

**PECE EVALUATION FOR THE GRAHAM'S AND WHITE RIVER BEADTONGUES
2014 CONSERVATION AGREEMENT AND STRATEGY**

JULY 25, 2014

Introduction

In 2006, the U.S. Fish and Wildlife Service (Service) proposed Graham's beardtongue for listing (71 FR 3159, January 19, 2006) under the Endangered Species Act (ESA). We later withdrew our listing proposal (71 FR 76024, December 19, 2006) based on public comments received and information that the threats to Graham's beardtongue identified in the proposed rule, particularly energy development, were not as significant as we previously believed.

Following our withdrawal of the listing for Graham's beardtongue in 2006, several stakeholders initiated conservation measures for the species as outlined in a 2007 Conservation Agreement (2007 CA) for Graham's beardtongue. The Service, Uintah County, Utah, Utah State Institutional Trust Lands Administration (SITLA), Utah Department of Natural Resources (UDNR), and the Bureau of Land Management (BLM) Utah State Office developed the 2007 CA for Graham's beardtongue to implement measures for the conservation of the species. Although this agreement was not signed by all parties and was only partially implemented, several of the parties have contributed to the conservation of the species in the spirit of the agreement. In particular, BLM signed the agreement and fulfilled their commitments by funding surveys, monitoring for plant demographics, funding a population viability analysis, and avoiding and minimizing impacts to the species and its habitat from surface disturbances (USFWS 2007, p. 11-12). Uintah County, although not a signatory to the agreement, contributed \$7,500 to surveys of the species in 2008 and UDNR contributed \$27,000 for survey work from 2008 to 2010. However, by 2013, the implemented conservation measures were not sufficiently addressing the threats to Graham's beardtongue. The agreement also did not specifically include White River beardtongue.

In 2013, we proposed to list Graham's and White River beardtongues (occurring in Uintah and Duchesne Counties, Utah and Rio Blanco County, Colorado) as threatened species (78 FR 47590, August 6, 2013) and to designate critical habitat (78 FR 47831, August 6, 2013) under the ESA. Following publication of our proposed rule, the Service, SITLA, Utah Division of Wildlife Resources (UDWR; a division within UDNR), BLM (Vernal, UT Field Office [BLM-UT] and the White River Field Office in Colorado [BLM-CO]), Uintah County, Rio Blanco County, and the Utah Public Lands Policy Coordination Office (PLPCO) developed a new 2014 conservation agreement (2014 CA), which was signed on July 22, 2014. The purpose of the 2014 CA is to ensure the long-term persistence of Graham's and White River beardtongues within their historical ranges and provide a framework for present and future conservation efforts. The signatories to these agreements committed to several conservation actions that will be enacted to address the threats that were identified in our August 6, 2013 proposed rule (78 FR 47590), including the establishment of conservation areas and implementation of surface disturbance caps and avoidance buffers for the plant species.

We are required to make a final listing determination within one year from the publication of the proposed rule, by publishing either a final listing rule or a withdrawal of the proposed rule. During this time, we requested that the public comment on the proposed listing and critical habitat rules, the 2014 CA, a draft economic analysis, and draft environmental assessment, and provide any additional information on the status of the species or its habitat, so that we could analyze this additional information as part of the final listing process. As part of our analysis, we are evaluating the certainty and effectiveness of the conservation measures in the 2014 CA, to determine whether they can be considered in our final listing determination.

On March 28, 2003, the Service and National Oceanic and Atmospheric Administration (NOAA) Fisheries published the Policy for Evaluation of Conservation Efforts When Making Listing Decisions (PECE; FR 68 15100). The purpose of PECE is to ensure consistent and adequate evaluation of recently formalized conservation efforts when making listing decisions. The policy provides guidance on how to evaluate conservation efforts that have not yet been implemented or have not yet demonstrated effectiveness. The evaluation focuses on the certainty that the conservation measures will be implemented and effective. The policy provides nine criteria for evaluating the certainty of implementation and six criteria for evaluating the certainty of effectiveness for conservation measures. The evaluation criteria are as follows:

The certainty that the conservation effort will be implemented:

1. The 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.
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 that 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 timber 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 that 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 that 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.

The certainty that the conservation effort will be effective:

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.

These criteria are not considered comprehensive evaluation criteria. The certainty of implementation and effectiveness of a formalized conservation effort may also depend on species-specific, habitat-specific, location-specific, and effort-specific factors. We consider all appropriate factors in evaluating formalized conservation efforts. The specific circumstances will also determine the amount of information necessary to satisfy these criteria.

To consider that formalized conservation efforts contribute to forming a basis for not listing a species or listing a species as threatened rather than endangered, we must find that the conservation efforts are sufficiently certain to be implemented and effective so as to have contributed to the elimination or adequate reduction of one or more threats to the species identified through the section 4(a)(1) analysis. The elimination or adequate reduction of section 4(a)(1) threats may lead to a determination that the species does not meet the definition of threatened or endangered, or is threatened rather than endangered. An agreement or plan may contain numerous conservation efforts, not all of which are sufficiently certain to be implemented and effective. Those conservation efforts that are not sufficiently certain to be

implemented and effective cannot contribute to a determination that listing is unnecessary, or a determination to list as threatened rather than endangered. Regardless of the adoption of a conservation agreement or plan, if the best available scientific and commercial data indicate that the species meets the definition of “endangered species” or “threatened species” on the day of the listing decision, then we must proceed with appropriate rule-making activity under section 4 of the ESA. Below is our analysis regarding the application of PECE to the certainty of effectiveness and implementation of the 2014 Conservation Agreement for Graham’s and White River beardtongues.

