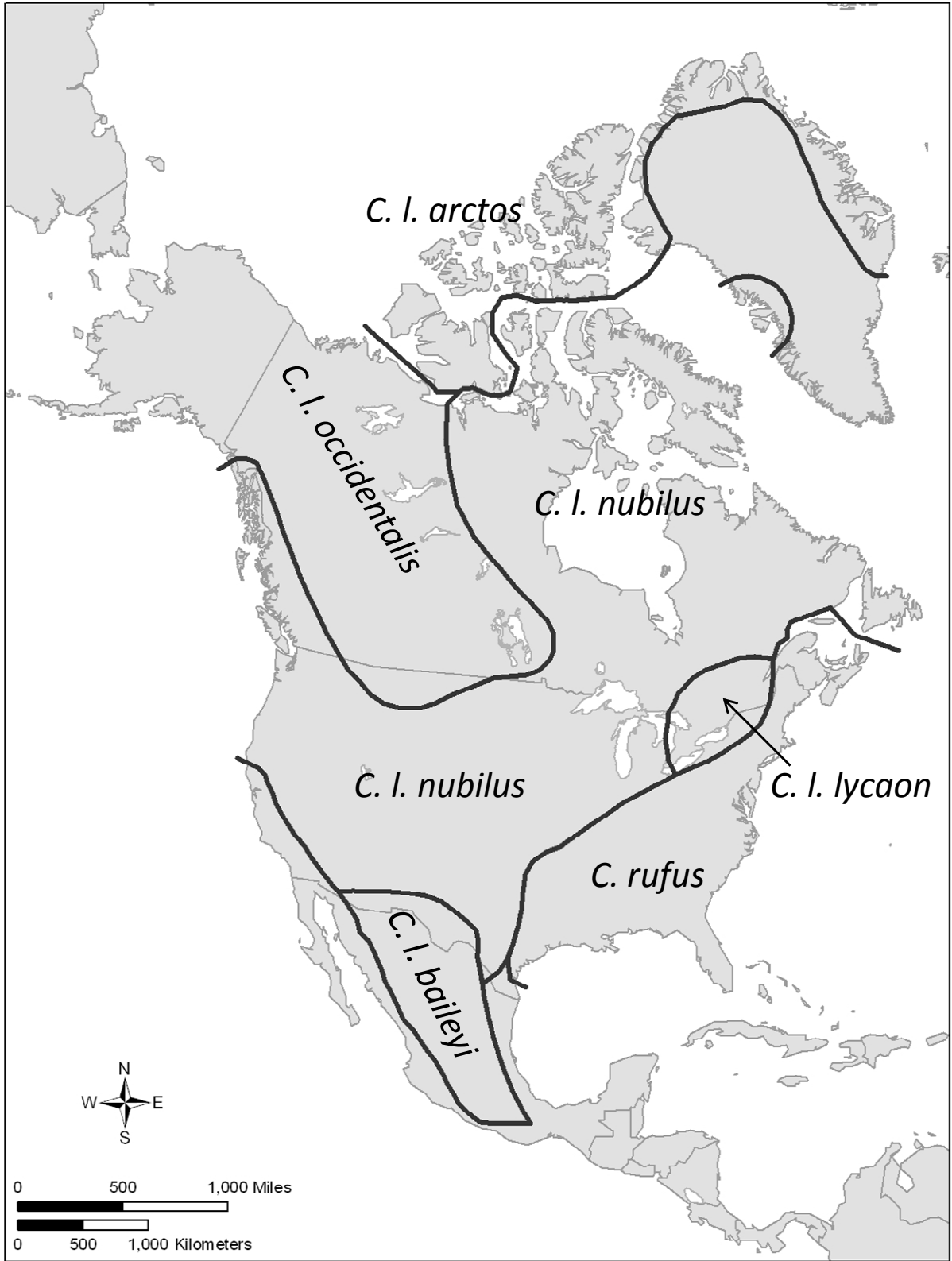
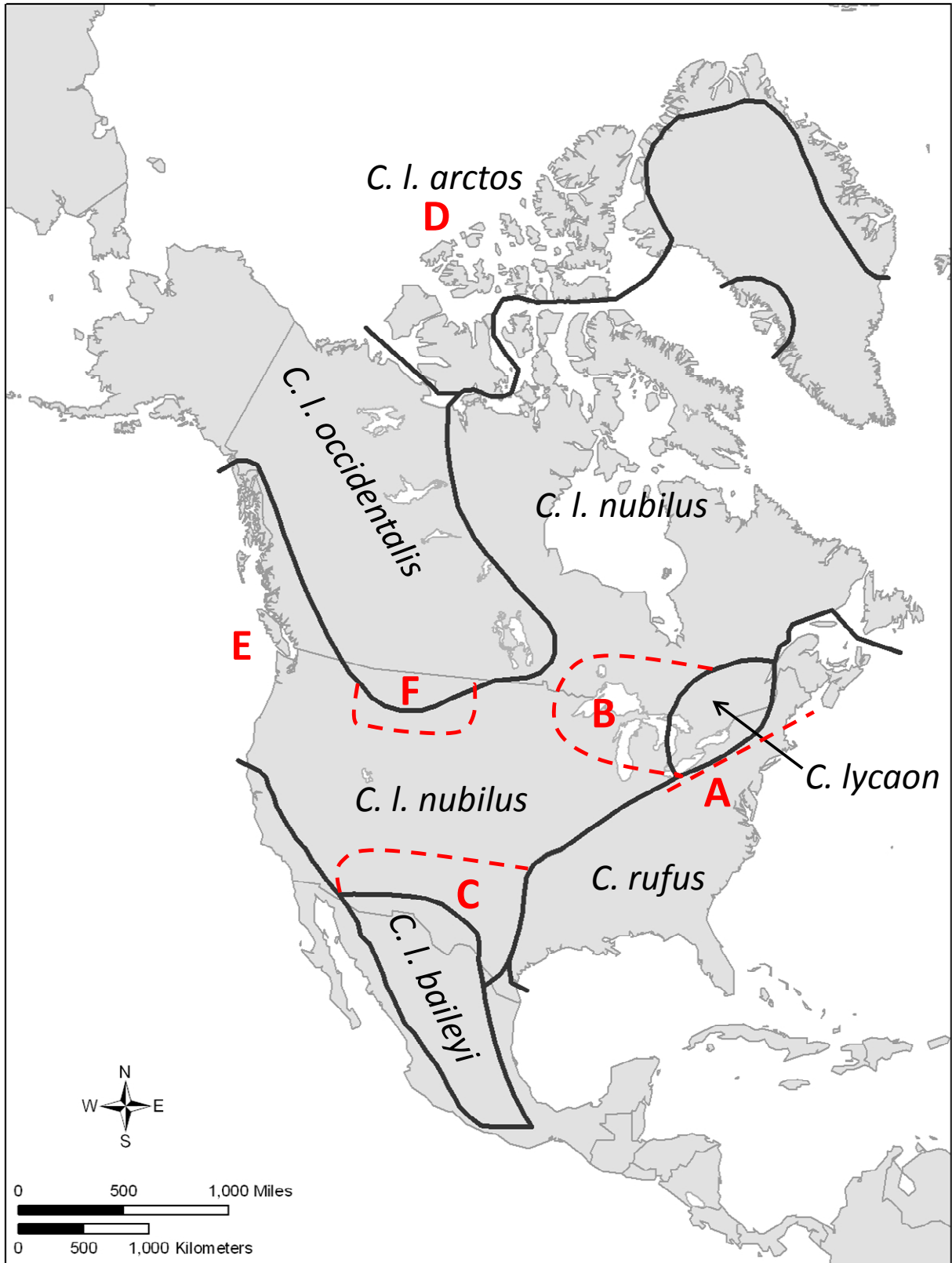


Figure 2



## Wolf Structured Decision Making workshop

August 23-27<sup>th</sup>, 2010

Notes for Monday, August 23, 8am-5pm

### Introduction

- [Maricela Constantino](#): National overview of Regional issues [Presentation](#)
- [Gary Frazer](#): Purpose of the workshop [Presentation](#). Main questions/issues:
  - What would we do if starting afresh for listing if ESA did not exist? This may not work given wolves don't meet criteria in some areas? How do we do this/is it possible?
  - Should we take a view of all of North America (recovery of ~60%), not just Lower 48 (i.e. recovery of ~10% max). (GF - Relevant consideration is that they are a listed entity in Lower 48).
  - Challenge for immediate time-frame –need measures for States to help conserve wolves in the interim. These immediate concerns cannot be addressed through this comprehensive approach, needs a change in rule-making. (GF - We need to demonstrate this approach so we can move forward and be able to defend decisions)
  - Why will this approach be more durable than anything we have tried before?
  - Why should we not revisit/review ESA given this seems to be one of the main issues for moving forward? i.e. ask Congress for more clarity in the areas that have proved problematic for us. (GF- we need to work within areas within our control/scope)
  - Do you feel comfortable given the failures so far, that we can develop [rules plans](#) that will [withstand stand-up-under-lawjudicial scrutiny](#)?
  - What is the risk associated with trying to make amendments under the ESA?
  - In light of climate change, don't we see this as becoming more complicated under the ESA and not less?
  - What are the next steps after recommendations are submitted from this group? How will this work in relation to the States not represented at this workshop?
- MR: SDM Methods

### Objectives hierarchies' discussion

- Mike – Have we captured all objectives? Other groups to consider? Examine public acceptance objective
- Why might we want to limit the distribution of wolves? Some groups might be interested in limiting their distribution – reduce public conflict. Is this captured in the public acceptance objective?? Do we need to develop it more? Perhaps add 'avoid public conflict' under this fundamental objective (tier 1).
- Some of the means objectives might have to be brought back forward
- We need to define who the public is (i.e. define which public groups exist), and what their contradictory goals might be

- Does the service believe it has the discretion to use 'social tolerance' as an objective under the ESA? (GF – Yes, we use it in our basic approach to wolf recovery e.g. wolves which prey on livestock. Not all courts agree with this approach). [Dave Gayer \(SOL\)](#) – there might be a conflict with real-world scenario (i.e. we account for public acceptance in our decision making) and legal outcomes with listing (i.e. this can fall down in court). Mike - is it a means or fundamental objective?
- Can we take public acceptance into account at the identifying assessment unit stage? How do we bring public acceptance into the different levels of decision making? Mary – can we bring some of the [Fundamental Objectives](#) as constraints, so we can look at trade-offs later on in the process?
- If CBD were in the room, we would have a lot of different objectives to examine. Important to keep in mind. Mike – could be under maximize public acceptance objective (i.e maximize acceptance by different stakeholder groups to the level possible). Do we need to flesh this out some more? Will they help us choose among different objectives? Look at this at the consequences of alternatives stage? Gary – we need to examine which of these objectives are really relevant to help us choose between potentially listable entities under the ESA.
- Public acceptance has to do with sportsmen and livestock owners, but the groups lobbying and pressing legal buttons are the environmental groups.
- Public awareness of issues and public acceptance are different. Maybe we need to note we are aware of the issues (and consequences) and have addressed them, but they are not included in the process here? Transparency might come into this. Public understanding is different too - might be a process objective (not fundamental).
- Side note, comment: We may have state laws which conflict with wolf conservation efforts (e.g. Utah, Wyoming might be examples).... But Fed law overrides state law? [Yes](#)

### Alternatives

- [Seth Willey](#) – ESA definitions/constraints [presentation](#)
  - Some confusion about DPS definition [with regard](#) to regulation and existence of wolves outside international borders. Thought that the DPS was developed in the situation where it is appropriate to conserve species within our borders when the species occurs outside our border (Steve Chambers). Might need to clarify this discussion with Seth, not sure I understood the issue.
  - DPS and population requirement – is there a court ruling that contradicts this (MR)? No.
  - Questions:
  - If 2 species (not ssp) hybridize, are those covered by the Act? [Dave Gayer \(SOL\)](#) – there is no firm decision on what to do here. There used to be a draft hybrid policy, but there was no agreement reached on this (Gary). [Dave Gayer \(SOL\)](#) – we might just deal with this when it comes up.
- [Steve Fain](#) – Current taxonomy [presentation](#)

- How do we make the distinction between a coyote haplotype and a lycaon haplotype? Steve - Historically common.
- How do North American gray wolves share genetic similarities with European wolves? European gray wolf shares common ancestor with coyote (goes back ~1 million years). Gray wolf migrated and diversified into Europe/Eurasia (from North America), and then migrated ~~out again~~ back to North America multiple times (i.e. with glacial maxima). There were several periods where different variations of wolves migrated into North America from Eurasia, separated by 100's thousands years. Location of W1, W6/7 and W8 may represent these different migrations.
- Is there a clock/understanding of timing wrt ancestral divergence times? Yes .
- How different in time are rufus and lycaon? Steve - markers do not allow us to make those calculations.
- Common ancestor of coyote and wolf? Is this an artificial classification to separate these canids? Steve – no. Behaviour and habit on the land is different, genetically they are divergent, demographically have a different history, THUS fit the definition of a different species. Q – is the divergence enough though? Steve – 10% divergence is enough (only have 3-6% differences though?). BUT also need to consider the differences in haplotypes and Y-chromosomes. Again, check with Steve I captured this.
- Are the very northern wolves a separate species (high arctic islands...arctose???)? Steve – no published data for these. Possibly several extinctions and re-introductions of this species.
- What is the mechanism for accepting/formalizing this method for identifying different wolf species? Steve - invoke arguments that mitochondrial and Y-chromosome differences support this i.e. the degree of uniqueness and divergence support this.
- Note, techniques and methods to identify differences in species has changed over time. Best available knowledge of taxonomic status is used by the Director of FWS, he is accountable for how this knowledge is used (Gary).

### Monday pm. Group discussion – wolf taxonomy

#### Questions from index cards:

*Ed Boggess*

- 1) *What proportion of wolves in the Western Great Lakes do you think are pure lupus, pure lycaon and hybrid lupus x lycaon?*
- 2) *Do you see a problem maintaining genetic diversity if the WGL lupus-lycaon wolf complex was managed as one unit with a common regulatory scheme?*
- 3) *How long do you think the lupus-lycaon zone of intergradations has been in existence (in the WGL region)?*



Kevin Bunnell

- 1) Looking at the maps it appears that there are few or no samples from the intermountain west, yet the area is assigned to *C. l. nubilus* – why?

Brian Millsap

- 1) With regard to subspecies, because they are by definition not species, and therefore potentially interbreeding, with the exception of intergrade zones, don't they have to have allopatric breeding ranges?

Dan Stark

- 1)
  - a. Could the extent of divergence from *lupus* and *lyacon* be a result of sampling?
  - b. Are the relationships definitive?
  - c. Why is it important to recognize it as a phylogenetic species?
- 2) Is there any fossil evidence to support the progenitor of *lupus*, *lyacon* etc originated in North America? What data supports this theory?
- 3) Does mtDNA/Y chromosome microsatellites completely reflect species and population status? Or should we consider morphology, ecological function, behavior, breeding and fecundity, geographic distribution as considerations in identifying geographic units? Is it as subjective? A wolf population with mixed ~~ancestry~~ancestry!
- 4) Y chromosome? Why are the *lyacon* markers in the work significant and the dog markers in *bBaileyi* not? How is it different?

Steve Weber

- 1) What are the major implications of ~~the~~ recognition of *C. lyacon* for wolf recovery and the ESA?
  - 2) What negative implications/consequences are there with ongoing contact between *lyacon* and coyotes from a genetic diversity perspective?
- Why is it that the Y chromosome detected for dog makers in *baileyi* is insignificant ca to significant wrt *lyacon* markers (in *lupus*)? WGL region (Dan Stark 4)
    - > 50% of markers carry *lyacon*,
    - *baileyi* is only a small remnant divergent, and unique mitochondrial DNA is much more ...
    - Note that there is so much else about those animals which is divergent (i.e. unique mitochondrial DNA etc).

- Maybe prudent to look further at nuclear DNA to get a better idea about this.
  - Possible one of the Y-markers died out because the dog male was an unsuccessful breeder.
- Does mitochondrial DNA completely reflect population and species status? Or should we consider morphology etc... (Dan Stark 3)
  - Yes – these markers all tell us something a little bit different (e.g sex specific markers) and together they give us more of a comprehensive picture of what is going on (e.g. sex markers helps us with lycaon/rufus issue)
  - Rates of growth of wolves is great (following species-area curves...?), not telling us anything about a fecundity issue.
- Is there any fossil evidence that ~~the~~ lycaon originated from North America? (Dan Stark 2)
  - Yes – early 80s, published book on fossil evidence (Curten and Anderson?). Ask SC for publications. This occurred ~4million years ago, invaded Eurasia and morphed into C lupuis (gray wolf). Likely ties between these early wolves and with lycaon and coyote too. Gray wolf first appeared in NA 550-600 000 years ago. Unsure of original species (?). Possible there could have been an earlier invasion that died out and did not leave evidence. Likely co-existence with lycaon. Each one of the lineages in NA has closer ties with relatives in Eurasia than they do with the other lineages in NA.
- With regard to ssubsp, don't they have to have allopatric breeding ranges? (Brian M)
  - That is how they had to have developed (i.e. isolation, some barrier or distance), but they could come back together (i.e. sympatric).
- Looking at maps, few or no samples from inter mountain west, but area is assigned to nubilus, why? (Kevin B)
  - First study, NOAC-Nowack – used discriminate function analysis or PCA, took original subsp, took skulls from various subsp and analysedanalyzed and tried to find which groups were statistically significant. We know a lot less about nubilus genetically because they were extirpated from area before samples could be obtained. Samples come from museums.
  - Given lack of older samples available, there is a need for exploration of fossil evidence
  - Note that the map boundaries separating sp/ssp is very fuzzy
- Note: critical points at which introgression occurs (e.g. Vancouver Island). When same species is not available for some reason (isolation, pressure etc) for mating this will occur. Allee effect.
- Lycaon/lupuis questions...

- Could the extent of divergence from lupuis and lycaon be an artifact of sampling? (Dan S 1a)
  - Too small a sample, not representative of a population etc
  - Total of ~130ish animals, mostly from Wisconsin, but 70% of them had lycaon mitochondrial types. Forthcoming paper regarding a larger area, where same ratios are being observed
- Following, are the relationships definitive (i.e. define them as distinct species) (Dan S 1b)
  - Both mitochondrial data and y markers in the male population (at high frequency) is a telling factor, defines it as a subsp of coyote. Belief that phylogenetically this is firm ground. Add behavioural/behavioral and morphological differences into mix which adds to this.
  - Also, hybridisation/hybridization did not happen (i.e. wrt hypotheses), so how do we explain them?
  - Note: now, is de-speciation possible/happening now? Where is current hybridization leading? There was also some discussion on the migration of occidentalis into Yellowstone (?) when range could have been nubilus. Recent migration of occ, would it have occurred anyway? Is ESA compounding this?
- How long has lupuis/lycaon interbreeding been happening in the WGL area? (Ed B 3)
  - Been potential for this for a very long time, need fossil evidence to support.
  - How do we manage a situation like this? (TBC) Does it matter under ESA?
  - They look the same,same; it is hard/impossible to distinguish them. How did this happen with separation for such a long period of time?
  - Where would best representation of lycaon be? (Easy answer is Algonquin Park in Ontario).
- Do you see a problem maintaining genetic diversity in WGL area if we manage for one unit under a common scheme? (Ed B 2)
  - Rate of hybridization is less than that expected under random hybridization (SF) – inferred that the hybrid issue now is not really an issue (i.e. not complete swamping).
  - Can we note any differences in wilderness vs. populated/farmland areas?
  - What can we expect under climate change? Adaptation issue?
- What proportion in WGL pure lycaon, pure lupuis and hybrid? (Ed B 1)
  - SF – very mixed (1/3, 1/3, 1/3) (note: this is based on y-chromosome DNA). This has been going on for a long time
- What are major implications for lycaon under ESA? (Steve W)
  - Thought from SC - original listing wrt lower 48 intended to protect all wolves. Rank has changed but it is the same beast it was.

- What threat is the integration of coyote genes to the lycaon situation? What can we do about it? Cannot stop all evolutionary processes, what do we manage for?

