

**Rocky Mountain Wild, Utah Native Plant Society, Southern Utah Wilderness Alliance,
Center for Biological Diversity, Western Watersheds Project, Earthjustice, Western
Resource Advocates**

Public Comments Processing, Attn: FWS-R6-ES-2013-0081 & FWS-R6-ES-2013-0082
Division of Policy and Directives Management
U.S. Fish and Wildlife Service
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To whom it may concern:

Enclosed are comments on the following documents prepared by the U.S. Fish and Wildlife Service related to *Penstemon grahamii* (Graham's beardtongue) and *Pestemon scariosus* var. *albifluvis* (White River beardtongue): (1) August 6, 2013 proposed listing determination, (2) August 6, 2013 proposed critical habitat designation, (3) draft conservation agreement, (4) draft economic analysis, and (5) draft environmental assessment. We are also providing comments on new occurrence data that has become available since publication of the proposed rule. The relevant docket numbers are FWS-R6-ES-2013-0081 (proposed rule and draft conservation agreement) and FWS-R6-ES-2013-0082 (proposed critical habitat rule, draft economic analysis, and draft environmental assessment). Earthjustice submits these comments on behalf Rocky Mountain Wild, Utah Native Plant Society, Southern Utah Wilderness Alliance, Center for Biological Diversity, Western Watersheds Project, and Western Resource Advocates. All documents cited in these comments that are not otherwise part of the record are located on Rocky Mountain Wild's website at http://rockymountainwild.org/?page_id=16027 and will be provided on a CD to FWS.

The Graham's beardtongue and White River beardtongue have long deserved protection under the Endangered Species Act (ESA). These rare flowers live only on oil shale of the Green River Formation in the eastern Utah and western Colorado. As FWS recognized in the proposed rule, 91% of the known populations of Graham's beardtongue and 100% of the known populations of White River beardtongues are vulnerable to the impacts of energy development, such as oil shale and natural gas development.¹ The beardtongues are also threatened by grazing, road construction, competition from invasive weeds, loss of pollinators, and off road vehicles. These threats are exacerbated by climate change. There are no regulatory mechanisms in place that provide the necessary "landscape level" protections to these species.² Therefore, ESA listing and designation of critical habitat is warranted.

In fact, listing is long overdue. Although Graham's beardtongue was initially proposed as a candidate for listing in 1975 and White River beardtongue became a candidate in 1983, FWS has yet to take final action on either species. Conservation organizations petitioned for listing of Graham's beardtongue in 2002 and successfully sued to force FWS to respond to the petition. FWS proposed listing in 2006. Although all of FWS's expert peer reviewers supported listing,

¹ 78 Fed. Reg. 47,590, 47,602 (Aug. 6, 2013).

² *Id.* at 47,599.

FWS decided not to finalize that proposal in the face of pressure from the Bureau of Land Management (BLM), the federal agency responsible for oil shale, tar sands, and oil and gas leasing within much of the species' habitat. Conservation groups sued again, and the District of Colorado ordered FWS to reconsider its decision not to list.³ The court held that FWS had violated the ESA by (1) failing to consider the cumulative threats to the Graham's beardtongue from energy development, grazing, and other threats, (2) disregarding the best scientific information available, and (3) relying on speculative future BLM actions to protect the species.⁴

In August 2013, FWS proposed listing Graham's beardtongue and White River beardtongue. FWS also proposed designating nearly 68,000 acres of critical habitat for Graham's beardtongue and 14,900 acres of critical habitat for White River beardtongue. As required by the ESA, FWS determined that these areas are "essential to the conservation of the species."⁵

One again, however, FWS is considering backtracking and making a decision not to list the species. This time, FWS worked with BLM, SITLA, Utah Public Lands Policy Coordination Office, Utah Division of Wildlife Resources, and Uintah County, Utah—parties who have vehemently opposed listing of the Graham's beardtongue and White River beardtongue—to develop a draft conservation agreement (CA) designed to "prevent[] the need for listing either species."⁶ The CA is inadequate under the ESA and FWS's own policies. Although FWS claims the CA has been developed to "expedite conservation measures needed for the long-term persistence and recovery of these species," it fails to meet this goal.⁷ Instead, the CA relies on speculative future, voluntary conservation efforts that are unlikely to adequately protect the Graham's beardtongue and White River beardtongue from the numerous threats they face.

Therefore, FWS should reject the CA and list both species under the ESA. Due to the imminent threats facing the White River beardtongue, it should be listed as an endangered, rather than threatened, species. FWS should also finalize the proposed critical habitat, which is critical to the survival of these species. Critical habitat should also include all of the plants identified in surveys since FWS issued the proposed rule.

I. Comments on August 6, 2013 Proposal to List Graham's Beardtongue and White River Beardtongue as Threatened Species

As FWS recognized in the proposed rule, Graham's beardtongue and White River beardtongue warrant listing due to the threats facing these species. In the Federal Register notice reopening the comment period, FWS specifically requests comments related to "(3) Land use designations and *current or planned activities in the subject areas and their possible impacts on the species or*

³ *Ctr. for Native Ecosystems v. U.S. Fish & Wildlife Serv.*, 795 F. Supp. 2d 1199 (D. Colo. 2011).

⁴ *Id.*

⁵ 78 Fed. Reg. 47, 832, 47,833 (Aug. 6, 2013).

⁶ SWCA Environmental Consultants, Conservation Agreement and Strategy for Graham's Beardtongue (*Pestemon grahamii*) and White River Beardtongue (*P. scariosus* var. *albifluvis*) (Apr. 2, 2014), at 1 (CA), available at <http://www.fws.gov/mountain-prairie/species/plants/2utahbeardtongues/20140505ConservationAgreement.pdf>.

⁷ *Id.*

*its proposed critical habitat.*⁸ Additional information regarding the threats to the species is provided below.

A. Energy Exploration and Development Poses a Threat to the Species

In the proposed rule, FWS correctly concluded that energy exploration and development are threats to both Graham's and White River beartongues. FWS recognized that "Graham's and White River beartongues are particularly vulnerable to the effects of energy development because their ranges overlap almost entirely with oil shale and tar sands development areas, as well as ongoing traditional oil and gas drilling."⁹ Threats from energy development identified by FWS include increased road traffic and dust dispersion due to new road, well pad, and evaporation pond construction, barrier to pollinator movement, and habitat loss or fragmentation.¹⁰

1. Oil shale and tar sands

Oil shale and tar sands exploration and development significantly threaten Graham's and White River beartongue habitat.¹¹ In fact, the Energy Policy Act of 2005¹² "identifie[d] the Green River Region, including the *entire range* of Graham's and White River beartongues, as a priority for oil shale and tar sand development."¹³ Graham's beartongue in particular is "highly vulnerable to extirpation from potential oil shale or tar sands mining" due to its close association with the richest oil shale-bearing strata in the Mahogany ledge.¹⁴ In addition, BLM recently made approximately 678,000 acres available for potential development of oil shale, and approximately 132,000 acres available for development of tar sands, in Colorado, Utah, and Wyoming.¹⁵ This includes significant portions of Graham's and White River beartongue habitat and proposed conservation areas.¹⁶

⁸ 79 Fed. Reg. 25,806, 25,807 (May 6, 2014) (emphasis added).

⁹ 78 Fed. Reg. at 47,598.

¹⁰ *Id.*

¹¹ *Id.*

¹² 42 U.S.C. § 13201 *et seq.*

¹³ 78 Fed. Reg. at 47,598 (emphasis added).

¹⁴ *Id.*

¹⁵ See generally BLM, Approved Land Use Plan Amendments/Record of Decision (ROD) for Allocation of Oil Shale and Tar Sands Resources on Lands Administered by the Bureau of Land Management in Colorado, Utah, and Wyoming and Final Programmatic Environmental Impact Statement (March 2013) [hereafter "OSTS PEIS"].

¹⁶ See, e.g., OSTS PEIS at 21, fig. 6 (lands available for application for oil shale leasing in Utah); *id.* at 22, fig. 7 (lands available for application for oil shale leasing in Utah); see also 78 Fed. Reg. at 47599 ("[I]n Utah, 40 and 56 percent, respectively, of Graham's and White River beartongues' total populations overlap the designated oil shale and tar sands leasing areas on BLM lands."); *id.* ("We know of 18,678 Graham's beartongue plants on BLM lands, and 12,831 of these (or 69 percent) overlap designated oil shale and tar sands leasing areas. Our data also shows that of 7,054 White River beartongue plants known to occur on BLM lands, 6,389 (or 91 percent) overlap with designated oil shale and tar sands leasing areas.").

On December 19, 2006, FWS withdrew its proposed rule to list the Graham's beardtongue as threatened or endangered under the ESA.¹⁷ The agency did so because it concluded that the "development of oil shale and tar sands resources in Graham's beardtongue habitat was not likely to occur, if at all, until at least 20 years into the future."¹⁸ This projection was incorrect.¹⁹ In fact, at the present time there are several large-scale oil shale or tar sands exploration and development projects currently in various stages of state or federal permitting.²⁰ In the August 2013 proposed rule, FWS concludes that "it is now highly likely that oil shale and tar sands mining will occur across the ranges of both of these species in the near future."²¹

FWS recognizes three oil shale projects or explorations that are planned on private, State, and BLM lands in Uintah County, Utah.²² Additional evidence since the proposed rule was issued indicates that these projects still pose a substantial threat to the beardtongues.

The first project is the Enefit South Project, which overlaps 19% of all known Graham's beardtongue plants and 26% of all known White River beardtongue plants.²³ Enefit American Oil has filed a right-of-way application with BLM for a utility corridor that will cross federal lands.²⁴ Enefit plans to construct and operate a water-supply pipeline, a natural gas pipeline, electric transmission lines, and an oil delivery pipeline to serve the planned Enefit South Project, which is located on one of the largest tracts of privately owned oil shale in the U.S.²⁵ The South Project designed to develop oil shale mining and a shale-oil production complex that will process 28 million tons of raw oil shale ore rock per day using a combination of surface and underground mining methods.²⁶ Shortly after FWS published the proposed rule, BLM issued its final scoping report for the proposed utility corridor.²⁷ BLM's continued work on the EIS indicates that the Enefit project still poses a threat to the beardtongues.

¹⁷ 71 Fed. Reg. 76024 (December 19, 2006).

¹⁸ 78 Fed. Reg. at 47,599.

¹⁹ *Id.* ("it is now *highly likely* that oil shale and tar sands mining will occur across the ranges of [Graham's and White River beardtongue] in the near future.") (emphasis added).

²⁰ *See, e.g.*, BLM, Ambre Energy Seep Ridge Oil Shale Exploration Application, DOI-BLM-UT-G010-2014-0081-EA (April 2014); BLM, Enefit American Oil Utility Corridors EIS, DOI-BLM-UT-G010-2013-0236, available at http://www.blm.gov/ut/st/en/fo/vernal/planning/nepa_.html (last updated June 9, 2014) (proposed project in and near Conservation Areas); Red Leaf Resources, Inc., Notice of Intention to Commence Large Mining Operation, Seep Ridge Block: Southwest #1 Mine (Sept. 1, 2011)

²¹ 78 Fed. Reg. at 47,599.

²² *Id.*

²³ *Id.* at 47,600.

²⁴ *See also* BLM, Enefit American Oil Utility Corridor Project EIS, Scoping Report (Sept. 2013), at 1-1 to 1-2, available at <http://www.blm.gov/ut/st/en/fo/vernal/planning/nepa.html>. Other documents related to this project are also available on BLM's website.

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.*

The second project is Red Leaf Resource's oil shale project proposed for SITLA lands.²⁸ Red Leaf has obtained its mining permit from the Utah Division of Oil, Gas and Mining and has been issued a ground water discharge permit from the Utah Division of Water Quality.²⁹ The ground water discharge permit is currently under administrative challenge. The Red Leaf permit is for construction of a single prototype capsule, along with substantial support structures and open pit operations. The Utah agencies have stated that they intend to use the data obtained during testing of the prototype as a basis for issuing commercial-scale production permit. Red Leaf mining permit application calls for construction of 118 10-acre capsules.

The third project is the Amber Energy Seep Ridge Oil Shale Exploration Project, which is a proposal to drill test wells on BLM lands within Graham's beardtongue habitat.³⁰ In April 2014, BLM issued an EA analyzing the project.³¹ According to the EA, two of the proposed drill holes occur within proposed critical habitat.³² Surveys also revealed that there were approximately 14 plants living within 300 feet of one of the proposed drill holes.³³ Although in the proposed rule FWS assumed that BLM would avoid Graham's beardtongue plants by at least 91 m (300 ft),³⁴ BLM failed to follow through on this commitment in the EA.³⁵ As discussed further below, this EA calls into question BLM's commitment to implementing the buffer zone for these species—a conservation measure FWS relies on repeatedly to “minimize” direct impacts to plants from energy development on BLM lands.³⁶ The EA also recognizes that the project will result in “loss of suitable habitat, loss of habitat and forage opportunities for pollinators of the species, habitat modification by invasive weed species which may compete with individuals, accidental spray or

²⁸ 78 Fed. Reg. at 47,600; *see also* Red Leaf Resources, Inc., Notice of Intention to Commence Large Mining Operation, Seep Ridge Block: Southwest #1 Mine (Sept. 1, 2011); Letter from Dana Dean, Associate Director of Mining, Utah Department of Natural Resources, Division of Oil, Gas and Mining to Lance Lehnhof, Red Leaf Resources, Inc., Subject: Approval of Modified Notice of Intention to Commence Large Mining Operations (NOI) and Reclamation Surety, Red Leaf Resources, Southwest #1 Mine, M/047/0103, Uintah County, Utah (February 24, 2014).

²⁹ Utah Department of Environmental Quality, Division of Water Quality, Ground Water Discharge Permit, Permit No. UGW470002 (December 20, 2013); *see also* Statement of Basis, Red Leaf Resources Southwest #1 Oil Shale Mine, Ground Water Discharge Permit No. UGW470002.

³⁰ 78 Fed. Reg. at 47,600.

³¹ BLM, Ambre Energy Seep Ridge Oil Shale Exploration Application, DOI-BLM-UT-G010-2014-0081-EA (Apr. 2014), at 8 (Ambre Energy EA).

³² *Id.*

³³ *Id.* at 8, 11, 20.

³⁴ 78 Fed. Reg. at 47,599.

³⁵ Ambre Energy EA at 11-12.

³⁶ *See* 78 Fed. Reg. at 47,599 (noting that “direct impacts to Graham’s and White River beardtongues on Federal lands [from oil shale and tar sands development] will be minimized because existing conservation measures protect plants by 91 m (300 ft)”); *id.* at 47,602 (noting that “individuals of these species on BLM lands will be mostly protected from direct loss through the 91-m (300-ft) setback conservation measure”).

drift of herbicides during invasive plant control, and the deposition of fugitive dust from construction activities and vehicle traffic on unpaved roads.”³⁷

2. Oil and gas development

Oil and gas exploration and development also threaten Graham’s and White River beardtongue habitat.³⁸ This threat is expected to increase in the future.³⁹

In the past two decades, oil and gas production in Uintah County, Utah, has increased substantially. For example, oil production in Uintah County increased about 60 percent from 2002 to 2012, and gas production increased about 25 percent over this same time period.⁴⁰

As FWS recognized, a significant portion of Graham’s and White River beardtongue habitat is already leased by the State or BLM for traditional oil and gas development. BLM continues to offer new lands for lease within the species’ habitat.⁴¹

In Utah, there are also several proposed or approved oil and gas exploration and development projects in or near Graham’s and/or White River beardtongue habitat.⁴² These projects and their associated infrastructure (*e.g.*, roads, pipelines, and storage facilities) will exacerbate threats to both species’ long-term viability.⁴³ Development of these projects will result in the construction

³⁷ Ambre Energy EA at 11.

³⁸ 78 Fed. Reg. at 47,600 (“The impacts of traditional oil and gas development on Graham’s and White River beardtongues are expected to be high.”).

³⁹ *Id.*; *see also id.* at 47,601 (“traditional oil and gas development will very likely increase in the habitat of both [Graham’s and White River beardtongue].”)

⁴⁰ *Id.* at 47,600.

⁴¹ BLM, Vernal November 2014 Lease Sale, DOI-BLM-UT-G010-2014-0093-EA (June 2014) (oil and gas leases offered in species’ habitat).

⁴² *See, e.g.*, BLM, Record of Decision for the Gasco Energy Inc. Uinta Basin Natural Gas Development Project, Environmental Impact Statement FES 12-5 (June 2012) (approving 1,298 new gas production wells from up to 575 well pads, many in proposed conservation areas) (Gasco EIS); BLM, Wild Horse Bench Infill Project, Environmental Assessment and Biological Opinion, DOI-BLM-UT-G010-2013-0211 (July 2013) (135 proposed new oil and gas wells from up to thirty-seven existing well pads located to the east of Graham’s beardtongue conservation area habitat); BLM, Rosewood’s Atchee Oil and Gas Development Project, DOI-BLM-UT-G010-2014-0018-EA (151 proposed gas wells from thirty-eight existing well pads and thirty new well pads located to the west, southwest, of Graham’s and White River beardtongue conservation area habitat); BLM, Vernal November 2014 Lease Sale, DOI-BLM-UT-G010-2014-0093-EA (June 2013) (proposed oil and gas parcels in conservation areas offered for leasing).