A PECE analysis applies only to conservation efforts that have not yet been implemented or have not yet demonstrated effectiveness. The measures committed to in the 2014 Conservation Agreement have not been implemented formally, thus we will use the PECE process to evaluate their effectiveness. Informally, several measures that we have information on have been ongoing since 2007, including limitations on ground disturbance, and species surveys and monitoring, therefore we can evaluate these directly.

Background

Since 2007, the BLM-UT, Uintah County, UDNR and the Service have worked in cooperation to implement conservation measures for Graham’s beardtongue through the 2007 CA. The 2007 CA did not include private landowners, although both Graham’s and White River beardtongues occur on private lands. Initially, the agreement was established to provide a mechanism to conserve Graham’s beardtongue and its habitat after the 2006 withdrawal. This agreement was developed with the vision that the conservation measures would be implemented and effective to conserve the species, and would also preclude the need to list the species under the ESA in the future.

The terms of the 2007 conservation agreement included the following conservation measures:

1. Identify all occupied habitat of Graham’s beardtongue.
2. Census all occurrences of the species.
3. Retain in Federal ownership all occupied habitat already in Federal ownership.
4. Consider opportunities for land tenure adjustments which benefit Graham’s beardtongue populations.
5. Avoid or minimize impacts to the species and its habitat from permitted surface disturbances, subject to valid existing lease rights and other valid existing rights.
6. Restrict motorized vehicle travel to designated roads within all occupied habitat.
7. Identify at least 6 permanent population monitoring sites throughout the species’ range and conduct population monitoring studies for Graham’s beardtongues in each of those sites.
8. Conduct a biological life history study of the species for a period of five years. This will include reproductive biology, pollinator interactions, seed and seedling biology and ecology.
9. Conduct an in-depth ecological study of Graham’s beardtongue’ plant community endemic to the Green River shale.

10. Investigate the feasibility of utilizing Graham’s beardtongue and other Green River shale endemic plant species in the reclamation of disturbed sites on Green River shale substrates.
11. Investigate the biology and ecology and potential control measures for invasive plant species (weeds) on Green River shale substrates.
12. Determine, prior to development of Federal oil shale reserves within Graham’s beardtongue habitat, the location and size of populations necessary to ensure the long-term viability of the species.
13. Based on available data and new survey information, appropriate land management strategies will be developed and implemented to ensure the conservation of the species.
14. Provide training to State and Federal regulatory personnel for the identification of and avoidance measures for Graham’s beardtongue and associated species native to Green River Shale and the recognition of their habitat characteristics.

Although several conservation actions outlined in the 2007 agreement were not implemented, a number of conservation actions were implemented under this agreement. Uintah County, although not a signatory, contributed \$7,500 in 2008 to the Utah Natural Heritage Program to survey for additional locations of Graham’s beardtongue (Fitts and Fitts 2008). The UDNR contributed \$27,000 to surveys of Graham’s beardtongue from 2008-2010. In 2009, the BLM Vernal Field Office incorporated avoidance and minimization measures identified in the 2007 CA for Graham’s beardtongue into its Resource Management Plan (RMP) and Record of Decision and Approved Management Plan, Maintenance Change Sheet 2009-13. The BLM has also funded demography studies of Graham’s and White River beardtongues since 2004 (McCaffrey 2013) and conducted surveys for the species over the last several years. We contributed \$17,318 in 2013-2014 for a habitat assessment model for the two beardtongue species. Despite the implementation of these conservation actions, the measures identified in the 2007 CA were inadequate to protect Graham’s beardtongue, and did not include protections for White River beardtongue, so we proposed to list both species as threatened under the ESA in 2013.

Table 1: Funds spent on surveys for Graham's and White River Beardtongues by participants of the 2007 Conservation Agreement.

Year	Funding source	Funds
2008	Uintah County	\$7,519
	UDNR	\$10,000
2009	UDNR	\$10,000
2010	UDNR	\$7,000
Total		\$34,519

*Survey reports include Fitts and Fitts 2008, Fitts and Fitts 2009, and Fitts 2010.

Our 2013 proposed listing rule identified the following ongoing threats to Graham’s and White River beardtongues: (1) energy development and exploration; and (2) cumulative impacts of increased energy development, livestock grazing, invasive weeds, small population sizes, and climate change; (78 FR 47590, August 6, 2013). For example, we found that potential energy development overlapped with 91 percent of the population for Graham’s beardtongue and 100 percent of the population for White River beardtongue with 82 percent and 94 percent respectively affected by ex-situ or open pit mining for oil shale or tar sands resulting in direct mortality of plants. Our proposed rule also determined that the existing regulatory mechanisms were inadequate to protect the species from these future threats. Survey data through 2013 provide the most current scientific information on the distribution and status of the species (Table 2 and Table 3).

Table 2: Number of Known Graham's beardtongue by landowner across the Species’ Range

	Number of individuals in 2014	Percent of total in 2014
Federal	20,869	51.7
Private	8,525	21.1
State	10,939	27.1
Tribal	0	0
Total	40,333	100

Table 3: Number of Known White River beardtongue by landowner across the Species’ Range.

	Number of individuals in 2014	Percent of total in 2014
Federal	7,481	61.2
Private	3,458	28.3
State	1,276	10.5
Tribal	0	0
Total	12,215	100

As previously described, a multiagency conservation team developed a new 2014 CA to address the ongoing threats identified in our 2013 proposed listing rule. Based on the available information regarding threats, and the numbers and distribution of known plants, the

conservation team identified conservation areas that will be established specifically for the conservation of Graham’s and White River beardtongues (Table 4). The conservation areas shown in Table 4 and evaluated through our PECE process do not include interim conservation areas because they are subject to development and are not certain to protect the species.