## Wolf Structured Decision Making workshop

August 23-27<sup>th</sup>, 2010

Notes for Tuesday, August 24, 8am-5pm

### Alternatives cont

- [Jean Cochrane](#) – Habitat suitability [presentation](#)
  - Marty ~~(Miller)~~ [\(R5\)](#) - Purpose this week was to identify potential listable units, mapping is designed to help us draw boundaries, how is mapping able to help us identify potential listable entities? Issue - Listing happens because something exists, not because it is potential habitat. With discrete DPS, we are stuck with being able only to list something when it exists. Designating populations which were not historically discrete is a problem under policy
    - JC Broad mapping of boundaries– you have to account for growth and dispersal of populations, so maps of potential habitat are important. You are not always anticipating a ~~population~~ being discrete when delisting.
  - ~~Wally~~ [Jakubas \(MA?\)](#) : Has anyone looked at sustainability of prey densities? What would a model/map look like under changing prey densities?
    - JC maps take a snapshot in time, so do not make predictions on what prey will look like in 20 years.
    - Models do not always reflect habitat suitability/numbers because of the prey densities.
  - Kevin Bunnell (~~UTah~~) - Livestock density not included enough in the models (wrt Utah and Colorado), is this realistic?
    - Mike Jimenez [\(R6\)](#)– livestock density in some areas may be high, but human caused mortality really controls wolf numbers in most cases. Found once you get out of the mountainous areas wolves were really struggling to exist [because](#) of human caused mortality, and models reflected this. However Mike J agrees with Kevin [with regard to](#) the area he is talking about.
    - Comment that livestock is not included in models because the scale of measurement is not generally appropriate for the models (i.e. at a county scale). Right now wildland vs. agricultural areas is the best predictor (and road density). Kevin says this stock data is available for his area at the right scale....
    - Issue here is about right predictor variables, availability of appropriate variables measured at right scales. But, does this matter? Do we have the right predictors at this broad scale. Mike [J](#) seems to think so.
- Mike Runge [\(USGS\)](#) – Caveats: 1) this is ~~broad~~, [broad](#); these maps are not trying to capture what is going on at the small scale. 2) We are talking about potential wolf habitat, but what assumptions are we making about human behavior? What do we mean about potential wolf

habitat, and does this take into account humans? 3. How are we meant to use potential wolf habitat in designating units? I am not sure...

- Brian Millsap (R2) - Wrt caveat 2, we are not being successful with our attempts because we are making judgments about what potential habitat is by accounting for livestock areas, but legally this does not stand up. MCR – mapping to take into account sp, subsp, and DPS, and how wolves interact with potential habitat is an issue we need to resolve later at the management stage.

#### Development of alternative units – mapping exercise

- See Maricela's word doc of alternative units
- I think most discussion before the next part was about what the units are (ref Maricela's list), I may have missed some discussion points, but I think the main issues were captured below:
- Mike R - At the stage of listing, or considering listing, whether or not an entity is recoverable (viable without or with protection of the ACT) is not a listing factor (i.e. determine the status). This is the recovery planning stage. However, if we choose assessment units, we need to take this into consideration – grey zone. Diversity we care about vs. whether we think we can retain this diversity. Be careful not to choose a DPS that is so small we cannot maintain a viable population
  - Rick Sayers (R9)– if we identify a DPS it is so small it is not viable, I question its significance to the taxon as a whole. Flipside, a unit so big we don't know how to recover it, then also an issue
  - Marj Nelson (R9ge) Is an empty DPS a DPS? How significant is it to the entity as a whole? (follows above)
  - Issue–(Kevin Bunnell (UT) - BUT how do you ever get them off the list? We don't have a way to do this
  - Maricela Constantino (R9)– this is why it is helpful to have the map with the sp, subsp and DPS units. We need to say what we think the APPROPRIATE listing is i.e. need to try reclassify current lupus listing status.
  - Marj Nelson (R9ge) Move beyond trying to push these things through the existing DPS policy
  - Issue of what response is wrt listing in Canada?
  - Martey Miller (R5)- The way we identify DPS, it is difficult to list something once it is gone – by very definition it is gone, and we cannot replace it (Did I capture this right?). Mike Runge – we want to think about complete range of historical and future populations of wolves. We cannot just leave areas out (i.e. Western Great Plains, New England) – we have to at least say we have thought about it. Martey – disagree, we are not in a position to account for every square inch of country. Gary Frazer (R9)– we are talking about 2 things - what if we find our original listing is in error, what should we do? How do we reclassify into a structure that makes more sense (i.e. what we are trying to do now). 1) Blow up the listing, 2) Restructure the listing = 2 different

things. Laura [Ragan \(R3\)](#)– we need to discuss the areas without wolves in the rules. We did not do a proper complete analysis of the significant portion of the range, we need to do this. We do NOT need to list the areas in question as a DPS to achieve this. Mike [Runge](#) – we need to wipe the slate clean, but still have some narrative to explain places that had been listed but are no longer accounted for. Jean [Cochrane](#)– idea was to map in terms of DPS, even though the strict definitions of the DPS might not fit - we need to focus on the rationale behind the map if this continues to be an issue. Mary [Parkin \(R5\)](#) – we could get around this by identifying them as ‘unpopulated’ units, and discuss/assess them as such. Mike [Runge](#) – reflect on purposes and assumptions of workshop. Gary [Frazer \(R9\)](#)– in reality we are going to have to retrofit our current classification with what we think makes sense (i.e. not clean slate). Mike [Runge](#) - BUT we need to think about the clean slate so we can think outside the box – we are struggling with this, move on. Language/terminology issue wrt DPS.

- o Scott Talbot ([WY](#))– let’s start with map of potential habitat– if it is not potential habitat, then delist it.
- o ~~Mark~~ [Stadler \(ME\)](#) In light of sp, subsp and 4 units (4 units – Lower 48 broken into baileyi in SW, nubilus, rufus, lycaon as assessment units) we need to go state by state and justify why we have included some things and not others – state by state approach. (Mike [Runge](#) - Later prototype, additional level of detail. Listing coordinator concern). Go through this and say as biologists why this might not be appropriate.
- o Wolves are highly mobile and will move through areas of unsuitable habitat - protecting the populations, not the real estate ([Marty Miller’s](#) point)
- o Gary [Frazer](#) – look at whether we classify as DPS or sp/subsp – affects how individuals are treated under law once they get out of range.
- o [Marty Miller](#) – there are pros and cons of DPS and sp, but we can be less strict (?) in our definitions of DPS boundaries ([this is the introduction of the DPS “where found” listing idea](#)).

#### **Development of alternative sets at the national level – subset of complete list**

- Q – (Pat [Riexinger \(NY\)](#)) What are we going to do with the units?
  - o We would ask of each assessment units identified to carry forward to Step 2 of Broad Framework (i.e. listing etc)
  - o Have a range of these alternative maps, and then consider these comprehensive alternative visions.
- Q – (Walter [Jakubas \(ME\)](#)) How do we consider listable/delistable entities at same time without considering recovery?
- (Christopher Amato [\(NY\)](#)) Terminology is a problem here (entity, unit, geographic area ...) – leads to confusion
  - o Mike [Runge](#): Entity or unit or assessment unit = species, subsp, DPS of sp or DPS or subsp.

- Walter [Jakubas \(ME\)](#): separate out sp/subsp with DPS wrt terminology and mapping. (Mark Stadler [\(ME\)](#)) If our objective is to protect genetic diversity, then we should use sp/subsp as a starting point for listing/recovery. Mike [Runge](#) – this is one objective though, and we might trade it off later. (Brian Millsap [\(R2\)](#)) – agree – we need to account for other objectives and see which performs best with regard to all objectives. So the confusion is really about the next step in this process.

### **Synthesis of objectives hierarchy**

See doc of fundamental objectives (MR).

- 1) Legal defensibility
- 2) Scientific credibility
- 3) Public acceptability
- 4) Wolf conservation
- 5) Efficiency
- 6) Ecosystem function

### **Evaluation, prototype**

- [Prototype 1](#) - Alternative [sets](#) – see Maricela’s [ppt](#) maps doc, and word doc of verbal translation ([both dated 8/24/10](#))
- Measurable attributes – Mike excel doc, LR summary word doc
- Scoring exercise – Mike excel doc
- Weighting exercise – Mike excel doc
- Preliminary analysis – Mike excel doc

## **Wolf Structured Decision Making workshop**

**August 23-27<sup>th</sup>, 2010**

**Notes for Wednesday, August 25, 8am-5pm**

### **Group discussion/reflection (8am)**

- Not so much a process, but the options chosen might need some work... i.e. if you add in a NE DPS and [combinecombine](#) the DPS in the SW (?), you get the best of option 2 and 3
- (Wally [Jakubas \(ME\)](#)) How does Option 3 fit with wolf taxonomy? - the right metrics were not provided to work out how the population would be affected – concerned about sizes of circle, and whether it contained the main population. Also, how does this fit with the Canadian population? How well [does](#) this fit for the longevity of the [population?](#) [The unit](#) was too broad, and needs to be split. Mike [Runge](#) – good point,



metrics were very broad and hard to encompass all parts of objective hierarchy – have to go back and assess this.

- (Patty [Riexinger \(NY\)](#)) Similar issue with broad map – need to address how these maps work for the different species. Maybe need to overlay [DPS units from 2](#) and add to 3 – need comprehensive account of species.
- WGL – subspecies perhaps not accounted for in maps (what subsp are there, and are we allocating the units to allow for the right recovery options). Mike – many various permutations in each area, need to address and see how we can improve to meet objectives...Prototype 2.
- Clean slate issue
- Need to separate methods from outcomes – when do we stop the analysis? Just because there is no number on the unit, does not mean we are not going to deal with it later on.
- We have not spoken about rufus... what is going on? [David Rabon \(R4\)A](#): [Population](#) is stable, optimistic about possible re-introduction sites. At moment in this meeting we are keeping it in context wrt the greater wolf issues we are dealing with. Issues – accuracy of map boundary, genetics and how they may direct future conservation strategies. Generally not uncomfortable with what has been considered so far.
- (Wally [Jakubas \(ME\)](#)) We are trying to avoid future litigation on this – if map is based on where they occur, and some on DPS's – is this an issue wrt litigation? Gary [Frazer \(R9\)](#) - Is the service at risk of having to handle petitions to list within a subset if we already have the species listed at the higher level? (Dave [Gayer \(SOL\)](#) wrt Wally) – this happens all the time, doesn't see it as a major risk. (Dave [Gayer \(SOL\)](#) wrt Gary) – example of rufus, shouldn't be an issue if species is identified as endangered (think I got this right).
- Bud [Fazio \(R2\)](#)– wrt rufus. Issue is about balance between historical range and potentially suitable habitat. Mike [Runge](#)– is this to be dealt with at the listing or recovery stage? Point (from someone) – the more this is dealt with at the listing stage, the easier it is at the recovery stage. We don't want to draw boundaries that the wolves will not keep...
- Occidentalis vs baileyi issue – how would the Act work when some subspecies may replace others? Would the Act necessitate control of one subspecies over another if we list units in a certain geographical way and this happens? Are we locking ourselves into recovering a subspecies if we map in a certain way? Wendy [Brown \(R2\)](#)– we need to consider this with map boundaries, particularly wrt climate change. Issue (?) of restoring natural connectivity. On the other hand, there is a long history of this not happening despite there being the potential for integration of sp/subsp.
- Climate change issue wrt appropriate listing raised.
- Rick [Sayers \(R9\)](#)– need to spend more time on the objectives as a group.

**Comment [m1]:** Option 2 was a ssp set (no DPSs included)

- Discussion about recovery vs restoration in identifying units
  - We certainly would have units which would not be listed in the lower 48, but we have to be able to explain why (Gary [Frazer \(R9\)](#))

### **Objectives group discussion 2 (9:50am)**

#### 1. Legality

- a. Should we include defensibility of recovery planning in the objective list?  
Reason: Recovery plans (part of them) can be legally challenged. But, this has to do with how effectively we carry out the recovery plans, and probably does not affect the listing process, so we do not include this in the objectives for listing.
- b. Subsequent petitions - Legal vulnerability. Does it present a greater risk for being sued wrt having an experimental population for listed animals? What is the legal ~~defensibility~~defensibility of having that 10(j) as a separate unit? (NB: 10(j) experimental population established – used as a management tool which balances wolf conservation and public ~~conservation needs~~ i.e. as a means to achieve wolf conservation WC). Included.
- c. Units – Margot [Zallen \(SOL\)](#). Would like to see these objective separated into units: 1) geographic, 2) sp, subspecies or DPS, and 3) legal status. Done.
- d. Complying with the ESA is a process objective – it does not change why we choose the units, but how we choose the units.
- e. Subsequent petitions (Marty [Miller \(R5\)](#)) – is the concern about petitions 1) the petitions would lead you to abandon our original strategy 2) just take up a lot of time. Marty [Miller \(R5\)](#) – the larger approach, abandoning it and being forced to deal with things at the smaller scale. But this is part of the efficiency objective? Mike [Runge](#) – this is why this part of the objective is here – can we sustain our vision wrt to the petitions that will inevitably arise?? Wording changed.

#### 2. Scientific Credibility

- a. Is this a means objective to other things? Yes
  - i. Take 2a and put it into Legal Objective (1biii)
  - ii. Take 2b and put it under Wolf Conservation
  - iii. Take 2c and put it under Legal defensibility of the units (2b)
- b. Wally [Jakubas \(ME\)](#) – nervous, this is why we are doing this, Scientific Credibility leads to the legal defense. Put Scientific Credibility as a footnote under process/strategic objectives: it is a fundamental part of this process, and we add it under various headings.

#### 3. State, Tribal and Public Acceptance

- a. Public trust issue – demonstration/recognition of success that the process works so we can demonstrate to public it works, AND save time

- b. Jean [Cochrane](#)– minimizing adverse affects of listing on other public values is the main issue here. Trade-off is maximizing the effectiveness of wolf conservation and minimizing adverse effects on other public issues. So the heading of this objective should be ‘Minimize adverse effects of [Wolf Conservation](#) on other state, tribal and public values’. [Wolf Conservation](#) is also a public value. The guts of why this is hard, so we should get the tensions out there. Components of [Public Acceptance](#) is 1) [Wolf Conservation](#) and 2) all the other things which are (potentially) harmed by [Wolf Conservation](#). We do not have a value for what we should restore wolf [population](#) to.
- c. Patty [Riexinger \(NY\)](#)– does this become a strategic objective, of which everything comes under public acceptance/support?
- d. Marty [Miller \(R5\)](#)– does this need to be re-worded to take into account our roles as public servants?
- e. Mike [Runge](#) –How do we define what the public wants? Is this captured under all the other objectives we are talking about?
- f. Should this be reworded as ‘Balance Public Values’? Jean [Cochrane](#) – disagree, we should be clear about the fact that this objectives is about the adverse effects. This is about our public mandates – we have the mandate to recover wolves, but how much is enough? Balancing act is the trade-off between the 2.
- g. Should not be maximize [Wolf Recovery](#), but ‘Achieve’ [Wolf Recovery](#).
- h. Is our ability to explain why we think our solution achieves recovery enough? (Rick [Sayers \(R9\)](#))
- i. Dave [Gayer \(SOL\)](#)– None of these are going to achieve recovery, so if we put this as an objective it is problematic because we might not get there (e.g red wolves). The Act does not always say we should achieve recovery, because it takes into account that sometimes we cannot. Thus, “Promote Wolf Recovery”.
- j. If we weigh public values ABOVE wolf conservation (and not do certain options for this reason) we may/will get into trouble, however if we use it to distinguish between 2 alternatives we might not.
- k. Patty [Riexinger \(NY\)](#)- Change wording of ‘minimize public burden’ to ‘promote/accommodate other public values’. Issue with wording and how the public may interpret our objectives (i.e. just placating, not being serious about public issues).
- l. Steve [Pozzanghera \(WA\)](#) – this objective should be separated out into separate objectives dealing with Public, State and Tribal aspects to avoid conflict/insult. Patty [Riexinger \(NY\)](#) – will we really draw units based on state and tribal laws? Or do we just acknowledge that we have to deal with this later on? It is put in as

'compatibility with S&T laws' as sub-header at present. Mike [Runge](#)- suggestion

– separate out into 2 or 3 objectives:

- i. Public values (OR Human Dimensions, disregarded - jargon)
  - ii. State management
  - iii. Tribal management
- m. (Mark Stadler [\(ME\)](#)) Now, the public values [objective](#) needs to capture the hunting aspect too. We need to articulate the different kinds of public values. Flesh this out as sub-headers under 'minimize wolf-human conflicts'.
- n. 'Landholders' need to be 'landholders & producers' to capture ranchers on public land.
- o. Using 'minimize wolf-human conflict' vs 'consider [wWolf-Hhuman](#) conflict' ...
- p. Ed [Boggess \(MN\)](#)– does not understand why the [humanH-wolfW](#) conflicts sub-header contributes to the listing of the units. Michael [Thabault \(R6\)](#) – believes it should be collapsed somewhat, but that it should be taken account into the west.

9-

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#### 4. Promote Wolf Recovery

- a. Issue with the word promote – wrong connotations? But FWS has a duty to do this ([Mike CRunge](#)).

- i. Promote and sustain?

#### 5. Efficiency

- a. 4a is a means to reducing regulatory burden. It is also a means to being able to apply resources to other issues (not wolves). Thus it is about conservation more broadly.
- b. Do we need this objective? Is it captured by the other aspects (legal, public support etc)? i.e. means. OR, is it to do with the amount of resources invested in wolf recovery (time, \$). Yes, latter.
- c. The statement in b could really be the goal for this entire process.

#### 6. Ecosystem Function

- a. This is about efficiency, by doing everything in this objective we achieve faster path to being able to address effort to other species.

### **Group Alternatives (1-4pm)**

**Eastern group – 9 alternative sets presented (see file titled "alternative sets Easterngroup maps" dated 8/25/10)**

- Issues with Alternative 9 ([DPS of Lycaon originating in WGL and DPS of C. l. nubilus originating in WGL](#)) (Marty Miller's (R5). Is it possible?
- Margot Zallen (SOL)– wondered why some were listed as DPS and some PLE (Potentially listable ~~units~~ entities). Why imply some listed and some not? Mike Runge– this is not quite right - we are just considering assessment units at the moment, and should be clear about all the implicit units (forget status?).
- Mike Runge– Problem: All except one objective considered, and need to decide which of those objectives we need to develop measurable objectives for (i.e. not all)

**South-west – 13 alternative sets presented (see document titled “SW unit alternatives” dated 8/25/10)**

- Considered hard vs soft boundaries depending on sp, subsp~~ecies~~ and DPS
- Considered historical intergradations zones

**Western group – 17 alternative sets presented (see document titled “Western alternative sets.v1” dated 8/25/10)**

- Another potential alternative not put up would look at the currently occupied area
- Laura Ragan (R3) Can we follow the state boundaries really? Biologically it does not make sense unless there is a boundary (fence?)

Mike Runge – we will come back together and knit the best options together at the national level. Being careful of what we did tues – options at the wrong scale.

**Measurable attributes for the group – which are we going to use? (4-5pm)**

**1. Legal Defensibility (Comply with the ESA)**

- a. Defensibility of the units
  - i. Defensibility of the entity (sp., ssp., DPS)
  - ii. Defensibility of the DPS boundaries
  - iii. Alternatives are science based (utilize best available scientific information)
  - iv. Consider units in the context of overall status of the taxon (genus, sp., ssp.)
- b. Defensibility of the status assessment
  - i. Defensibility of existing 10(j)
  - ii. Cover/consider all of currently listed range (don't leave any areas out; i.e., part of the Dakotas)
  - iii. Consider units in the context of overall status of the taxon (genus, sp., ssp.)
- c. Robustness of the long term vision to subsequent petitions

Wrt c) being taken out. This can be addressed in the text of any alternatives or discussion – Laura [Ragan \(R3\)](#). Feeling is that this option is going to be swamped by far more important objectives. Gary [Frazer \(R9\)](#) – this is reasonably covered in the ‘defensibility of the existing unit’.

Wrt b) Rick [Sayers \(R9\)](#) – what does b) bring to the table? Dave [Gayer \(SOL\)](#) – one thing to defend your DPS but another to try and defend your status assessment. Here we are keeping check on the future. It is ~~a recognition~~ [recognition](#) that in the real world ~~that~~ decisions are up to scrutiny. Both a and b are a recognition that in legal sense you may have to defend on 2 counts – i.e. your units are fine and your assessment of those units are not, and vice-versa.

Michael [Thabault \(R6\)](#) – this is mingling the clean slate with what is already on the ground – i.e. we have a history of litigation and legal vulnerability, and we have to think about this history.

Mari [Nelson \(R9\)](#)ge – does this now render our metric from Tuesday wrong? Mike [Thabault \(R6\)](#) – not necessarily, just not robust/legitimate enough. We were judging just on ‘a’ yesterday

Nicole [Alt \(R9\)](#) – but how do we decide about status assessment when we don’t know what the status assessment is?

Mike [Runge](#) – we can do [Measurable Attribute](#) for these separately or roll them into one (i.e. a and b)

## 2. State Management

- a. Minimize regulatory burden induced by ESA
  - i. Provide full-spectrum of consumptive and non-consumptive wildlife availability for current and future generations
- b. Compatibility with State laws: Units support management at the state level (UT and WY, Michigan and Washinton)
- c. [Units facilitate management at the State level](#)
  - i. [Long-term \(when things become delisted\)](#)
  - ii. [Short-term \(nature of units determine how States can manage\)](#)

[Measurable Attribute?](#) – [Y](#)yes. Mike [Runge](#)- suggest: If we just do for a), does this capture enough for Obj 2, 3 and 4?

Kevin [Bunnell](#), this is not compatible in Utah to leave out 2b. If we delist whole state then this allows state law come into play. If we delist piecemeal, then state law is conflicting and the state plan can be prevented from happening. Mary [Parkin \(R5\)](#) – we need to remember that if something is a [Fundamental Objective](#) for anyone in the group, then we need to retain it. So, do for 2a and 2b.

Marty [Miller \(R5\)](#) – b is conflicting (potentially) with the other objectives. i.e. if we set up a tense enough situation the states will step away, which undermines our ability to conserve wolves ([Mike Runge](#)). Marty [Miller \(R5\)](#) – maybe we need to move 2b to a means objective under public values?