⁴³ 78 Fed. Reg. at 47,601 (“substantial numbers of Graham’s and White River beardtongue individuals (and their habitat) occur in areas that are leased for oil and gas development, and thus it is reasonable to conclude that the impacts of oil and gas activity will increase in the future as additional areas are developed.”) (internal citation omitted).

of hundreds of miles of new roads and pipelines as well as new evaporation ponds for wastewater disposal.⁴⁴

In addition, FWS admitted that its past estimates of impacts were underestimated due to lack of information about how much private land is planned for development.⁴⁵ FWS does not have this information yet so its new estimates are likely still underestimates. Furthermore, the agency downplays the current threat from oil and gas activity when it states that “[w]ithin the Graham’s beardtongue analysis area [*i.e.*, conservation areas], well drilling has occurred at a comparatively slow pace thus far.”⁴⁶ FWS ignores the direct, indirect, and cumulative, impacts of oil and gas development occurring outside but near Graham’s and White River beardtongue habitat.

For example, according to data collected by the Utah Division of Oil, Gas and Mining, there are six producing wells immediately to the east of the SITLA conservation area located in Township 10 South, Range 18 East, Section 36.⁴⁷ Slightly more to the east, in Township 10 South, Range 19 East, there are more than *one hundred* active wells⁴⁸ and *eighteen* new Applications for Permit to Drill (APDs).⁴⁹ This oil and gas activity and similar activity occurring near other proposed conservation areas were not considered.

As noted by FWS, the Energy Policy Act of 2005 enables the leasing of oil and gas and oil shale/tar sands separately, even when the two are found in the same area.⁵⁰ This has “effectively opened the entire range of both [Graham’s and White River beardtongue] to leasing for oil and gas development and made that leasing more efficient and effective.”⁵¹ The Conservation Agreement does not account for this factor and its non-binding conservation actions and lack of information regarding existing surface disturbance (and other important factors) do not adequately respond to the dual threats from unconventional and conventional energy development.

Finally, the proposed rule also indicates that there is at least one seismic exploration project that overlaps with the habitat for both species, but FWS provides no further information.⁵² FWS must provide more information about this project and its location.

⁴⁴ Gasco EIS at 3 (“It is anticipated that Gasco will have to construct up to 198 miles of new roads and 316 miles of new surface or buried water supply and gas gathering pipelines to support their exploration and development activities.”).

⁴⁵ 78 Fed. Reg. at 47601.

⁴⁶ *Id.*

⁴⁷ DOGM, Six Active Wells in 10S, 18E, Sec. 36.

⁴⁸ DOGM, Active Wells in 10S, 19E.

⁴⁹ DOGM, APDs in 10S, 18E.

⁵⁰ *Id.* at 47,600.

⁵¹ *Id.*

⁵² 78 Fed. Reg. at 47,601.

B. Climate Change Poses a Threat to the Species

FWS specifically requests “[i]nformation on the projected and reasonably likely impacts of climate change on Graham’s beardtongue and White River beardtongue.”⁵³

In the proposed rule, FWS acknowledges that Graham’s and White River beardtongues are likely to be negatively impacted by climate change. The Southwest is predicted to experience the greatest temperature increase in the continental United States.⁵⁴ Increased frequency and duration of droughts is expected in the areas where these plants live, which decreases their ability to recover and may lead to population declines.⁵⁵ FWS recognizes that the impacts of climate change will be more severe if the habitat for these species is destroyed or fragmented as a result of energy development or other activities. In the end, however, FWS concludes that current data are not reliable enough at the local level to draw conclusions regarding the impacts of climate change on the species. In doing so, FWS ignores the best available science, which indicates that climate change, standing alone, poses a significant threat to Graham’s and White River beardtongue.

For example, the Colorado Rare Plant Conservation Initiative recently completed a proposed rare plant addendum to Colorado’s State Wildlife Action Plan.⁵⁶ This included a rapid, first iteration assessment of the vulnerability of 121 rare plant species to climate change. We hereby incorporate this report by reference. This assessment used a scoring system to integrate species’ predicted exposure to climate change and three sets of factors associated with climate change sensitivity: 1) indirect exposure to climate change, 2) species-specific factors (including dispersal ability, temperature and precipitation sensitivity, physical habitat specificity, interspecific interactions, and genetic factors), and 3) documented response to climate change.⁵⁷ This report scored Graham’s beardtongue and White River beardtongue as *extremely vulnerable* to climate change.

The report also highlights the relative importance of factors contributing to climate change vulnerability. This report supports FWS’s findings that these species will likely be negatively impacted by climate change, and that the impacts of climate change will be more severe if oil and gas development destroy and fragment the habitat both species will need for refuge from an

⁵³ 79 Fed. Reg. at 25,807.

⁵⁴ 78 Fed. Reg. at 47,605-06.

⁵⁵ *Id.* at 47,605.

⁵⁶ Colorado Natural Heritage Program, Colorado Wildlife Action Plan: Proposed Rare Plant Addendum (June 2011), *available at* http://www.cnhp.colostate.edu/download/documents/2011/rareplant_SWAP_final_june_30_2011.pdf.

⁵⁷ This report acknowledges significant data gaps for most of the 121 rare plants included in the assessment, and states that many assumptions were made based on field observations, expert judgment, information on related species, and general habitat-level information. This is however, the best available information.

increasingly hot, dry climate.⁵⁸ The report also highlights additional factors that contribute to these species' vulnerability to climate change. Additional factors identified as contributing to climate change vulnerability for both species include (but are not limited to) sensitivity to moisture changes, constraints on dispersal/movement, lack of pollinator versatility, and vulnerability to impacts associated with human mitigation of climate change (e.g. renewable energy development).

As a result of increased temperatures, the geographical range of plants is expected to change.⁵⁹ Accelerating rates of temperature increase have already shifted the range of many plant species.⁶⁰ It is possible for some species to extend their range; however, it depends on suitable habitats being located within reasonable seed-dispersal distances.⁶¹ Accordingly, protecting potential future habitat is important to ensuring species survival. According to Fitts 2013, the Utah Heritage Program species distribution model predicts that moisture amount and timing was important to the distribution of Graham's penstemon.⁶² Documents obtained in response to a FOIA request mention climatologists Mitch Powers at USU and Robert Gilles at USU climate center. "Robert's hypothesis: if [climate gets] drier [penstemon] needs to move, but [it is] limited by soil [type] ... might be able to move to other slope aspects."⁶³ If climatologists are predicting that the plants will need to move as climate changes, FWS must manage conservatively and protect sufficient habitat by designating critical habitat. It is not enough to provide minimal protections to existing populations and a few core areas with only voluntary protections on a large portion of it, as proposed in the CA. A cautionary approach is particularly warranted for a sedentary species such as the Graham's and White River beardtongue, which are vulnerable to population extinctions.⁶⁴

⁵⁸ 78 Fed. Reg. at 47,605-06.

⁵⁹ See Gian-Reto Walther et al., *Ecological Responses to Recent Climate Change*, 416 NATURE 389, 390 (March 28, 2002) (Walther, *Ecological Response to Recent Climate Change*).

⁶⁰ See Walther, *Ecological Responses to Recent Climate Change* at 390; Gian-Reto Walther, *Community and Ecosystem Responses to Recent Climate Change*, 365 PHILOSOPHICAL TRANSACTIONS: BIOLOGICAL SCIENCE 2019, 2020 (July 12, 2010).

⁶¹ 78 Fed. Reg. at 47,606.

⁶² Fitts, Utah Natural Heritage Program, Review of Proposed Rules to list *Penstemon grahamii* (Graham's Beardtongue) and *Penstemon scariosus* var. *albifluvis* (2013) (Fitts 2013). These peer review comments are available at www.regulations.gov (accessed 6/24/14).

⁶³ FOIA FWS-2014-00894 (folder 110) 1.3 Service 2012a_meeting notes.pdf. Documents responsive to this Freedom of Information Act (FOIA) request are included on Rocky Mountain Wild's websites, will be submitted on a CD, and are also on file with Lori Ann Burd, Center for Biological Diversity, and are available upon request. Ms. Burd, an attorney with the Center, submitted a FOIA request on May 6, 2014 requesting all records relating to the draft Conservation Agreement. FWS provided a partial response on June 11, 2014, and this document one of the responsive documents provided by the Service in that response.

⁶⁴ See Walther, *Ecological Response to Recent Climate Change* at 391; see also Ilya M. D. Maclean & Robert J. Wilson, *Recent Ecological Responses to Climate Change Support Predictions of High Extinction Risk*, 108 PROCEEDINGS OF THE NAT'L ACAD. OF SCI. OF THE UNITED STATES OF AMERICA 12337 (July 26, 2011); Javier Monón et al., *Climate Change and Species Range Dynamics in Protected Areas*, 61 BIOSCIENCE 752 (2011).

Increased temperatures may also affect the life cycle of the Graham's and White River beardtongues. "Elevated temperatures are known to affect the physiology of flowering plants in a number of ways, resulting in altered production of flowers, nectar, and pollen."⁶⁵ Because of warmer climates, earlier plant flowering and maturity have been observed and documented in recent decades.⁶⁶ "The timing of flowering, a critical stage of development in the life cycle of most plants when seed number is determined, is important for adaptation both to the abiotic stresses of temperatures and water deficit, and to the biotic (pest and disease) constraints within a growing season."⁶⁷ It is likely that increased temperatures will affect when the plants flower, how much they flower, and whether pollinators will be active at the right time.⁶⁸

Climate change is also likely to introduce invasive species and augment the ability of invasive, non-native species to out-compete native plant species.⁶⁹ Invasive species, such as cheat grass, out-compete native species for soil, nutrient, and water.⁷⁰

This information suggests that climate change is a significant threat to the species, even in the absence of other threats. FWS must consider this information in making its determination regarding whether these two species need protection as threatened or endangered under the ESA.

C. Livestock Grazing and Herbivory Pose a Threat to the Species

In the proposed rule, FWS acknowledges that herbivory and trampling from grazing on some locations of Graham's and White River beardtongues may be severe in some years, and it is likely that these impacts occur across the ranges of the species.⁷¹ FWS recognizes that all known populations of the beardtongues occur within grazing allotments.⁷² Additionally, grazing has likely led to habitat degradation with the beardtongues' habitat, including nonnative weed invasion.⁷³ Moreover, FWS acknowledges that climate change may exacerbate these impacts.⁷⁴ Yet, FWS concludes that grazing is not a threat to these species.⁷⁵ FWS must reconsider this

⁶⁵ Victoria L. Scaven & Nicole E. Rafferty, *Physiological Effects of Climate Warming on Flowering Plants and Insect Pollinators and Potential Consequences for the Interactions*, 59 CURRENT ZOOLOGY 418, 419 (2013).

⁶⁶ P. Q. Craufurd & T.R. Wheeler, *Climate Change and the Flowering Time of Annual Crops*, 60 JOURNAL OF EXPERIMENTAL BOTANY 2529 (2009).

⁶⁷ *Id.* at 2530 (internal citations omitted).

⁶⁸ *Id.* at 2531-2534.

⁶⁹ Beth A. Middleton, *Invasive Species and Climate Change*, U.S. GEOLOGICAL SURVEY OPEN-FILE REPORT 2006-1153; Walther, *Ecological Responses to Recent Climate Change* at 391.

⁷⁰ Graciela Melgoza et al., *Soil Water Exploitation after Fire: Competition between Bromus tectorum (Cheatgrass) and Two Native Species*, 83 OECOLOGIA 7, 9-10 (1990).

⁷¹ 78 Fed. Reg. at 47,602-03.

⁷² *Id.* at 47,602.

⁷³ *Id.* at 47,603.

⁷⁴ *Id.*

⁷⁵ *Id.*

decision in light of the information provided in the proposed rule as well as additional information.

1. Herbivory

Federal and state monitoring surveys have shown that herbivory from wildlife and livestock is indisputably a substantial impact on these two species. A 2005 status report by Lewinsohn and Tepedino found that herbivory on Graham's beardtongue was so extreme at the Buck Canyon and Seep Ridge sites that few if any plants reproduced successfully from seed in either year of the study.⁷⁶ Although it's impossible to determine who is doing the herbivory, the authors mention "large animal scat" and the presence of a watering trough for cattle 50 meters from the population. They also state that it's likely that cattle grazed within the site since there were no fences barring their entry.

Tepedino expands further on the issue by stating that:

"I believe that grazing could be a substantial threat to both Graham's and White River Penstemon. All Penstemons with which I have worked are very palatable and are sometimes grazed 'without mercy' by mammals, both native and domesticated. For example, a study I was involved in with Jena Lewinsohn and Trent Toler in the Uintah Basin in 2004 and 2005, found that in 2005, 17% and 42% of the reproductive structures were removed (eaten to the ground) in two populations of White River Penstemon; removal rates were even higher in 2004. In addition, there were too few inflorescences of Graham's Penstemon in 2005 to conduct a study of its reproductive biology; they had been removed by grazers. Some of what we found was due to native ungulates, rabbits, etc., but cattle can also be grazing culprits. Allowing cattle grazing anytime before seeds have been matured and shed would be an invitation to additional heavy pressure on Penstemon reproductive success." (Tepedino, pers. comm.)

In addition, Red Butte Garden noted in their peer review comments on the 2013 proposed rule that sheep had significant impacts on these plants.⁷⁷ They "were observed passing through a *P. grahamii* monitoring plot at Blue Knoll, and the browsing decimated the site. After grazing not a single flowering stalk remained within the plot, essentially wiping out all reproduction for that year."⁷⁸ Removing flowers also interferes with insect pollinators. Since these bees and wasps feed on pollen, herbivores directly compete with them for forage plants.

⁷⁶ Lewinsohn, Tepedino, & Toler, Status Report on Demography and Pollinators for *Penstemon scariosus* var. *albifluvis* and *Penstemon grahamii* in Uintah County, Utah (2005) (prepared for Ron Bolander, BLM Utah State Office, Salt Lake City, UT by Red Butte Garden and Arboretum, Salt Lake City, UT).

⁷⁷ Red Butte Garden, Peer Review Comments in response to 50 CFR Part 17 (2013), Docket No. FWS-R6-ES-2013-0081, 4500030113, RIN 1018-AY95, Endangered and Threatened Wildlife and Plants; Threatened Species Status for Graham's Beardtongue (*Penstemon grahamii*) and White River Beardtongue (*Penstemon scariosus* var. *albifluvis*) (Red Butte Garden 2013). These comments are available at www.regulations.gov (accessed 6/24/14).

⁷⁸ Red Butte Garden 2013.

Monitoring studies from 2004 to 2012 show that, depending on the weather, fruiting and flowering can occur anytime between April and mid-August. Herbivory effects would be most impactful during these times of reproductive effort.⁷⁹ According to the BLM's GeoCommunicator SiteMapper website,⁸⁰ the season of use of the Colorado portion of the Evacuation Creek allotment runs through the vulnerable spring and summer flowering and fruiting period for White River beardtongue. Unit Five of the Graham's beardtongue core area has two allotments (Raven Ridge and Artesia) that graze sheep into and through May, and Atchee Ridge AMP allotment season of use for cattle runs from April 1 to October 1. As discussed below, earlier iterations of the Conservation Agreement addressed this by limiting the grazing season to October 15 – March 30. This prescription disappeared in the final draft. It is important to the reproductive success of both of these species that the prohibition on grazing after the end of March be reinstated.

As noted above, livestock is not the only source of herbivory on penstemons. Rabbits, squirrels, and other small grazers occur in the area, and deer have been directly observed eating Graham's beardtongue.⁸¹ However, it's clear that herbivory levels needs to be reduced, and domestic sources of herbivory are easier to control. The number and intensity of the threats to these species are such that efforts need to be made to reduce impacts from all sources, including grazing. FWS and BLM should consider whether the highest and best use of that land is not forage for livestock but critical habitat for threatened species.

2. Surface disturbance

In addition to directly damaging plants, surface disturbance of all kinds affects the wasps and ground nesting bees that pollinate penstemons. Trampling crushes ground nests and reduces suitable nest sites by compacting the soil. Trampling and grazing also damage shrubs used by *Pseudomasaris vespoides*, a wasp that attaches its nest to twigs of low bushes. Surface disturbance from cattle is greater than that for most herbivores, since they're heavier and have more crushing and compacting power. FWS must analyze these impacts.

3. Reduced habitat quality

The Geocommunicator SiteMapper site contains information on the management designations for each allotment (Improve, Maintain, or Custodial). The proposed critical habitat of White River beardtongue is comprised of just three units, all of which contain at least one allotment in the "Improve" category. This means that the area is not achieving even minimal land health standards and needs management attention. Similarly, all but one of the five units of Graham's beardtongue critical habitat have "Improve" allotments.

FWS claims that despite high levels of herbivory, the populations were mostly stable over 9 years of monitoring, citing McCaffery 2013.⁸² As discussed below, the citation to McCaffery is

⁷⁹ Red Butte Garden 2013; *see also* 78 Fed Reg. at 47,602 (recognizing that grazing in the spring or summer is most likely to directly impact the beardtongues).

⁸⁰ BLM, GeoCommunicator SiteMapper website, *available at* <http://www.geocommunicator.gov/blmMap/MapSiteMapper.jsp>.

⁸¹ Fitts 2013.