Table 4: Conservation areas by land owner for Graham’s and White River beardtongues.

Species	Land Ownership	Size of Conservation Area hectare (acre)*	# plants	Percent of population
Graham’s	BLM	15,579 (38,497)	18,702	46.4
	State	1,254 (3,099)	2,319	5.8
	Private	1,128 (2,787)	4,755	11.8
	Total	17,957 (44,373)	25,776	63.9
White River	BLM	8,678 (21,444)	7,482	61.2
	State	343 (847)	177	1.5
	Private	1,170 (2,890)	1,571	12.9
	Total	10,213 (25,238)	9230	75.6
Both species combined	Total	17,957 (44,373)		

*Acreage for White River beardtongue and Grahams’ beardtongue do not sum as many conservation areas overlap both species. The acreage for Graham’s beardtongue represents the total amount of acreage in the conservation agreement.

The primary focus of the 2014 CA is to conserve the species within the conservation areas using surface disturbance caps and avoidance buffers that protects 64% and 76% of the known population of Graham’s and White River beardtongues, respectively. In addition the BLM will implement a 91.4 m (300 ft) avoidance buffer on lands within and outside of the conservation areas. This buffer will reduce impacts to the species since the greatest effects from surface disturbing activities occur close to the disturbance. This is also the distance we currently use in Section 7 consultations to protect plants from surface disturbance. Identified threats and the associated conservations actions are listed in Table 5.

Table 5: Conservation measures in the 2014 Conservation Agreement and Strategy.

Threats to Graham’s and White River Beardtongue and Associated Conservation Actions

Threat and Associated Impacts	Conservation Action
Energy Exploration and Development	
Habitat loss/fragmentation	<p>1. Conservation areas totaling 17,957 ha (44,373.4 ac) will be established by this Agreement (see Figure 1). These conservation areas include 2,382 ha (5,886.9) ac on private and state lands that may not be protected if the species were listed under the ESA. Development and surface disturbance will be minimized and consolidated to reduce habitat fragmentation, and new surface disturbance in conservation areas by the following actions:</p> <ul style="list-style-type: none"> • Limiting new surface disturbance to 5 percent per unit on federal lands and by landowner on non-federal lands for Graham’s beardtongue, and 2.5 percent per unit on federal lands and by landowner on non-federal lands for White River beardtongue (units are shown in Figure 2) • Avoiding plants by 91.4 m (300 ft) Surface disturbing activities may occur within 91.4m (330ft) of plants only if it benefits or reduces impacts to the species or habitat. On non-federal lands surface disturbance within 300 ft of either species will need to be approved by the conservation team. On federal lands if surface disturbance is within 300 ft of either species BLM will first conference with USFWS. • Calculating new surface disturbance from those activities that include a permanent structure, activities that require a permit, or new roads or improvements to existing roads <p>2. Within 1 year of signing the Agreement, the conservation team will develop criteria for the calculation of surface disturbance. The BLM and non-federal partners will conduct an analysis of the amount of existing surface disturbance within conservation areas. 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. The results of the disturbance analyses will not reduce new surface disturbance below the limits defined in conservation action 1 above.</p> <p>3. Successful ecological restoration may be used in conservation areas on private lands to offset disturbance limits.</p>
Direct mortality from surface disturbance	<p>4. On federal lands, ground-disturbing activities including oil and gas exploration and development will conform with BLM special-status plants species policies, and these species will be treated as a BLM sensitive species. Within designated conservation areas, the BLM will do the following:</p> <ul style="list-style-type: none"> • Limit new surface disturbance to 5 percent per unit for Graham’s beardtongue and 2.5 percent per unit for White River beardtongue • Survey for plants within 91.4 m (300 ft) of proposed disturbance (see Survey and Monitoring requirements in table notes) • Avoid disturbance within 91.4 m (300 ft) of plants. Surface disturbing activities may occur within 91.4 (300 ft) of plants only if it benefits or reduces impacts to the species or habitat. When this occurs BLM will first conference with USFWS. • Minimize and consolidate development to reduce habitat fragmentation <p>Outside conservation areas on federal lands, ground-disturbing activities will be sited to avoid Graham’s and White River beardtongue plants by 91.4 m (300 ft).</p> <p>5. On non-federal lands in a conservation area or interim conservation area, new ground-disturbing activities including oil and gas exploration and development proponents will follow these procedures:</p> <ul style="list-style-type: none"> • Pre-site surveys will be conducted to determine presence and locations of plants (see Survey and Monitoring requirements in table notes) • Exploration and development will be limited to 5 percent new surface disturbance for Graham’s beardtongue and 2.5 percent new surface disturbance for White River beardtongue • Disturbance within 91.4 m (300 ft) of plants. Surface disturbing activities may occur within 91.4 m (300 ft) of plants only if it benefits or reduces impacts to the species or habitat and is approved by the conservation team. <p>6. On federal and non-federal lands where new surface disturbance will occur in a</p>

Threats to Graham’s and White River Beardtongue and Associated Conservation Actions