Mike Runge – time/area under regulation approach? Do we need to treat this differently to splitting the state?

Gary Frazer (R9)– new obj = units facilitate management at the state level. This encapsulates a and b, so develop Measurable Attribute for this one

### 3. Tribal Management (to be documented, but no MA)

- a. Minimize regulatory burden induced by ESA: Units support management at the Tribal level
- b. Compatibility with Tribal laws

People do not feel comfortable speaking for the Tribes, so not a great idea to develop Measurable Attribute for this. Difficulty is that we have this as a Fundamental Objective, but not the right people here to evaluate it.

Tribes are co-managers of a resource.

Alternatives now – we can leave it in as Fundamental Objective, documented, and leave unscored (with reasoning why). Then, do this later and bring in the Tribes. OR, develop Measurable Attribute's for it. Group Decision: highlight alternatives which have this as an issue, flag it, with note to address later

### 4. Public values

- a. Minimize regulatory burden induced by ESA: Units support management at the landowner/producer level
- b. Minimize wolf-human conflicts (this section needs work when we describe in narrative report – in a few broad categories that are collectively inclusive)
- c. Public acceptance of the reclassification
  - i. Clear and transparent process
  - ii. Understandable, “elegant” units

Q – how is cii different from how we have treated the clarity of the units in other objectives (i.e. in Fundamental Objective 1)?

(Mike Runge) Communication challenge – do we want to choose an alternative that is easiest to communicate to the public, OR, do we account for this later when it comes up. Mary Parkin (R5)– this comes into it at the recovery stage too.

(Stephanie Tucker (ND)) – we should leave in the communication challenge e.g. trying to communicate why we list half a state that is considered unsuitable habitat in the first place is extremely difficult.

### 5. Promote and Sustain Wolf Recovery

- a. Biological integrity within units
- b. Biological integrity across units

- i. Ensure long-term persistence (viability) of wolves
- ii. Units designed to maintain genetic diversity within units
- iii. Units designed to maintain genetic diversity of genus across units
- iv. Units designed to maintain ecological diversity of wolves across units
- v. Units large enough to accommodate dispersal from core population (e.g., facilitate metapopulation structure)
- vi. Units large enough to accommodate recovery
- vii. Biologically feasible (focus wolf restoration in suitable areas)
- viii. Units that can be managed based on phenotypic characteristics (consider overlapping *Canis* species as a single unit)

Suggestion: reduce to 2 sub-objectives (a and b). Is there biological integrity/persistence within and across units.

These may work against each other...maybe need to score separately.

**6. Efficiency**

- a. Minimize State and Federal resources needed to achieve wolf recovery

| Mike Runge – have we captured all concerns?



## Wolf Structured Decision Making workshop

August 23-27<sup>th</sup>, 2010

Notes for Thursday, August 26, 8am-5pm

### Measurable attributes discussion

Fine tuning found in the modified document (Maricela, Mike). Specific issues:

#### Public

- Ok, but need to add in a State livestock objective – Kevin [Bunnell \(UT\)](#)
- Issue needs to be part of the record of the meeting
- Recognize impacts on producers are never going to be zero. Try to minimize this (to the extent that it can be) and achieve conservation of wolves.
- Rank 1 – 5. Relative scale.
- Gary [Frazer \(R9\)](#)
  - o Costs associated with constraints being in a particular area associated with ESA
  - o Costs decline when outside these areas
  - o So distinguish between alternatives based on boundaries with buffers etc...
  - o Is this just a regulatory time by area Measurable Attribute?

State - ok

#### Efficiency

- incorporate time and complexity into the final score (multiply), not just an estimate of complexity. It may not turn out to be that important (i.e. they are correlated – Gary [Frazer \(R9\)](#)), however we may miss some nuances if we leave out the time estimate (e.g. red wolf).

#### Elegancy

- ok, but simplify number of ranking options to hard boundaries, soft boundaries and whether it is a species or subspecies (where found). 4 options but score is different depending on importance of options.

#### Promote and sustain wolf recovery

- Maintain genetic diversity in units is measured by connectivity.

- Concern is it is the nature of that gap that is important, there may be barriers to connectivity apart from distance (Kevin [Bunnell \(UT\)](#)) and we should recognize this.
- Jean [Cochrane](#) – this [objective](#) is about avoiding inbreeding. Maybe we need to change our measurement unit.
- Jean [Cochrane](#) - Is this a trivial attribute that is not helping us choose between alternatives?
- Ensure long-term persistence of wolves
  - There is more to persistence than just number of packs in an area. Are we sure that the number of packs in each category is the right combination? (Seth [Willey \(R6\)](#))
  - How do we calculate this? How do we have the information? Mike [Runge](#) – what we measure is ‘is there enough suitable habitat for a certain number of packs’.
  - Can we just make it Yes or No? (Kevin [Bunnell \(UT\)](#)). Jean [Cochrane](#) – we have to make a value judgment though, [because](#) we need to specify ‘Maintain probability of persistence of x% of the population for y years’
  - OR 4 bins (Mike [Runge](#)): Wholly satisfactory to not satisfactory. Can we just make this 2 bins? (Kevin [Bunnell \(UT\)](#)). Where is the satisfactory cut-off?
  - 3 bins final (0-2). Take into account geographic distribution (account for Seth [Willey’s \(R6\)](#) concerns). Scored by unit and average.
- Genetic diversity –
  - do the assessment units pay attention to the 5 units in this objective? Do we score this when we come back to the national level (Margot [Zallen \(SOL\)](#))? More notes maybe required, I lost track. Jean [Cochrane](#) – is there a relative contribution to this goal? i.e. to help us discriminate between alternatives. Gary [Frazer \(R9\)](#) - Does this attribute get us anything?
  - Mary [Parkin \(R5\)](#) – cross over with elegant units. Ensure or preclude [genetic diversity](#)? Ensure discriminates between alternatives whereas preclude does not.
  - Steve [Fain](#) – can we ever guarantee this?
  - Conclusion: Score at national level
- Ecological diversity
- SCRAP: back to two sub-objectives. Biological Integrity within and Across units
- Within units
  - Definition of small, med and large areas? See notes.
  - Q: Is this really within units if we are looking at connectivity? A: Biol integrity OF the unit.

- Another layer: If unit size is entire, with or without connectivity is an issue. Added.
- Across units
  - More an issue at the national assessment level? Mike [Runge](#) - Ecoregions do not cross our regions that much, so it can operate at both scales bc it will come out about the same.
  - How much does this depend on how well we have painted the boundaries? Jean [Cochrane](#) – may prompt us to clarify these alternatives.
  - Should this be proportion of Bailey ecoregions rather than sum? Jean [Cochrane](#) – is irrelevant when considering within regions.

### Legal

- Collapses status assessment...
- Wording? Differences between moderate and minor issues? Changed to fatal, significant and minor.
- Are there other aspects of science at play here? (Wally [Jakubas \(ME\)](#)). A: (Marj [Nelson \(R9\)](#)) Includes but not limited to.

## Wolf Structured Decision Making workshop

August 23-27<sup>th</sup>, 2010

Notes for Friday, August 27, 8am-5pm

Eastern Group (questions, comments only – see Presentation [titled “Eastern group presentation” dated 8/27/10](#) for specifics)

- Summary:
  - 11a – not the preferred alternative even though it ranked 1st
  - 2a – preferred by the WGL states bc easiest to delist in this area. Region 3 pointed out you are always looking at lycaon as a whole (with 11a and 2a). Doing an assessment at the species level could lead you to 2a.
  - 8a – could lead to 2a after assessment
  - Thought by [Steve and co](#) – have 11a but take any mention of lycaon off, do not consider until FWS is petitioned (straight away??). Remove listing of lupus in NE as an error, and take off WGL lupus off the list as it is recovered.
    - Ed [Boggess \(MN\)](#) and Chris [Amato \(NY\)](#) – think it is a recipe for failure, because the rule would be challenged immediately.

**Comment [m2]:** If this is accurate note then this option should not have been included in executive summary! Check with LR.

**Comment [m3]:** Who is this? Steve Fain and Steve Chambers?

- Margot [Zallen \(SOL\)](#)– you cannot leave out lycaon without discussion (in it’s own right) at least.
- Ed [Boggess \(MN\)](#)– the assumption being made is that lupus can be delisted in WGL because we have current information which says the wolves in the WGL is a complex of lupus and lycaon, so we cannot leave out lycaon NOR assume lupus is fine. Need to do the analysis to work out if a species should be listed or delisted.
- Steve [\(?\)](#)– this is a taxonomic change, not necessarily a listing change - how is taxonomic changes dealt with in FWS? Need a new status assessment. Marj [Nelson \(R9\)](#)– if a new taxonomic revision for whole unit this is easy, but a separation into 2 or more units makes this complicated.
- Wally [Jakubas \(ME\)](#)– how viable is it to take the boundary up into Canada? i.e. for lynx this did not work, because we could not draw a discrete boundary in Canada, so had to consider the whole of Canada. How is this different for lycaon in Canada? Question whether this neat boundary is a reality? Mike [Runge](#) – boundary is meant to represent range of lycaon in Canada. Marty [Miller \(R5\)](#) – problem was there was no biological boundary for lynx in Canada. Patty [Riexinger \(NY\)](#)– does not think you have to draw a DPS up there (NE/Canda) as much as in the WGL, but we were just trying to show we considered the range. Alternative is 11a (i.e. where found [– for C. lycaon in lower 48](#)). Wayne [Laroche \(VT\)](#) – this is just a ~~placemakerplaceholder~~, we would resolve this at the assessment stage. Ed [Boggess \(MN\)](#), agree, 1) we recognize based on admin record and case law what has to be considered. 2) Also, we know we are meant to call these DPS’ but we still have in mind that they might not end up being considered this way, but just being delisted.
- Rick [Sayers \(R9\)](#)– wants clarification of the boundaries on the map (i.e. they were done roughly)
- Gary [Frazer \(R9\)](#)– how did these alternatives stack up against the others? Are they on equal footing? Laura [Ragan \(R3\)](#) and Mike [Runge](#) – these stood out, and seemed to be robust against all decision makers. It did seem the other alternatives dropped off. Wrt equal footing – they are pretty much the same, but there are subtle nuances.
- Gary [Frazer \(R9\)](#)– that population we listed in 1974 that we now recognize is mixed, so we don’t know how we can get out of this without revisiting and starting afresh with the 1974 decision,
- Individual regions:
  - R3 – we prefer ~~8a1~~ or 2a. If you begin with 8a you will likely end up analyzing a 2a scenario. If you begin with 2a you will likely, in narrative, have to address the species status. Either of these alternatives would be addressed in one rule-making, so from that perspective 2A might not give WGL states greater independence. Hopefully, and

rule that separated out the WGL could be ruled on in the parts being problematic with the non problematic parts proceeding. Alternative 11a – we could work with it but it’s not as ‘publicly’ explainable as 8a or 2a.

- o Michigan – support 2a; 2a provides the most logical way to consider *lycaon* and *lupus*, which effectively function as 1 taxon currently. This alternative allows the WGL states to continue managing them as such.

Comment [m4]: Does it?

- o NH – 8a is preferred. Assessment of *lycaon* at the *spp* level does not hurt the potential of the WGL to delist for *lupus*. Steve and company have developed new alternative...(see above)

Comment [m5]: This should probably be species since *lycaon* is not a subspecies

Comment [m6]: Steve Chambers and Steve Fain?

- o Minnesota – Strongly support alternative 2a, we cannot avoid assessing both separately.

- Biological and demographic differences –

- WGL high population numbers throughout available habitat, may be sympatric *spp* with hybridization between wolf species, no coyote introgression.
- E Can/NE lower pops or absent in potentially suitable habitat; clearly one wolf *spp*; coyote introgression significant.

Comment [m7]: ?

Comment [m8]: ?

- Legal burden differences

- Administrative record – FWS has previously and specifically stated~~s~~ that wolves in E Canada/NE are a different population than wolves in the Midwest (2003 final reclassification rule)
- Case law – US District Court said that by combining “two admittedly distinct gray wolf populations, FWS appears to be classifying the gray wolf based on geography, not biology” (2005 US District Court vacating and rewording 2003 reclassification rule)

- Summary

- While an assessment of each may ultimately end up with the same outcome for both (most likely resulting in no lines being officially established at all), a separate assessment of the two areas cannot be avoided – lumping them and arguing that because they are doing fine in are portion they are fine throughout has not worked in the past and is unlikely to work in the future.

- o NE – Would like to discuss w/ the service the previous use of international borders for DPS boundaries – specifically for wide ranging species. What does ESA say? Services past practices? What has the court said in relation to use of international boundaries?

- o Wayne [Laroche \(VT\)](#) –

- Assessment of 8a is most biologically defensible means of assessing *lycaon*, but believe that going into assessment process and look at ALL court decisions as

to how it would affect defensibility of the final proposal rule – is this a fatal flaw? But if based on previous rulings, you must separate into 2 DPS.

- 11a and 2a are both outgrowths of 8a – but assessment may lead to delisting as a whole which would be preferred.
- NE (combination of states)
  - Not so much of an issue where lines are drawn, but concern over not including certain factors in the NE (such as coyote introgression, appropriateness of wolves being there) – we in the NE feel that it is critical for the states to be involved in the assessment phase.
  - Concern that the NE is a significant portion of the range (uncertainty with how this would play out)
    - Population in east is different in Midwest (no coyote introgression, high population numbers, fully occupied habitat) – service previously determined that they were distinct therefore not to be lumped together – makes sense to go with 2a.
  - Recovery and delisting one unit benefits other units (i.e. recovering and delisting in Midwest will benefit other areas)
  - 2a looks at 2 separate DPS but takes into account the entire population – would have to prove discreteness by using the international border.
- General comment – rushed into making decisions which led to factors that were almost meaningless. Time was an issue.

**Comment [m9]:** Need to get clarification on this statement from Eastern Team Facilitators

**North-west – See presentation titled “Western alternative sets.final presentation” dated 8/27/10 (questions, comments only)**

- See presentation
- Patty [Riexinger \(NY\)](#)– what happens outside the DPS (Dakota etc). A: Look at suitable habitat. We still have to talk about the white space at some point in time, but we think this is a suitable habitat issue.
- Wally [Jakubas \(ME\)](#)– needs more explanation, understands potential concern with splitting oregon and washington into separate DPSs, but why exactly is this a concern? Steve [Pozzanghera \(WA\)](#) – there is not a fatal flaw here for Washington, but the administrative state law is the issue. From a public perspective, the eastern line is not a change from current situation so we do not have to go back and explain anything new.
- Marty [Miller \(R5\)](#)– 10(j) with PNW DPS?
- Gary [Frazer \(R9\)](#)– would it make a difference in your decision if these were a mix of species/subspecies? A (Steve [Pozzanghera \(WA\)](#)): It would change for the pacific if listed

as nubilus... this will come up and will have to look at if classification changes. This adds a higher level of complexity for a few reasons if this happens. Gary [Frazer \(R9\)](#)– there is opportunity to ?

- Mike [Runge](#) – there is a discreteness issue with these DPS’?? Steve [Pozzanghera \(WA\)](#) : yes, a difficulty, but it may be more of an issue in the Blue Mountains.
- Steve P [Pozzanghera \(WA\)](#) – the WGL DPS as represented, it seemed a purposeful use of state lines. In both examples, is that because wolf activity, current populations use these boundaries? Is it a convenience factor? OR, are we going to address this? Laura [Ragan \(R3\)](#)– we need to add discussion of this in the Eastern group. Biologically it is not far off the state boundaries. Also, (Ed [Bogges \(MN\)](#)) this way based on the assumption that everything around the state boundaries was endangered. We don’t believe this necessarily covers the entire dispersal area. **NW group – need to look at this (I didn’t catch what their comment was)**

Comment [m10]: ?

#### South-west (questions, comments only)

- (Bud [Fazio \(R2\)](#)) Primary concern is that we have oversimplified wrt genetic and ecological diversity– i.e. we lost this component. Patty [Riexinger](#)- were we looking at this at the wrong scale? Didn’t help us in the NE either. Breaking into regional level is why this was lost (Bud [Fazio \(R2\)](#)). There was too much confusion with what the ecoregion units meant – we need help with this [Measurable Attribute](#).
  - Kevin [Bunnell \(UT\)](#)– got watered down quite a bit. But in my mind, boil integrity is synonymous with legal defensibility so this issue didn’t matter so much – i.e. you have to have former to achieve latter. We had this in mind for this objective. Agree from speaker. BUT it is important to acknowledge that these are important considerations even if not [important](#) in analysis.
- Wendy [Brown \(R2\)](#)– State splitting concern? (Alt 6)
- Colorado/Utah was a significant issue. Reality is legal [defensdefensibility](#) of what each of the regions does means that they have to deal with the space in between.
- Scoring of alternatives did not result in a result that everyone was happy with. Flaws in attributes, how they were scored etc. Probably different have enough time to go through the attributes... this is a concern if this goes in the public records.
- Alt 2 was highest ranking based on average weights. We believed any DPS with baileyi going up into Colorado and Utah was problematic (legally). So modified so that [CO](#) and [UT](#) [wereas](#) listed as lupuis (?) and going from there.
- Still semantic uncertainty wrt what we label DPS and potential assessment units.

- Issue with minimizing and maximizing State obj. ALT 8 is now the preferred alternative with max state obj. This is no different except there are 2 DPS. This is a robust preferred alt wrt the decision makers.
- Wendy Brown (R2)– what was it that made you to make that particular alternative favored? A: clarity to the public.
- Mary Parkin (R2)– despite troubles of group in scoring with attributes, once a new alternative was created, it scored highest. Using these attributes led to group development of a new alternative that the groups were happy with. Mike Runge– good point, may have to revisit analysis, even if initial numbers stacked up biologically.

#### **New national map – general comments (LR and MC merged notes)**

- Need to create a variety of maps, look at holes in the maps, and get views of decision makers.
- What are the aspects we got wrong? What do we need to look at/ re-do?
- If you're looking at an assessment unit, we need to reconcile the northern boundary of *rufus*. It was suggested that they remove the *rufus* shape.
- Margot Zallen (SQL) pointed out that we won't be assessing *rufus* as part of this process
- Mike Runge – there will be some boundary details that need to be fleshed out.
- There is also another alternative for the National map
- Steve Webber (NH) - What might result in just having 1 alternative would be to have the process the Service would go through anyway is an assessment of *lycaon* across range with specific ref to assessing each of the component pieces. Just put this on map as alt. [Instead of putting one alternative forward, we might consider having ~~*lycaon-lycaon*~~ across it's range, so we wouldn't have to put two alternatives forward]
- Rick Sayers (R9)– two of the states in the NW group did not have the option reflected in the first national map as their first priority
- Scott Talbott (WY) – it may not meet our full set of goals, but it gets us a lot closer (-WY was one of the two states that Rick was referring to).
- Terry Johnson (AZ)– we need to fix the “assessment” area for *baileyi* to an assessment area for *lupus*. (done)
- Mike Runge–Our decisionmakers didn't need to come to consensus on this so we will want to show the preferred alt for all decisionmakers from ROs and States.....Lets talk about the holes. White space in middle of country and CA/NV. All other areas we have been clear about our mechanism for assessing. -we need to look at the white space on this map and discuss the intent and our assumptions are for these areas. Based on discussion, it seems that



assessment of these units would look at whether there is any suitable habitat, have they been extirpated, etc.

- Margot Zallen (SOL)– we would want to state that they were listed in error, extinct or recovered. In this case the areas are extirpated which is same as extinct.
- Steve Webber (NH)– We would want to do the same for the northern area of the rufus range
- Mike Runge– the difference is that the current rufus range was in error b/c the rufus historic range never went that far north, as opposed to gray wolf where the blank areas were once part of the historic range. We need to make argument about white spaces because they are part of the historical range.
- Laura Hajduk (MA) The intent of the NE boundary was that they should follow the suitable habitat map, so MA should have a small segment included.
- Kevin Bunnell (UT) clarification - Northern Boundary for SW DPS – NW corner is CO River. NE up CO River through Lake Powell to the inlet of lake Powell to the San Juan R. down San Juan R. to the NM border. I-25 south from here. (check with RJ)
- Wally Jakubas (ME) - if wolves were restored in NY what is the likelihood of wolves following habitat into PA?
- Rick Sayers (R9)– the best way to think of the Ggreat Plains block of white space is to think about whether any of the areas therein are important to any of the surrounding entities. If it does, then you need to extend the areas of the listable entities to include those areas. If not, then we need to express that those areas would not contribute greatly to recovery of the species
- Gary Frazer (R9)- Most of the white space represent areas where wolves can't establish populations and if they move into those areas, they're basically lost. The exception is UT and CO. We will need to do more work to explain the rational in our assessment.

Comment [m11]: Important to note this.

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Comments from individual decision makers – Round robin for decisionmaker's to give opportunity to comment on where this analysis stands – Where your thoughts are? What needs to happen next?