⁸² 78 Fed. Reg. at 47,602.

misleading. As FWS recognizes elsewhere in the proposed rule, McCaffery concluded that “[r]ecruitment for [the study] sites was low and sporadic” and “[s]mall population sizes and low recruitment make this species more vulnerable to stochastic events, and changes in stressors or habitat conditions may negatively impact the long-term growth of these sites.”⁸³ McCaffery concluded: “A combination of several factors could be driving population dynamics of Graham’s beardtongue; for example, herbivory and climate could be interacting to influence reproduction.”⁸⁴

D. Small Population Size and Habitat Fragmentation Pose a Threat to the Species

Habitat fragmentation and low population numbers pose a threat to rare plants like the Graham’s and White River beardtongues. Habitat fragmentation leads to higher risk of extinction because remaining plant populations are more isolated and vulnerable to environmental disturbance.⁸⁵ Small isolated populations are also less able to adapt to changing environmental conditions.⁸⁶ They also produce fewer seeds and therefore attract fewer and less diverse pollinators.⁸⁷ Additionally, they are subject to lower genetic diversity, inbreeding depression, and lower sexual reproduction rates.⁸⁸

1. Increased surveys and population counts do not alleviate the need for ESA listing.

As indicated in the proposals, both species have restricted ranges which have essentially not been expanded since each of their respective discoveries. The Uinta Basin is isolated and home to many endemic plant species. Both the Graham’s and White River beardtongue are at the highest level of conservation concern based on rankings by the Utah Native Plant Society Rare Plant Committee, which consists solely of expert botanists. Each currently has an “extremely high” priority ranking by the Utah Native Plant Society and are members of a group of only 34 species in the entire state that have such a ranking, including all existing federally listed plant species.⁸⁹

In the August 2013 proposed rule, FWS recognized that the overall number of known plants has increased since 2006 as a result of additional surveys. At the time of the 2013 proposed rule, FWS had identified approximately 31,000 Graham’s beardtongue plants and approximately 11,000 White River beardtongues.⁹⁰ Since the proposed rule, FWS has identified an additional approximately 8,600 Graham’s beardtongue plants (5,800 of which fall outside the proposed critical habitat) and 790 White River beardtongue (280 of which fall outside the proposed critical

⁸³ *Id.* at 47,594.

⁸⁴ *Id.*

⁸⁵ 78 Fed. Reg. at 47,598, 47,604-05.

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ Utah Native Plant Society, Utah Rare Plant Guide (last updated May 30, 2014), *available at* http://www.utahrareplants.org/rpg_species.html.

⁹⁰ 78 Fed. Reg. at 47,596.

habitat). As FWS acknowledged in the proposed rule, however, the increase in know plants “does not mean the total population is increasing.”⁹¹ Rather, as a result of increased surveys, FWS now has a better picture of the plants that exist.⁹² The additional survey data does not change the fact that both species are in need of ESA protection.

Plant population counts viewed in isolation, unlike counts for many vertebrates, do not necessary indicate population stability or status. The plant counts that have been presented and the comments made about a “fivefold” increase are potentially very misleading as to the status of these species. These are cumulative counts over decades and include data redundancies and do not distinguish juvenile plants from adults nor do they take into account mortality (including from sites that have since been impacted). FWS must take a conservative approach in estimating true reproducing population sizes and taking into account the breeding system of each species, particularly with respect to Graham’s beardtongue.

As stated by Dr. Susan Meyer in 2006:

Most penstemons are prolific seed producers, flowering in the second year of life and increasing their seed production in each subsequent year. They may not live more than a few years, but in that time an individual plant may contribute many thousands of seeds to a long-lived seed bank. *Penstemon grahamii* does not appear to follow this pattern. Even in years of reasonable precipitation, many mature plants do not flower, and adult plants do not necessarily flower every year. We do not yet have sufficient demographic information to know whether this pattern is associated with a conservative life history strategy that includes a longer-lived life span, that would compensate for this lack of regular seed production. And, we do not know anything about the persistent seed bank for *Penstemon grahamii*, other than inferring its existence based on data for other penstemons. But what we know so far suggests *that this species may be at greater risk because of reduced ability to form a large seed bank to act as a buffer in the face of population decline, whether this decline is weather-related or caused by anthropogenic disturbance. This may account at least in part for small population sizes.*

When I see the status of a plant species like *Penstemon grahamii* expressed in terms of absolute numbers of plants, I realize that this way of thinking has its basis in demographic work with vertebrates, where all individuals can be enumerated at any given point in time. This can be treacherous thinking for herbaceous plant species, whose above-ground populations can wax and wane with the vagaries of year to year weather variation, but whose persistent seed banks are much more consistently present. This makes plant count data remarkably unreliable as an indicator of population status. I realize that the seed bank work necessary to include this life cycle stage in estimates of population viability cannot be performed for every plant species at risk. But, if this species is

⁹¹ 78 Fed. Reg. at 47,592.

⁹² *Id.*

listed, seed bank studies should be an integral part of the recovery plan, and such studies should be undertaken in any case.⁹³

The current population estimates for Graham's beardtongue, which is the range of 30,000 to 40,000 plants, is not an estimate of currently extant, reproducing adults. FWS does not have information indicating how many of the species counted over a period of 30 years are even still alive, nor how many were juveniles that did not survive to adulthood. Further there is most likely some double counting involved.

In a 2009 Utah Natural Heritage Program (UNHP) survey for Graham's beardtongue, of 3,195 counted plants only 45% of those were in a reproductive stage and the rest considered juveniles or otherwise were not flowering that year.⁹⁴ The Fitts report then compares those 2009 results with 2008 and 2007 and indicates that the adults counted were each 47% in UNHP surveys conducted in 2008 and 2007. So for three years in a row, less than half the plants were considered to be adults. In a 2010 study of 695 plants counted, some 60% were adults.⁹⁵ The UNHP surveys consistently found in year after year studies a high number of non-flowering plants ranging from 40% to 53% of plants counted. Of these 40% to 53% some were juveniles, and some were non-flowering adults. Seedling survival rate of the species has observed to be low, and the number of seeds per fruit is very low.

The fact that the species is long-lived may have allow it to overcome low reproductive rates and low seedling survival rates. But as impact to it habitat surrounding ecosystem/pollinators increases, the species ability to survive will be compromised. The direct impacts of energy development, livestock, off-road vehicles that can more easily access its habitat due to the hundreds of miles new roads that have been and will be constructed to access oil and gas pads plus indirect impacts from dust and other pollutants will, and has had, a negative impact on the species and need to be minimized.⁹⁶ And there is unequivocal proof of the amount of activity occurring in the Uinta Basin. It has not only ramped up since 2006 when threats were already

⁹³ Letter from S.E. Meyer, Research Ecologist, USDA Shrub Sciences Lab. to Henry Maddux, US Fish & Wildlife Service in support of *Penstemon grahamii* listing (March 19, 2006) (emphasis added).

⁹⁴ Fitts, RD and SG Fitts, Utah Natural Heritage Program, Field survey for *Penstemon grahamii* (Graham's beardtongue) (2009).

⁹⁵ Fitts, RD, Utah Natural Heritage Program, Field survey for *Penstemon grahamii* (Graham's beardtongue) (2010). The botanical program within the Utah Natural Heritage Program was essentially shutdown during 2011 and 2012 due to Utah Department of Natural Resource (DNR) policies, and a highly experienced state botanist lost as a result. The other also experienced botanist was temporarily moved to a non-botanical position. The UNHP botanist is now an employee of Utah State University thanks to the efforts of Utah's state BLM office since the DNR would not reinstate the position even with that assistance. This does not reflect an attitude of cooperation and collaboration and the advancement of scientific knowledge when it comes to plants by the state of Utah. Had Utah maintained the botanical program, two years of additional studies might otherwise be available.

⁹⁶ 78 Fed. Reg. at 47,608.

proven, but has reached new heights in 2014 as the Service has already outlined in the proposed rule. Only listing can truly help to reduce these cumulative impacts.

Known White River beardtongue plants, even based on survey counts over a period of 30 years, are extremely low. Counts have included both flowering and non-flowering individuals, with at least some portion of the non-flowering individuals representing juveniles. Even with the recent additions of only about 700 to 800 plants (and those from Colorado, not Utah), a “total all time count” of 12,215 would indicate that this taxon should be listed not as threatened but rather as *endangered*. It is restricted to a 20 mile range, and it has one BLM occurrence that includes around 4,000 plants, which makes it particularly vulnerable. The currently known “cumulatively counted” number of plants should not be referred to as simply “the number of plants” since many of these may in fact no longer be alive (due to disturbance or mortality due to other factors), plus it does not represent the number of reproducing adults. Conservatively that number might be closer less than 10,000, perhaps much less.

There is also a reference in the document proposals to a guesstimate of a total population for White River penstemon of 25,000 plants made by Ben Franklin in 1995. That estimate appears to actually be 23,000.⁹⁷ The listing determination, however, needs to be made on the currently best available scientific information. Even if another 10,000 plants were found, it would still remain critically imperiled and remain endangered of becoming extinct as a result of the cumulative threats to its habitat.

2. McCaffery’s (2013) analysis confirms the threat posed by small population size and habitat fragmentation and does not support a conclusion that the population is currently stable

In the proposed rule, FWS repeatedly relies on Rebecca McCaffery’s 2013 preliminary demographic analysis to show that the “populations are, for the most part, stable.”⁹⁸ Likewise, section 4.2.3 of the draft conservation agreement states that McCaffery concluded that “over the course of the monitoring, the populations of both Penstemon species remained stable.” However, this conclusion does not reflect other statements in McCaffery’s report that confirm the threat of small population size and habitat fragmentation.

As an initial matter, the McCaffery analysis of monitoring data collected is in an extremely preliminary phase. And the report states that only that the few sites analyzed (only two for each species) were stable or slightly declining over the nine year period of study.⁹⁹ McCaffery confirms that recruitment for these sites of Graham's beardtongue was low and sporadic.¹⁰⁰ In

⁹⁷ Franklin, M.A., Utah Department of Natural Resources, Plant information compiled by the Utah Natural Heritage Program: a progress report. Prepared for Utah Reclamation Mitigation and Conservation Commission, Publication No. 05-40 (2005).

⁹⁸ 78 Fed. Reg. at 47,605, *see also id.* at 47,601.

⁹⁹ McCaffery, R., Final Report; Penstemon viability analysis of two rare beardtongues from the Uinta Basin, unpublished report submitted to the Bureau of Land Management, Vernal Field Office, Vernal, Utah, at 9 (2013) (“McCaffery, 2013”).

¹⁰⁰ *Id.* at 11.

addition, Graham's beardtongue flowered sporadically, indicating that conditions were not always suitable for flowering to occur.¹⁰¹ She goes on to say that small population sizes and low recruitment make this species more vulnerable to stochastic events, and changes in stressors or habitat conditions may negatively impact the long-term growth of these sites.¹⁰²

Just prior to her conclusions, McCaffery states that the species are susceptible to declines “now and into the future.”¹⁰³ She also states that “[t]he stable adult age class and longevity of these two species makes it hard to detect declines in the species. Because adult plants appear to largely have high and consistent survival, populations may persist in the absence of significant recruitment for quite some time without showing any significant declines. This is problematic, because if a deterministic or stochastic event eliminated a significant proportion of the adult population and recruitment continued to be low and infrequent, the population may not have the ability to recover. Therefore, while counts of adult plants can be a useful gauge of population growth and viability, documenting the frequency and magnitude of recruitment events will continue to be important to understanding long-term dynamics.”¹⁰⁴

In her conclusions, McCaffery indicates that the species are rare, narrowly restricted and have small population sizes. Her analysis was performed on only two sites for each of the species and each of those in turn involved very small sites with only 70 to 120 adults for Graham's and White River respectively. She then states that, “[w]hile plant abundances appeared to be largely stable over the course of this monitoring period, recruitment has been low and sporadic and several of the population growth estimates may be in slow decline.”¹⁰⁵ She then mentions that any number of stressors could cause them to decline in stable populations or exacerbate those that are in decline.¹⁰⁶

Further, McCaffery indicates that on that minimum viable populations of > 250 for Graham's and > 1000 for White River beardtongue would help to lower the likelihood of local extinction, but that outside stressors such as development could quickly change that and make any given population less viable.¹⁰⁷ The monitoring sites have not included population sizes of anywhere near the minimum viable populations.

Further, the reference to those occurrences that may be stable are of a very recent and short time frame (2010 to 2012) and not fully inclusive of even the nine year period. For much of the analysis, the period of 2005 to 2007 is missing. Yet, we know from survey reports and numerous observations made by individuals that 2004 through 2007 was a period of very low flowering with respect to Graham's beardtongue, and very little seed production in a species that already has an extremely low seed set per fruit. The consensus of scientists during that period of time in fact was that Graham's beardtongue was in a range wide decline (from which it may not yet have

¹⁰¹ *Id.* at 9.

¹⁰² *Id.*

¹⁰³ *Id.* at 18.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* at 19.

¹⁰⁶ *Id.*

¹⁰⁷ *Id.* at 25-26

even recovered). Year after year, Red Butte Garden was unable to complete portions of its breeding and seed research due to the lack of flowering plants. In 2008, when Graham's bloomed somewhat more, bee expert Dr. Vince Tepedino noted a lack of pollinators visiting the increased flower production, and hypothesized that it might take another year for the pollinators to start to return because of the prior lack of flowering. Therefore no conclusions can be drawn about stability with respect to a period as short as 2010 to 2012. Nor could such conclusions be drawn even for nine years given that the species are believed to both live potentially longer than that (at least ten years have been observed, and per the proposal, perhaps 20 or more).

Overall, the status of Graham's beardtongue over the most recent decade might be best described as erratic and unstable. Part of that may be simply how it copes in a harsh environment. But it would be difficult to characterize it as being stable, and it certainly does not appear to have experienced an increased level of health or stability. Precarious might be a better way to describe its current status.

To further illustrate, during a May 27, 2006 volunteer/Red Butte Garden survey of Sunday School Canyon, out of 214 plants, virtually no plants were in flower. Almost all plants had rosettes only. Only 5 plants (2% of the total) had flowering stalks, two of those with capsules and two had flowered and not yet formed capsules. Only one plant appeared that it might flower following that site visit.¹⁰⁸ It was difficult to identify the species much less whether it was an adult or a juvenile. Some counts may also be confusing a small *Abronia* that looks very similar to this species when it is in a rosette-only form, and could be artificially increasing some counts.

Despite the extremely limited data, McCaffery makes 50 year horizon quasi-extinction probabilities that are as high to 18% to 25% (and up to 85% depending on the method) and higher for White River and rates of 7% to 8% (and up to 25%) for Graham's.¹⁰⁹ In fact, McCaffery's extinction probabilities support "endangered" and not just "threatened" status for White River beardtongue and a "threatened" status at a minimum for Graham's beardtongue.

3. Both species are in danger of extinction within Colorado

The proposals do not disclose any breakdowns of population estimates nor occurrences in Colorado as compared to Utah. With respect to Graham's beardtongue, there are only four extant occurrences in Colorado (six are known but two are historical and now do not appear to contain any plants). Cumulative counts are apparently only a mere 86 and the population estimate is < 50 for each of the remaining four sites. Graham's beardtongue in its range in Colorado therefore appears to be in very much in danger of extinction.

White River beardtongue in Colorado is only known from four occurrences and a cumulative population count (unadjusted for juveniles, mortality, etc.) of < 2000 (more detailed information is available from the Colorado Natural Heritage Program). It may be awaiting a similar fate as

¹⁰⁸ Frates, T., *Penstemon grahamii* rare plant survey summary, attachment to a letter dated June 17, 2006 sent to Larry England, Utah Fish and Wildlife Office (May 27, 2006).

¹⁰⁹ McCaffery, 2013 at 22, 25, 26.

Graham's beardtongue in Colorado if its occupied habitat and associated ecosystem is not fully protected.

Federal listing for both species is the most appropriate way to avoid extirpation of these plant species in Colorado. It is always prudent to protect species at the edge of their ranges. There could be important genetic diversity in these species at the edges of their range (and the Service should be in possession of numerous references in this regard) in Colorado (or important scientific information that could provide ancestral clues) justifying extraordinary attempts to protect occurrences at the edges of their range (as well as to maintain as much connectivity between all occurrences as possible).

At the same time, it is extremely important throughout the ranges of these species to protect habitat quality. "Biodiversity is endangered by the deteriorating quality of the environment and by a continuous decrease in the amount of space that is available for the natural environment." (Ouborg 2006). Therefore, it is likely extremely important to ensure that the Colorado habitat of the few occurrences of these two species (which have probably always been intrinsically rare throughout their ranges) along with appropriate buffer zones to protect pollinators is not disturbed and remains under the watchful eye of the Service through ESA listing.

E. The Inadequacy of Existing Regulatory Mechanisms Poses a Threat to the Species

FWS has repeatedly recognized that Graham's and White River beardtongue require landscape-level conservation. For example, FWS states: "Without cohesive, landscape-level regulatory mechanisms in place to protect Graham's and White River beardtongues from development on public lands, as development increases, habitat fragmentation and negative effects associated with it are likely to increase, despite site-specific conservation measures to protect these species."¹¹⁰ Such landscape level protections do not exist for these species, nor are they provided by the CA (as discussed below).

FWS acknowledges that neither Graham's beardtongue nor White River beardtongue have any regulatory protection on state or private lands, which include 41% and 38% of the known plants, respectively.¹¹¹ Utah has no laws or regulatory policies that protect rare plant species, other than those species that are specifically listed under the ESA. And the minimal protections that apply on federal lands are insufficient and/or will be eliminated if the species are not listed.

In the proposed rule, FWS claims that BLM currently gives candidate species the same protection as listed species, but provides no support for this statement.¹¹² Under the ESA, candidate species are not afforded any of the substantive protections of listed species. FWS claims that BLM has engaged in ESA section 7 conference for oil and gas development within Graham's beardtongue habitat and has "minimized some impacts" through mitigation

¹¹⁰ 78 Fed. Reg. at 47,608.

¹¹¹ 78 Fed. Reg. at 47,608.

¹¹² *Id.* at 47,606.

measures.¹¹³ Again, FWS offers no evidence to support this conclusion. Moreover, as FWS acknowledges, any protection provided as a result of section 7 conferences goes away if the species is not listed and taken off the candidate list.