Threat and Associated Impacts	Conservation Action
	<p>conservation area within 91.4 m (300 ft) of plants, the project proponent will mitigate for impacts. Within 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. Examples of mitigation could include payments into a mitigation fund for minor impacts, protection of other occupied areas at a ratio specified by the conservation team, or site-specific mitigation appropriate to each project as determined by the conservation team.</p> <p>7. On non-federal land outside conservation areas and interim conservation areas with approved exploration or plan of operations permits, conservation actions are encouraged but voluntary. Good faith, voluntary actions could include avoidance, minimizing impacts to individual plants, seed collection, plant salvage and transplant, and experimental reclamation and restoration treatments.</p>
Indirect disturbance from surface disturbance, including increased dust; introduction and spread of invasive, non-native plant species; and habitat fragmentation	See conservation actions 1–3.
Community and habitat loss and disturbance from surface disturbance, including soil and vegetation removal	See conservation actions 1–3.
Restricted pollinator movement, mortality and disturbance from roads and associated traffic, and energy emissions	See conservation actions 1–3.
Increased sedimentation and erosion	See conservation actions 1–3.
Pollinator scarcity	See conservation actions 1-6
Inadequacy of Existing Regulatory Mechanisms	
Lack of range-wide protection	<p>See conservation actions 1–7.</p> <p>8. The BLM will ensure that ongoing and future federal actions support or do not preclude the species’ conservation. All projects in designated conservation areas and their potential to impact the species will be reported in the conservation team’s annual report.</p> <p>9. The BLM will retain Graham’s and White River beardtongues on the BLM special-status species list as a sensitive species with new ground-disturbing activities avoiding plants by 91.4 m (300 ft) (inside and outside conservation areas), and ensure that the effects of proposed projects are analyzed for the species.</p> <p>10. The BLM will consider land exchanges with state and private landowners to expand or otherwise enhance the value of conservation areas on federal lands and facilitate the long-term persistence and recovery of the species, while protecting the long-term economic sustainability of the area.</p> <p>11. The BLM will incorporate the provisions of this Agreement or the latest amendments to this Agreement into its Resource Management Plan, permitting requirements, agency planning documents and budgets. Within 3 months of the signature date of the Agreement, the BLM will incorporate the provisions of this plan into permits and budgets. During the next planning cycle, the BLM will incorporate the provisions of this Agreement into their RMP. The conservation team will provide an annual report on the implementation of this Agreement. The report will also include monitoring results and adaptive management recommendations.</p> <p>12. If federal land within a conservation area is transferred to the State of Utah, the state agrees to maintain the designated conservation areas and protections for the two species in the transferred parcels, or place lands of comparable or greater value to the conservation of the species in conservation areas within the same species unit as approved by the conservation team.</p> <p>13. Uintah County will enact an ordinance with associated enforcement protocols and penalties that adopts the conservation measures in this Agreement, including limiting new surface disturbance in conservation areas to 5 percent for Graham’s and 2.5 percent for White River beardtongue and avoiding impacts to plants by 91.4 m (300 ft) in designated</p>

Threats to Graham's and White River Beardtongue and Associated Conservation Actions

Threat and Associated Impacts	Conservation Action
	<p>conservation areas on non-federal and non-state lands, within 3 months after the signing of this Agreement.</p> <p>14. SITLA will enact a regulation, order, or lease stipulation, as applicable, within 3 months of signing this Agreement that will limit new surface disturbance to 5 percent for Graham's and 2.5 percent for White River beardtongue, and avoid impacts to plants by 91.4 m (300 ft) in designated conservation areas or interim conservation areas on SITLA lands.</p> <p>15. The conservation team will develop and implement a scientifically valid monitoring plan (approved by consensus) to determine trends in plant populations across the range of the species. The plan should include continued monitoring at the current sites established by Red Butte Gardens, and establish additional monitoring sites to capture range-wide variation in habitat, climate, and population processes.</p> <p>16. The conservation team will coordinate annual seed collections in all areas where the species are present (with landowner approval), in accordance with USFWS and Center for Plant Conservation (CPC) guidelines, for placement in storage at Red Butte Garden and the National Center for Genetic Resources Preservation. A seed collection plan will be developed and implemented with approval from the USFWS.</p>
Loss of plants/habitat under federal landownership/management	See conservation actions 8–11 and 15–16.
Loss of plants/habitat under non-federal ownership/management	<p>In conservation areas on non-federal lands, conservation actions 5–7 and 12–16 would minimize and mitigate any loss of individual plants and habitat.</p> <p>17. On SITLA interim areas (Class A: 682 ha (1,686.6 ac), Class B: 724 ha (1,789.8 ac) and private interim areas 140 ha (345.5 ac) prior to approval of any exploration or plan of operations, these areas will also have a limit of 5 percent new disturbance for Graham's and 2.5 percent for White River beardtongue as set forth in conservation action 14. In the event there are surface-mine plan filings that would necessitate the destruction or removal of habitat, SITLA or the landowner, upon election to convert all or part of an interim conservation area to a non-conservation area, will require pre-disturbance surveys, and to the extent feasible in its reasonable judgment, after consultation with the conservation team, salvage a minimum of 50 plants or 25 percent of the total population size, whichever is greater, and collect seed from 50 plants or 25 percent of the total population size for long-term conservation at Red Butte Garden of identifiable plants from the disturbance area. To the extent feasible, pre-disturbance surveys should be initiated a minimum of 1 year prior to surface-disturbing activities. To the extent feasible, plants should be salvaged in late fall to maximize survival and likelihood of transplant success. Transplant and monitoring of salvaged plants will be overseen by the conservation team.</p> <p>18. On private lands, conservation actions on occupied habitats outside of designated conservation areas will be entirely voluntary. Plant and seed salvage and other good faith efforts to protect plants and restore habitat will be considered, but will not be mandatory. The conservation team is expected to work with private entities to promote and provide support for conservation actions on private lands, and will consider creation of a conservation credit system for plant salvage, habitat banking, support of conservation initiatives, and other voluntary activities that promote the persistence and recovery of the species. The conservation team should also promote voluntary restoration and habitat banking or exchanges by private landowners, where landowners would restore occupied habitat or dispersal corridors in anticipation of the need for future revisions of conservation areas on their property or by other private landowners. Allocation or allowances for landowner credits for conservation banks or exchanges would be subject to the authority of the conservation team. The conservation team would also determine how restored populations and habitats would be utilized.</p>
Habitat loss and fragmentation	See conservation actions 1–3.
Livestock Grazing on BLM-Managed Lands	
Herbivory of all or part of aboveground portion of vegetative portion of plant	19. On federal lands where the species co-occur with livestock grazing during the growing season (April through September), the BLM will develop and implement mitigation and monitoring plan for each allotment within 1 year of signing this Agreement. If monitoring identifies that livestock grazing is negatively affecting the species, the BLM will immediately adjust livestock management in the allotment to ameliorate those impacts. Short-term adjustments may include construction of temporary drift fences to keep