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General appreciation of invitation to states, and process in general and facilitators

- Maine – Thanks Service for opportunity and enjoyed process. We have arrived at something that is workable. He is ok.
- NH – Very appreciative of opportunity. Service was obviously sincere in asking for input. Believes this process will significantly move the issue of Wolf Recovery ahead. Recognized that bringing other folks in at some point will be necessary, if not difficult
- Vermont – Thanks you. Good prototype – Blocks are on map as construct. Looks forward to systematic and comprehensive assessment to get us something that can

~~be done and is more defensible. Flushes out what can be done and what is most defensible.~~ Happy.

- NY – ~~Thank you. Painful but still useful and worth while.~~ Overall, good. Some observations 1) Legal defensibility has featured high, and would have been helpful as a starting point to have a focused discussion on where the law is today ~~to get people to same understanding~~ (i.e. previous court decisions etc). 2) Echo that in NE there is a ~~strong interest in having a state group involved in next steps including the next status assessment of lycaonstep.~~ ~~Part goes to concern of legal defensibility because~~ ~~Outcome of assessment~~ will have a huge impact on legal defensibility. 3) All indications we have is that the ~~Indian nations within our borders~~ will be very ~~engaged in the wolf recovery process – more serious thought required in engaging the Indian tribes.~~
- MA – ~~Thank you for letting us be here.~~ ~~Want to have states involved in assessment stage.~~ ~~Reflect combination of above~~
- MI – Most ~~important~~ consideration coming into this was ~~finding the~~ fastest path to delisting of fully recovered sp. So our ability to construct a plan that ~~could hold up in court was their focus because they have a recovered population. To the extent that the outcome of this is the fastest way then they are good. Feels we are reconciling some issues that need to be addressed.~~ ~~will enable this is the most important aspect for us (3 states in WGL). If this process achieves this, then great news. We are bringing to the surface the right questions.]~~
- WI – ~~Thank you. Impressive process. Learned a lot.~~ ~~Needs~~ some time to go over objectives and ~~think about how they~~ address ~~their our~~ particular situation ~~so wants a little more time~~, not sure we have shortened our route to delisting in WI. Don't know if this process will get us there any quicker. Still have concerns about timing of separate assessments ~~for of~~ various genetic entities ~~– concerned that they are on if on~~ different time scales. ~~We are probably going to need more than 1 assessment for their area but wants them on the same timeframe.~~ ~~We~~ may end up with one delisted and not the other. Hope they can be on the same time-frame
- Minnesota – ~~Appreciates being involved.~~ great process, but wishes it occurred ~~a few2~~ years ago. Objectives and attributes need some review. ~~Biology is~~ pretty good, ~~maybe~~ public ~~ones~~ could ~~use more attention~~ ~~be better but probably fine.~~ Happy that alt came out wrt his beliefs. Would have weighted Legal Defensibility a little higher in retrospect. ~~Overall good process.~~
- ND – ~~Reiterate that Dakota's are not suitable habitat and happy that this was recongnized. The only hope is that the "white space" on the map is not forgotten about. they are amply recognized – appreciative.~~ Think it is important, hence participation. ~~Hopes we do not forget the white space.~~

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- New Mexico – thinks it is an elegant map. Legal defensibility note – his sense is that we need to – sit down with the leadership of the groups suing us so that they can understand and appreciate the work that has gone into it (and discuss integrity and effort that went into getting us to this space). Tribes in Southwest need to be talked to. Wishes Colorado had ~~come along~~ been here.
- Arizona – Thank you – terrific workshop – unique opportunity - wishes other that all states had been involved including Tribes in SW – we were a little late on their involvement - come along. Wants to involve tribes in process. Issue of working with Mexico is going to be huge. Contact with Mexico should not wait for next year's trilateral – need engagement before then. Process – great, chaotic, frustrating, confusing etc, but likes the overall process and light at end of tunnel. Our map does convey cohesive strategy. Undoubtedly we will have be severe opposition to it because of restoration aspect, so to the extent that the entire package can be articulated as more than adequate for recovery the better. more the process can be pitched toward addressing this, the easier it will be.
- Utah – Thank you. Gary's participation and input reflects FWS commitment to the process. Mike did a great job. Could have sat down in the first 2 hours and draw a map similar to this, BUT having the record that show how we got to this point is the critical outcome of the workshop. The fact that the endpoint reflects the common sense option validates the process. Has been overbearing at times and this was intentional but Kevin came to workshop with strict instructions to articulate that there was more than one path forward in order to accomplish recovery (not necessarily through ESA). F(!), but feels that this came out well for them.
- WY – Thank you Gary/staff. Lots of effort from all. Truly unfortunate that Wyoming was not involved 2 years ago. Lots of water under the bridge. Feels much better now about the ~~process~~ now progress we have made. Likes inclusion of social, legal and boil aspects – better clarity of these issues and how they fit it. In WY there is significant opportunities for advancing dialoguesome ideas and, hopes that the Service and States are prepared to take advantage of this. Happy UT/ND got what they wanted. this will be accounted for.
- Washington – Thank you. State came with sole mission and failed miserably. interesting that they came with a sole objective and that they failed miserably (!). Agrees with Kevin with regard to the map development (we could have generated this map in first 2 hrs), BUT the process behind the map and the discussion/work will allow him to return to state to explain how we got to this (how he failed his mission). Hopes Service understands WA concerns as well. This is a dialogue that needs to continue into the future for all species/issues. Nicely done. Very curious about next steps. is so valuable bc they can articulate why they failed. i.e. explain

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~~legal defens and biol conflict (?)~~ Represents start of a dialogue that needs to continue, in more detail than in the past. As a process, we should use it more for other sp.

- ~~Region 1~~ – key for NW with regard to folks that are not here (MT, ID, CA, OR) is that this makes sense to them. Thinks it will, but may need help from adjoining states to articulate this. Service folks have expressed concern about the size of the Pacific NW DPS –and ability to reach recovery. ~~discussion on whether we can achieve a recoverable popn.~~
- R2 – Thank you to States for coming. Appreciates time. All gained appreciation for others issues. Although map isn't too different than before it now reflects more interests and issues. ~~process is robust, we have come back to this alternative yet again. But it is different bc we have accounted for other voices.~~ Thinks this is a pretty good prototype. Tribes, MX and Canada need to be engaged sooner rather than later. Need to take this back to absent states and 'litigious friends' to see if we are accounting for their concerns, issues etc. Thanks to facilitation group.
- R3 – Thank you States for time and facilitators too. ~~Didn't think in March we would be able to pull this off, but very happy with this process.~~ The steps forward are important we have a ton of momentum so don't want to let it drop off. in a timely manner is the important next step. We need to engage Gets states, tribes and 'scary' NGO portion ~~art of it.~~ Glad to hear that States would like to be involved in status assessments. ~~we have your phone numbers (!)~~
- R4 – Glad to be involved. If taxonomy takes a different turn maybe they will. Glad that rufus stays as it was. ~~Taxonomy is the uncertainty, could take us another way.~~ Very valuable process ~~for them,~~ not enjoyable (painful!), but what has come out is great with regard to where we are trying to go and why. Being able to explain this will ~~be able to~~ help a LOT with regard to absent states, courts etc. Will allow us to paint a description of how we got to a rule. ~~(could not really hear this discussion)~~
- R5 – was really concerned about the policy issues s that extended from the -wrt alternatives at thea large scale. In my mind had this picture of what would happen, but really helped to get everyone's objectives on the table and clarified. Glad to see that we are taking into account all of these issues even if we couldn't address them all. Still thinks the policy problems are buried in the process. ~~.... (!)~~
- R6 – thankful to states, exceeded what he thought would happen. Clearly disappointed from lack of involvement from intermountain west. But we might need the states to communicate the value in the process ~~to and~~ help get them to the table. To the extent that you saw value in this you may be able to help. In terms of time – this is not going to meet anyone's time frame for having it done, but hopes it

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meets everyone's time frame for having it stick. Fundamentally, we are not at a different place, but process is very valuable.

- R9 – Thank you to everyone that came and especially skillful team of facilitators. Hopes people can see how important this is to the FWS through participation of staff. Level of engagement from states is really great but unfortunate that all states did not come. Perhaps some kind words from you might help. Identified all ideas of what we need to do to go forward, but he and Gary would be all ears with regard to suggestions for getting NGO's involved in the process.
- Gary – Thank you to all. Thanks to Steve Fain and Steve Chambers. Thanks to- facilitator team and to Mike. We have lots of work to do, but will make a focused effort to engage earlier with state agencies and partners in other issues. This has provided a basic framework for us to move forward, did not expect perfect consensus, and will have to engage other states and stakeholders (Tribes, NGO communities – hunting and environmental). We will have to engage them, and ask for your thoughts/help to do this effectively. Would appreciate your help with identifying who to reach out to in the hunting community. Process that has included objectivity, scientific credibility, and biological integrity will help us move forward. We need to resolve issue of taxonomy – Steve's will publish paper and will move through process Service/AFWA have laid out - anticipates within this will be taken to director in next month or two, anticipates we can move forward withmake a decision on this. Other issues – significant press activity with regard to i) legislation that has been introduced to remove wolves from ESA -i) remove wolves through act of congress, ii) court decision wrt-on Northern RockiesRocky Mountain DPS rule – do we appeal. PLUS real world every day problems-realities of state management – having management flexibility to resolve day to day issues. Working hHard to find creative but defensible ways to deal with this more near term issue. But want to move forward on this as soon as possible. Well aAware that we are reaching the 2 yr mark and we know that changes in administration make wolf issues difficult. of the period of time admin is in office – changes can make this difficult wrt wolves.–If we can resolve this before the end of this admin (2 years) it will help us, but have to take the time to do it right and not miss steps in explaining rationale. Hopes we can reach out to group to help with path forward. We don't have a clear plan of where we were going to end up today (Fri), put out to group for ideas for working with other States and Tribes and NGO communities. Use webinar process leading up to meeting – is this a good way to go forward from now? Thoughts?
  - Steve Pozzanghera (WA) – Specific to NRM and PNW – OR/ID/WA have an upcoming tri-state meeting in 3<sup>rd</sup> week of Sept. Planning to go back and provide a

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download and briefing to WA Director but also will suggest to WA Director that he and Director co-present this at tri-state and that they have a closed door meeting with ID/OR (?). \_\_\_\_\_ specific to northern rocky mnts and PNW — O, I and M have an upcoming tri-state meeting Sept 3rd, so thought is to co-present findings (with his director) at tri-state directors meeting, with the premise that there would be a follow up dialogue with I and M (O?).

- o Patty Riexinger (NY) – AFWAQ has lots of credibility with other NGOs so may provide opportunity vehicle for a bridging meeting between Service and NGO's. Have administrative capacity and ability to do this. Talk with national NGO's and then trickle down. Could bridge both hunting and environmental NGOs. Formatted: Highlight
- o Terry Johnson (AZ)(?) – Possibility of considering a Having a suite of regional taskforces (consisting of Sstates/and Ffeds/Tribes under an umbrella) could work really well. Not sure if NGO's and tribes could be involved as well?could be part of that. Formatted: Highlight
- o Gary Frazer (R9) – excellent idea – Need to establish a global vision and individual actions that might be on different timeframes. Formatted: Highlight
- o Wayne Larouch (VT) – Any thoughts about a broad National publication scale to explain the issue – publish vision, objectives, problems, ideas for steps forward etc. Get public/world informed with regard to complexity of the issue. Use as a political strategy. May help grease the skids.
- o Gary Frazer (R9) – pros – could help us lay out the vision, cons – associated with wolves, would not be a vehicle for proposing next steps. Do have a petition to develop a national wolf conservation/recovery plan. ....(Seth)
- o Seth Willey (R6) – We need to do a 5 yr review for wolf.
- o Kevin Bunnell (UT) – In terms of maintaining engagement there is a lot of work that needs to be done. Everyone realizes this will take time, but a couple of critical things to be kept in mind 1) need to know that something will-is starting to happen sooner rather than later 2) Once started need for updates from FWS along the way to ensure it does not go into a black box i.e. where you are in the process, milestones reached etc. Formatted: Highlight
- o Gary Frazer (R9) – Could do 1 hr breakouts at AFWA or North American meetings to provide updates. What would you see as meaningful to show we are moving forward? We will be dealing with the They will start with taxonomy and engaging with the other communities but do we need to do something else soon? , public communication – what else?
- o Kevin Bunnell (UT) – Need to manageing expectations and articulating steps that need to be taking place so that people can see that progress is being Formatted: Highlight

**made. Email updates will be helpful.** - The updates you are offering will be available to a level of people much higher than those in the room - need more simple broad updates.

- o Terry **Johnson (AZ)**: Legal defensibility issue – drawing together the court decisions, would be very helpful to make available for folks involved in the process.
- o Gary – we will see what we can do with regard to interpreting those sharing our solicitor's cliff notes, may not be able to (legally).
- o Ed **Boggess (MN)** – This week has helped with big picture view of wolf conservation. Realizes that there will need more work on assessment, recovery, delisting, listing etc. Not sure how this will happen? Need some discussion on how you are going to address some of these issues (wrt time frame). Will things be happening simultaneously or sequentially? Would prefer to the extent possible that some things can get started.
- o Gary **Frazer (R9)** – very ~~cognicent~~ cognoscente of the window of opportunity we have to get some decisions during his administration. We don't have the luxury of time. decisions wrt the time frame of next couple of years (i.e. admin change very period).
- o Mike **Runge** – thinks a document of what came through from this week would be very useful. Need some concrete thoughts about next steps – compiled record of this week. Final objective hierarchy, final assessments, what did we get to?
- o Gary **Frazer (R9)** – aware of 'general comfort' levels, communication of this (and process) would be good. Sometimes you get images in your head but when you have to write them up you might find issues. He wants to make sure that we really do feel good about the outcome.
- o **Mike Runge** – There are two ways to write the report. We could show all the quantitative steps – or more narrative – have objectives – have alternatives – with narrative interpretation explaining our preferences. Assuming we will need some summary – for participants for their reflection and also as a vehicle for reaching out to the states/tribes that were not here. Any other thoughts about immediate things?
  - **Narrative explanations** that explain why alternatives came through over others (rather than quantitative). Or more of a technical doc.
  - **Summary** that would go to participants for their reflection, (Gary – this could help with telling him how to go ahead with the other stakeholders)

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- Steve Pozzanghera (WA) – thinks short-term provide this as a draft for recommendations and comments etc. Opportunity to provide input and thought would be very helpful. He needs this as a vehicle to help communicate at tri-state meeting, workshops etc...
- ~~Mike Runge – Will need to figure out what the agencies need to do in order to make a document available to the public. ~~how to publish as a public document??~~~~
- Steve Weber (NH) – ~~advocacy is~~ Advocates for a report more on the narrative side than the technical side. It will make it easier for him to provide an effective explanation to others.
- Gary Frazer (R9) – Mike were you thinking that this would be a report that each state owns? Gary was thinking it would be Service's report of their interpretation. ~~do you see this for everyone to be involved in or as a interagency FWS document?~~ Agencies only have to provide their view, not get permission etc. ~~Thus service document only.~~
- Mike Runge – This would be a better means of dealing with it in that it simplifies the review/approval process.



Summary for Deputy Director:  
Wolf Structured Decision Making Workshop  
August 23-27, 2010  
National Conservation Training Center  
Shepherdstown, WV

This summary is intended to provide a brief overview of the activities that occurred during the above referenced workshop. A separate detailed report is being prepared for the administrative record.

*Participants* – Representatives from 14 State Wildlife Agencies (WA, WY, UT, ND, AZ, NM, WI, MI, MN, MA, NY, NH, VT, ME) and 7 US Fish and Wildlife Service (FWS) regions (see attached participant list) participated. Five State Wildlife Agencies (OR, ID, MT, CO, and SD), 1 Tribal Commission (Great Lakes Indian FWC) and 1 Tribe (Penobscot) declined our invitation. We did not receive responses from 4 Tribal Commissions (Affiliated Tribes of Northwest Indians, Montana Tribal FWC, and Great Plains Indian FWC) or the 2 Southwest Tribes (San Carlos and White Mt Apache) we invited.

*Workshop Purpose* – Identify a set of potentially listable entities (assessment units) that spans the lower 48 and Mexico within which it is necessary and appropriate to assess the status of wolves under the ESA.

*Expected Outcomes* – (1) Recommendation(s) on the appropriate identity of potentially listable entities to use in assessing status of wolves in North America under the ESA. (2) Preliminary discussion on how to proceed with subsequent steps: status assessment, rulemaking, and recovery planning (where needed).

**Reviewed Assumptions** – The following assumptions were presented to the workshop participants.

Goals –

- Proper classification facilitates recovery and delisting.
- The set of assessment units should provide complete coverage of potential range in the lower 48 States and Mexico (within the context of existing wolf populations in North America).
- The units are assessment units, not necessarily listing units.
- Potential listing units should equate to intended delisting units.

Discretion –

- Where valid ssp. are identified, FWS has discretion to list at sp. or ssp. level. If in addition, valid DPSs can be identified, FWS has discretion to list DPSs at sp. or ssp. level.
- Where DPSs can be identified, FWS has some discretion to lump them.
- If an entity meets the criteria for both a ssp. and a DPS, FWS has discretion to use either, although ssp. is preferred default.
- FWS has discretion to use or not use international boundary to define DPSs

Taxonomy –

- The Chambers *et al.* review provides a synthesis of the best available information. This has not yet been finalized nor adopted by the FWS.
- Key conclusions of review: (1) *C. lupus*, *C. lycaon*, *C. rufus* are separate species, and (2) *C. l. baileyi*, *C. l. occidentalis*, and *C. l. nubilus* are valid ssp.

#### Caveats –

- All boundaries are rough approximations at this stage, and may have to be refined at rulemaking.
- With regard to ssp., boundaries may or may not be designated at the rulemaking stage. Regardless, we must be clear about expectations and intent for recovery.
- Historic subspecific range lines are approximate and malleable because of intergradations. Unit boundaries can extend beyond these, in recognition of natural mixing processes.

**Articulated Objectives/Organized Objectives into Hierarchy** - Participants initially separated into 6 small facilitated working groups, each comprised of FWS and State participants, to brainstorm and identify objectives for the analysis. Several full group discussions were interspersed with smaller breakout group work in an effort to build a single common hierarchy of fundamental objectives. The six primary fundamental objectives identified by the participants were:

- 1) Promote and Sustain Wolf Recovery
- 2) Legal Defensibility
- 3) State Management
- 4) Tribal Management
- 5) Public Values
- 6) Efficiency

**Identified Individual Assessment Units and Alternative Sets of Assessment Units** - FWS staff delivered 3 presentations intended to inform the development of potential assessment units. Presentation topics included: (1) listable entities under the ESA (sp, ssp, DPS) and the DPS policy, (2) the primary recommendations from the Chambers *et al.* taxonomy synthesis, and (3) wolf habitat suitability. In addition, FWS hosted a 2.5 hr evening discussion, utilizing a question and answer format, on wolf taxonomy.

Workshop participants took part in a mapping exercise intended to explain the process of identifying individual assessment units. Participants then broke up into 3 facilitated regional teams (Western, Southwest, and Eastern) in order to: (1) craft a series of alternative sets of assessment units for the individual regions and (2) identify which objectives are at play in the individual regions. Participants later regrouped in plenary to share the regional team work. From this discussion participants identified objectives that required measureable attributes.

**Developed Measureable Attributes** - Participants convened in 4 facilitated breakout groups in order to develop measureable attributes for the identified objectives. Each group was comprised of

representatives from each of the 3 regional groups. Participants then regrouped in plenary to review and refine the measurable attributes.

**Analyzed How Each Alternative Set Achieved the Fundamental Objectives** – Participants reconvened in the 3 regional teams in order to evaluate their regional alternatives. This included utilizing the measurable attributes to score each regional alternative. In addition, decision-makers (FWS ARDs, WO Division Chief, and State counterparts) weighed the objectives. These weightings were applied to the scores and used to identify each decision-makers regional preferred alternative. Results were reviewed in the regional teams. Where agreed to, modifications were made to an alternative and that alternative was re-scored by the team.

**Created the preferred Alternative(s)** – Workshop participants regrouped in plenary to report out on the regional team's preferred regional alternative(s). Regional preferred alternatives were compiled into a single map, although the Eastern team identified 3 preferred alternatives, in order to illustrate the national preferred alternative to the group and facilitate discussion of a national vision. The workshop concluded with a discussion of next-steps and provided an opportunity for each decision-maker to share their thoughts with the entire group. We received positive comments from each State decision-maker for undertaking this process and including them in the effort.

**Recommended next steps for FWS –**

- Begin taking steps in near-term and regularly communicate progress (milestones) to States.
- Resolve taxonomy.
- Prepare and circulate draft narrative report and provide participants opportunity for comment.
- Engage remaining affected States and Tribes.
- Articulate comprehensive approach and determine the individual regulatory actions needed to get there and their relative timeframes.
- Involve States in next steps, including status assessment stage.
- Engage Mexico and Canada.
- Meet with environmental and hunting organizations.