FWS also states that for both beardtongue species, BLM's Vernal Field Office employs a 91-m (300-ft) setback from surface-disturbing activities. However, it appears that any commitment by BLM to employ a setback applies only to the Graham's penstemon, is unenforceable, and has already been ignored by BLM on at least one occasion.

In the Record of Decision for the Vernal RMP, BLM admitted that it failed to consider a proposal by conservation organizations to designate Areas of Critical Environment Concern (ACECs) for the Graham's beardtongue and the Pariette cactus. According to BLM, the proposal was "mistakenly overlooked."¹¹⁴ Although BLM agreed to consider ACEC designation "at the earliest opportunity," it has failed to do so.¹¹⁵ Because of this oversight, however, BLM claimed that it would apply conservation measures to mitigate the impacts to the sensitive species. Notably, these conservation measures appear to apply only to Graham's beardtongue and Pariette cactus, and not White River beardtongue.

According to BLM:

- (1) Within suitable habitat, site specific inventories will be conducted to determine occupancy. The inventories will be conducted for lands within 300 feet of proposed surface-disturbance.
- (2) In suitable habitat, the project infrastructure will be designed to minimize impacts.
- (3) Within occupied habitat, the project infrastructure will be designed to avoid direct disturbance and to minimize indirect impacts to populations and individual plants. *The nearest proposed surface disturbance to a plant will be at least 300 feet away.*¹¹⁶

However, these conservation measures are unenforceable. Indeed, in approving the Ambre Energy EA, BLM disregarded its commitment that proposed surface disturbance would be at least 300 feet away from Graham's beardtongue plants. It authorized drilling less than 300 feet from at least 14 plants. Accordingly, FWS cannot rely on BLM to implement this conservation measure.

FWS also claims that BLM employs a buffer of 150 feet for sensitive plant species, citing a personal communication (Roe 2011).¹¹⁷ FWS acknowledges that this is not an "official

¹¹³ *Id.* at 47,606.

¹¹⁴ BLM, Vernal Field Office, Record of Decision and Approved Resource Management Plan (Oct. 2008), at 18, 24 *available at* http://www.blm.gov/pgdata/etc/medialib/blm/ut/vernal_fo/planning/rod_approved_rmp.Par.12251.File.dat/VernalFinalPlan.pdf ((Vernal ROD).

¹¹⁵ *Id.*

¹¹⁶ *Id.* (emphasis added).

¹¹⁷ 78 Fed. Reg. at 47,606.

policy.”¹¹⁸ In fact, the Vernal RMP’s management decisions related to sensitive species do not identify any such buffer.¹¹⁹ As FWS seems to recognize, and for the reasons discussed below with respect to the conservation agreement, it would violate both the ESA and FWS’s own policies for FWS to rely on this unofficial policy as part of any decision not to list the beardtongues. Furthermore, FWS acknowledges that this distance is not “sufficient to effectively prevent negative impacts associated with surface-disturbing activities or to protect unoccupied habitat to serve as a refuge for either species with climate change.”¹²⁰

FWS also relies on the Vernal Field Office’s travel plan to alleviate the threat posed by off-highway vehicles in the species’ habitat.¹²¹ However, the plan is currently under litigation, and a nearly identical travel plan in the BLM Richfield Field Office was found to violate federal law.¹²² Accordingly, the Vernal travel plan is likely to be set aside. In fact, BLM itself is already in the process of redoing the plan.¹²³ FWS must consider these factors in the final listing rule.

II. Comments on the August 6, 2013 Proposed Designation of Critical Habitat and the Draft Economic Analysis (DEA) and Draft Environmental Assessment (draft EA)

A. Proposed Critical Habitat Rule

1. ESA listing with critical habitat is necessary to adequately protect the Graham’s and White River beardtongues.

Throughout the Proposed Designation of Critical Habitat, FWS emphasized the importance of a large critical habitat for the species. Both species need intact native plant communities immediately adjacent to their habitat to prevent the encroachment of invasive weeds.¹²⁴ Thus, FWS concluded that the critical habitat must be large enough cover areas occupied by these native plant communities to protect the Graham’s and White River beardtongue.

Additionally, an adjacent, diverse native plant community can help support pollinators on which the “long-term viability” of the species depends.¹²⁵ While both species can produce seeds through self-pollination, they are much more reproductively successful when pollinators cross-pollinate the plants.¹²⁶ Pollinators need a “diversity of native plants whose blooming times

¹¹⁸ *Id.*

¹¹⁹ Vernal ROD at 129-132.

¹²⁰ 78 Fed. Reg. at 47,606.

¹²¹ *Id.* at 47,603.

¹²² *Southern Utah Wilderness Alliance v. Burke*, 981 F.Supp.2d 1099 (D. Utah 2013).

¹²³ Press Release, BLM, BLM Host Public Open Houses for Travel Management Planning in Vernal (May 2, 2013), available at

http://www.blm.gov/ut/st/en/info/newsroom/2013/may/blm_hosts_public_open.html.

¹²⁴ 78 Fed. Reg. 47,832, 47,835, 47,837 (August 6, 2013).

¹²⁵ *Id.* at 47,835.

¹²⁶ *Id.* at 47,836, 47,837.

overlap, nesting and egg-laying sites . . . and a landscape free of poisonous chemicals.”¹²⁷ Because pollinators travel throughout an area, they need continuous intact native plant communities to connect populations of rare plants without anthropogenic disturbances which pose “a barrier to pollinator movement.”¹²⁸ For these reasons, FWS identified pollinators and their associated habitats as a physical or biological feature for the Graham’s and White River beardtongue species.¹²⁹

Based on the necessity of pollination, FWS found it was essential to include a 700-m (2,297-ft) and a 500-m (1,640-ft) area beyond occupied habitat, for the Graham’s beardtongue and White River beardtongue respectively, in the Proposed Designation of Critical Habitat.¹³⁰ The FWS based these distances on the how far primary pollinators can travel to each species. Additionally, this critical habitat designation could provide more habitat for the species to expand into, and “and add protection against encroachment by invasive weeds or other disturbance effects.”¹³¹

The same considerations apply to the plants identified in surveys since FWS issued the proposed rule. Accordingly, FWS must include critical habitat (including the pollinator buffer) for the surveyed plants falling outside the original critical habitat proposal.

2. FWS must consider the three R’s--representation, redundancy, and resiliency—in determining the appropriate critical habitat for these species

The proposed critical habitat rule (as well as the draft conservation agreement) provide only a very cursory discussion of representation, redundancy and resiliency, and fail to consider important elements of each concept that bear directly on the question of what areas need to be designated as critical habitat or protected in conservation areas to ensure the long-term persistence of these two species. The interpretation of these concepts and the elements that should be considered in addressing each concept is also inconsistent with FWS's own interpretation used in making other decisions. In a decision by the Service to amend the listing for the Preble's Meadow Jumping Mouse, FWS provides a clearer and more detailed discussion of these three concepts, and elucidates elements that should be considered under each concept in determining whether a particular population contributes substantially to the representation, redundancy and resiliency of a listable species.¹³² We review this discussion below in order to illustrate the FWS's failure to consider key elements of representation, redundancy, and resiliency in the decision at issue here.

¹²⁷ *Id.*

¹²⁸ *Id.*

¹²⁹ *Id.*

¹³⁰ *Id.* at 47,838-39.

¹³¹ *Id.* at 47,836.

¹³² 73 Fed. Reg. at 39,790-39838.

a. Representation

FWS's July 2008 decision with regard to amendment of the listing for the Prebles' meadow jumping mouse, states that "representation"... "[is] intended to be [an] indicator[] of the conservation value of portions of the range."¹³³ The same decision describes the concept of representation as follows: Adequate representation ensures that the subspecies' adaptive capabilities are conserved. Specifically, we should evaluate a portion to see how it contributes to the genetic diversity of the species. The loss of genetically based diversity may substantially reduce the ability of the species to respond and adapt to future environmental changes. A peripheral population may contribute meaningfully to representation if there is evidence that it provides genetic diversity due to its location on the margin of the species' habitat requirements.¹³⁴

In determining if a portion of the range of the Prebles' meadow jumping mouse contributes substantially to the representation of the species, the FWS considered the following questions:

- To what extent does this portion of the range contribute to the genetic diversity of the species?
- To what extent does this portion of the range contribute to the morphological/physiological diversity of the species?
- To what extent does this portion of the range contribute to the diversity of ecological settings in which the species is found?¹³⁵

Though FWS did not discuss these questions in sufficient detail in the proposed critical habitat finding for the Graham's and White River beardtongues, the proposed critical habitat does appear to address the need for representation as it includes the entirety of the habitat currently occupied by these two species, thus ensuring that the morphological, physiological and genetic diversity of the species will be conserved. Further, the proposed critical habitat encompasses the full range of diversity in ecological settings that the species are currently known to occupy.

b. Redundancy

FWS's July 2008 decision with regard to amendment of the listing for the Prebles' meadow jumping mouse describes the concept of redundancy as follows: Redundancy of populations may be needed to provide a margin of safety for the species to withstand catastrophic events. This concept does not mean that any portion that provides redundancy is per se a significant portion of the range of a species. The idea is to conserve enough areas of the range such that random perturbations in the system act on only a few populations. Therefore, we must examine each area based on whether that area provides an increment of redundancy that is important to the conservation of the species.

¹³³ *Id.*

¹³⁴ *Id.*

¹³⁵ *Id.*

In determining if a portion of the range of the Prebles' meadow jumping mouse contributes substantially to the redundancy of the species, the FWS considered the following questions:

- To what extent does this portion of the range contribute to the total [gross area] range of the species?
- To what extent does this portion of the range contribute to the total population of the species?
- To what extent does this portion of the range contribute to the total suitable habitat?
- To what extent does this portion of the range contribute to the geographical distribution of the species?¹³⁶

Though FWS did not discuss these questions in sufficient detail in the proposed critical habitat finding for the Graham's and White River beardtongue, the proposed critical habitat does appear to achieve some level of redundancy by including the all of the areas currently occupied by the species, including the largest populations, in the critical habitat designation.

c. Resiliency

FWS's July 2008 decision with regard to amendment of the listing for the Prebles' meadow jumping mouse, describes the concept of resiliency as follows: Resiliency of a species allows the species to recover from periodic disturbances. A species will likely be more resilient if large populations exist in high-quality habitat that is distributed throughout the range of the species in such a way as to capture the environmental variability found within the range of the species. It is likely that the larger size of a population will help contribute to the viability of the species overall. Thus, a portion of the range of a species may make a meaningful contribution to the resiliency of the species if the area is relatively large and contains particularly high-quality habitat or if its location or characteristics make it less susceptible to certain threats than other portions of the range. When evaluating whether or how a portion of the range contributes to resiliency of the species, it may help to evaluate the historical value of the portion and how frequently the portion is used by the species. In addition, the portion may contribute to resiliency for other reasons; for instance, it may contain an important concentration of certain types of habitat that are necessary for the species to carry out its life history functions, such as breeding, feeding, migration, dispersal, or wintering.¹³⁷

In determining if a portion of the range of the Prebles' meadow jumping mouse contributes substantially to the resiliency of the species, the FWS considered the following questions:

- To what extent does this portion of the range contribute to the total of large blocks of high-quality habitat?
- To what extent do the population size and characteristics within this portion of the range contribute to the ability of the species to recover from periodic disturbances?
- To what extent does this portion of the range act as a refugium of the species?

¹³⁶ *Id.*

¹³⁷ *Id.*

- To what extent does this portion contain an important concentration of habitats necessary for certain life history functions?

The proposed critical habitat for the Graham's and White River beardtongues does not provide for adequate resiliency. FWS has recognized that climate change poses a threat to both species, (in combination with other threats). In addition, the best available science suggests that the FWS may have underestimated these two species' vulnerability to climate change.

In particular, though the FWS has recognized that climate change poses a threat to both species (in combination with other threats), the conservation areas do not include suitable unoccupied habitat that is likely to be a critical refugia from climate change in the foreseeable. FWS recognizes that these two species may have limited ability to adapt to climate change by establishing new populations due to the limited range of oil shale substrate they inhabit. FWS then suggests that it may be possible for these species to move to other aspects within their habitat in order to adapt to a changing climate.¹³⁸ However, the critical habitat designation is limited to the aspect (southwest facing slopes) that is currently occupied by the species (with a buffer around occupied habitat to protect pollinators). The Service goes on to state that it may be possible for these species to gradually move to cooler and wetter slope aspects (e.g. northfacing hillsides) within oil shale soils in response to a hotter drier climate (citation omitted), but only if these types of habitat are within reasonable seed-dispersal distances, and only if these habitats remain intact with increasing oil and gas development." The critical habitat designation should include a substantial area of suitable unoccupied habitat, including slopes with other aspects that are likely to provide a refugium that could allow the species to persist in the face of climate change. Limiting critical habitat to currently occupied habitat excludes habitat that is essential to the conservation of the species in the face of climate change.

B. The Draft Environmental Assessment and Economic Analysis Greatly Overstate the Economic Costs of Critical Habitat Designation

Section 4(b)(2) of the ESA provides that "[t]he Secretary shall designate critical habitat, and make revisions thereto, under subsection (a)(3) of this section on the basis of the best scientific data available and after taking into consideration the economic impact, and any other relevant impact, of specifying the particular area as critical habitat." FWS's draft EA relies exclusively for its consideration of economic impacts on a 2014 report by Industrial Economics, Incorporated.¹³⁹ Unfortunately, the IEC report fails to utilize "the best scientific data available," and instead utilizes inaccurate and biased assumptions to arrive at a grossly overstated cost of the incremental cost to the oil and gas industry of critical habitat designation. As discussed in detail below, the Draft Economic Analysis suffers from several critical flaws that render it unreliable for purposes of the Section 4(b)(2) determination:

¹³⁸ 78 Fed. Reg. at 47,606

¹³⁹ Memorandum from Industrial Economics, Incorporated to U.S. Fish and Wildlife Service, *Screening Analysis of the Likely Economic Impacts of Critical Habitat Designation for Graham's and White River Beardtongues*, May 1, 2014 ("Draft Economic Analysis").

- The Draft Economic Analysis ignores existing mitigation requirements applicable to oil and gas operations on BLM lands under the Vernal, UT and White River, CO Resource Management Plans and applicable lease stipulations and conditions of approval. As a result, it attributes incremental costs to critical habitat designation that should have been incorporated in baseline costs of operation under existing law and plans.
- The Draft Economic Analysis cites, without supporting documentation, a single informal industry source for estimated costs of site planning, dust control, and revegetation. These costs appear to be vastly inflated.
- The Draft Economic Analysis fails to distinguish between initial and annual costs for tasks such as site planning and road construction, and improperly annualizes one-time costs.
- The Draft Economic Analysis purports to quantify highly speculative costs to the oil and gas industry that could result from consultation on projects affecting critical habitat, yet arbitrarily declines to provide any quantification of the benefits from consultation and ensuing mitigation measures – benefits including not only the conservation of listed species, but also improved air quality and conservation of other plant and wildlife habitat.

1. The Draft Economic Analysis Improperly Ignores Reclamation and Dust Control Requirements Under Existing and Proposed BLM Plans

IEC correctly identifies its task as to measure the costs and benefits of critical habitat designation against a baseline, “the best assessment of the way the world would look absent the proposed action.”¹⁴⁰ It accurately notes that “*the baseline includes any existing regulatory and socio-economic burden imposed on landowners, managers, or other resource users absent the designation of critical habitat.*” The baseline includes the economic impacts of listing the species under the Act, even if the listing occurs concurrently with critical habitat designation. Impacts that are incremental to the baseline (i.e., occurring over and above existing constraints) are those that are solely attributable to the designation of critical habitat.” *Id.* Where their analysis goes astray, however, is by ignoring that “existing regulatory and socio-economic burden.” The Draft Economic Analysis concludes that Section 7 consultation would occur for actions within 100 meters of occupied penstemon habitat with or without critical habitat designation,¹⁴¹ but would occur for all actions within a larger “pollinator buffer” of 500-700 meters should critical habitat be designated.¹⁴² It then concludes that there are 38,642 acres of such buffered federal land that would be subject to consultation only should critical habitat be designated. It then extrapolates drilling from current trends to anticipate a rate of 17.1 new drilling sites per year within the pollinator buffer (almost all in Utah), and concludes, without supporting detail, that the overall annual cost of consultation and resulting incremental conservation measures would total \$2.7 million.¹⁴³ IEC does concede that this projected level of activity “likely overstates future activity

¹⁴⁰ Draft Economic Analysis 6.

¹⁴¹ *Id.* at 8.

¹⁴² *Id.* at 8-9.

¹⁴³ *Id.* at 12-13.

in incremental pollinator habitat,” *id.* at 13, but declines to even attempt a more reasonable estimate of such activity.