Threats to Graham's and White River Beardtongue and Associated Conservation Actions

Threat and Associated Impacts	Conservation Action
	livestock away from occupied habitat, and long-term adjustments may include permanent fencing or modifying the grazing schedule.
Herbivory of all or part of the inflorescence	See conservation action 19.
Trampling of plant and habitat	See conservation action 19.
Change in community composition	See conservation action 19.
Invasive species invasion, spread, and competition	See conservation actions 19 and 20–24.
Alteration of soil characteristics	See conservation action 19.
Road Construction and Maintenance	
Direct mortality from surface disturbance	See conservation actions 1–3.
Invasive species invasion, spread, and competition	See conservation actions 20–24.
Increased dust emissions	See conservation actions 1–3.
Restricted pollinator movement from roads	See conservation actions 1–3.
Habitat loss/fragmentation	See conservation actions 1–3.
Invasive Weeds	
Invasion and establishment of non-native plants	<p>20. Within 1 year of signing the Agreement, the conservation team will develop, fund, and implement a weed management plan (approved by consensus) in conservation areas that includes repeated annual targeted surveys to detect invasions and treatment of invasive species as soon as detected. This plan can be incorporated as part of a range-wide monitoring plan.</p> <p>21. The weed management plan will identify treatment options for each known invasive species in the habitat of the species, with the goal of selecting the most appropriate option that controls weeds and minimizes adverse effects to Graham's or White River beardtongues and their native plant community.</p> <p>22. The conservation team will develop and implement a monitoring protocol in the weed management plan to determine the effectiveness of their actions.</p> <p>23. The conservation team will review and update the weed management plan annually based on surveys, monitoring, and other information sources, and create an annual schedule of work targeting priority areas.</p> <p>24. The weed management plan will develop and adopt best management practices for preventing the spread of invasive and/or exotic plants in the designated conservation areas on federal and non-federal lands.</p>
Competition	See conservation actions 20–24.
Community alteration	See conservation actions 20–24.
Small Population Size	
Stochastic events	<p>See conservation actions 1–7 and 15–16.</p> <p>25. Historical locations of White River beardtongue near the western end the species' range should be revisited for collection of new voucher specimens and samples for genetic testing. The conservation team will plan and implement a distribution/genetics study to determine overlap and/or division between Garrett's beardtongue (<i>Penstemon scarious</i> var. <i>garettii</i>) and White River beardtongue geographic ranges as part of this Agreement.</p>
Inbreeding depression	See conservation actions 1–7, 15–16, and 25.
Lower sexual reproduction	See conservation actions 1–7, 15–16, and 25.

Threats to Graham's and White River Beardtongue and Associated Conservation Actions

Threat and Associated Impacts	Conservation Action
Loss of genetic diversity	See conservation actions 1–7, 15–16, and 25.
Climate Change	
Mortality caused by drought	26. As part of demographic monitoring of the species, a component will be included to study the relationship between precipitation patterns and species' growth, reproduction and recruitment, and mortality. This may be accomplished by establishing weather-monitoring equipment at existing long-term demographic sites currently monitored by Red Butte Garden.
Stress, lack of reproduction and recruitment, and mortality caused by shifting rainfall patterns	See conservation action 26.
Habitat degradation	See conservation actions 1–3.
Wildfire	
Mortality	27. Any wildfire planning, suppression activities, and post-wildfire actions on federal and non-federal lands in occupied habitat will include mitigation consistent with the Agreement and include pre-season input from the conservation team.
Community composition alteration	See conservation actions 20–24 and 27.
Post-fire response ground disturbance	See conservation action 27.
Increased invasion and competition from invasive species	See conservation actions 20–24 and 27.
Off-Road Vehicles	
Direct mortality	28. On federal lands, traffic will be limited to designated routes, and routes will be considered for closure, limited use, or re-routing as appropriate to gain compliance and protect designated conservation areas. This will not include any routes claimed by Uintah County as public roads. 29. On non-federal lands where off-highway vehicle (OHV) use occurs, wherever possible, landowners and managers will attempt to re-route OHV use away from designated conservation areas and keep traffic on existing roads and trails.
Increased dust load	See conservation actions 1–3.
Fragmentation of habitat	See conservation actions 1–3.