## Summary of FWS Wolf Decision Making Since August 2010

- We reviewed the alternatives from August workshop and slated each assessment unit for further consideration.
- We assumed that we could continue analysis of the alternatives and status reviews as time allowed.
- The agreement with Sen. Klobuchar [?] regarding issuance of a proposed WGL rule suddenly accelerated the deliberative process for that unit and put the other elements of national strategy on a faster track. Although FWS tried to adhere to a comprehensive strategy (i.e., taking care of “all the pieces” concurrently), external initiatives led to an imperative to make decisions sequentially: (1) settlement agreements/Congressional actions for NRM, and (2) agreed-upon time frame for WGL.
- We thus turned our attention to articulating our national strategy so as to put WGL and NRM listing actions in comprehensive context.
- Another key determinant of FWS decision-making in terms of timing was the Chambers et al. review. Currently being reviewed for publication [which journal?]. Influential in terms of describing WGL wolves and precipitating status reviews for PNW and SW lupus, and lycaon.
- With timing driven by extra-FWS agreements, we found it necessary to proceed with reclassification/delisting proposals for WGL and NRM populations (including settlement negotiations for the latter) while continuing to determine the listing status of entities identified at the August workshop (gray wolf populations in the PNW and SW, and the rangewide status of lycaon). This is not how we foresaw proceeding at the time of the August workshop.
- As soon as these reviews are completed, we will propose listing actions with regard to baileyi, lupus in the PNW, and lycaon, with publication of proposed rules anticipated for 12/11.
- For baileyi, further status assessment will address top-ranking units from August and/or options based on internal and Recovery Team deliberations since then.
- The status review of PNW wolves is addressing whether they qualify as a DPS or not (in which case they would be taken off the TE list).
- For lycaon, the status assessment will address whether this species qualifies for listing as T or E as a species or a DPS throughout all or a significant portion of its range. The status of lycaon in the WGL region will be included in this assessment, taking into account that we have determined that threats to WGL wolves (both lupus and lycaon) have been removed.
- In terms of coordinating with States and Tribes, there was an unintended hiatus after the workshop. We did not anticipate proceeding with delisting rules in such an accelerated time frame, so we pulled back to develop a coordination plan. When we learned that an agreement had been struck to publish a proposed WGL rule by April, our internal efforts were dedicated to ensuring that we were addressing “all the pieces” identified at the August workshop (i.e., our national wolf strategy) within the framework of the proposed WGL rule and the erstwhile NRM rule. We regret not having continued our interactions with the States in a seamless way following the August workshop.

**Meeting with States on SDM process for Mexican Wolf**  
**June 16-17, 2011 – Colorado Division of Wildlife office, Grand Junction, Colorado**

Opening remarks by Mike Runge:

We are seeking communication on listing with states; we are not seeking consensus, and we are not sharing decision making authority because can't do so under ESA.

We'll articulate objectives, then think through the science and analyses to arrive at the best course of action

Mike Runge summarized August 2010 workshop and what has happened since then.

Notes and minutes from this meeting will be part of the current status review for Mexican wolf. States can still submit formal comments if desired. We will provide notes from this meeting to participants to ensure that it's a fair reflection of what happened at this meeting. There is no formal comment period for a status review, so no closing date. However, we'd like to get as much scientific information up front before we write the rule, but we can accept comments/information up to time we submit. Best if we can receive information by August 2011.

June 2011 workshop – build a common framework, articulate individual agency perspectives using this common framework.

Terry Johnson: for AGFD, “constructive dialogue” is actual engagement throughout the process and understanding timelines. Commission is at end of its rope on cooperation with FWS due to reintroduction efforts and due to commitments in August workshop and lack of communication on what FWS was doing with information from that workshop. It will be problematic if the same sort of actions occur after this meeting. FWS handling of Chambers data and paper is unacceptable, especially since it's being used to shape this process. Timeliness of comment periods is unacceptable – they received output for southwestern part of Aug 2011 SDM workshop last week, which did not allow him to have conversations with others on content. Timeliness of surname process is problematic. He is “limited out” on hearing that FACA is a problem because it's held up differently in one region versus another. He doesn't buy that we can't reach a decision based on FACA. He thinks many decisions can be delegated to states with a section 6 agreement. The FWS outreach to the two Tribes on this has been pathetic. It's problematic for AGFD to put together reintroduction project in Arizona. When material comes out of SDM process and says States “support” says that states were in a decision making position. Status review – on behalf of AGFD publishing a request for State comment in the FR is insufficient. \*\* Wants formal request from AGFD for information. Wants courtesy of a letter or meeting. Courtesy should also be extended to Tribal partners. There is a special relationship between FWS and states through section 6, but they don't see it. This was the first time that he was offered opportunity to not attend this meeting by his agency – telling on where his agency is in regard to Mexican wolf recovery. Relationship in past with FWS was golden, engaged 7 days per week. Since then there has been a setback in that

relationship. There became a change at the RO in transparency in January 2007, change in philosophical approach. Decay of relationship.

Michelle: we do see this as an opportunity to gain information from the states. She would like for Terry Johnson to provide his 28 years of information in a productive way. This process allows participants to have a good debate on details which leads to a good decision. The decision may not be agreeable to all participants, but at least we know how we got to that decision.

Mike T: we plan on providing a synopsis of this meeting and provide it to participants for review. We need to know state's perspectives on proposal.

Eric Odell: they were not at August 2010 workshop, but webinar last week and summary today have been helpful.

Maricela gave a powerpoint presentation on recognizing Distinct Population Segments Under the ESA.

Maricela: It's not appropriate to have DPS of entire species or subspecies, it's not consistent with DPS policy and couldn't reach discreteness or significance. Could do a DPS of *lupus* and have management focus on *baileyi* Terry wanted to know if this is staff analysis of policy or legal analysis. AGFD wants policy vetted through solicitor. My relaying of conversation with Philip Kline is insufficient. \*\*Terry wants a written solicitor opinion. \*\* Terry wants copies of the powerpoints by tonight.

Michelle: can't have DPS with same boundaries as subspecies,

Kevin: original DPS in NRM was struck down because boundaries needed to be restricted down to what is occupied.

Mike T: if we delineate DPS at international boundary, and no wolf population in Mexico, would have difficulty going through discreteness test. If entire subspp is delineated by DPS boundary, again, have difficulty going through discreteness test.

DPS of *lupus* that completely includes *baileyi* will work under DPS policy.

Similarity of appearance is a separate rule making. Could it be used outside of a DPS boundary? Not for the purposes of conserving that DPS, because any animal that walked outside of that DPS would not be listed. Could use it in conjunction with a listing as subspecies. Could use similarity of appearance inside a DPS for animals coming into the DPS

Mike R: can include in alternatives and address legal defensibility.

Listing under similarity of appearance is APA action, we can be petitioned to do so.

State updates:

Colorado: no known packs of wolves in CO. State has Commission resolution opposing wolves due to impacts of hunting. 1989. Recovery plans for species at that time did not state need for reintroduction. If the recovery plans require it, it can be reviewed. Need legislative approval for state or local agency to participate in reintroductions. Have management plan for wolves that migrate into the state. Manage to resolve conflicts. Benjamin Tuggle assured them that there will be no critical habitat or recovery goals in state of Colorado.

Utah: Their level of frustration is similar to that of AGFD. Level of tolerance is low. Have state management plan, which lets wolves come into State. If there are no conflicts, no problem with wolves being there. If 2 packs established, will write more formal plan to manage them. Policy of state to legally advocate to delist wolves and return management to the states. Wolf management Act - prevent the establishment of a viable population of wolves until delisted and management returned to state. At that time they could implement their state management plan. Wildlife Board has stated support for legislation to delist the wolf. Objective of state is to get management back to state, not to eradicate wolves. They believe that the state has better tools to manage conflicts. They recognize that the way to get state management is to recover wolves. So, state understands that at that time, they would need to keep viable populations. Not adequate resources for viable populations just within the state of Utah, they would need to rely on a broader area for viable populations.

Arizona: no question of law involved. Wolf management has been kept within the purview of the Commission, under Title 17. No specific regulations speaking to it, or Governor edicts. Evolution of Commission on wolf management - it escalated in 2007 and came to head in October 2008. At that time the Commission gave guidance on recovery and reintroduction and what elements needed significant progress. Have to provide updates on annual basis. In December 2010, the Commission advocated for legislative delisting of wolf, but they do not consider the wolf to be recovered. The Commission is frustrated by FWS gridlock. August 2009, concerned about release of wolves in Sonora. Of those elements, many still not addressed. Their commitment stands for wolf conservation, not interested in mindless and endless management. They want to know what recovery is and that their actions are leading toward recovery. Commission meets next week on whether to intervene on litigation for wolves and whether to initiate litigation of their own with regard to divergence from 1998 management plan and 10(j) rule. By October 2011, AGFD will have drafted a state management plan for the Mexican wolf for future. May be vetted and implemented or round filed. They are working with Tribes on wolf management. They may want to change arrangement for their role in reintroduction. NMDGF leaving project leaves them precarious, but also provides opportunities. Don't want wolf conservation to go like NRM where they have met recovery and can't get delisted. Benjamin's assurance to state of Colorado needs to be discussed. They hope to reconstruct level of collaboration that they had from 2003-2007. If they can, great things can be achieved. Some Commissioners want to follow New Mexico's lead. Ugly mess and the wolf didn't make it.

Objectives: Mike R. summarized the objectives from the August 2010 SDM workshop.

Terry J: have significant reservations about quantitative aspects of SDMs – taking qualitative information and assigning values. It doesn't talk about ecosystem upon which the wolf depends – in particular the

prey base, not just the vegetative structure. Prey base needs to be discussed in terms of population viability and management. Prey base is solid piece of wolf recovery and AGFD is directed to also manage elk and deer for recreation. And, without them, there won't be any wolves. There is a distinction between restoration and recovery (legal mandate for recovery, not restoration). Need to parse issue with hunters, with regard to bag limits etc. Need to reflect the importance of prey base.

Mike R: could reflect prey base in promoting wolf recovery. In beginning had objective to maintain hunting opportunities, but that got folded into objective 3.a.1.: provide full-spectrum of consumptive and non-consumptive wildlife availability for current and future generations. For Tribes, may also include subsistence. Also, in internal objectives, did have "ecosystems on which they depend." We could have it as broad category.

Mike T.: more element of recovery versus as part of assessment unit analysis. Also, thinks that suitable habitat includes prey, but we can be more explicit.

Terry wants it overtly captured in the objectives as part of acceptable and unacceptable impacts.

Michelle: "suitable habitat" map included density of prey base, roads, etc.

Kevin: but the map didn't include density of livestock, which is major limiting factor.

Terry: also need to address livestock herd husbandry, timing of calving, etc.

Wendy: looking for reclassification unit, but we don't have explicit level of detail at this time, but we do need to identify it as issue for recovery. We're not talking about recovery units in this meeting.

Terry: AGFD will oppose recovery in a non-recoverable unit. Don't want 200 years of undelisted wolves.

Mike T: If we designate a listing unit, can we also use it for delisting. Unit has to be able to stand on its own.

Mike R.: If we list a unit that's too small, can't achieve recovery. If too big, unnecessary regulatory burden on people.

Kevin: agrees that we are here to talk about assessment units, but depends on how you define assessment. 5-factor analysis doesn't bring in the elements that are key to states.

Mike R: but the analysis in listing does need to be the ESA 5-factor analysis.

Mike T: need to base listing on best available science, and if there is discretion, can see how to accommodate those concerns. Asked if we could collapse some of the objectives, but say what that objective is comprised of.

Terry: want to be sure that we are considering not only the adequacy of prey base but also the effects on the hunting opportunities.



Mike R: Livestock captured in objective 5.a – minimize regulatory burden induced by ESA: units support management at the landowner/producer level.

Mike R: concerns in legal defensibility with regard to compliance with policy.

Terry: doesn't think 10(j) is legally defensible and that it needs to be reconstructed. There are management components that are based on speculation, and things didn't work out the way anticipated. There are boundary issues that are contrary to recovery. Need reconstruction of the 10(j) rule. The 10(j) boundary needs to include all areas of wolf management in Arizona, and will help Arizona move toward recovery. Boundary should include all areas of the unit. Need to determine outer limits of boundary. This would address regulatory burden. Unit needs to include Mexico.

Mike R: 10(j) is part of recovery planning.

Maricela: so we need to ensure that all alternatives are large enough to encompass areas for recovery.

Mike T: need to ensure that the assessment unit is large enough to encompass a legally defensible 10(j) rule. Need to ensure unit is large enough to achieve recovery, which is where you would assess Mexico's inclusion or not.

Terry: doesn't believe that we have a recoverable entity if there are not at least 2 populations in Mexico.

Terry: 10(j) has impact on section 7, management flexibility.

Mike T: not relevant to boundary of unit, but rather the outcome. Maximize opportunity to use ESA tools to reduce regulatory burden. Sportmen (hunters, guides, and outfitters), scientists, affected on public lands; private landowners also affected.

Mike R: Administrative burden was addressed under objective 6, "minimize state, tribal, and federal resources needed to achieve wolf recovery."

Terry: taxonomic validity has been determined. Historic range clear, and anything less will be litigated. So, unclear as to need for SDM process.

Michelle: We're looking for discretion where there is gray area between subspecies and DPS designation. We're looking to see if there is information for an informed decision.

Terry: Colorado, San Juan, include Mexico, leave Colorado and Utah out as outliers.

Mike T: we not only need to justify what we did, we also need to explain why we didn't do something else. We can't be silent on Colorado and Utah. Do we need connectivity between Mx wolf and NRM wolf? Also, is there enough area? Difference between Colorado and Nebraska is that there is a lot of suitable habitat in Colorado and not in Nebraska.

Terry: There is suitable habitat in Colorado but no evidence of historical occurrence of Mx wolf there. DPS of *lupus* problematic because it opens door that Colorado and Utah were occupied by *lupus* but not

necessarily *baileyi*. We don't want Colorado and Utah issues to be an impediment to recovery and don't want Mx wolf recovery to be impediment to Colorado and Utah management.

Maricela: can we be open that the reason we listed as DPS rather than subspecies is so that we could have boundaries?

Marty: worst scenario: Mexican wolf listed as subspecies and then all wolves in state are listed under similarity of appearance (through citizen petition).

Seth: we have discretion on what APA petitions we address (e.g., prairie dogs).

Kevin: if part of state is listed, they can't participate in recovery.

Mike R: if states can participate in recovery, then we can achieve recovery faster.

Terry: with regard to Tribes, they want to be part of planning for wolf recovery. Sovereignty and economics are key aspects. They have issues of uncompensated livestock losses and impacts on trophy elk.

#### Alternatives:

Kevin: assessment unit. \*\*Utah has asked for formal review of management plans to have justification to not include Utah and Colorado in DPS because they're providing adequate protections for the wolf through their state management plans. Do they provide enough protection for wolves to travel between AZ/NM and the NRMs. That genetic exchange does not need to be addressed through listing. \*\*Want official response.

Mike R: the Colorado and Utah assessment unit was not for a DPS but rather to see if existing state management plans provide sufficient protection. If management plans are adequate, then alt 14 works, if not, then alt 3 would need to be in play.

Mike T: This scenario is similar to what we lost in NRM; can't delist on state basis, which is smaller than a DPS.

Michelle: We can't designate Colorado and Utah as a DPS, because there aren't wolves there now.

Seth: not sure we could approve the management plans under PECE policy, because there is no track record.

Kevin: need to first make case that genetic exchange between Mx wolf and NRM is essential to recovery.

Terry: Utah and Colorado are extraneous to recovery of Mx wolf

Michelle: literature shows that there is suitable habitat in Utah and Colorado. That is area where we are legally vulnerable.

Mike T: reviewing Utah's management plan is problematic because of the legal issue that it's not implementable until wolf is delisted, so there cannot be a track record.

Kevin: Would like to have a DPS that follows historical range of baileyi (Alt 7).

Terry: would not support historical range (Mogollon Rim/I-40 line), thinks that it goes up to the state line. Does not agree with alternatives 3 and 5, think they cloud the issue. A 200-mile dispersal distance gets you to the state line. He wants northern AZ as a passive dispersal area, not an active reintroduction area.

Kevin wants to include Alternatives 3 and 5 for the admin record.

### **Friday.....**

#### Recovery potential

Wendy: we can write into preamble of listing that wolves occurring outside of prescribed range would be considered part of a different population (Idaho, Montana).

Kevin and Marty: Utah wants to manage wolves against other species. They are concerned that wolves will grow and ungulates will decline without the ability to do anything about it.

Wendy: we can address management issues through 10(j)

Kevin: can't imagine 10(j) in Utah because not part of historical range.

Terry: thinks that the habitat quality degrades for wolves as you move north out of core habitat.

Sherry: need to ensure that we have enough habitat for recovery. The number and location of wolves and their populations is still under debate by the Recovery Team . Southeastern AZ and southwestern NM, as well as Mexico have more limited prey abundance and will likely be affected by climate change.

Michelle: Recovery Team will inform where efforts should be focused, so fuzzy lines not as important.

Terry: more vague the listing, the more effort to expand the range through litigation to get protection for other areas. So, he's not a fan of vague boundaries. It's best to focus conservation dollars on most important areas.

Marty: Are Utah and Colorado necessary for genetic exchange or for core population.

Michelle: we don't know yet. The Recovery Team is working on those issues. We will get more information and a better understanding from the Recovery Team to inform the listing. If not enough time before proposal, the information could still be incorporated into the final rule.

Terry: Alternatives 1 and 4 are adequate. Arrows on Alt 1 should have gone more directions than just to north.

Maricela: Alt 1 doesn't have boundaries (where found).

Kevin: difference between subspecies and DPS is whether you are letting the animal tell you where it occurs or you are telling the animal where it occurs.

Wendy: we can still circumscribe where the animal is recovered through other ESA tools.

Kevin: Alt 3 would not allow Utah to allow wolves to establish packs in the gap between the Mx wolf DPS and the NRM DPS, which would be necessary to have true connectivity. Concerned that we're saying that if it's not listed under ESA then it's not protected. He wants it to instead be a discussion of who is protecting the wolves – Feds or State.

Seth: if gray wolf is delisted, and no Mx wolves yet found in Utah, how would Utah's law be enacted – does it address *baileyi*? Or just *Canus lupus*?

Kevin: Alt 1 is not really a big issue for them now, but it may be in future. It puts some uncertainty into issue that would be eliminated with a line. So, without Mx wolves in the state now, Utah law would allow them to manage for wolves from the north.

Wendy: lines can and have been successfully challenged. A subspecies is less subject to litigation.

Kevin: But if recovery team recommends recovery in Utah and Colorado, then Utah will sue us on the recovery plan.

Michelle: we would rather fight the lawsuit on the recovery plan than on the listing status. Judges give us deference on science. The DPS policy is not scientific, although we've tried to give it some science in policy.

Terry: what is the expected outcome of the SDM process? It's not a regulatory process. It all has to go through public process. If intent is to be open and transparent as possible, should go with Alt 1. Everyone can argue the other issues in next process.

Mike: The outcome is an agreed upon framework for evaluating the listable entities. We are assessing the pros and cons of various alternatives. Not trying to achieve consensus.

Michelle: Science that would help define a DPS would help us now. We wanted to get that information from the states up front. States should decide whether to provide formal comments on status as well.

Terry: He does not think that Utah and Colorado are part of historical range. Recovery of the Mx wolf should be focused under alt 4. No certainty on boundaries, but *baileyi* existed until the 60s as far north as northern AZ. If you take a dispersal radius to known locations, you get to northern AZ. Have to double dispersal distances to get into Utah and Colorado.

Mike R: 1.a. - uncertainties about how much land area needed.

2. Promote ecosystem health and integrity – not a driver for evaluating alternatives

3. Legal defensibility

Marty: if discreteness and significance arguments are based on protecting *baileyi*, does it make sense to go so far north?

Seth: if northern wolves come south, Alt 2 would undermine your efforts to protect *baileyi*.

Mike T: DPS vulnerability depends on direction of the lawsuit. Some are too small, some are too big.

Maggie: Alt 2 was developed because it addresses all of the suitable habitat.

Mike T: Alts 4 and 5 leave out suitable habitat on the landscape

Terry: the more you expand beyond the historical range, the more legally vulnerable you are with a DPS.

Mike T: defensibility of DPS is squishy, but easier than defending leaving suitable habitat out of national plan as suitable habitat. Arguments are made that it should be included as wolf habitat for some wolf. With subspecies, could delist Colorado and Utah from *Canus lupus* listing, but it would be included in *baileyi* subspecies listing as where found, if they eventually occurred there.

Kevin: do you want the states included as supporters or antagonists. Do you want the states as intervenors? The wolf that occurred there has been extirpated and scientifically it does not make sense to recover it for *baileyi*.

Eric: If listed as subspecies, what would happen if a wolf killed in southern Colorado?

Mike T: We would do an investigation to determine if Mexican wolf or NRM wolf.

Terry: but including it on a state list includes some level of regulatory burden under section, such as jaguarondi.

Sherry: but we have to my knowledge never done a formal or informal consultation on jaguarondi.

#### State Management:

Terry: with wolves, there are closures for wolf dens and wolf enclosures. Some inconveniences, but these issues don't really come into play in the assessment but rather later in structure of a 10(j).

Kevin: objectives 1, 2, and 3 all limit state's ability to manage wildlife. For example, states sometimes go in to remove a cougar population to facilitate growth of a population of a prey species.

Wendy: 10(j) provides flexibility to manage wolves to address prey reductions.

Kevin: thinks that similarity of appearance would invoke their law restricting their management authority.