Several immediate flaws in this approach’s assumption should be noted. First, by IEC’s own admission, the existing practice of the BLM’s White River Field Office is to consult with FWS for projects up to 300, not 100, meters from known plant locations, and that Utah BLM also consults regarding projects outside the limited 100-meter zone for “suitable habitat.”¹⁴⁴ Second, and more importantly, the Draft Environmental Analysis provides no support for its unsubstantiated threshold assumption that jeopardy consultation outside the 100-meter zone would never result in formal consultation or the recommendation of project modifications. *See id.* Indeed, the Draft Environmental Analysis appears to ignore FWS’s own written response to its questions, describing the scope of project modifications that currently are or will be recommended under the jeopardy standard:

To provide for the recovery and survivability of both beardtongue species, we recommend a landscape level approach to conservation to ensure protection of the plants, pollinators, and sufficient ecosystem processes. This entails keeping total disturbance, regardless of source, at minimal levels throughout the ranges of the species. For actions located on Federal lands, or subject to consultation through a Federal action (e.g. federal funds or permitting), an analysis of the project will examine the magnitude of a project’s impacts relevant to the population and individuals across the species’ entire range.¹⁴⁵

From FWS’s own Incremental Effects memorandum, it is clear that the Service’s recommendation of landscape-level conservation measures for both occupied habitat and pollinator habitat is not contingent only on critical habitat designation, but rather is also an independent function of the ESA obligation to avoid jeopardy. Nevertheless, the Draft Environmental Analysis arbitrarily ascribes 100% of the cost of mitigation measures within the pollinator buffer to critical habitat designation alone. *See Incremental Effects Memorandum* at 10 (“In most instances, we anticipate that section 7 consultation analyses will result in no differences between recommendations to avoid jeopardy or adverse modification within all critical habitat units as all units are occupied.”). IEC simply provides no coherent justification for its decision to ignore FWS’s representation that consultation results will be similar under a jeopardy or an adverse modification standard.

IEC’s decision to ascribe 100% of mitigation costs to critical habitat designation also suffers from the essential flaw of ignoring baseline mitigation requirements under existing laws, regulations, and resource management plans. IEC cites a single, informal, undocumented communication with OXY, an oil and gas operator (and one with a vested interest in avoiding regulatory compliance) for the staggering estimate of \$495,000 in

¹⁴⁴ *Id.* at 8.

¹⁴⁵ Fish and Wildlife Service, *Incremental Effects Memorandum for the Economic Analysis for the Proposed Rule to Designate Critical Habitat for the Graham’s beardtongue and White River Beardtongue* 9 (April 15, 2014).

incremental engineering, weed control, dust control, and re-vegetation costs for a single multi-well pad.¹⁴⁶ These costs appear to be based on a site-specific agreement between OXY and the Colorado Natural Areas Program regarding development in the Mount Callahan and Mount Callahan Saddle Natural Areas. Without more detailed factual support for these estimates, it is difficult to know what they are based on, but it appears that IEC simply accepted, without analysis or question, the assumptions that OXY's Mount Callahan costs are (a) directly applicable to potential projects and conservation measures in or around penstemon habitat, and (b) accurate estimates of annual costs. IEC does acknowledge that

The costs included in Exhibit 5 were estimated by OXY for multi-well pads that could have up to 20 wells each and are based on the company's agreement with the Colorado Natural Areas Program (CNAP) regarding the Mount Callahan and Mount Callahan Saddle Natural Areas. According to BLM, most well pads expected to occur near the proposed critical habitat will support eight to ten wells. Therefore, the per-well pad cost estimates shown in Exhibit 5 may potentially overstate the cost of conservation measures for well pads within proposed critical habitat because the costs were developed with larger, more complex well pads in mind.

Draft Economic Analysis 10 (citations omitted). It does not, however, look to any other sources for data that might be more directly applicable to reasonably foreseeable projects within or near penstemon habitat in Utah and western Colorado.

Most importantly, however, the Draft Economic Analysis ignores completely the fact that public land oil and gas operations within the Vernal, Utah, and White River, Colorado resource areas are already subject to existing weed control, dust control, and reclamation obligations under state law and regulation, BLM plans, and BLM lease stipulations and conditions of approval. By ascribing 100% of OXY's inflated reclamation costs to penstemon critical habitat designation alone, IEC ignores the obligation to measure costs of critical habitat designation against an *existing regulatory baseline*, as opposed to a fantasy scenario in which oil and gas operations are subject to no regulatory restraints whatsoever.

The 2008 Vernal, UT Resource Management Plan, which would govern the vast majority of IEC's predicted drilling operations, contains several relevant measures that set the baseline for oil and gas operations' dust control, weed control, and revegetation obligations:

- The BLM will comply with UAC Regulations R307-205-5 through R307-205-7, which prohibit the use, maintenance, or construction of road ways without taking appropriate dust abatement measures. Compliance will be obtained through

¹⁴⁶ Draft Economic Analysis 10-11 & Exh. 5.

special stipulations as a requirement on new projects and through the use of dust abatement control techniques in problem areas.¹⁴⁷

- Appropriately manage noxious and invasive weeds and prevent introduction of new invasive species through the implementation of a comprehensive weed program per national guidance and local weed management plans, including coordination with partners ; prevention and early detection; education; inventory and monitoring; and using the principles of integrated pest management.¹⁴⁸
- All projects that involve ground-disturbing activities shall incorporate best management practices (BMPs) for control of weeds with an emphasis on prevention.¹⁴⁹
- Where special status plant species, including listed T&E plant species, occur on public lands in the VPA, the BLM will collaborate with affected and or appropriate local, state, and federal agencies and researchers in the implementation of approved recovery plans and conservation strategies to protect, stabilize, and recover such species and their habitats. In addition to on-the-ground actions, strategies will be developed to provide public education on species at-risk, significance and importance of the species to the human and biological communities, and reasons for protective measures that will be applied to the lands involved.¹⁵⁰
- Continue implementation of noxious weed and invasive species control actions as per national guidance and local weed management plans in cooperation with state, federal, affected counties, adjoining private landowners and other partners or interests directly affected.¹⁵¹

Although the majority of the projected activity is within the Vernal, UT field office area, it is worth noting that the White River, CO Resource Management Plan is currently undergoing a substantial amendment to address projected oil and gas activity over the coming decades. In addition to considering substantial No Surface Occupancy buffers around sensitive plant habitats in several of its alternatives,¹⁵² the Best Management Practices and Conditions of Approval for all alternatives include extensive requirements for dust control, noxious weed control, reclamation, and special status protection.¹⁵³ By ignoring these baseline regulatory requirements

¹⁴⁷ BLM Vernal Field Office, Record of Decision and Approved Resource Management Plan 70 (October 2008), Management Decision AQ-5.

¹⁴⁸ *Id.* at 67, Management Decision MCA-5.

¹⁴⁹ *Id.*, Management Decision MCA-6.

¹⁵⁰ *Id.* at 129, Management Decision SSS-3. Graham's and white river beardtongue are specifically listed in the RMP as special status plant species requiring implementation of recovery plans.

¹⁵¹ *Id.* at 135, Management Decision VEG-6.

¹⁵² *See* BLM Colorado, White River Field Office, Oil and Gas Development Draft RMPA/EIS, Appendix A, Oil & Gas Leasing Stipulations and Lease Notices.

¹⁵³ *Id.*, Appendix B, Best Management Practices and Conditions of Approval at B-2 (requiring dust control on all access roads), B-20 to -22 (requiring use of an extensive list conditions of

for public lands operations, and ascribing 100% of conservation costs to potential critical habitat designation, the Draft Environmental Analysis effectively double-counts baseline reclamation and mitigation requirements, and thereby vastly overstates the economic costs to industry of potential adverse modification consultations on projects within the pollinator buffer.

2. The Draft Economic Analysis Overstates Costs for Dust Control and Other Mitigation Measures

In addition to double-counting existing mitigation requirements, the IEC analysis also relies for its inflated cost estimates on a single undocumented and non-comparable estimate for the costs to industry of site design, weed control, dust control, and reclamation. Particularly shocking is the Draft Environmental Analysis's claim of \$351,000 in annual dust control costs for a single well pad.¹⁵⁴ Although due to industry secrecy it is difficult to obtain a large sample of public data regarding well site and road dust control reclamation costs, review of publicly-available BLM studies reveals data that calls into question IEC's use of the OXY Mount Callahan cost claims. First, BLM's Air Resource Best Management Practices calls for the use, as appropriate, of one of three different measures for fugitive dust control, suppression, and prevention – water, chip-seal or asphalt, or dust suppressants such as magnesium chloride (where allowed).¹⁵⁵ Use of MgCl₂, as contemplated in the IEC analysis, is not necessarily the most environmentally appropriate or cost-effective measure. Furthermore, the BLM BMPs note that the initial and recurring costs of water, road sealing, and suppressants vary greatly – the IEC analysis makes no effort to address the range of initial and recurring costs for these measures, nor to estimate the potential road mileages, as well as well site areas, to be affected. Use of a single, massive 20-well OXY pad for cost comparison may be inappropriate if, for example, its dust control and reclamation costs address road mileages far greater than those likely to be affected by conservation measures for penstemon critical habitat projects in Utah. Without some sense of the potential treatment areas affected, it is entirely inappropriate to use a single project, subject to unique requirements under a site-specific agreement, as a point of cost comparison for all potential oil and gas projects that might impact designated penstemon habitat.

Review of Bill Barrett Corporation's publicly-available Dust Suppression Plan for the BLM's West Tavaputs Plateau Full Field Development plan in Utah provides a point of comparison suggesting that the OXY Mount Callahan cost claims may not be representative.¹⁵⁶ BBC's West

approval to mitigate impacts to listed and special status species), B-22 to -25 (detailing noxious weed control and reclamation requirements).

¹⁵⁴ Draft Economic Analysis 11, Exh. 5.

¹⁵⁵ U.S. Bureau of Land Management, Air Resource BMPs 11-14 (May 9, 2011), available at http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION/_bmps.Par.60203.File.dat/WO1_Air%20Resource_BMP_Slideshow%2005-09-2011.pdf (last visited July 6, 2014).

¹⁵⁶ BLM Utah, Price Field Office, West Tavaputs Dust Suppression Plan (December 2008), available at: http://www.blm.gov/pgdata/etc/medialib/blm/ut/price_fo/oil_and_gas_2.Par.96786.File.dat/FEIS%20Appendix%20R%20-%20Dust%20Suppression%20Plan%5B1%5D.pdf (last visited July 7, 2014).

Tavaputs Dust Suppression Plan, prepared by Jones and Demille Engineering, explored the use of a variety of “advanced” dust suppression techniques, for the purpose of protecting highly sensitive archaeological resources.¹⁵⁷ Use of those “advanced” techniques cost in a range of \$85,000-\$90,000 per mile in initial (one-time) costs, with substantially lower annual maintenance costs.¹⁵⁸ Without a more detailed analysis of the areas and road mileages to be treated, the type and cost of suppressants to be used, and initial versus annual maintenance costs – such as were made available in the West Tavaputs Dust Suppression Plan – it is simply not feasible to accept IEC’s assumption of \$351,000 per well site as a reasonable cost estimate.

3. The Draft Economic Analysis Improperly Annualizes One-Time Costs

As discussed above, both BLM and industry guidelines and studies suggest that dust control, reclamation, and revegetation costs vary greatly by method, and that initial costs of treatment may be far greater than ongoing maintenance costs.¹⁵⁹ Nevertheless, the Draft Economic Analysis applies, without question or examination, OXY’s single-year cost figures as annual, not one-time, costs. This improper assumption compounds the economic analysis’s other errors – ignoring baseline requirements and utilizing inflated cost estimates – resulting in a vastly-inflated estimate of potential industry compliance costs.

4. The Draft Economic Analysis Arbitrarily Quantifies Costs to One Industry But Not Benefits to the Public

The IEC economic analysis is biased in one additional respect. Although it goes to great (and speculative) lengths to quantify potential economic harm to oil and gas operators, oil shale speculators, and even other parties claiming “perceptual” economic harm due to imagined effects of critical habitat designation,¹⁶⁰ it demurs when it comes to quantifying the benefit side of the cost-benefit analysis.¹⁶¹ IEC declines to quantify benefits to habitat designation because it lacks beardtongue-specific data on the value the public places on the beardtongues.¹⁶² This sudden reluctance to estimate benefits poses a stark contrast to IEC’s eagerness to accept cost estimates from dissimilar projects for purposes of estimating conservation costs. Moreover, the narrow focus only on the existence value of beardtongues ignores IEC’s own reasoning elsewhere in the economic analysis. If, as IEC contends, dust control, weed control, and revegetation would not occur but for the critical habitat designation, then its analysis should take into account the value to the public of containing noxious weeds, alleviating particulate pollution, and restoring vegetation (vegetation which incidentally may benefit livestock as well as wildlife). Not only has IEC failed to show that quantifying these benefits is infeasible, it has failed to even make such an effort.

¹⁵⁷ *Id.* at 4-9.

¹⁵⁸ *Id.* at 9, Table 5.

¹⁵⁹ *See* Air Resource BMPs 11-14, West Tavaputs Dust Suppression Plan 9.

¹⁶⁰ *See* Draft Economic Analysis 31-32 (discussing “public perception” costs).

¹⁶¹ *Id.* at 32-34.

¹⁶² *Id.* at 33.

III. Comments on the Draft Conservation Agreement

The CA cannot be used to substitute for listing and designating critical habitat for the Graham's and White River Beardtongues. Although the CA claims that it is designed to "prevent[] the need for listing either species, it does no such thing.¹⁶³ As discussed below, the CA is inadequate under the ESA and FWS's own policies because it relies on speculative future, voluntary conservation efforts and other measures that are not sufficient to protect the Graham's beardtongue and White River beardtongue habitat or maintain or enhance species viability. The CA fails to protect either species from continued habitat loss and mortality from energy development, road construction and maintenance, OHVs, climate change, and other threats.

A. Legal standards

1. Endangered Species Act (ESA)

Under the ESA, regardless of the existence of a conservation agreement, when the best available scientific data indicates that species meet the ESA's definition of threatened or endangered at the time of the listing decision, then FWS must proceed with listing the species as such under section 4 of the Act.¹⁶⁴ FWS cannot consider draft, planned, or future management actions, but instead only the current management actions and the current status of the species.

Section 4 requires FWS to consider whether the "inadequacy of existing regulatory mechanisms" poses a threat to the species.¹⁶⁵ The law is well settled that this provision of the ESA allows FWS to consider whether existing conservation measures are sufficient to protect the species, but prohibits the agency from relying on future conservation efforts that have yet to be developed or implemented.¹⁶⁶

¹⁶³ CA at 1.

¹⁶⁴ 16 U.S.C. § 1533(a)(1)(D).

¹⁶⁵ 16 U.S.C. § 1533(a)(1)(D) (emphasis added); *see also id.* § 1533(b)(1)(A) (allowing FWS to "tak[e] into account those efforts, if any, *being made* by any State or foreign nation, or any political subdivision . . . to protect such species") (emphasis added).

¹⁶⁶ *See Ctr. for Native Ecosystems v. U.S. Fish & Wildlife Serv.*, 795 F. Supp. 2d 1199, 1209 (D. Colo. 2011) ("Th[e] plain language [of the ESA] precludes the use of future conservation efforts in making the listing determination."); *see also Ctr. for Biological Diversity v. Morgenweck*, 351 F. Supp. 2d at 1141 ("The law is clear that FWS cannot consider future conservation efforts in its review of [a petition to list a species]."); *Defenders of Wildlife v. Norton*, 258 F.3d 1136, 1146 (9th Cir. 2001) (rejecting FWS's reliance on conservation measures that were "either incomplete or wholly unstarted"); *Ctr. for Biological Diversity v. Badgley*, 2001 WL 844399, at *21 (D. Or. June 28, 2001) ("Courts have specifically and repeatedly interpreted [16 U.S.C. § 1533(a)(1)(D)] to mean that an agency may not rely upon future actions to justify a decision not to list a species as threatened or endangered."); *Fed'n of Fly Fishers v. Daley*, 131 F. Supp. 2d 1158, 1165 (N.D. Cal. 2000) ("[T]he Secretary may not rely on future conservation actions."); *Or. Natural Res. Council v. Daley*, 6 F. Supp. 2d 1139, 1153 (D. Or. 1998) (holding that the broad language of §1533(b)(1)(B) "cannot be interpreted to include future efforts, whether regulatory or nonregulatory. It speaks only in the present tense in terms of 'efforts, if any, being made,' and not future efforts."); *Biodiversity Legal Found. v. Babbitt*, 943 F. Supp. 23, 26 (D.D.C. 1996)

FWS cannot rely on future conservation measures in determining whether a listing is warranted because they are speculative—there is no way to know if they will be implemented or whether they will actually benefit the species.¹⁶⁷ Similarly, FWS cannot rely on unfunded or purely voluntary conservation measures because there is no guarantee that the benefits to the species will ever materialize.¹⁶⁸

In striking down FWS’s 2006 decision to withdraw the proposed listing of Graham’s penstemon, the District of Colorado specifically held that FWS cannot rely on future conservation measures that may or may not be taken by BLM.¹⁶⁹ The court also held that FWS must demonstrate that any existing conservation measures will be effective in protecting the species in order to consider those efforts in making a decision not to list.¹⁷⁰

The CA fails to meet the standards established by the ESA and the District of Colorado’s ruling in *Center for Native Ecosystems*. As discussed in more detail below, the CA relies on future, voluntary, unfunded actions that FWS cannot show will be implemented or effective in protecting these species. Therefore, FWS cannot rely on the CA to avoid listing the Graham’s beardtongue and White River beardtongue.

2. FWS Policy for Evaluation of Conservation Efforts When Making Listing Decisions

FWS’s own Policy for Evaluation of Conservation Efforts When Making Listing Decisions (“PECE”) also requires the agency to consider the certainty that the effort will be implemented and effective.¹⁷¹ The purpose of PECE is to ensure consistent and adequate evaluation of conservation plans when making listing decisions. The policy establishes criteria for evaluating conservation efforts that have not yet been implemented or have not yet demonstrated effectiveness. The PECE requires FWS to consider two central questions: (1) the certainty that the conservation efforts will be implemented, and (2) the certainty that it will be effective. A

(“[The Secretary] cannot use promises of proposed future actions as an excuse for not making a determination based on the existing record).