Note: Survey/Monitoring/Best Management Practices:

Prior to any surface disturbance in federal and non-federal conservation areas, surveys will be conducted within the area of disturbance and out to 300 feet from the edge of the disturbance to determine species presence, population, and distribution. Surveys will follow standard survey protocol as detailed in the USFWS *Utah Field Office Guidelines for Conducting and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed and Candidate Plants* (2011).

On all federal and non-federal lands, the landowner/manager will collect seeds and/or salvage a portion of plants from areas to be disturbed to ensure genetic representation of the species. Seeds can be used for restoration but at least a portion of these seeds should be given to Red Butte and Denver Botanic Gardens for long-term storage.

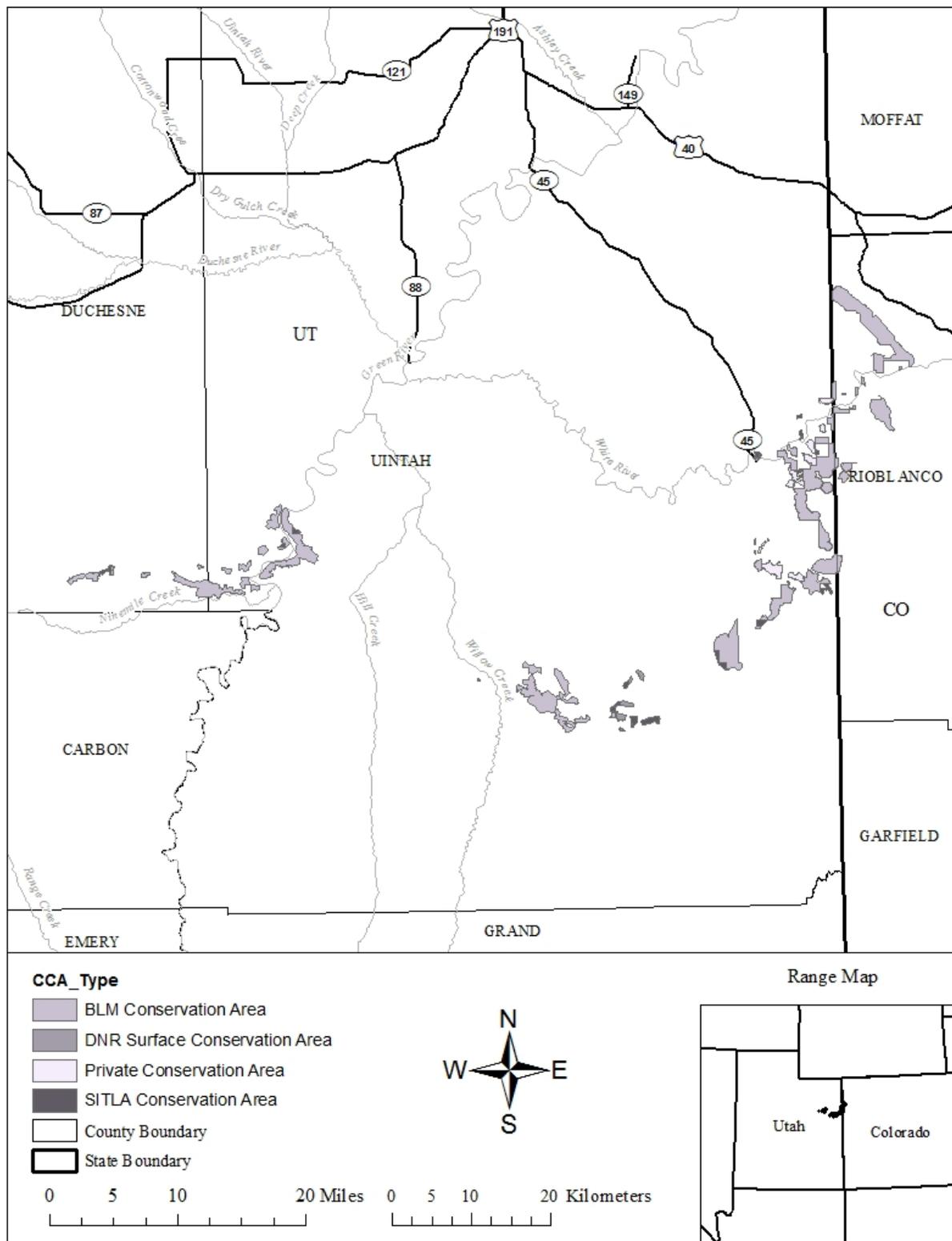


Figure 1: 2014 Conservation Areas for Graham’s and White River beardtongues by landowner/ manager.