#### Management Flexibility:

Michelle: could not do a 10(j) for all of Alt 2 because it would not be wholly separated from NRM.

Mike: to designate an entire DPS as non-essential may be problematic. May make a difference if *lupus* vs. *baileyi*. But you wouldn't have a 10(j) in Mexico.

Seth: 10(j) have to be wholly geographically separated. If endangered pop and 10(j) pop grow together, may invalidate the 10(j). We are arguing that movement is not enough to invalidate the 10(j), needs to be population comingling.

Terry: this is the argument that AGFD has had with the establishment of wolves in Mexico. Also, Alts 2 and 3 hurt AZ because if wolves are established in northern AZ, they would be restricted from going into southern Utah and Colorado.

#### Tribal management

Terry: states defer to Tribes on this issue.

#### Public Values

This objective is not distinguishing among alternatives. If there is a strong public value, it will appear in legal defensibility.

#### Efficiency

Terry: with Alt 5, you'll spend a lot of time defending why northern AZ not included.

Terry: line for Alt 4 is not specific, but rivers and canyons are defensible barrier – San Juan is more defensible than I-40.

Kevin: Alt 2,3, and 5 would take more time to recovery. Alts 2 and 3 would put Utah in position of Wyoming. It would be preferable to have DPS boundary.

Terry: for AZ, Alt 1 is the best for assessment, and Alt 4 is best for recovery. But for proposed listing, he supports Alt 4.

#### Next meeting – SDM webinar July 11:

Review of consequences table, updates, new interpretation

Balancing the tradeoffs

Decision makers from States may choose to sit in on webinar, so no need for another meeting with them in the next couple of months. But need a conversation between RDs and Directors before release of proposed rules. This could happen at WAFWA meeting in July or at AFWA in September.

As we are developing products, would have calls with Directors

Terry: RD should ask Governor if NMDGF could come to future meetings

#### Wrap up

Kevin: They will only not oppose Alt 4. Otherwise you're trying to recover a subspecies that never occurred in Utah. Still willing to go through weighting July 11. Kevin appreciates that we are considering their perspectives at this level and understands that there are other issues that we will consider.

Terry: They support Alt 4 based on science. They want to see impact on prey and on prey potential. Based on that information they get to Alt 4. Absent new data, doesn't think their position to change on July 11. Reasonable people can disagree, and he appreciates the face-face meeting. Helps him convince Director that they are part of the process. Disheartening that there has been so much time lost in litigation and bickering.

Eric: agrees with the other 2 states and supports Alt 4. \*\*Again requests that they be able to have a surrogate at the recovery team meeting in August.

Mike T: appreciates states meeting with us. We'll look at best available science and recoverable entity. We are treating states with special purpose. Don't want to lose sight of the other management tools down the road.

## **Notes from the Mexican Wolf Meeting with States, Grand Junction, CO**

**Thursday, June 16, 1pm – 5pm**

### **Review of Mike's webinar ppt –**

Key points –

- Plan is to take a narrative approach at this meeting instead of a quantitative due to our time constraints.
- Using a common framework to discuss our differences – between the various states and FWS
- R2 plans to meet with the Tribes about Mexican wolf
- FWS committed to produce a record/report for this meeting – the states may comment further as well
- Meeting characterized as an information finding effort

### **Review of the agenda -**

Terry's (AZ) opening comments – He sees constructive dialogue as actual engagement throughout the process and understanding the process – the AZ Commission is at end of its rope on Mexican wolf conservation – there are problems surrounding reintroduction efforts – he felt the commitments from August Workshop were not kept – there was a lack of dialogue – the AZ Commission doesn't want to see this happen again – they want access to the information – how the Service is handling Chambers et al paper is a problem (because it has not been released) and they want access to the paper – Getting the August report for Southwest just 1 week prior to this meeting was a problem as it was not sufficient time to review and comment – he understands the process and how long it takes to make decisions but expected some form of communication from FWS – all of these things impact AZ ability to be a constructive partner – AZ is tired of hearing about FACA as a reason for certain decisions – are the FACA exemptions not at play? – AZ thinks some things can be delegated to the States (not sure what things?) and suggests that they have been – Provided criticism related to Service engagement with Tribes in the southwest – these are all significant issues for his agency – Status review: publishing a request for involvement to participate in status review is not enough AZ wants to be part of the status review and suggested a letter from FWS inviting them to participate in a meeting with the Service for 3-4 days to work on the status review.

Mike R - Thanked Terry for his comments, stated that he couldn't speak to the Service issues, but stated that they were identified clearly enough for the Service to consider.

Michelle (R2) comments - FWS intent is to gain as much info from the workshop as possible so that it can be included in the status review. She feels that this meeting is historic in that she has never had this much opportunity to coordinate with the States. She is looking forward to gaining a good understanding of the States issues. She finds this process is very good at helping us focus on the details involved in making a decision and not just the end product.

Mike R – This is not the only opportunity to coordinate with the Service on this issue as there will likely be more in the future

Mike T (R6) – Will get out a report of this meeting and wants to talk about how the states see coordination working between now and the end of the year.



Eric Odell (CO) – No comments to provide but found the webinar helpful in catching them up since they had not participated in the Aug 2010 workshop

### **Updates –**

**DPS Policy** – Maricela’s ppt

DPS Questions –

KB – Had questions about when SOA can be used – would we list an SOA outside the boundaries of a DPS – Answer = no not appropriate to list an SOA outside of the boundaries of a DPS for the purpose of protecting individuals that may disperse from the DPS. We could list an SOA within the boundaries of the DPS or we could list an SOA in relation to a ssp listing - but we don’t have to.

### **States –**

Eric O (CO) – There are no established wolf packs in CO. In 1989 the Commission passed a resolution to prohibit establishment of populations in their state but this could be reconsidered – CO needs legislative support for State or local agency to participate in reintroductions – CO has a management plan for wolves that migrate into state the plan is primarily for conflict management – Cited B. Tuggle’s promise that CO would not have any recovery goals or CH requirements put on them to recover Mexican wolf.

Kevin B (UT) – UT level of frustration is similar to AZ – to the point that the Legislature and Wildlife Board have gotten involved – this is partially as a result of the political makeup of UT – they have a state management plan similar to CO in that wolves can enter the state until 2 packs are established and then once this happens they must draft a plan that specifically addresses how to deal with them – but legislature in UT passed a law defining what the policy for UT is right now – the Wolf Management Act directs the Division of Wildlife to prevent establishment of viable packs in any delisted area of the state until the entire state is delisted at which point the state management plan can be implemented. It also makes the Division of Wildlife legally obligated to request the Service to remove wolves in listed portions of UT when they become aware of them. The Wildlife Board took formal position on legislation – supporting congressional efforts to delist wolves in state of UT as well. The state wants state management of the species –not necessarily to eradicate them because they feel the state has better tools to manage in a more balanced way. Once delisted, they have reason to keep them in viable numbers in UT in order to keep them delisted. They don’t think they have enough resources to keep a viable population just within UT – they must be part of a larger population.

Terry (AZ) – Fought to keep wolf management within prevue of the AZ Commission – AZ has no specific regulations for wolf but wolf management is just part of their overall plans. In Oct 2008 the Commission gave his Agency guidance about Mexican wolf recovery and reintroduction in order for Commission to get out of the “wolf game”. He has had little progress to inform them of in their annual updates at this time. The commission is frustrated with Service about management gridlock. Service has been silent on a majority of their issues to date. Commission is clear that their commitment stands for the duration of the effort – however, they are not interested in endless wolf management. Commission (5 members) meets again next week to make decisions on a number of wolf issues (litigation included). By Oct of 2011 they will have drafted a state management plan for Mexican wolf – AZ Director will decide if it is shared publicly. They don’t want to be in the position of WY, ID, MT in that 2500 wolves were not enough for recovery (M. Constantino note – this is not an accurate representation of the NRM issue). Felt that 2003 – 2007 was a good time for collaboration between the state and FWS. Thinks they just need to follow NM lead (is he saying that they should pull out of wolf management?).

### **Discussion of Objectives Hierarchy –**

(MC break - Wendy taking early notes)

Terry feels that prey base issue is missing from the objectives hierarchy  
Kevin B. pointed out that livestock density wasn't part of the habitat models either  
Wendy – Agrees that we think this is important but we don't have this level of detail

Kevin B. – “assessment” relative to the ESA is something very specific – a five factor analysis – he wants assessment to be able to consider other important things from the states perspective – we can't do this at the conservation status stage but we are trying to do this prior to that point – in the generation of the unit.

### **Legal Defensibility –**

???

### **Biological Integrity within units –**

#### **Recoverability – 1a<sup>iii</sup> – unit large enough to accommodate recovery**

Arizona believes that in order to meet this objective the unit must include Mexico. MR response - This is not part of the objective but should be part of the consequence analysis – specifically, an alternative that does not include MX would score poorly on this objective in the consequence analysis (because it doesn't include Mexico).

Arizona wants the 10j (experimental nonessential) to be coincident with the listed entity – this goes to regulatory burden - Want to maximize the opportunity to use all of the flexibility of the Act for the listed entity

MR - What are the concerns of the non-agency stakeholders? – and who are they? Sportsmen (including guides and outfitters), ecotourism, private landowners, mining, oil, gas (multiple use)

Arizona wants a defined boundary for the unit because they want to be sure that recovery includes the core areas (Mexico, AZ and NM) - they want a DPS but they don't care if it is a DPS of *Lupus* or *baileyi*

General Comment from FWS - We are responsible for explaining what we do and why we don't do something else – we will have to talk specifically about how CO and UT fit in.

Mike T – 2 biological questions to answer to help decide what to do with CO and UT – (1) does there need to be connectivity between the NRM and SW population (by way of CO/UT) and (2) how much area is necessary for recovery. The difference between CO and Nebraska (an area that is not part of an assessment unit and we are considering for delisting) is the amount of suitable habitat in CO (references to FWS court loss on Canada lynx critical habitat rule).

Terry (AZ) believes that there is suitable habitat in CO and UT but no historical occurrence for *baileyi* in those areas.

Terry (AZ) - Tribes want to be part of the planning for wolf recovery. Large # of tribes but White Mt is a significant partner due to their landholdings. Their primary interests in wolves – sovereignty and economics – economics with respect to non-compensated depredation losses (kills, having to move animals, trophy elk).

Discussion of the “Assessment unit” identified for CO/UT at the Aug 2010 workshop – UT and CO have asked the Service for formal review of their management plans – the alternative required that the Service review their plans and the expectation was that the plans could provide a justification for not including CO and UT in the unit because the plans provided for sufficient protections (allowing for connectivity).

Terry feels that UT and CO are extraneous to the recovery of Mexican wolf

**Review of the 4 alternatives Mike R proposed we review for this process -**

Mike R - Are the 4 alternatives enough?

KB – suggested that we needed one more with a northern boundary at I-40 (using I-40 to represent the northern border of the historical core range) – this was alt 7 at the Aug workshop

Terry J – AZ doesn’t accept that – he believes the historic range is much further north than I-40

KB – thinks this alternative should be included to get our assessment of it into the record - we want to be inclusive not exclusive.

Mike R - Are we missing alternatives? – No one feels that we are missing anything else.

TJ – want Arizona to be recognized as a passive dispersal area for wolves not a reintroduction area.

**Day 2 – Friday, June 17<sup>th</sup>, 8-11:30 am**

**Discussion of the Consequence Table –**

**1. a. Recovery Potential –**

Wendy – Believes that ssp unit (Alt 1) gives maximum flexibility because there is no boundary, the recovery potential is wide-open – recognized that the historic range discussion could still be controversial. You can use other tools in the Act along with ssp listing to provide for maximum management flexibility.

Terry – Believes vagueness of the boundary will lead to efforts/\$ being expended in areas on the periphery of the range rather than the core – wants to focus conservation energy in the true core.

Mike R – Is Terry’s concern about recovery potential or efficiency? - Probably efficiency.

UTAG – To the extent that UT is needed to recover wolves – if you get an SOA listing in the states in the periphery of the range the states may back out of recovery all together due to frustration.

Wendy – It is possible to write into rule for spp listing the flexibilities that the states may need.

UTAG – Thinks CO and UT would be difficult to do this for

Seth – Agrees with Wendy that you could do something like this in the preamble

KB – Thinks we might still be litigated to use SOA. Fear is that the population will grow – big game herds will diminish – and there will be nothing UT could do but sit back and watch – similar to ID/MT

Wendy – pointed out that the 10j provides opportunity for flex

KB – 10j gets more problematic for UT since he doesn't believe the 10j boundary would extend into UT

Seth – thinks we could extend the boundary of the 10j into UT to provide for flexibility

Terry – where in the objectives does 10j come in?

Mike T – Does alt 1 in terms of integrity of the unit make us less reliant on MX? What kind of assumptions do we need to build into our considerations of the alt with respect to how much MX would contribute to recovery

Wendy – We have less ability to influence MX because they are a sovereign nation

KB – Sees alt 2-4 as equal because it isn't about getting bigger, but is the unit large enough – once you get to a particular size unit then a larger unit doesn't contribute more

Sherry – Recovery Team is working to address this now, we are concerned about whether or not there is enough habitat for a viable population – sky islands: limited prey also climate change will have impacts on the habitat – want to make sure we have an area that is big enough

Terry – he thinks that it is a probability if increased area is not as good a quality (thinks we get a diminished quality of habitat as you move north). Thinks 1 and 4 are at top

Michelle – Recovery plans allow you to focus where your efforts are going to be – core recovery areas – pointed out that even when we have listed a species we don't typically focus our efforts on the periphery of the range – you can get to this in the recovery plan

Terry – This can be done if you want to but some may argue to expand the recovery range in an effort to get protections in their areas

UTAG – Is UT/CO simply intergradation zone or do we need the habitat?

Michelle – we don't know the recovery team is working on this

Terry – this is a problem with having the recovery team and SDM work going on in tandem

Michelle – still thinks we can get a better understanding from the science team but even if we get more science later we have the opportunity to include it in the final rule later.

Terry – Is the purpose to identify an area that you would assess (alt 1 and 4) or ?

KB – Thinks that if purpose is to protect the uniqueness of the animal then alt 1 and 2 are diminishing that

Wendy – uniqueness doesn't require isolation – she does not think that ssp listing keeps us from having control over where recovery would occur – we can do this (for ex 10j) with other tools in the Act.

KB – Connectivity is an issue for the south (not NRM). In terms of connectivity 2 and 3 provide less connectivity than 4 because of the state law that will keep wolves from NRM getting down through UT.

CO - This is not an issue for CO.

Maggie – There is an issue about effective migrants and when? Migration into the Mexican wolf population from the NRM shouldn't happen too soon because the (*Occidentalis*) genes would swamp out the MX wolf genes. Limiting connectivity may be important in the short term.

Sherry – What would UT do?

KB – They are responsible for killing problem wolves and keeping packs from becoming established in the delisted portions of the states.

CO – What is the dif btw 2 and 4 for UT?

UT – The difference is who is protecting wolves UT or FWS – alt 3 is the worst from UT standpoint for connectivity because UT will not let wolves establish a pack or cause problems – wolves come in and out of UT all of the time and they have never gone as far as I-70 so if this (gene flow) is going to happen they (wolves) are going to need to establish themselves in UT first.

Mike R – back to the consequence table – identified a color coding key

Best =green

Worst=pink

Questions=orange

Alt 3 and 5 are worst for connectivity

Alt 3 and 4 is just about where jurisdiction is UT/FWS

Alt 1 and 2 are under FWS

Seth – How does alt 1 and 2 effect UTs ability to manage wolves?

KB – Alt 1 is not an issue for UT now it is more about future – puts some uncertainty out there that a line removes – thinks UT would get management authority for next 25ish years if *C. lupus* were delisted and *C. l. baileyi* were listed.

Wendy – Getting at legal defensibility – our DPS listings have been challenged – we have never been challenged on a ssp

Michelle – points out that a lawsuit on how we implement recovery for a ssp listing would be better because at least we have an entity listed

An agreed upon framework for evaluating the question – with this level of analysis of what the pros and cons are of some different alt – indiv states and regions could make indiv recommendations based on that framework (if they want to)

Terry – SDM is not regulatory – we will have to do a rulemaking to request info from others in the future – thinks alt 1 allows you to solicit information from everyone on options – at this time (maybe not into the future) – in terms of assessing all of the relevant issue among all of the stakeholders then Alt 1 gets it done

Michelle – If states have science to share with us that will help us put together the best proposal then we would like to get that now – States still need to decide if they want to send some comments in formally as well – want to make an informed decision in Dec.

Mike R – In the event that there is some agreement then we should happily note it – the places where there is critical uncertainty that would cause us to rank these alt differently is exactly the kind of info we need.

Mike T – **Recovery Potential:** Some agreement that 1 and 2 provide greatest flex (tied) for recovery potential in terms of land mass –so perhaps they rank highest and 5 ranks lowest – so do 2, 3, and 4 rank the same or not? In terms of connectivity: not sure that anything stands out

Seth – doesn't think that we have the opportunity under alt 2 to preclude a movement (of NRM wolves) south (to enforce a slow movement south)

Terry – With respect to Obj 1a. he doesn't think that alt 2 and 3 are valid due to the inclusion of CO/UT – thinks 1 and 4 are equal but would give higher rank to 1 due to vagueness but says AZ will be arguing for alt 5 for recovery implementation

UTAG – How certain is the northern boundary of the MX wolf?

Differences of opinion btw AZ and FWS on this issue

Seth – thinks we have a lot more flexibility to manage wolves (lethal take) under 10j

Mike T - The things that we are grappling with in alt 2,3,4 involve uncertainty about how much habitat is needed and genetic integrity and habitat suitability for baileyi as you move North

**Ecosystem Integrity** – Terry and others from the state initially thought this was important because they wanted to be able to manage the system rather than just managing for wolves that may be counter to other species. Terry and several others now think this is more of a recovery planning issue and suggested removing from the consequence table.

### **Legal defensibility -**

#### **3.b . defensibility of the boundaries**

Seth – Alt 2 could be a problem for discreteness

UT – is UT/CO a buffer? Why just extended north (why is there no apparent buffer east and west?)

FWS – The boundary is based on habitat suitability

KB – Q? If the argument about discreteness/significance is made in terms of protecting baileyi, is it appropriate for the boundary to go so far north?

Seth – Clarification – alt 2 - If northern wolves come south and become established on the northern edge of the DPS then they will be impacting the integrity of the DPS

Mike T – Most of the DPS options differ on their legal vulnerabilities depending on who is litigating – some might be considered too small – some might be not discrete enough – is there a middle ground?

Maggie - Didn't alt 2 just account for all suitable habitat not necessarily because we think we need to have wolves in all areas?

Mike T - Alt 2 includes suitable habitat for wolves but not necessarily just for baileyi

UTAG – how robust would Mexican wolves have to be before we started to worry about wolves moving north?

FWS – right now no possibility because 10j requires that we bring them back (when they leave the 10j area)

Wendy – still thinks this is not an issue in near future (long way off) because wolves are looking for others (mates/packs) and we don't know how long it will be before NRM wolves are established in UT (such that they would provide a source for mates/packs to Mexican wolves from the south)

Seth – Thinks that all DPSs have substantial risk

Terry – Why is Alt 4 a problem?

Seth – Can kill wolves when they leave boundary

KB – Not accurate – wolves will still have State protections – Fed protections are not the only means of protecting wolves. [This was a critical point from UT point of view]

Terry – The further you move away from Alt 1 or 4 the further you get from the historical range and he thinks that is a legal vulnerability

Michelle – Recoverability is somewhat driving legal defensibility and maybe we don't have enough science yet

UTAG– reminds us that we are required to use “best available”

Mike T – to the extent that UT/CO is out for any wolf (not included in a unit) we will be a challenge – because of exiting habitat – this is an issue for our national plan – there will be an argument that CO/UT shouldn't be taken off the list for any subspecies – Do we need it for any wolf at all and how do we deal with the habitat?

UTAG – If the DPS too small the enviros will sue you – and if too large then states will sue you

Seth – do we have the same problem for alt 1? – since there are no wolves in UT/CO now?

Mike T – No, because we are replacing with baileyi to the extent that they show up there

Terry – thinks we would be “restoring wolves to the landscape” in UT/CO rather than recovering baileyi so this doesn't help build the defensibility for our case.

Mike T – This is an area where the states might want to think about providing input – science

Terry – a letter from AZ will talk about *baileyi* not being in UT/CO [wasn't clear if AZ had specific science to cite to support this conclusion]

KB – *C. l. nubilus* is extirpated but *baileyi* was never in UT/CO – With respect to public comments – would comments coming from WAFWA as a whole be given greater weight (as opposed to comments coming from individual states)?

Mike T/Michelle – no greater weight given to any science (meaning that the # of comments doesn't make a particular piece of information more relevant)- this is not based on a vote – good info is good info – however, it is problematic to receive comments from 13 different states that do not agree.

Mike R (review) - **3a. Legal defense of the entity** – alt 1 is pretty robust, 4 and 5 are strong because discreteness is clear and significance argument will be easy if based on *baileyi*, and states would be interveners. **3b – legal defensibility of the boundaries** – many agreed that alt 5 is not good here because it removes historic habitat.