¹⁶⁷ See, e.g., *Morgenweck*, 351 F. Supp. 2d at 1141 (noting the possibility that future conservation actions may not be implemented where the actions were not mandatory and were expensive); *Save Our Springs v. Babbitt*, 27 F. Supp. 2d 739, 744 (W.D. Tex. 1997) (“There are no assurances that the measures will be carried out, when they will be carried out, nor whether they will be effective in eliminating the threats to the species.”).

¹⁶⁸ See, e.g., *Alaska v. Lubchenco*, 825 F. Supp. 2d 209, 219 (D.D.C. 2011) (FWS was proper in refusing to consider a Plan where “many of the Plan’s recommendations were unfunded, and it was therefore uncertain whether they would ever be implemented.”).

¹⁶⁹ *Ctr. for Native Ecosystems*, 795 F. Supp. 2d at 1209.

¹⁷⁰ *Id.* at 1209-10 (“This failure to consider the effectiveness of [existing BLM] conservation efforts . . . means that FWS failed to meet its statutory mandate.”).

¹⁷¹ 68 Fed. Reg. 15,100, 15,101 (Mar. 28, 2003).

conservation agreement that is not sufficiently certain to be implemented and effective cannot contribute to a determination that listing is unnecessary.¹⁷²

The PECE establishes the following nine criteria for evaluating the certainty of implementation and six criteria for evaluating the certainty of effectiveness for conservation efforts.

A. The certainty that the conservation effort will be implemented:

1. The conservation effort, the party(ies) to the agreement or plan who will implement the effort, and the staffing, funding level, funding source, and other resources necessary to implement the effort are identified.
2. The legal authority of the party(ies) to the agreement or plan to implement the formalized conservation effort, and the commitment to proceed with the conservation effort are described.
3. The legal procedural requirements (e.g., environmental review) necessary to implement the effort are described, and information is provided indicating that fulfillment of these requirements does not preclude commitment to the effort.
4. Authorizations (e.g., permits, landowner permission) necessary to implement the conservation effort are identified, and a high level of certainty is provided that the party(ies) to the agreement or plan who will implement the effort will obtain these authorizations.
5. The type and level of voluntary participation (e.g., number of landowners allowing entry to their land, or number of participants agreeing to change management practices and acreage involved) necessary to implement the conservation effort is identified, and a high level of certainty is provided that the party(ies) to the agreement or plan who will implement the conservation effort will obtain that level of voluntary participation (e.g., an explanation of how incentives to be provided will result in the necessary level of voluntary participation).
6. Regulatory mechanisms (e.g., laws, regulations, ordinances) necessary to implement the conservation effort are in place.
7. A high level of certainty is provided that the party(ies) to the agreement or plan who will implement the conservation effort will obtain the necessary funding.
8. An implementation schedule (including incremental completion dates) for the conservation effort is provided.
9. The conservation agreement or plan that includes the conservation effort is approved by all parties to the agreement or plan.

B. The certainty that the conservation effort will be effective:

¹⁷² See U.S. Fish & Wildlife Service, PECE Evaluation for the New Mexico CCA/CCCAA and Texas Conservation Plan, at 3, *available at* http://www.fws.gov/southwest/es/Documents/R2ES/DSL_PECE_NM_and_TX_06112012.pdf.

1. The nature and extent of threats being addressed by the conservation effort are described, and how the conservation effort reduces the threats is described.
2. Explicit incremental objectives for the conservation effort and dates for achieving them are stated.
3. The steps necessary to implement the conservation effort are identified in detail.
4. Quantifiable, scientifically valid parameters that will demonstrate achievement of objectives, and standards for these parameters by which progress will be measured, are identified.
5. Provisions for monitoring and reporting progress on implementation (based on compliance with the implementation schedule) and effectiveness (based on evaluation of quantifiable parameters) of the conservation effort are provided.
6. Principles of adaptive management are incorporated.¹⁷³

An evaluation of the Conservation Agreement under PECE highlights the agreement's inadequacy and makes plain that protecting these species pursuant to the mandates of the ESA is the only appropriate course of action. These comments will establish this conservation agreement is not certain to be implemented, and even if it were to be implemented, it is not certain to be effective in preventing the continued decline of these two imperiled species. Accordingly, FWS's analysis of this plan under PECE, due August 2014, can only conclude that this plan is inadequate.

B. Deficiencies of the Draft Conservation Agreement

As discussed below, there are numerous reasons why the CA does not represent the “cohesive, landscape-level regulatory mechanism[]” that FWS recognized as necessary to protect Graham's and White River beardtongues from energy development and other threats.¹⁷⁴ The CA does not provide any assurance that it will be implemented or that these measures will be effective in protect these species.

1. FWS cannot shows that the CA is certain to be implemented

States, Federal agencies and private interests can easily promise to protect and recover species in order to avoid or delay a listing that they believe would harm their interest. Parties to this CA have been vocal foes of protection for the Graham's and White River Beardtonges for several decades. Their ongoing opposition to these species getting adequately protected is made plain in the CA's explicit language that if these species are protected under the ESA, the “all obligations imposed and commitments made under this Agreement will immediately become null and void.”¹⁷⁵ Indeed, FWS cannot demonstrate that the CA is certain to be implemented.

¹⁷³68 Fed. Reg. at 15,114.

¹⁷⁴78 Fed. Reg. at 47,608.

¹⁷⁵CA at 37.

a. Funding is uncertain

The CA does not provide any certainty that funding will be secured or even that the parties will all attempt to fund this effort as required by the ESA. The PECE requires FWS to consider whether “[a] high level of certainty is provided that the party(ies) to the agreement or plan that will implement the conservation effort will obtain the necessary funding.”¹⁷⁶

The CA does not establish any firm commitments, and it contains minimal information regarding the actual costs of anticipated actions.¹⁷⁷ Instead, it uses vague language about the conservation team guiding prioritization and identification of funding sources, and says that “all partners should anticipate maintaining funding levels and in-kind services for the duration of the agreement.”¹⁷⁸ The CA says that the approximate cost of funding actions anticipated under the agreement are not available or to be determined for nine out of seventeen actions.¹⁷⁹

b. The Conservation Team staffing and funding is uncertain

The PECE requires that “[t]he conservation effort, the party(ies) to the agreement or plan that will implement the effort, and the staffing, funding level, funding source, and other resources necessary to implement the effort are identified.”¹⁸⁰

The CA is meant to be carried out by a conservation team, but this team has not been identified, nor does the CA provide vital information on staffing, funding, or resource. The “parties signatory to this Agreement have the option to have one member assigned to the conservation team,” but they do not commit to actually assigning staff or resources to the efforts.¹⁸¹ As discussed above, the CA does not provide any firm commitments with respect to funding. Furthermore, as discussed below, there is no assurance that the Conservation Team will have the relevant expertise to ensure the species are protected.

c. Many of the CA requirements are voluntary and therefore implementation is uncertain

The CA provides very little information on how it will be enforced. It appears that the conservation measures are largely voluntary. For example, the CA states that BLM will incorporate the provisions of the CA into its RMPs during the next planning process. As an initial matter, BLM adopted a new RMP for the Vernal planning area in 2008, and there is no new RMP process on the horizon. Furthermore, as discussed above, BLM has already demonstrated that it does not treat its RMP provisions as mandatory. It has already disregarded

¹⁷⁶ 68 Fed. Reg. at 15,115.

¹⁷⁷ CA at 31.

¹⁷⁸ *Id.*

¹⁷⁹ *Id.* at 31-32.

¹⁸⁰ 68 Fed. Reg. at 15,114.

¹⁸¹ CA at 18.

its commitment to provide a 300 ft buffer in the Vernal RMP. The CA does not explain how the conservation measures will be enforced on BLM lands, much less state or private lands.

Within the non-conservation areas, “[c]onservation actions are encouraged, but voluntary.”¹⁸² FWS cannot rely on these voluntary actions that are not certain to be implemented. Indeed, the PECE requires that “[t]he type and level of voluntary participation . . . necessary to implement the conservation effort is identified, and a high level of certainty is provided that the party(ies) to the agreement or plan that will implement the conservation effort will obtain that level of voluntary participation.”¹⁸³ Yet, the CA fails to identify how voluntary participation would be secured if the plan were to be implemented or provide any triggers to action or assurances regarding the certainty of voluntary implementation.

d. Many requirements in the CA are entirely future actions that have yet to be developed

All mitigation measures must be established now – not in the future – and be available for public review and comment before approval of the CA. As FWS has stated, it “may not rely on speculative promises of future action when making listing decisions.”¹⁸⁴

Yet, the CA is full of promises for future actions. For example, the CA states that “within 1 year of signing the Agreement, the conservation team will develop criteria for the calculation of surface disturbance,” and “[w]ithin 1 year of signing the Agreement, the conservation team will develop a standardized procedure to address how mitigation is to occur depending on level of impacts.”¹⁸⁵ Likewise, the CA relies on the conservation team to “develop and implement a scientifically valid monitoring plan (approved by consensus) to determine trends in plant populations across the range of the species.”¹⁸⁶ The CA states that a “seed collection plan will be developed and implemented with approval from the USFWS.”¹⁸⁷ Further, “BLM will develop and implement a mitigation and monitoring plan for each [livestock grazing] allotment within 1 year of signing this Agreement.”¹⁸⁸ Similarly, “[w]ithin 1 year of signing the Agreement, the conservation team will develop, fund, and implement a weed management plan (approved by consensus).”¹⁸⁹ The CA also states that a “restoration plan will be development by the conservation team.”¹⁹⁰ The conservation team is also tasked with “develop[ing] and implement[ing] a monitoring and adaptive management plan to be approved by the consensus of the conservation team.”¹⁹¹ These and other measures in the CA are future actions that FWS cannot rely on to decide not to list the species.

¹⁸² See, e.g., CA at 20.

¹⁸³ 68 Fed. Reg. at 15,115.

¹⁸⁴ *Id.* at 15106.

¹⁸⁵ See, e.g., CA at 21.

¹⁸⁶ *Id.* at 22.

¹⁸⁷ *Id.* at 23.

¹⁸⁸ *Id.*

¹⁸⁹ *Id.* at 24.

¹⁹⁰ *Id.* at 25.

¹⁹¹ *Id.* at 26.

e. The CA provides no assurances with respect to private landowners

The PECE requires that “[a]uthorizations (e.g., permits, landowner permission) necessary to implement the conservation effort are identified, and a high level of certainty is provided that the party(ies) to the agreement or plan that will implement the effort will obtain these authorizations.”¹⁹²

The CA does not provide any information establishing that private landowners specifically authorize the contemplated actions. Thus, landowners may decline to consent to surveying or monitoring on their lands. This does not provide the certainty mandated by PECE.

f. The CA does not include a cohesive implementation plan

The eighth criteria under the certainty of implementation prong of a PECE analysis is whether “an implementation schedule (including incremental completion dates) . . . is provided.”¹⁹³ Dates for implementing various actions are scattered throughout the CA, making an implementation schedule difficult, if not impossible to ascertain. However, a power point presentation obtained via the Freedom of Information Act entitled “1.1 Update on the Listing of Graham’s and White 20140324.pptx” contains a table laying out the schedule for implementing various actions discussed in the plan.¹⁹⁴ This schedule reveals great uncertainty for this Agreement’s implementation.

While the Agreement is scheduled to be in effect for just 15 years, the parties to the plan anticipate it will take six months to simply assemble the conservation team responsible for overseeing the plans implementation. Then, this conservation team plans to meet just once per year to review conservation actions and produce a report. This cannot constitute effective minimal oversight for conservation actions. In addition, the parties anticipate it taking one full year to develop and implement standard procedures for mitigation and a livestock monitoring plan. The Agreement contains no timeframe for the development and implementation of a rangewide monitoring plan. This lackluster implementation schedule is yet another indication that this plan is uncertain to be implemented.

2. FWS cannot show that the CA will be effective

a. The CA will not be effective because it applies only for 15 years and terminate if either species is listed under the ESA

If adopted, the CA shall be effective as of the date of the last signature and shall remain in force for a period of 15 years. There is no stated intent to renew the CA after this 15 year period. Desert species that have faced mounting threats while they have languished on the candidate list

¹⁹² *Id.*

¹⁹³ *Id.*

¹⁹⁴ FOIA FWS-2014-00894, 1.1 Update on the Listing of Graham’s and White 20140324.pptx.

for decades and are as imperiled as White River and Graham's beardtongues simply are not likely to be recovered in fifteen years. Indeed, a number of the conservation measures outlined in the CA may require a longer time period to yield results in terms of ameliorating the threats to the species on the ground. Conservative estimates indicate that if the species were to be listed and have critical habitat designated under the ESA, recovery could take about thirty years. Thus, the CA is unlikely to be effective at achieving its stated goals, and fails to ensure that conservation measures will be in place until the threats to the species have been ameliorated and the species is no longer at risk of extinction.

In addition, the CA will terminate automatically if either species is listed as endangered or threatened under the Endangered Species Act. The stated reason for inclusion of the termination clause is to ensure for the non-federal parties that a single regulatory framework will remain operative in the potential scenario where either species is listed such that the parties are not bound to both the commitments in this agreement and the potentially additive requirements of the ESA.

However, there are several other mechanisms that allow FWS to provide certainty to non-federal signatories that they will not be subject to both the commitments of a conservation agreement and the requirements of the ESA. For example, a conservation agreement with assurances can provide assurances that, if covered species are listed, property owners who are parties to the agreement would not be required to do more than those actions agreed to in the agreement. These assurances are "guaranteed" through the issuance of an incidental take permit for continuing land management activities that is dated as of the date of listing of any of the covered species. The assurances are aimed at rewarding proactive voluntary conservation efforts and shielding participants from any additional restrictions which might otherwise affect them if a species is subsequently listed. It does not appear that any of these options were considered, despite the fact that a combination of the protections provided by the ESA and these types of conservation agreements is often the best strategy to comprehensively address all of the threats to plant species that require habitat found on both private and public lands. The failure to consider these options and the inclusion of the termination clause in the CA limits FWS's options for conservation of the species, calling into question whether the parties to the CA are in fact committed to advancing the conservation of the species.

Further, there is substantial cause for concern that the termination clause is intended to influence FWS's decision regarding whether or not these species warrant listing as endangered or threatened under the ESA (and concurrently designate critical habitat), by threatening to take away the agreement to implement conservation measures to benefit the two species if FWS ultimately makes a determination that the two species warrant the protections of the ESA. The record suggests that FWS did not feel that the inclusion of the termination clause was appropriate, but that other key partners to the agreement refused to participate in the agreement without the termination clause.

These major flaws in the CA make it unlikely to be effective, and give cause for concern that the integrity of the ultimate decision regarding whether or not to list these species under the ESA and designate critical habitat may be compromised.

b. The “conservation areas” are inadequate

At best, if the protections outlined in this Agreement were to be fully implemented, only 64% of Graham's and 76% of White River beardtongue populations would be protected. FWS's listing rule and critical habitat proposal both indicate that a larger percentage of the populations of both plants are necessary to prevent their movement towards extinction and to shift them towards recovery. Accordingly, the conservation areas proposed for designation under the agreement are not adequate to conserve the species.

The proposed critical habitat is habitat that FWS has identified as ‘essential to the conservation of the species.’ FWS proposed to designate 67,959 acres of critical habitat for Graham’s penstemon, and 14,914 acres of critical habitat for White River penstemon, for a total of 82,873 acres of critical habitat combined. It is important to note that the proposed critical habitat is the current known range of the two species, with a small buffer added to protect habitat for pollinators.

The CA protects only a portion of the proposed critical habitat and thus only a portion of each species range within proposed conservation areas. The CA proposes to designate roughly 44,373 acres as conservation areas for both species combined and an additional 492 acres on SITLA and private land for White River penstemon, for a total of roughly 44,865 acres for both species combined. (This does not include interim conservation areas, which receive little long-term protection via the conservation agreement).¹⁹⁵ Thus, the CA excludes roughly 38,008 acres, or roughly 46% of the proposed critical habitat (for both species combined) from the conservation areas. The CA and associated FWS documents do not provide sufficient information to determine the precise amount of proposed critical habitat or the proportion of the current range that is excluded from designation as conservation areas for each individual species.

However, given that 46% of the proposed critical habitat for both species is excluded from proposed conservation areas (not including interim conservation areas), it is clear that a significant proportion of the areas essential to the conservation of each species, and a significant proportion of each species’ range will receive little or no protection under the conservation agreement. Because FWS has determined that this level of protection is required to provide the species with the protection mandated under the ESA, it follows that a plan providing for 46% fewer acres of protected lands is de facto inadequate. Indeed, the proposed listing rule states that both species are threatened across *all* of their current ranges.

FWS recognizes in its 2/25/14 comments on the draft conservation plan that the “proposed conservation areas are less than what was designated as PCH [protected critical habitat].”¹⁹⁶ This fact undercuts the position of the parties to the CA that the agreement provides protections beyond those that the ESA could provide.

¹⁹⁵ The interim conservation areas are only subject to very limited conservation measures, and only until “approval of any exploration or plan of operation.” CA at 20. In other words, all protection goes away when it is needed most.

¹⁹⁶ FWS June 11, 2014 FOIA Response, 1.1 Penstemon Conservation Agreement_DRAFT_20140225_FWSedits.docx.

Further, the agreement notes that some proposed conservation areas were not designated due to ‘active lease or development status.’ Thus, it is reasonable to assume that both species are threatened throughout the area of proposed critical habitat excluded from designation as conservation areas, and that much if not all of the this area is likely to be lost in the foreseeable future to energy development or other threats. Therefore, even with the conservation agreement in place, both species are threatened across both a significant portion of their range, and a significant proportion of the habitat essential to the conservation of the species.