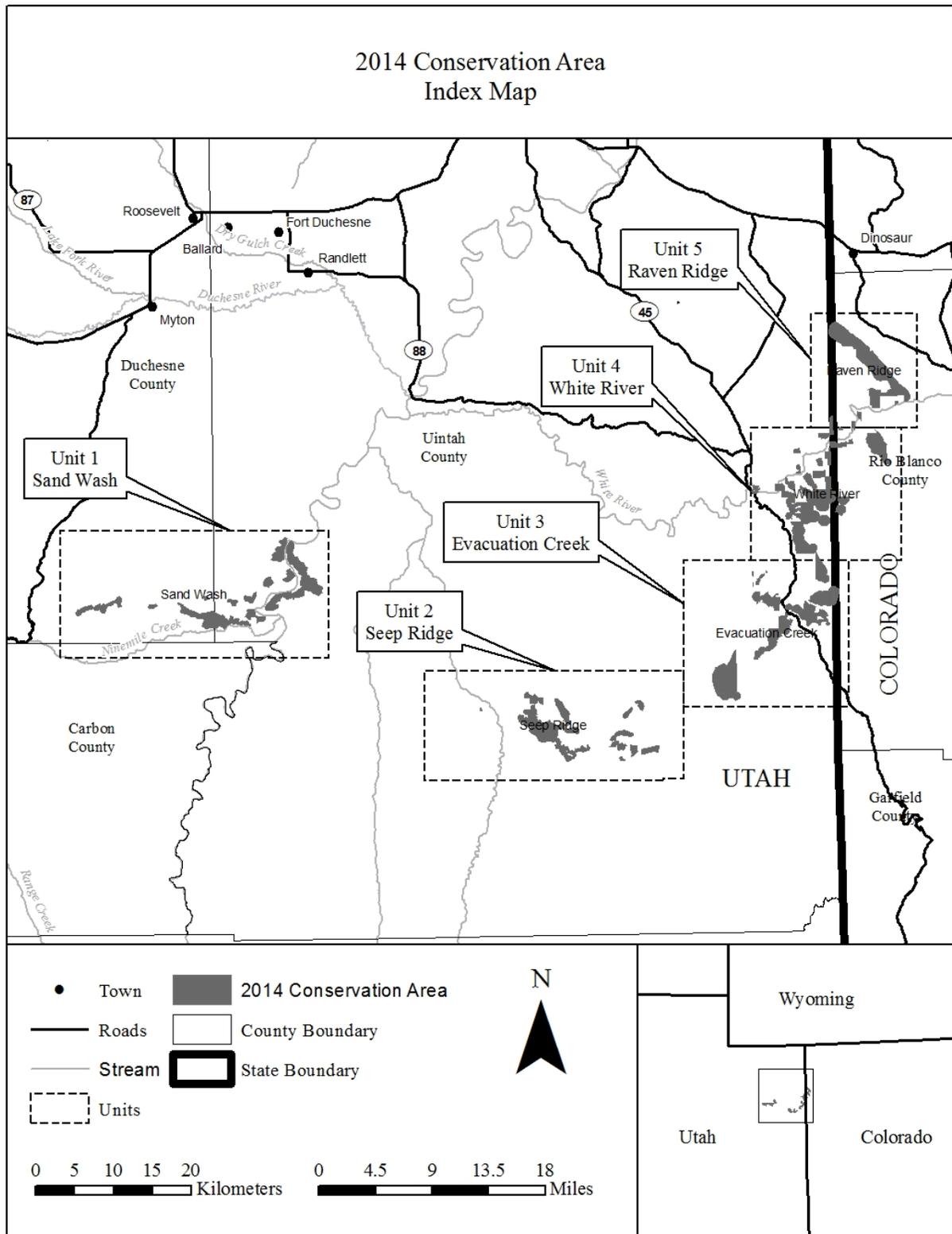


Figure 2: 2014 Conservation Area index map

PECE Analysis

The certainty that the conservation effort will be implemented:

- 1. The 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.**

Parties to the 2014 CA:

The parties to the agreement have been identified and have signed the 2014 CA, including BLM-UT, BLM-CO, SITLA, UDWR, PLPCO, Uintah County, Rio Blanco County and the Service.

BLM: The BLM includes the Vernal Field Office in Utah and the White River Field Office in Colorado. The BLM is the largest land manager within the range of Graham's and White River beardtongues. BLM makes parcels for lease available for several types of energy development including traditional oil and gas, tar sands and oil shale. They manage energy development that occurs on their lands ensuring compliance with their policies, permitting and regulations.

SITLA: The State Institutional Trust Lands Administration manages 3.3 million acres of public school owned land in Utah. Funds generated from these lands support public schools. Both Graham's and White River beardtongues occur on lands managed by SITLA.

Utah Division of Wildlife Resources: UDWR is responsible for the state's wildlife conservation and management and manages a small portion of land that overlaps with Graham's beardtongue.

PLPCO: The Public Lands Policy Coordination Office coordinates public land policies between the state and federal government.

Uintah County: This is the local government entity responsible for governing Uintah County, UT, where a majority of both species are located. The county can enact and enforce zoning ordinances to protect the species where they overlap with energy development.

Rio Blanco County: This is the local government entity responsible for governing Rio Blanco County, CO where both species reach the eastern edge of their range.

Service: We are responsible for implementing the Endangered Species Act including ensuring the continued existence of Graham's and White River beardtongues. We guide recovery of listed species and also coordinate with partners to conserve sensitive species.

Conservation effort:

The 2014 Conservation Agreement (CA) for Graham's and White River beardtongues is an agreement among BLM-CO, BLM-UT, UDWR, SITLA, Uintah County, Rio Blanco County, PLPCO, and the Service to provide conservation for both species to ensure long-term persistence and population stability while allowing for continued activities including energy development and livestock grazing within the species habitat. The conservation actions are identified in the 2014 CA and are shown in Table 5. The efforts needed to implement the 2014 CA are identified

in section 6 entitled Conservation Actions of the agreement, whereas sections 7 and 8 outline participant’s responsibilities. The primary efforts needed to implement the agreement are as follows:

- Uintah County will adopt the terms of the conservation agreement and enact a county zoning ordinance that incorporates the conservation measures that establish 2,787 acres of conservation areas on the private lands (Figure 1). Enforcement protocols and non-compliance penalties will also be included in the county ordinance.
- UDWR will manage the lands under their control (consistent with the terms outlined in the 2014 CA) that are designated as conservation areas in the Book Cliffs Wildlife Management Area, Two Waters unit totaling 779 acres.
- SITLA will enact a lease stipulation, regulation, or director’s withdrawal order to designate protection within 2,356 acres of conservation areas on its lands in accordance with the conservation measures in the 2014 CA.
- The BLM will establish 38,497 acres of conservation areas; retain Graham’s and White River beardtongues on the BLM Sensitive species list; and afford them protection as sensitive status species with pre-project surveys, avoidance by 91.4 m (300 ft), and mitigation where plants cannot be avoided.
- The BLM-UT and BLM-CO will incorporate the conservation measures in the CA in their permitting requirements, planning documents, budgets, and planning process during RMP revisions.
- The Service will conference with BLM on projects where surface disturbing activities are within 300 ft of Graham’s or White River beardtongue plants. In addition, the Service will participate in the development of monitoring, survey and restoration plans, and provide guidance and recommendations to the conservation team.