KB – comments with respect to NRM wolves – Mike got these in the table

Maggie – Sees a problem with creating a DPS for the purpose of protecting/conserving *baileyi* but calling it Lupus

UT – In terms of defensibility does it help to have the states as interveners?

Mike T – it gets back to science and policy – it hasn't help in NRM to have states intervene on our behalf

Mike R – any DPS causes problems (simply because of the boundaries) but the ssp maybe does not

General discussion - Significant amount of discussion to clarify that issues with respect to where recovery for *baileyi* will occur will not need to be addressed at all in the rulemaking process – this would be addressed at the time of recovery planning – with a DSP we are being more explicit at the listing stage about what we think may or may not be necessary for recovery.

**3.c. accounts for potential habitat** – alt 1 ssp implicitly addresses all potential habitat – challenge with 4 and 5 is that it is a harder sell to explain this issue

**4a – Recreational Hunting** – Mike T – what are the issues?

Terry – Closures to areas with respect to dens or release sites (inconveniences) but doesn't see these as coming into play at the assessment level - maybe further down the road

Michelle – Pointing out that AZ is referring to the current scenario (the inconveniences AZ identified) for wolves in the 10j. This may or may not be the case in the future.

KB – Alt 1, 2, and 3 limit CO/UT ability to manage recreational hunting



Seth – Could argue that the burden is greater on AZ/MN because area (available for recovery) is too small

Mike T – reduces the ability to manage wolves for balance with other game may better describe what we mean here

(MC 10 min break – Wendy took notes – probably on 4b and some of 4a)

#### **4.c. Management Flexibility – (going to set this aside for now)**

Mike T – from ESA flexibility alt 1 is best, alt 4 and 5 max opportunity for states to manage.

Mike R – not easy to score the alt because different types of management flex – are 2 and 3 inferior?

Answer – from a states perspective – maybe 2 is also from FWS perspective

**5 Tribal issues (we have 2) – this is a placeholder for discussion with Tribes – setting aside for now**  
States are completely deferring to tribal sovereignty issue

#### **6 Public Values - removing iii. Mining, oil, and gas – all agreed not an issue for this problem**

##### **6.a. Minimize regulatory burden on public**

FWS – 1 depends, 2 is greatest burden because greatest geographic area that is explicit

KB – alt 1 becomes an issue when wolves show up in an area where they have not been before

General Comments – 1 and 3 generally the same depending on where wolves show up – when and where they disperse and what they do there (color coded it orange)

##### **6.b. Minimize wolf human conflicts – generally agreed that this issue has no bearing on our ability to discriminate among the potential units**

##### **6.c. Human desires for wolves on the landscape –**

Most agreed that this doesn't help us in the analysis (doesn't help us discern among the alternatives we are considering)

KB doesn't agree because of the UT management plan and what it would require under various options

Many stated that they were not sure that Public Values will help us to distinguish on its own and we may be addressing this under the legal defensibility objective

Mike R – There are non-genuine components here but let's give some credit to those that are genuine – for ex – think about the folks that think there is some spiritual benefit of having wolves on the landscape – tribes or others – intrinsic value

Terry – We are trying to balance having wolves on the landscape and in enough areas in this process.

Mike R – The people that would advocate for this measure are not here.

Mike suggested that we have closing comments from States and Regions inclusive of suggestions for how we can do better (coordination) collectively in next 6 months – The following were provided by R2 ARD prior to her departure -

**Michelle** – Thanks for participation – discussions have helped her understand where the outstanding issues remain and requested that the states provide us with any information they can – we will do our best to coordinate well (understanding existing workload). AZ – Asked for a meeting of this group during the last week in July – wants a face to face meeting. Mexican Wolf Recovery team meeting is already schedule for August 23-24<sup>th</sup>.

**Follow-up SDM Meeting – Will complete the notes document and circulate to participants – Scheduled a July 11<sup>th</sup> 1-4:30 pm ET Webinar conf call to close out this meeting (1) review of consequence table and (2) balancing the tradeoffs (weighting)**

Terry – If purpose of meeting is just for purposes of assessment (meaning we are not making a decision) it is much easier for AZ

Answer – Yes, this is the purpose – we are not discussing details of regulations etc.

**Notes will be distributed by June 30th**

Maricela left meeting at 11:30 am – notes taken by Mike and Wendy

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## APPENDIX TWO



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Washington, D.C. 20240



NOV 05 2013

In Reply Refer To:  
FWS/R2/ES-ARD/055551

The Honorable Peter DeFazio  
Ranking Member  
Committee on Natural Resources  
House of Representatives  
Washington, D.C. 20515

Dear Representative DeFazio:

Thank you for your letters of September 4 and October 23, 2013, to Secretary of the Interior Sally Jewell in which you express your concerns regarding the U.S. Fish and Wildlife Service's (Service) June 13, 2013, proposal to list the Mexican wolf as an endangered subspecies in the Southwest and delist gray wolves elsewhere.

Your letter reflects the challenging nature of the decisions before us as we decide how to move forward with conservation of gray wolves under the Endangered Species Act (Act). Having recovered and delisted gray wolf populations in the western Great Lakes and Northern Rocky Mountain states, we must now determine our obligations under the Act with regard to gray wolves elsewhere in the lower 48 states and Mexico. Our proposed rule reflects our conclusion that the only remaining population of wolves eligible for listing and needing the protection of the Act is the Mexican wolf in the Southwest, which we have proposed for listing as an endangered subspecies (*Canis lupus baileyi*). We recognize that there are strongly held, differing opinions on whether this is the appropriate path, and we will continue to listen to these opinions as we proceed through our rulemaking process. I particularly appreciate receiving your views and look forward to meeting with you personally to discuss them in more detail. I would, however, offer the following initial response to your letters.

Let me first address your concerns regarding the science behind the proposed rule, in particular the Service's reliance on Chambers *et al.* (2012). This paper was developed by a group of Service scientists in response to our operational science need for a comprehensive review and synthesis of the diverse scientific literature on wolf taxonomy. It was subject to two separate, independent, scientific peer reviews prior to publication. In our proposed rule, we determined that Chambers *et al.* (2012) and Rutledge *et al.* (2012), both of which rely heavily upon genetic data, represent the best available scientific information regarding North American wolf taxonomy. We carefully considered that information at the time of our listing proposal and chose to accept recognition of the eastern wolf, *Canis lycaon*, as a full species, while also explicitly acknowledging that other scientists may draw different conclusions. In fact, we went so far as to state in the proposal that "we do not view this issue to be 'resolved,' and we fully expect that *Canis* taxonomy will continue to be debated for years if not decades to come, and scientific opinion on what represents the current best available science could well shift over time." We welcome critical review and comment on this issue in the course of our rulemaking to inform our final decision.

The Service-sponsored journal series in which Chambers *et al.* was published, *North American Fauna*, went dormant following the loss of the Service's Research program in the early 1990's. The Chambers *et al.* paper was the first paper published upon its re-birth, but it was not brought back into production to provide a venue for this paper. Rather, it was brought back as a result of former Service Director Dale Hall charging the Service Science Committee, in 2005, with developing a publications policy and publication outlets for the applied science work of Service and other scientists. The *North American Fauna* monograph series was revitalized and its sister publication, the *Journal of Fish and Wildlife Management*, was established at the Science Committee's recommendation, long preceding and completely independent of the inception of the Chambers *et al.* paper. The paper was submitted to *North American Fauna* for publication for the very reason that this publication was revitalized – there are very few scientific publications that will accept a monograph-length literature review and synthesis directed toward the applied science needs of managers. A scientist independent of the Service, Dr. Paul Flint of the U.S. Geological Survey, is serving as Editor-In-Chief of *North American Fauna*, and the Service does not determine what papers are accepted for publication, and has no editorial or content review.

Your letter also expressed concerns regarding the Service's management of the scientific peer review of the proposed rule. As you may now know, on September 30, the Service announced that it has re-initiated a scientific peer review process to obtain an independent and objective peer review of the science behind the proposal. The peer review process will be sponsored and conducted by the National Center for Ecological Analysis and Synthesis (NCEAS), a highly respected interdisciplinary research center at the University of California – Santa Barbara. NCEAS will vet prospective reviewers to verify that they are able to provide an objective review and have no conflict of interest, culminating in the selection of 5-6 well-qualified scientists with professional qualifications and relevant expertise. No scientist, including any of those who wrote to the Secretary criticizing a draft of the proposal, will be excluded from consideration by NCEAS. The vetting and selection of peer reviewers will be a completely independent process in which the Service will have no involvement whatsoever. NCEAS will compile a final report that they will submit to the Service, and which we will post to the Service's public web site along with the Statement of Work for the peer review process.

We appreciate your views regarding the ultimate goal of the Act for species recovery. However, we do not read into the Act any specific charge regarding restoration of a species within a significant portion of their historical range. Rather, the Act directs that species be brought to the point where they no longer meet the definition of a threatened or endangered species, i.e., they are no longer in danger of extinction throughout all or a significant portion of its range, now or in the foreseeable future. We have accomplished that for gray wolves in the western Great Lakes and the northern Rocky Mountains, and we now propose to focus the Act on the only remaining population of wolves in the U.S. that warrants protection – the endangered Mexican wolf subspecies in the Southwest.

We understand that there are strong opinions on all sides of this issue, and some parties believe that the Act should be used to drive gray wolf re-establishment in suitable habitat throughout the West and in the Northeast. That is why we have committed to a robust public engagement process for our proposal. We have recently extended the public comment period on the proposed rule for a second time. The public comment period will now close on December 17, 2013.

To provide a forum for additional stakeholder input, we have also scheduled five public hearings on the proposal. The first of these occurred in Washington, DC on September 30. The remaining four hearings are scheduled for Denver, CO, Albuquerque, NM, Sacramento, CA, and Pinetop, AZ. The dates and times for these hearings can be found on our website, <http://www.fws.gov/home/wolfrecovery/>. Please note that we have re-scheduled the Sacramento hearing to provide opportunity for parties on the West Coast to provide testimony. We have received multiple requests for other hearing locations, but simply lack the resources to hold hearings in every location requested.



Thank you for sharing your concerns, and I look forward to discussing them with you personally. If you have any questions about this response or other aspects of our wolf proposal, please contact me personally, or have your staff contact Mr. Gary Frazer, Assistant Director for Ecological Services, at (202)-208-4646.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. M. Ashe". The signature is fluid and cursive, with a large initial "D" and "M".

DIRECTOR

## APPENDIX THREE



## Removing protections for wolves and the future of the U.S. Endangered Species Act (1973)

Journal:	<i>Conservation Letters</i>
Manuscript ID:	CONL-13-0210.R2
Manuscript Type:	Policy Perspectives
Date Submitted by the Author:	n/a
Complete List of Authors:	Bruskotter, Jeremy; The Ohio State University, School of Environment and Natural Resources Vucetich, John; Michigan Technological Univer, School of Forest Resources Enzler, Sherry; University of Minnesota, Department of Forest Resources Treves, Adrian ; Adrian Treves, Nelson Institute Nelson, Michael; Oregon State University, Forest Ecosystems and Society
Keywords:	attitudes, endangered species, habitat suitability, politics, range, recovery, science, tolerance, wolf

## Removing protections for wolves and the future of the U.S. Endangered Species Act (1973)

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Running Title: Removing protections for wolves

Keywords: attitudes, endangered species, habitat suitability, politics, range,  
recovery, science, tolerance, wolves

25

Article type: Policy Perspective

Word count (abstract): 137

30

Word count (body): 3280

References: 44

Figures: 2

35

Tables: 0 (in supplemental)

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**Abstract**

In June of 2013, the US Fish and Wildlife Service (FWS) proposed removing gray  
wolves (*Canis lupus, Linnaeus*) from Endangered Species Act (ESA) protections  
45 throughout the conterminous US. The proposed rule depends on a definition of  
endangerment that is inconsistent with the legislative history and historical  
implementation of the ESA, as well as numerous court rulings. The proposed rule  
also asserts that areas where wolves once existed but no longer exist are “unsuitable  
habitat” because people in these areas lack tolerance for wolves. That claim entirely  
50 ignores a significant body of scientific knowledge that suggests otherwise. By  
effectively narrowing the definition of endangered species and ignoring the best  
available science on tolerance for wolves, the proposed rule would set an  
unfortunate precedent with far-reaching consequences, including dramatically  
limiting recovery efforts for other species protected by the ESA.

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## Introduction

On June 13<sup>th</sup>, 2013, the US Fish and Wildlife Service (FWS) published a proposed rule that would remove federal Endangered Species Act (ESA) protection for gray wolves (*Canis lupus, Linnaeus*) throughout the lower 48 US states, except for the Mexican wolf subspecies (*C. l. baileyi*) (78 Fed. Reg. 35,664). After decades of listing *Canis lupus* throughout its historic range within the conterminous U.S., the FWS now asserts that wolves' listing status should be considered at the sub-species level. The FWS concludes their obligations to conserve gray wolves under the ESA have been met because the subspecies *C.l. occidentalis*, which occupies portions of Northern Rocky Mountains, and *C.l. nubilus*, which occupies portions of the Great Lakes region, no longer fit the legal definition of a threatened or endangered species.

According to the ESA, an endangered species is one that is "in danger of extinction throughout all or a significant portion of its range." The meaning and importance of the phrase "significant portion of its range" (SPR) is well documented (Carroll et al. 2010;ENZLER and BRUSKOTTER 2009; GEENWALD 2009; KAMEL 2010; TADANO 2007; VUCETICH et al. 2006) and its interpretation plays a critical role in the proposal to delist wolves. The proposed rule depends on an untenably narrow interpretation of the SPR-phrase. Specifically, it asserts that the unoccupied portions of wolves' range are not significant portions of their range because range refers only to "the range in which a species currently exists" (78 Fed. Reg. 35,673), and the unoccupied portions of wolves' historic range are unsuitable habitat because of human intolerance for wolves. We explain how the rationale provided by the FWS is flawed and how the proposed rule would have far-reaching implications

for the listing and recovery of many threatened and endangered species under the  
80 ESA.

**What does “significant portion of range” mean?**

In drafting the ESA, Congress rejected narrower definitions of “endangered species”  
that had characterized the Endangered Species Conservation Act (1969) and the  
85 Endangered Species Preservation Act (1966), the laws that preceded the ESA. U.S.  
Senator Tunney explained that a species might be considered endangered or  
threatened and require protection in most states even though it may securely  
inhabit others (*Defenders of Wildlife v. Norton*, 258 F.3d 1136, 1144-45 (9<sup>th</sup> Cir.  
2001)). Accordingly, the FWS had, until recently, interpreted the SPR-phrase to  
90 include both a species’ current and historic range for listing purposes, and had  
objected to attempts to narrow the definition (Enzler and Bruskotter 2009).  
However, in recent years the FWS has asserted that “range” in the SPR-phrase refers  
only to the *range in which the species currently exists*. This interpretation has been  
criticized in the scholarly literature (Bruskotter and Enzler 2009; Carroll et al. 2010;  
95 Enzler and Bruskotter 2009) and generally rejected by federal courts for its failure  
to adequately protect threatened and endangered species (Enzler and Bruskotter  
2009).

Interpreting range to mean “current range” is functionally identical to  
striking the SPR-phrase from the ESA’s definition of endangerment and narrowing  
100 the definition to being “in danger of extinction” (*Defenders of Wildlife v. Norton*, 258  
F.3d 1136, 1141 (9<sup>th</sup> Cir. 2001)). This is equivalent to the narrower definition of

endangerment that was explicitly rejected by Congress when the ESA was enacted (*Id.* at 1142-43). In most cases, species are listed as endangered because current range has been reduced by human actions. The ESA is intended to mitigate such reductions in range, not merely describe them. As such, a sensible interpretation of range in the SPR-phrase is historic range that is currently suitable or can be made suitable by removing or sufficiently mitigating threats to the species (Carroll et al. 2010; Vucetich et al. 2006).

At the time of their listing, wolves' *current* range within the conterminous US was a remote segment of northern Minnesota (primarily the Boundary Waters Canoe Area Wilderness and the Superior National Forest) and Isle Royale National Park. At that time the FWS asserted that, within this range

...the [wolf] population, while small compared to the original numbers and range of the gray wolf in the lower 48, has not itself undergone a significant decline since about 1900. Indeed...there appears to have been a numerical increase in some areas, and in overall range... There appear to be no serious problems that could result in the immediate extirpation of the species in this area (43 Fed. Reg. 9,610-11).

As late as 1978, the FWS observed that if it limited its analysis to current range it would seem that wolves were not endangered. Fortunately for wolf recovery, the agency rejected this argument when it chose to list the wolf, noting the Minnesota wolf population "represents the last significant element of a species that once occupied a vastly larger range in the lower 48" (*Id.*).



The meaning of the SPR-phrase depends not only on interpreting the  
125 meaning of “range,” but also the meaning of “significant portion.” While prescribing  
a precise value to the SPR phrase is challenging, acknowledging egregious violations  
is not. Today, wolves occupy approximately 15% of their historic range within the  
conterminous United States (see below, *Taxonomic Uncertainty*). To conclude that  
this condition satisfies the requirement represented by the SPR-phrase sets an  
130 extremely low bar for species recovery. Setting such a precedent would likely limit  
future recovery efforts under the ESA. Moreover, this same approach was explicitly  
rejected by a federal court in the case of the Canada lynx (*Lynx canadensis*), where  
the court found that the FWS’s disregard for three-fourths of the Lynx’s historic  
range within the US was “antithetical to the ESA’s broad purpose to protect  
135 endangered and threatened species” (*Defenders of Wildlife v. Norton*, 239 F.2d 9, 14  
(D.D.C. 2002)).

In enacting the ESA Congress expressly found that species have ecological  
value to the Nation (16 U.S.C. § 1531(a)(3)). The ecological value of a species is  
determined in part by the ecological function it serves. Detailing the direct and  
140 indirect effects of particular wolf populations on the ecosystems they inhabit is at  
times both difficult and controversial (Mech 2012). Nevertheless, there is  
widespread agreement that top predators, including wolves, have a substantial  
influence on the species with which they interact, including plants, scavengers, prey,  
smaller predators, etc. (Beschta and Ripple 2009; Estes et al. 2011). These  
145 influences, however, are likely to manifest only when large carnivores are present in  
sufficient abundance and distribution (Mech 2012). The value placed on ecological

function in the ESA together with wolves' ecological influence provide another route to understanding why it is important to view the phrase "significant portion of range" in a geographic context.

150

### **Human Tolerance and suitable habitat for wolves**

Throughout much of their current and historic range, the primary threat to wolf populations is high rates of human-caused mortality (Smith et al. 2010; Wydeven et al. 2001). The tendency for a few humans to kill wolves is motivated by what has been labeled "intolerance" for wolves, which the FWS correctly identifies as a potential threat to wolf populations in the US. Rather than leave in place protections for wolves that have effectively mitigated such threats, the FWS now asserts that areas currently unoccupied by wolves are unsuitable because of human intolerance:

160           The areas that wolves currently occupy correspond to 'suitable' wolf habitat...wolves persist where ungulate populations are adequate to support them and conflict with humans and their livestock is low...[t]he areas considered 'unsuitable'... are not occupied by wolves due to human and livestock presence and the associated lack of tolerance of wolves... (78 Fed. Reg. 35,680).

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They conclude that the regions of wolves' historic range that the species does not currently occupy "have not repopulated due to continued lack of human tolerance to their presence" (78 Fed. Reg. 35,685). The FWS also supposes that the threat to wolves in such areas cannot be mitigated (i.e., that these areas are made irrevocably

170 'unsuitable' by lack of tolerance). These conclusions and suppositions are patently  
inconsistent with the best-available science and the ESA's mandate to use "all  
methods and procedures which are necessary to bring any endangered species or  
threatened species to the point at which the measures provided pursuant to this Act  
are no longer necessary" (16 USC § 1532).

175 ***The science of intolerance.*** A central tenet of the proposed de-listing rule  
is: "the primary determinant of the long-term conservation of gray wolves will  
likely be human attitudes toward this predator." While bound by the ESA to base its  
listing and delisting decisions on the best available science, the FWS does not refer  
to *any* of the scientific literature on human attitudes toward wolves to justify its  
180 determination. This failure is egregious because much is known about this topic.  
For example, a meta-analysis, conducted more than a decade ago, synthesized the  
results of 37 empirical studies on human attitudes toward wolves conducted  
through the year 2000 (Williams et al. 2002) and a simple search of the scholarly  
literature uncovered an additional 63 relevant articles published after this meta-  
185 analysis (see supplemental), none of which are cited in the review. The FWS'  
oversight of this literature is not merely a procedural shortcoming. In failing to  
account for or even acknowledge the relevant science the proposed rule grossly  
mishandles the concept of intolerance.

Intolerance is a broad term that refers to a wide range of phenomena,  
190 including having negative feelings about wolves, illegally killing wolves, or taking  
other actions that may negatively impact wolf populations (Bruskotter and Fulton  
2012). Wolves are not immediately threatened by people saying they dislike

wolves—or even that they might kill wolves. Wolves are threatened by high rates of human-caused mortality perpetrated by a very small portion of people who dislike wolves. And while illegal killing has likely influenced population expansion (Liberg et al. 2012; Smith et al. 2010), it has not generally prevented range expansion. By contrast, legal killing, implemented by state governments and sanctioned by the FWS, combined with their limited view of recovery is likely to prevent range expansion and, therefore, recovery.