FWS states that the conservation agreement “provides conservation benefits to Graham’s beardtongue by protecting 64 percent of the total population, and to White River beardtongue by protecting 76 percent of the total population.” It is unclear whether this estimate includes interim conservation areas which arguably receive little or no long-term protection. FWS provides no estimate of the proportion of the total population of each species that is located in interim conservation areas. Thus, the proportion of the total population of each species actually protected in the conservation areas may be smaller than the estimates above. Regardless, and even if the conservation areas effectively protected the above proportions of each population—which they do not—this would not be adequate to ensure the long-term persistence of these two species for the reasons outlined below.

The CA provides very limited discussion of the process through which the conservation areas proposed for designation under the agreement were selected. The CA states that “[t]he conservation area boundaries presented in this Agreement were based, in part, on geographic information system (GIS) analyses of population density conducted by the BLM Vernal Field Office and endorsed by the USFWS.” The CA also states that the conservation areas “were developed to represent the range of each species, encompass varying site conditions, promote species stability (high density populations), maintain corridors between populations and provide for redundancy for each species.” The agreement goes on to note that some proposed conservation areas were not designated due to “active lease or development status.” It does not appear that additional areas were added to the areas proposed for designation (and thus the areas FWS clearly considered to be important for representing the range of each species, encompassing varying site conditions, promoting species stability, maintaining corridors between populations, and providing for redundancy for each species).

Further, in order to ensure the long-term persistence of the species, the conservation areas must provide for of resiliency, redundancy and representation. The proposed conservation areas do not adequately provide for resiliency, redundancy and representation. Please see the general discussion of these concepts above.

It is not clear that the conservation areas adequately provide for representation. Though the CA states that the conservation areas were chosen to represent the range of each species and encompass varying site conditions, it is unclear that the conservation areas actually achieve this goal, given that such a large proportion of each species’ geographic range is excluded from the conservation areas. The CA provides little or no discussion of whether and how the conservation areas represent the genetic, morphological and physiological diversity of these two species, or

encompass the diversity of ecological settings that the species are currently known to occupy. Thus, it is far from clear that the conservation areas will provide for adequate representation.

The proposed conservation areas provide some redundancy, by attempting to include the highest density populations of the two species. However, it is not clear that the conservation areas will provide the degree of redundancy necessary to ensure the long-term persistence of the species. The CA provides very little rationale to support the assumption that the conservation areas will provide sufficient redundancy, even if they were effectively protected over the long-term.

The proposed conservation areas do not provide for resiliency. Though an attempt has been made to provide for resiliency by including a buffer around occupied habitat to incorporate habitat for pollinators, this is not adequate as discussed below. Furthermore, though FWS has recognized that climate change poses a threat to both species (in combination with other threats), the conservation areas do not include suitable unoccupied habitat that is likely to be a critical refugia from climate change in the foreseeable future. This is of particular concern given that a large proportion of occupied habitat and of the total population of both species is likely to be lost outside of the conservation areas.

The above issues with the proposed conservation areas are exacerbated by the fact that even the populations within conservation areas will not receive effective protection, as discussed elsewhere in these comments.

c. The disturbance caps are inadequate

The CA provides the following protection on federal land designated as “conservation areas”:

- A maximum of 5% new surface disturbance for Graham’s beardtongue and 2.5% new surface disturbance for White River beardtongue will be allowed per conservation unit from the date this Agreement is signed.

These proposed surface disturbance caps are inadequate to ensure the persistence of the populations of Graham’s beardtongue and White River beardtongue within the proposed conservation areas.

The 5% and 2.5% surface disturbance limits for Graham’s beardtongue and White River beardtongue respectively are arbitrary limits with no basis in science. FWS biologists originally proposed that no surface disturbance be allowed in the conservation areas.¹⁹⁷ FWS was later apparently convinced that existing lease rights precluded application of a complete prohibition

¹⁹⁷ See FOIA FWS-2014-00894 (folder 87) 1.1 PEGR and PESCAL Conservation Measures revision 01062014_2.docx, FOIA FWS-2014-00894 (folder 102), 1.1 PEGR PESCALCCA conservation measures_20131216_revision.docx, FOIA FWS-2014-00894 (folder 104) All documents within folder, FOIA FWS-2014-00894 (folder 117) 1.1 PEGR PESCALCCA conservation measures 20131203 (2) gg comments.docx

on surface disturbance within the conservation areas (though this is debatable).¹⁹⁸ The 5% and 2.5% surface disturbance caps that were ultimately agreed upon were based upon providing adequate flexibility so that it would be certain that existing energy leases could be developed. Thus, there is no biological basis for these disturbance caps.

Though we generally recognize the value in limiting surface disturbance, it is unclear that these surface disturbance caps will protect a sufficient amount of habitat to ensure the persistence of the species, particularly given the amount of habitat essential to the conservation of the species that has already been excluded from the proposed conservation areas. FWS biologists appear to have shared our concern about the arbitrary nature of the surface disturbance caps, whether or not more substantial surface disturbance caps were necessary, and whether the conservation agreement would provide any benefit to the species above that provided by listing without stricter surface disturbance caps.¹⁹⁹

In addition, these surface disturbance caps are unlikely to be effective due to a number of additional major problems with the approach proposed by the CA. First, the surface disturbance caps must be applied across land ownerships to the entire conservation areas in order to be effective. The CA proposes to apply the disturbance caps to the entirety of the conservation areas on BLM lands, but only to individual private properties on private lands. Applying them to individual private properties will not ensure that cumulative surface disturbance across each conservation area (combining private and public disturbance) will be kept below a threshold for the persistence of the populations in the conservation areas. Though we recognize that it is unfair to prohibit individual private landowners from conducting surface disturbing activities once a surface disturbance caps is reached, a more appropriate approach would be to reduce the amount of allowed surface disturbance on public land if the limit is being reached at the scale of the whole conservation area due to disturbance on private land.²⁰⁰

Second, it is unclear how the signatories to the CA will calculate and track surface disturbance (the CA states that the conservation team will develop criteria for the calculation of surface disturbance within 1 year of signing the agreement).²⁰¹ There is no explanation of what types of surface disturbance will be included in the surface disturbance totals (e.g. roads, two track roads, surface disturbance from grazing and range improvements, vegetation treatments, off road vehicle use etc.). Several of the developers of the conservation agreement expressed concern about what types of surface disturbance would be included in the caps.²⁰² This is a critical question, because if the definition of surface disturbance is limited only to surface disturbance from major energy development activities, then the total surface disturbance from all sources

¹⁹⁸ See discussion of existing leases at http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2014/IM_2014-100.html.

¹⁹⁹ *Id.* at 197.

²⁰⁰ http://www.blm.gov/co/st/en/BLM_Programs/wildlife/sage-grouse.html

²⁰¹ *See, e.g.*, CA at 21 (“Within 1 year of signing the Agreement, the conservation team will develop criteria for the calculation of surface disturbance.”).

²⁰² *See* FOIA FWS-2014-00894 (folder 81) 1.1 PEGR.doc, FOIA FWS-2014-00894 (folder 117) 1.1 PEGR PESCALCCA conservation measures 20131203 (2) gg comments.docx

combined in the conservation areas could cumulatively destroy large proportions of the conservation areas.

Third, the CA provides no estimate of how much existing surface disturbance is already present in the conservation areas. Many, if not all, of the conservation areas have been disturbed by human activity already including energy exploration and development, OHVs, and road construction.²⁰³ Any new surface disturbance in these areas may be too much. In fact, the areas may have passed a tipping point or important ecological threshold already. However, this is not addressed by FWS in the Federal Register or the CA. Nowhere is there discussion about whether any level of new surface disturbance is appropriate or importantly, why the chosen percentages and buffers were selected. The Conservation Agreement merely assumes that new surface disturbance will have a minimal adverse affect, without citation to supporting data or scientific evidence.

Fourth, though the ranges of the two species overlap substantially, the agreement does not specify what cap applies to areas which include both Graham's and White River beardtongue individuals.²⁰⁴ The CA does not specify when Graham's and White River beardtongue habitat overlap how much new disturbance is allowed: 2.5%, 5%, 7.5% - the sum of the amount of new disturbance allowed for Graham's and White River beardtongue habitat - or a different percentage? Further, it is not a simple task to continuously track surface disturbance from many sources to ensure the caps are not being exceeded. This will require substantial data which may not be readily available and expensive to obtain (e.g. frequent high-resolution aerial photography), substantial staff time and technical expertise, and substantial funding. Several of the developers of the CCA express concern about the difficulty of effectively implementing surface disturbance caps.²⁰⁵

Fifth, if the plants are not evenly distributed across the conservation areas, there is potential for the disturbance to be concentrated in areas with the highest density of plants, leaving areas with few or no plants undisturbed, and thus limiting the effectiveness of the conservation areas at providing redundancy and ensuring the persistence of the species. FWS originally recommend a cap on both the total surface disturbance and the total number of plants that could be disturbed, presumably to address this issue, but this recommendation was not included in the final CA.

Sixth, the CA states that the conservation team will examine and modify the disturbance limits if needed based on the results of an analysis of existing disturbance to allow for flexibility in siting projects and avoiding plants. This provides no assurance that the conservation team won't

²⁰³ See, e.g., 79 Fed. Reg. 25806, 25812-13 (May 6, 2014).

²⁰⁴ See, e.g., CA Fig. 1 (depicting Graham's and White River beardtongue habitat overlap in areas to the south, southeast of the White River, near the Utah/Colorado border).

²⁰⁵ See FOIA FWS-2014-00894 (folder 86) 1.1 PEGR and PESCAL Conservation Agreement changes- BLM call.docx, FOIA FWS-2014-00894 (folder 87) 1.1 PEGR and PESCAL Conservation Measures revision 01062014_2.docx, FOIA FWS-2014-00894 (folder 101) 1.1 PEGR PESCAL CCA Conservation Measures _Comments121313 group comments_LR.docx, FOIA FWS-2014-00894 Spector_MTG_Notes.pdf.

simply increase the amount of surface disturbance allowed whenever the limits have been exceeded and new development is proposed.

Finally, state and federal agency compliance with the disturbance cap is discretionary, not mandatory.²⁰⁶ All conservation actions must be mandatory so the public can be confident that they will be followed.

d. The voluntary setback of 300 feet is insufficient

Under the CA, ground-disturbing activities will try to avoid Graham's and White River plants by 300 feet both inside and outside designated conservation areas.²⁰⁷ This is insufficient. Moreover, this requirement is rendered virtually meaningless because it may be "adjust[ed] as needed."

As FWS recognized in the proposed rule, "[p]rotection of Graham's and White River beardtongues will need to happen on a landscape level to be effective at protecting these species from indirect and cumulative impacts."²⁰⁸ FWS also recognizes that if oil shale or tar sands development or extensive oil and gas development occurs within the beardtongues' habitat, the 300 ft setback distance is "*not* sufficient to protect these species against landscape-level habitat fragmentation, loss of pollinator habitat and population connectivity, increased dust, and invasive weeds."²⁰⁹

Documents received pursuant to a Freedom of Information Act (FOIA) request by the Center for Biological Diversity reveal that FWS's own biologists have serious concerns regarding the potential for this plan to be effective. As a FWS botanist wrote in a 4/10/14 email, the plan is "[p]retty wiggly and mitigation stuff is especially skimpy." She goes on to ask, "What happened to our mitigation requirements we discussed earlier. This seems pretty important to get in here if the 300 feet avoidance area is as wiggly as it is." Not only is the plan itself not certain to be effective at protecting these species, it doesn't even provide for effective mitigation to offset the harm that could occur under its terms.

Furthermore, state and federal agency compliance with the 300 ft setback is discretionary, not mandatory.²¹⁰ This is problematic, particularly given the fact that BLM has already disregarded its 300 ft setback commitment in the Vernal RMP. On October 28, 2008, in response to concerns raised about the Vernal RMP, BLM stated that "[t]he nearest proposed surface disturbance to a

²⁰⁶ See, e.g., CA at 21 ("The conservation team will examine and *modify the surface disturbance limits* if needed based on the results of the analysis to allow for flexibility in siting projects and avoiding plants.") (emphasis added).

²⁰⁷ CA at 18.

²⁰⁸ 78 Fed. Reg. at 47,599.

²⁰⁹ 78 Fed. Reg. at 47,607.

²¹⁰ See, e.g., CA at 20 ("Avoid plants by 300 feet, *or adjust as needed* . . . [w]here plants cannot be avoided, salvage the entire population up to 50 plants or 25% of the total population, whichever is greater.") (emphases added).

[Graham's beardtongue] will be at least 300 feet away."²¹¹ BLM has failed to follow through on this commitment. As discussed above, BLM recently released a draft environmental assessment in which the proposed action would authorize new surface disturbing activity in a proposed conservation area within three hundred feet of known Graham's beardtongue habitat and individuals.²¹²

BLM's failure to follow through on its prior commitments provides the public with little confidence or evidence that the agency will comply with the CA's conservation actions. If they are not mandatory, the conservation actions are unenforceable and meaningless.²¹³

e. Salvaging and restoration is unproven and unreliable

The CA's effectiveness is likely to be severely limited due to heavy reliance on the idea that it will eventually be possible to successfully restore viable populations of these two species, which is a completely untested assumption that is highly questionable. There is no evidence that either species can be successfully salvaged from sites where surface disturbance is allowed, and transplanted back into suitable habitat. This has been attempted only once for Graham's penstemon and the attempt failed completely. Though research and practice could potentially result in methods that would allow for successful salvage and transplantation of these species, it is equally likely that successful salvage and transplantation is not possible.

Further, successfully restoring viable populations will require restoration of both the native plant and pollinator communities that these two species depend upon. Restoration of native plant communities is notoriously difficult and takes a substantial amount of time in arid environments where plant establishment is difficult and growth is naturally very slow. Fifteen years (the term

²¹¹ BLM, Director's Protest Resolution Report, Vernal Resource Management Plan 34 (Oct. 28, 2008).

²¹² See, e.g., BLM, Ambre Energy Seep Ridge Oil Shale Exploration Application, DOI-BLM-UT-G010-2014-0081-EA at 8 (April 2014) ("Based on these surveys and existing GIS data, approximately 14 Graham's beardtongue individuals were identified within 300 feet of one of the proposed drill holes (JKS-002). Two of the proposed drill holes (JKS-002 and 003) occur within proposed critical habitat along existing roads.") ("Ambre Energy EA"); see also BLM, Enefit American Oil Utility Corridors EIS, DOI-BLM-UT-G010-2013-0236, available at http://www.blm.gov/ut/st/en/fo/vernal/planning/nepa_.html (last updated June 9, 2014) (proposed project in and near Conservation Areas); Red Leaf Resources, Inc., Notice of Intention to Commence Large Mining Operation, Seep Ridge Block: Southwest #1 Mine (Sept. 1, 2011) (proposed project in and near Conservation Areas) ("Red Leaf Resources Oil Shale Project"); BLM, Vernal November 2014 Lease Sale, DOI-BLM-UT-G010-2014-0093-EA (June 2014) (oil and gas leases offered in Conservation Areas).

²¹³ See *Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1380-81 (9th Cir. 1998) (agencies cannot rely on identified but unenforceable mitigation measures); *San Juan County Alliance v. Stiles*, 654 F.3d 1038, 1054 (10th Cir. 2011) (discussion of mitigation measures must be "reasonably complete"); *Colorado Environmental Coalition v. Dombeck*, 185 F.3d 1162, 1173 (10th Cir. 1999) ("It is not enough to merely list possible mitigation measures.").

of the agreement) is unlikely to be a sufficient amount of time to conduct the necessary research to determine how to successfully restore the two species at issue and the associated plant and pollinator communities, much less actually achieve successful restoration on the ground. FWS biologists have expressed concern about the time required to achieve successful restoration in the arid environments occupied by these two plant species. Successful restoration may also be limited by the availability of native seeds, a complete lack of information on how to restore the native pollinator species, and many other factors not adequately considered in the conservation agreement. The CA fails to establish that successful restoration is possible at all and particularly over the time frame of the agreement. FWS is well aware of the extreme challenge involved in achieving successful restoration for these species.²¹⁴ Thus, the conservation agreement is likely to fail to ensure the persistence of these two species due to reliance on untested and unreliable ideas regarding the potential for successful salvage and restoration.

Finally, within the interim conservation areas, parties are only required to salvage “to the extent feasible,” rendering this requirement meaningless.²¹⁵

f. The CA does not ensure that the Conservation Team will be effective at protecting the species

As a consequence of the fact that the CA will be implemented through an adaptive management process the conservation team will be required to undertake a number of tasks that require substantial scientific expertise, including but not limited to evaluating the status of the two species, monitoring, identifying and addressing new threats and recovery issues, determining success of transplant and ecological restoration approaches, assist in the development of monitoring plans, etc. Thus the makeup and expertise of the conservation team will be a major determinant of the effectiveness of the CA.

The CA will be made up of one (optional²¹⁶) member from each party signatory to the agreement²¹⁷. The agreement does not require that the signatories selected representative have the relevant and necessary scientific expertise (for example, though the BLM has botanists on staff, the agreement allows designation of a representative without any relevant scientific expertise). In addition, some signatories to the agreement do not have staff with the relevant or necessary scientific expertise. Further, because assigning a member to the team is optional, there is no guarantee that the team will include representatives from those signatory agencies that do have scientists on staff with the relevant and necessary expertise (e.g. USFWS, BLM). Thus, the conservation team is likely to lack the expertise needed to effectively implement the conservation agreement.

²¹⁴ See FOIA FWS-2014-00894 (folder 104) All documents within folder, and FOIA FWS-2014-00894 (folder 117) 1.1 PEGR PESCALCCA conservation measures 20131203 (2) gg.

²¹⁵ See, e.g., CA at 20.

²¹⁶ All parties signatory to the CA have the option to have one member assigned to the conservation team.

²¹⁷ Each signatory reserves the right to appoint and change who their single conservation team representative is at their discretion.

Further, the nonfederal signatories to the agreement and the Bureau of Land Management have obligations to fulfill various mandates that may conflict with conservation of these two species, and this may influence their ability to conduct the tasks assigned to the conservation team without bias, compromising the scientific integrity of the effort. Further, this sets the stage for a conservation team that disagrees on how to interpret the best available science and thus how to implement the conservation agreement in a manner that will conserve these two species. This is already apparent in the text of the conservation agreement, which states that “[t]he nonfederal participants do not agree with the USFWS analysis regarding the type and magnitude of the threats to the species identified in the proposed rule.” This calls into question whether the team will be able to come to the consensus required in order for a number of the key conservation measures in the CA to be implemented. There is substantial risk that the conservation team will not effectively implement the agreement using the best available science due to lack of expertise and/or bias combined with inability to come to consensus.

The CA leaves some room for the group to be advised by individuals with relevant expertise, stating that, “Affected non-federal property owners and other parties with relevant expertise will be allowed to participate as technical advisors.” However, there is no guarantee that the team will actively seek input from botanists or other biologists with relevant and necessary expertise, particularly independent experts not employed by the agencies that are signatories to the agreement. Without a provision explicitly including such experts on the conservation team or clearly indicating intent to seek input from such experts via peer review or some other formal mechanism, the conservation team is not equipped to achieve its goals or ensure against the extinction of the species.

The CA gives insufficient consideration to establishing a process for the operation of the conservation team that will ensure the team’s effectiveness. For example, consensus is required for the team to approve a number of the key conservation measures outlined in the agreement, including: 1) approval and implementation of an adaptive management plan, 2) approval of a scientifically valid monitoring plan²¹⁸, 3) approval of a weed management plan²¹⁹, 3) modification of boundaries of conservation areas on non-federal land²²⁰, etc. As discussed above, there is reason to believe that it may be difficult for the conservation team to reach consensus. The document provides no explanation of how the team will proceed when consensus is not reached. Thus, these key portions of the conservation agreement may not be implemented if the team cannot come to consensus. Agency staff involved in development of the CA expressed concern about how the team will proceed when consensus cannot be reached. This is indicative of a general failure to carefully consider how to ensure that the conservation team will operate effectively.

²¹⁸ CA at 22-23

²¹⁹ CA at 24

²²⁰ CA at 19

g. The CA is inadequate to protect against the threat of energy development

The CA does not adequately protect against continued habitat and plant mortality from energy exploration and development. FWS has identified energy development as a significant threat to and cause of Graham's and White River beardtongue habitat loss and species mortality.²²¹ It is settled science that energy development and its associated activities have adverse impacts to ecosystems and their overall health and long-term viability.²²²

Graham's and White River beardtongue are currently threatened and will continue to be threatened by energy development and associated activity.²²³ No additional protection – aside from that set forth in the CA – is anticipated for either species by FWS.²²⁴

The *non*-mandatory maximum new surface disturbance thresholds and three hundred foot buffer are arbitrary. Nowhere in the CA or Federal Register is it explained how or why these percentages or distance were selected and most importantly; whether they are sufficient to halt species decline and aid in species recovery. Moreover, it is troubling that the CA makes clear that new surface disturbance *will* be authorized regardless of the amount or severity of past or present surface disturbance or scientific data to the contrary.²²⁵ Compounding this problem is the fact that FWS is unaware of how much disturbed land exists in each conservation area already.²²⁶ Without this knowledge, it is arbitrary and capricious for an agreement to authorize new surface disturbance even if scientific data concludes that such activity will have significant and adverse impacts to Graham's or White River beardtongue.

Federal and state agencies are currently working on a number of environmental impact statements and/or environmental assessments related to energy development in and near conservation areas.²²⁷ For this reason, the FWS and other members of the conservation team

²²¹ 78 Fed. Reg. 47590, 47598 (Aug. 6, 2013); *see also* Conservation Agreement at 19 (identifying energy exploration and development as a threat).

²²² *See, e.g.,* Sharifi, M. Rasoul et al., *Surface Dust Impacts on Gas Exchange in Mojave Desert Shrubs*, 34 J. of Applied Ecology 837, 842 (1997) (“Excessive dust can clog plant pores, increase leaf temperature, alter photosynthesis, and affect gas and water exchange negatively affecting plant growth and reproduction.”).

²²³ *See, e.g.,* 79 Fed. Reg. at 25812 (“Graham's beardtongue and White River beardtongue both occur in areas with energy development activity. Existing well pads and proposed oil shale and tar sands development projects are within proposed critical habitat units.”); *id.* at 25813 (“As of January 2014, 88 and 21 producing or newly permitted wells are located within proposed critical habitat for Graham's and White River beardtongue, respectively.”).

²²⁴ *Id.* at 25812-13.

²²⁵ *See* CA at 21 (“The results of the disturbance analyses will not reduce new surface disturbance below the limits defined in conservation action 1 [*i.e.*, 5% or 2.5%].”).

²²⁶ *Id.*

²²⁷ *See, e.g.,* Ambre Energy EA (oil shale exploration in and near Sunday School Canyon proposed wilderness area and identified BLM conservation area); Red Leaf Resources, Inc., Notice of Intention to Commence Large Mining Operation, Seep Ridge Block: Southwest #1

should be aware of the percentage of already disturbed land within each conservation area before it can conclude that the CA establishes adequate protection measures. Especially since many of the conservation areas are under the ongoing threat of large-scale energy exploration and development.

h. The CA is inadequate to protect against the threat of climate change

The CA provides for monitoring the connection between precipitation and the species, however, the agreement fails to take into account numerous additional impacts resulting from climate change including temperature and ecological thresholds (see discussion of the threats above in Section I.B). The CA also fails to consider the fact that climate change is likely to introduce invasive species and augment the ability of invasive, nonnative species to out-compete native plant species.

Furthermore, the effectiveness of the CA dependent on data and analysis that has yet to be compiled or documented.²²⁸ This is problematic for many reasons. To be effective, the Conservation Agreement must contain criteria and guidance for how the conservation team will monitor the affects of climate change and importantly, what actions will be taken when certain thresholds are reached or exceeded.

Futhermore, for the reasons discussed above with respect to critical habitat, the CA does not provide for adequate resiliency.

i. The CA is Inadequate to Protect Against the Threat of Livestock Grazing

The final draft CA proposes to address the impacts of herbivory by allowing current levels and management of livestock grazing to continue. Monitoring and mitigation plans will be put in place one year after signing the agreement and if impacts are occurring, management will change. This is a dramatic shift from earlier versions of the draft, which address the problem in much more detail.²²⁹ For example, earlier drafts included the following language:

“Threat: Livestock grazing

Impacts:

- Herbivory of all or part of above ground portion of vegetative portion of plant
- Herbivory of all or part of the inflorescence
- Trampling of plant and habitat

Mine (Sept. 1, 2011); BLM, November 2014 Lease Sale Environmental Assessment, DOI-BLM-UT-G010-2014-093-EA (June 2014) (proposed non-no surface occupancy oil and gas lease parcels in conservation areas).

²²⁸ See CA at 24 (“a component will be included to study the relationship between precipitation patterns and species’ growth, reproduction and recruitment, and mortality.”).

²²⁹ FOIA FWS-2014-00894 (Threat Table in Bullet Format).

- Change in community composition
- Invasive species invasion, spread and competition
- Alteration of soil characteristics

Conservation Actions:

- Grazing will only occur during the winter and early spring from Oct 15-Mar 30 in BLM allotments where the species occur.
- A rest period of at least one full year every third year will occur on BLM grazing allotments pastures where the species occur.
- Alternatively, the sites where the species occur may be fenced and maintained to exclude grazing by livestock.
- Solicit a peer-reviewed study on how livestock grazing affects species reproduction, recruitment, plant community, and soil characteristics (for example, an exclosure study) to better characterize the threat and adjust grazing management.
- Incorporate the following terms and conditions into grazing and crossing permits to avoid trailing, mineral licks, and water sources in critical habitat on BLM land :
 - Locate water sources and mineral supplements at least 0.5 miles (805 m/ 2,641 ft) away from habitat to protect the habitat and plant pollinators. These structures or materials will be placed so that livestock are drawn away from occurrences and trailing is avoided through occurrences en-route.
 - Prohibit trailing of livestock within the habitat. Utilize effective measures to direct trailing outside of habitat.
 - Adjust livestock use for occupied habitat after major disturbances to provide adequate rest from grazing (major disturbances include fire, post-fire activities or other soil disturbing activities).
 - The length of rest will be determined by species monitoring in accordance with the monitoring plan. If rangewide monitoring show species health is declining or not recovering then the pasture will be rested until populations recover, plants are healthy.
- Within 1 year the Conservation Team will develop, fund and implement a weed management plan to be approved by USFWS in Core Conservation Areas which includes repeated annual surveys to detect invasions and treatment of invasive species as soon as detected (also under energy exploration and development).
- On non-federal lands within conservation areas we need a commitment to maintain a certain percent of lands intact with no surface disturbance for reference sites and for the resiliency of the species. We recommend 30% of designated conservation areas.”

The last draft in which these and other specific prescriptions were seen was accompanied by internal Comment [JS41]: “Strike it all and just have a study provision.”²³⁰ As a result, the grazing section went from a detailed description of grazing prescriptions to a more general statement vaguely promising action of an unspecified nature if future monitoring warrants it. The final CA is insufficient to address the grazing threat.

Documents from the FOIA also indicate that, at one point, FWS determined that BLM needed to do more to protect the species from grazing.²³¹ For example, FWS stated:

“Where grazing occurs in conservation areas we need BLM to monitor the species and take action when impacts reach a management trigger level.”

“We need BLM to better describe how the measures of the conservation agreement will be incorporated into permitting and management decisions so that it is considered and lasts for the term of the agreement? Can BLM develop a habitat management plan for the species within 2 years of the agreement?”

“BLM will commit to incorporate the CCA’s conservation measures into the next RMP in the planning process for the renewal.”

FWS did not require BLM to make these commitments in the final CA. FWS must provide some explanation for its failure to do so. Furthermore, waiting until the next Resource Management Plan is too late. Negative effects of herbivory are already occurring. By waiting for more evidence of even further impacts FWS is taking the risk that this delay will lead to diminished sexual reproduction and irreversible population decline. Given the clear evidence that grazing impacts these plants, a more thorough and detailed plan for livestock grazing is warranted.

j. The CA does not adequately protect the species from the increasing threat of road construction or other permanent surface disturbing activity

FWS recognizes that to address small population size, a successful conservation strategy must limit habitat fragmentation and promote population connectivity.²³² Unfortunately, the CA does just the opposite. It attempts to establish caps on the percentage of new land that may be disturbed as well as discretionary three hundred foot buffers around plant individuals.²³³ Moreover, these same measures will be used to control or mitigate for increased dust emissions, restricted pollinator movement, and habitat fragmentation.²³⁴ However, such measures are inadequate for the reasons discussed in these comments.

²³⁰ FOIA FWS-2014-00894 (folder 101) 1.1 PEGR PESCAL CCA Conservation Measures Comments121313 group comments_LR.docx.

²³¹ FOIA FWS-2014-008949 folder 94 (2.1 CA response_PA).

²³² 79 Fed. Reg. at 25811; *see also* 78 Fed. Reg. at 47603 (“roads that cross through rare plant habitat destroy habitat and populations, increase road dust, and disturb pollinators.”).

²³³ *See* Conservation Agreement at 24.

²³⁴ *Id.*

The threats to Graham’s and White River beardtongue from existing and new surface disturbance are many and multifaceted. For example, roads may act as a barrier to bee movement by influencing bees to forage on only one side of the road or within isolated habitat patches.²³⁵

Although bees and other pollinators are quite capable of crossing roads or other human-disturbed areas, the high site fidelity of bumblebees makes them more apt to remain on one side of a disturbed area. The implication of this type of pollinator behavior for rare plants is that the probability for outcrossing is reduced, thereby reducing genetic variability and reproductive success.²³⁶

“Roads that cross through rare plant habitat can destroy habitat and populations, increase road dust, and disturb pollinators.”²³⁷ This was not considered in the CA.

The CA also fails to account for past and present surface disturbance that exists as a result of road construction and maintenance and OHV activity or analyze the direct, indirect, and cumulative impacts of any new disturbance.²³⁸ In fact, many of the conservation areas are highly disturbed and fragmented already by roads and well pads.²³⁹ As noted above, FWS cannot ensure the effectiveness of the CA without knowing the current land disturbance situation.

The CA also does not reduce the threat to Graham’s and White River beardtongue from OHV activity. As with other threats, it relies on non-mandatory buffers around known plants to protect against continued declines in habitat connectivity and species mortality.²⁴⁰ FWS has acknowledged that “[t]he use of [OHVs] may result in direct loss or damage to plants and their habitat through soil compaction, increased erosion, invasion of noxious weeds, and disturbance

²³⁵ 78 Fed. Reg. at 47598; *see also* Madhumita Bhattacharya et al., *Are Roads and Railroads Barriers to Bumblebee Movement in a Temperate Suburban Conservation Area?* Biological Conservation (January 2003); M. Goverde et al., *Small-scale Habitat Fragmentation Effects on Pollinator Behavior: Experimental Evidence from the Bumblebee *Bombus Veteranus* on Calcareous Grasslands*, Biological Conservation (April 2002).

²³⁶ 78 Fed. Reg. at 47598 (citation omitted).

²³⁷ *Id.* at 47603; *see also* Stephen C. Trombulak & Christopher A. Frissell, *Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities*, 14 Conservation Biology 18 (February 2000).

²³⁸ As noted, FWS is unaware of the extent of the current disturbance and thus should not allow for new and additional disturbance until it has accounted for the full extent of all disturbed lands in conservation areas. Conservation Agreement at 21.

²³⁹ *See* 78 Fed. Reg. at 47598 (“smaller and more isolated populations produce few seeds and pollen, and thus attract fewer and a lower diversity of pollinators.”); Judit Lienert, *Habitat Fragmentation Effects on Fitness of Plant Populations — a Review*, JOURNAL FOR NATURE CONSERVATION (July 2004); Belinda J. Newman et al., *Effects of Habitat Fragmentation on Plant Reproductive Success and Population Viability at the Landscape and Habitat Scale*, 159 BIOLOGICAL CONSERVATION 16 (March 2013); Annette Kolb, *Habitat Fragmentation Reduces Plant Fitness by Disturbing Pollination and Modifying Response to Herbivory*, 141 BIOLOGICAL CONSERVATION 2540 (October 2008).

²⁴⁰ CA at 25.

to pollinators and their habitat.²⁴¹ OHVs present a real and significant threat to both species' habitat and long-term survival.²⁴²

The CA must have mandatory buffers for OHV activity if it is to be effective. Moreover, it must explain why a three hundred feet buffer is sufficient for species protection (including an explanation for why other distances were not considered or chosen).²⁴³ It must also provide qualitative and quantitative data to the public for review and comment that analyzes the amount of OHV activity on a daily, weekly, and monthly basis, including data that accounts for seasonal variations. This data must also show the relation between the various use levels and their impact to Graham's and White River beardtongue habitat and mortality.

k. The lack of public input into development of the CA calls into question the process and result

FWS worked with pro-development state and local entities to develop the CA, but failed to include anyone from the conservation and scientific communities. As a result, the process has led to mistrust and a feeling of exclusion by a large contingent of stakeholders. While FWS obtained input on the CA from Enefit American Oil and Mahogany Energy Resources oil companies, parties with a financial stake in the outcome of the CA, FWS did not seek or obtain any input from the conservation science communities. Although FWS has provided this opportunity to comment on the CA, an after-the-fact public comment period is not the same as providing input during the drafting process. Excluding some interest groups leads to a lack of buy-in, suspicions of bias, and ultimately a failed product.

CONCLUSION

For the foregoing reasons, we respectfully ask FWS to finalize listing for Graham's and White River beardtongue, designate critical habitat, and not to attempt to avoid listing by adopting the conservation agreement.

²⁴¹ 78 Fed. Reg. at 47603.

²⁴² See, e.g., R.E. Eckert, Jr. et al., *Impacts of Off-Road Vehicles on Infiltration and Sediment Production of Two Desert Soils*, 32 *Journal of Range Management* 394 (Sept. 1979); Roger A. Luckenbach & R. Bruce Bury, *Effects of Off-Road Vehicles on the Biota of the Algodones Dunes, Imperial County, California*, 20 *Journal of Applied Ecology* 265 (April 1983); Jeffrey E. Lovich & David Bainbridge, *Anthropogenic Degradation of the Southern California Desert Ecosystem and Prospects for Natural Recovery and Restoration*, 24 *Environmental Management* 309 (October 1999); Douglas S. Ouren et al., *Environmental Effects of Off-Highway Vehicles on Bureau of Land Management Lands: A Literature Synthesis, Annotated Bibliographies, Extensive Bibliographies, and Internet Resources* (2007).

²⁴³ In its August 6, 2013, Federal Register notice, FWS stated that "for every vehicle travelling one mile (1.6 km) of unpaved roadway once a day, every day for a year, approximately 2.5 tons of dust are deposited along a 305-m (1000-ft) wide corridor centered on the road." 78 Fed. Reg. at 47598. (emphasis added). This suggests that a three hundred foot buffer is inadequate, especially since many, if not all, of the roads in the Conservation Areas are unpaved.

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