The proposed rule also asserts that delisting wolves at this time is critical for maintaining wolf recovery because “keep[ing wolf] populations within the limits of human tolerance” requires that humans be allowed to hunt and trap wolves (78 Fed. Reg. 35,685). The best-available science does not support this contention. Indeed, a recent review found no evidence for the claim that the rates of poaching changed with higher quotas of legal harvest (Andren et al. 2006; Treves 2009), and a recent longitudinal analysis found attitudes towards wolves were more negative during a period of legal lethal control than when wolves were listed under the ESA (Treves et al. 2013). Moreover, preliminary results from a study commissioned by the FWS failed to support the idea that lethal control or public wolf hunting and trapping would raise tolerance for wolves (C. Browne-Nuñez et al. unpublished data; Hogberg et al. unpublished data<sup>1</sup>). Ultimately, there is no empirical support for the notion that continued listing would result in a backlash against wolves.

Finally, the proposed rule concludes that regions without wolf populations “have not repopulated due to continued lack of human tolerance to their presence...” (78 Fed. Reg. 35,685). That conclusion is at odds with empirical evidence indicating

that people who live in wolf-occupied regions tend to have more negative attitudes than those who do not (Karlsson and Sjöström 2007; Treves and Martin 2011; Williams et al. 2002). Moreover, empirical evidence indicates that several western states that currently do not have wolves generally support wolf recovery (e.g.,  
220 Bright and Manfredo 1996; Bruskotter et al. 2007; Meadow et al. 2005) and have adequate habitat to support self-sustaining wolf populations (Carroll et al. 2006; Switalski et al. 2002). Thus, it is simply factually inaccurate to claim that lack of human tolerance makes these unoccupied areas unsuitable for wolves.

***Mitigating threats to wolves.*** Lack of tolerance (or dislike of wolves) is an  
225 element in the causal chain leading to high rates of human-caused mortality, which is the actual threat to wolves (Fig. 1). While that causal chain entails some complexity, the FWS has demonstrated its ability to effectively mitigate the threat of human-caused mortality. That threat has been mitigated for decades by regulations that prevent state governments from adopting policies that encourage high rates of  
230 human-caused mortality and prevent wolf recolonization, and by re-introducing wolves to former portions of their historic range. These actions were successfully executed by the FWS and resulted in remarkable improvements in the condition of wolves in the northern Rocky Mountains and Great Lakes' regions (Smith et al. 2010; Wydeven et al. 2009). More generally, research indicates that a variety of  
235 large carnivores—wolves included—are able to persist so long as policies toward carnivores remain favorable (Linnell et al. 2001). Thus, under protective policies wolf populations have persisted and even thrived in parts of Europe with relatively high human population densities (Kaczensky et al. 2013).

The primary consequence of the FWS's proposed rule would be the  
240 cessation of these mitigation measures, allowing states to adopt policies that work  
against recovery. Several states have already enacted policies explicitly designed to  
reduce wolf populations or prevent wolf range expansion (Bergstrom et al. 2009;  
Bruskotter et al. 2011). Thus, while human-caused mortality, motivated by the  
intolerance of a few people, is an ongoing threat to wolf populations, today the far  
245 greater threat is the FWS's reluctance to exercise its statutory obligations in the face  
of political pressure.

The FWS defends the proposed rule by arguing that the ESA does not  
obligate the agency to restore wolves to all the places where they had once lived.  
That defense obscures the concern. Indeed, wolves are not likely to occupy portions  
250 of their former range where human densities are very high. Few would suggest that  
wolves should live in such places as Denver, Colorado or even downtown Wausau,  
Wisconsin—locations once part of the wolves' historic range. However, places with  
such high human densities make up a relatively small portion of wolves' historic  
range (Fig. 2). The concern is, rather, that wolves could and would occupy many  
255 portions of their former range *if* the FWS chose to mitigate high rates of human-  
caused mortality in ways they have demonstrated are feasible.

That threats to some species cannot be mitigated is a general and growing  
concern in conservation epitomized by polar bears and other species impacted by  
climate change. This concern leads to the conclusion that some species are  
260 essentially unrecoverable (Scott et al. 2010). However, though in some cases  
threats to species may not be feasibly mitigated, this is not the case for wolves. The

FWS has successfully demonstrated its ability to curb human-caused mortality over the last decades, and mitigation remains feasible throughout large portions of wolves' historic range.

265           Finally, perhaps most concerning is an analysis of documents recently acquired through a Freedom of Information Act request which suggests that scientific information included in the proposed rule was misrepresented for reasons of political expediency—especially, minimizing political conflict between state and federal governments (PEER 2013a, b). Political expediency is not “best-available  
270 science” and has no role in listing status determinations. Even if political considerations are ignored, the FWS’s failure to properly handle the concept of intolerance led the FWS to conflate negative attitudes toward wolves (i.e., dislike of wolves) with human-caused mortality.

#### **Taxonomical ambiguity**

275   An advocate for delisting *C. lupus* might object to a basic premise of our analysis, i.e., *C. lupus* occupies a small portion (~15%) of their historic range within the conterminous United States. That objection would be predicated on a controversial supposition of the proposed rule, that *Canis lycaon* is a legitimate taxonomic entity that is separate from *Canis lupus*. Specifically, the FWS claims that the northeastern  
280 parts of the US were inhabited by *C. lycaon*, not *C. lupus*. Thus, they argue that the northeastern US need not be considered when determining the listing status of *C. lupus*. However, the taxonomic identity of *C. lycaon* is controversial and uncertain (Koblmüller et al. 2009; Randi 2010; vonHoldt et al. 2011). If *C. lupus* and *C. lycaon* are not taxonomically distinct, then FWS will have removed ESA protections for

285 wolves across an entire region where they should be protected. Even if *C. lupus* and  
*C. lycaon* are taxonomically distinct, *C. lupus* would still fail to satisfy the SPR-  
requirement. Because there is considerable risk of making an error that would  
cause significant harm, this taxonomic uncertainty calls for application of the  
precautionary principle. In the context of species recovery, the precautionary  
290 principle can be characterized as follows: when an activity potentially threatens the  
health or viability of a species or population, precautionary measures should be  
taken so as to reduce or avoid the threat—even when there is uncertainty about the  
extent of the threat (Kriebel et al. 2001). The most modest application of the  
precautionary principle calls for developing criteria that are sensible whether *C.*  
295 *lycaon* is or is not separate from *C. lupus*.

### **Conclusion**

The FWS's rationale for delisting wolves across the lower 48 states undermines the  
overarching purpose of the ESA, which is to mitigate threats to the recovery of  
300 species. One element of this rationale represents an ongoing, decade-long attempt  
of the FWS to interpret the SPR-phrase in a manner that is inconsistent with a plain  
reading of the law, congressional intent, federal court decision and relevant  
scholarship (see Carroll et al. 2010; Bruskotter and Enzler 2009; Enzler and  
Bruskotter 2009; Vucetich et al. 2006). A second element of the rationale is new and  
305 no less disturbing; that is, the proposed rule implies that delisting is acceptable even  
if a species fits the definition of threatened or endangered, so long as the FWS  
concludes that the threats to recovery are not able to be mitigated. In this case,



arriving at that conclusion required ignoring a substantial body of scientific knowledge.

310 Concluding that wolves cannot be recovered because some people dislike  
wolves is unsupported by evidence; and concluding that wolves cannot be  
recovered because of human-caused mortality is to merely *describe* the potential  
threat to wolves. Congress enacted the ESA not to describe such threats, but to  
mitigate them. While human intolerance (in the form of legal and illegal killing)  
315 continues to threaten wolves in some geographic areas, the greater threat to wolf  
recovery is the lack of will on the part of the federal government to stay the course  
and endure political pressure from state governments and special interest groups  
who want wolf populations minimized or eliminated.

From this point in history forward, an increasing number of detrimental  
320 environmental changes will be irrevocable. In some instances judging what is  
irrevocable and what is not will require considerable wisdom. Wolves do not  
represent one of these difficult cases. The actions required to recover wolves (i.e., to  
make them no longer fit the definition of threatened or endangered) are readily  
feasible and proven effective. Accepting the proposed rule would set an unfortunate  
325 precedent that could be applied to many species that are currently protected by the  
ESA. The FWS's proposed rule would mean, from this day forward, that a species  
could be declared recovered even though it still meets the definition of a threatened  
or endangered species if mitigating the threats to recovery is more challenging than  
the FWS is willing to confront. If allowed to stand, the proposed rule could also have  
330 far reaching consequences for the use of science in listing status determinations—

specifically, it would suggest that the FWS need not follow nor even acknowledge the best available science when determining whether a species should be listed. Finally, restricting the term “range” in the SPR-phrase of the ESA to mean “current range” would almost certainly constrain imperiled species to their last remaining refugia, and dramatically limit future recovery efforts under the ESA.

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### Figure Legends

**Figure 1.** The impact of human intolerance of wolf recovery. A variety of emotions and cognitions could precipitate intolerant actions (1); the list we have provided is  
465 not meant to be exhaustive, merely illustrative. Human-caused wolf mortality takes many forms (e.g., illegal poaching, legal hunting, lethal control, wolf-vehicle collisions). Intolerant behaviors (2) are those undertaken with the intent of removing individual wolves or reducing wolf populations. The FWS has shown the ability to mitigate (or reduce) human-caused wolf mortality primarily via federal  
470 protections (3) for wolf populations. Likewise, research generally suggests that large carnivores can persist despite high human densities so long as policy remains favorable (Linnell et al. 2001).

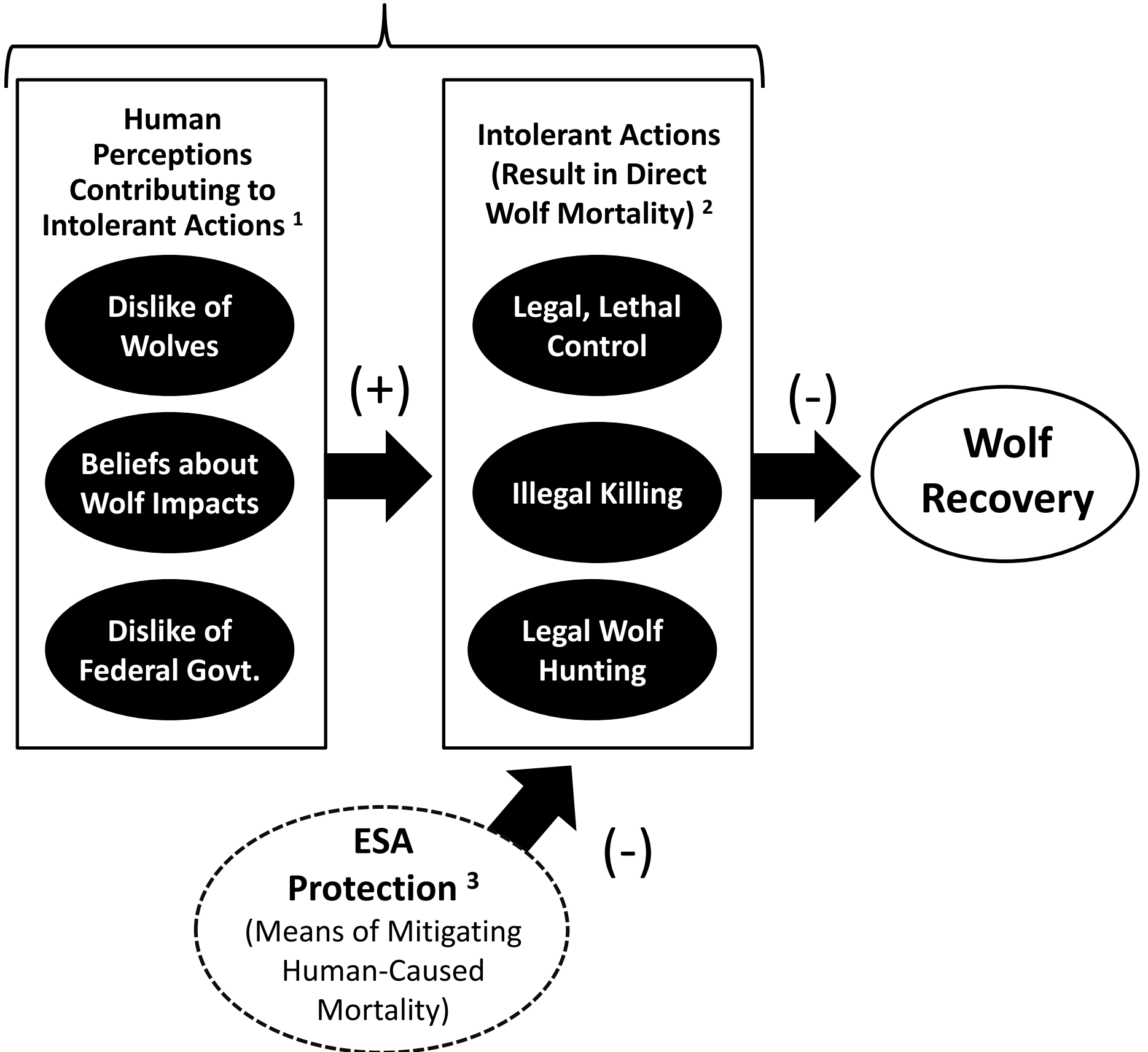
**Figure 2.** Current (as of 2013) and historic (prior to European settlement) range of  
475 gray wolves and current human population densities within the conterminous

United States. Human density is one of several important factors that determine where wolves could exist. Growing wolf populations can be found in several regions of Europe where human population densities average 142 people/km<sup>2</sup> (Linnell et al. 2001, Kaczensky et al. 2013). This map is not intended to determine the limits of what should or could be wolf range. This map is also not intended to dismiss other important insights about wolf habitat requirements (Carroll et al. 2006; Mladenoff et al. 1999; Oakleaf et al. 2006), nor do such insights obviate the insight represented by this map. This map highlights shortcomings of the U.S. Fish and Wildlife Service's proposal to delist wolves (see main text). Note: this figure compiles data on the current distribution of gray wolves (78 Fed. Reg. 35,664), the distribution of gray wolves prior to European settlement of North America (Young and Goldman 1944, Hall 1981, Nowak 2002, see also Shelton and Weckerly 2007), and current human population densities ([www.census.gov](http://www.census.gov)) in the conterminous United States.

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<sup>i</sup> Preliminary analyses of both studies are available at <http://faculty.nelson.wisc.edu/treves/wolves/wolfhuman.php>

# Human Intolerance





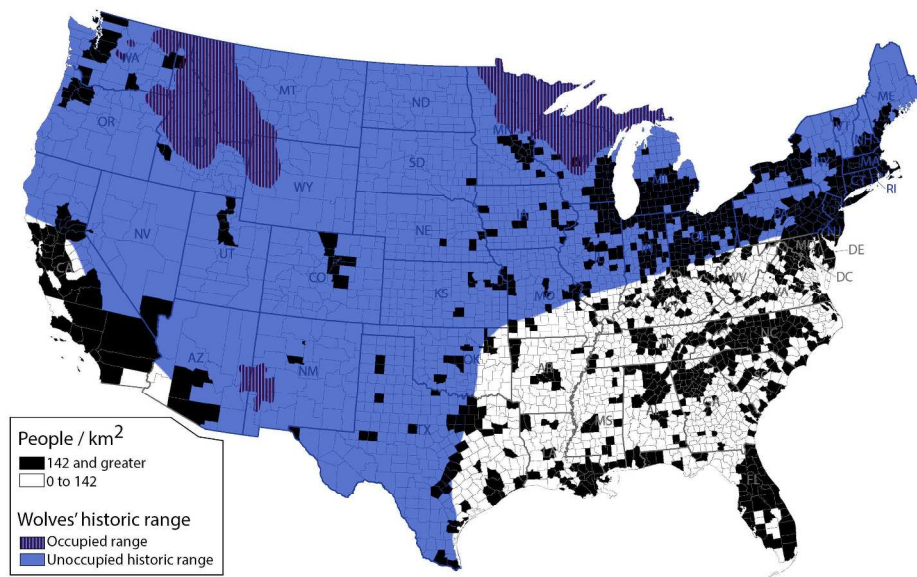


Figure 2. Current (as of 2013) and historic (prior to European settlement) range of gray wolves and current human population densities within the conterminous United States. Human density is one of several important factors that determine where wolves could exist. Growing wolf populations can be found in several regions of Europe where human population densities average 142 people/km<sup>2</sup> (Linnell et al. 2001, Kaczensky et al. 2013). This map is not intended to determine the limits of what should or could be wolf range. This map is also not intended to dismiss other important insights about wolf habitat requirements (Carroll et al. 2006; Mladenoff et al. 1999; Oakleaf et al. 2006), nor do such insights obviate the insight represented by this map. This map highlights shortcomings of the U.S. Fish and Wildlife Service's proposal to delist wolves (see main text). Note: this figure compiles data on the current distribution of gray wolves (78 Fed. Reg. 35,664), the distribution of gray wolves prior to European settlement of North America (Young and Goldman 1944, Hall 1981, Nowak 2002, see also Shelton and Weckerly 2007), and current human population densities ([www.census.gov](http://www.census.gov)) in the conterminous United States.

255x154mm (300 x 300 DPI)



**Supplementary Table 1. Papers published on tolerance for (or attitudes toward) wolves since the year 2000.**

Region	#	Citation
Asia, NA	1	Agarwala, M., Kumar, S., Treves, A., & Naughton-Treves, L. (2010). Paying for wolves in Solapur, India and Wisconsin, USA: Comparing compensation rules and practice to understand the goals and politics of wolf conservation. <i>Biological Conservation</i> , 143(12), 2945-2955. doi:10.1016/j.biocon.2010.05.003
Europe	2	Álvares, Francisco, Domingues, José, Sierra, Pablo, & Primavera, Pedro. (2011). Cultural dimension of wolves in the Iberian Peninsula: implications of ethnozoology in conservation biology. <i>Innovation: The European Journal of Social Science Research</i> , 24(3), 313-331. doi: 10.1080/13511610.2011.592049
Europe	3	Andersone Z, Ozolins J. 2004. Public perception of large carnivores in Latvia. <i>Ursus</i> 15: 181-187.
Scandinavia	4	Bisi, J., Kurki, S., Svensberg, M., & Liukkonen, T. (2007). Human dimensions of wolf ( <i>Canis lupus</i> ) conflicts in Finland. <i>European Journal of Wildlife Research</i> , 53(4), 304-314.
Scandinavia	5	Broberg, T., & Brännlund, R. (2008). On the value of large predators in Sweden: A regional stratified contingent valuation analysis. <i>Journal Of Environmental Management</i> , 88(4), 1066-1077. doi:10.1016/j.jenvman.2007.05.016
NA	6	Bruskotter, J. T., & Fulton, D. C. (2012). Will hunters steward wolves? A Comment on Treves and Martin. <i>Society &amp; Natural Resources</i> , 25(1), 97-102.
NA	7	Bruskotter, J. T., Schmidt, R. H., & Teel, T. L. (2007). Are attitudes toward wolves changing? A case study in Utah. <i>Biological Conservation</i> , 139(1/2), 211-218. doi:10.1016/j.biocon.2007.06.016
NA	8	Bruskotter, J. T., Toman, E., Enzler, S. A., & Schmidt, R. H. (2010). Are Gray Wolves Endangered in the Northern Rocky Mountains? A Role for Social Science in Listing Determinations. <i>Bioscience</i> , 60(11), 941-948. doi:10.1525/bio.2010.60.11.10
NA	9	Bruskotter, J. T., Vaske, J. J., & Schmidt, R. H. (2009). Social and Cognitive Correlates of Utah Residents' Acceptance of the Lethal Control of Wolves. <i>Human Dimensions Of Wildlife</i> , 14(2), 119-132. doi:10.1080/10871200802712571
NA	10	Chavez, A. S., Gese, E. M., & Krannich, R. S. (2005). Attitudes of rural landowners toward wolves in northwestern Minnesota. <i>Wildlife Society Bulletin</i> , 33(2), 517-527.
NA	11	Chambers, C. M., & Whitehead, J. C. (2003). A Contingent Valuation Estimate of the Benefits of Wolves in Minnesota. <i>Environmental and Resource Economics</i> , 26, 249-267.
NA	12	Duffield J.W., Neher C.J., Patterson D.A. (2008) Wolf Recovery in Yellowstone: Park Visitor Attitudes, Expenditures, and Economic Impacts. <i>George Wright Forum</i> 25, 13-19.
NA	13	Enck, J. W., & Brown, T. L. (2002). New Yorker's attitude toward restoring wolves to the Adirondack Park. <i>Wildlife Society Bulletin</i> , 30(1), 16.
Scandinavia	14	Ericsson, G., & Heberlein, T. A. (2003). Attitudes of hunters, locals, and the general public in Sweden now that the wolves are back. <i>Biological Conservation</i> , 111(2), 149.
Not specific	15	Figari, H., & Skogen, K. (2011). Social representations of the wolf. <i>Acta Sociologica (Sage Publications, Ltd.)</i> , 54(4), 317-332.

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