Table 6: Summary of threats and associated conservation measures.

Threat	Conservation Measure
Energy development	<ul style="list-style-type: none"> - Designation of conservation areas with disturbance limited to 5 percent for Graham’s beardtongue and 2.5 percent for White River beardtongue and avoidance of plants by 91.4 m (300 ft) where disturbance occurs - Avoidance of plants by 91.4 m (300 ft) on federal lands outside of conservation areas - Minimize and mitigate for plants within 91.4 m (300 ft) of proposed disturbance
Livestock grazing	<ul style="list-style-type: none"> - Monitor grazing allotments to detect negative impacts and make adjustments where and when necessary

Invasive weeds	<ul style="list-style-type: none"> - Development and implementation of a weed management plan - Prevent establishment of invasive weeds
Small Population size	<ul style="list-style-type: none"> - Genetic testing - Small population size monitoring
Climate change	<ul style="list-style-type: none"> - Installation of weather station and correlation with demography study
OHV use	<ul style="list-style-type: none"> - Traffic limited to designated routes - Closure of routes where impacts are detected to protect the integrity of conservation areas
Wildfire	<ul style="list-style-type: none"> - Pre-wildfire planning to include consideration of conservation areas
Road Construction and Maintenance	<ul style="list-style-type: none"> - Avoid plants, minimize disturbance and mitigate for impacts where roads occur in conservation areas.

Funding:

The major conservation action in the 2014 CA, the establishment and management of conservation areas, is being accomplished with in-kind services as shown in Table 7. The landowners and managers that are signatory to this agreement have committed the staff hours needed over the 15 year period of this agreement to properly implement the conservation measures. The BLM has committed to funding the majority of the surveying and monitoring on its lands. Private and state entities will require surveys on leased lands, and funding for this work will be provided by the leaseholder prior to any development.

Table 7: Funding for conservation measures outlined in the 2014 Conservation Agreement and Strategy.

CONSERVATION ACTION	PARTY	AMOUNT NEEDED (or effort)	AMOUNT TO BE FUNDED (or effort provided)
Establishment and management of Conservation Areas	Uintah County	Staff hours	Staff hours
	SITLA	Staff hours	Staff hours
	BLM	Staff hours	Staff hours
Rangewide monitoring	BLM	Staff hours	Staff hours
Livestock monitoring	BLM	Staff hours	Staff hours
Species surveying	Uintah county, SITLA, BLM,	Staff hours	Staff hours from multiple parties, \$15,000 from

	Service		Uintah County annually
Demographic monitoring	BLM	\$30,000	\$30,000
Genetic testing	BLM	\$15,000	\$15,000
Installation of weather station	BLM	TBD	TBD
Seed collection	BLM	Staff hours	Staff hours
Weed management	BLM	Staff hours	Staff hours
Mitigation	Uintah County, BLM, SITLA, USFWS	Determined at time of project proposal	Staff hours
Ecological restoration research	Uintah County, SITLA, UDNR	TBD	\$75,000 expected from UDNR in 2014 and 2015

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.

Service: Section 2 of the ESA allows us to enter into a Conservation Agreement with other cooperating partners. Section 2 of the ESA states that encouraging interested parties, through Federal financial assistance and a system of incentives, to develop and maintain conservation programs is a key to safeguarding the Nation’s heritage in fish, wildlife and plants.

BLM: The BLM has management authority over their respective lands which comprise 65.8 percent and 38.4 percent of occupied habitat and 51 percent and 60 percent of Graham’s and White River beardtongue plants respectively. The BLM has the authority to identify and manage conservation areas on its lands.

The Federal Land Policy and Management Act (FLPMA, Section 307, 43 USC 1737), which provides overall direction to the BLM for conservation and management of public lands, allows the BLM to participate in conservation agreements. The BLM manual, Section 6840 (Special Status Species Management) provides overall policy direction to BLM managers to conserve listed threatened or endangered species on BLM administered lands and to assure that actions authorized on BLM administered lands do not contribute to the need to list species deemed by BLM to be “sensitive.”

Federal oil and gas provisions governing oil and gas production and transportation on public lands are in place to govern well location, reclamation of oil and gas facilities, and other related issues. Permitting of wells on public lands must consider critical elements as defined in the

National Environmental Policy Act (NEPA) and regulations set forth in the BLM Gold Book (43 CFR 3160- Onshore Oil and Gas Operations).

The BLM's Vernal Field Office Record of Decision and Approved 2008 RMP specifically address listed and sensitive species management within the Vernal Field Office, including Graham's and White River beardtongues. Likewise the White River Field Office of the BLM is preparing a RMP amendment and Environmental Impact Statement which outlines listed and sensitive species management that includes both White River and Graham's beardtongues. As agreed to in the 2014 CA, BLM will manage 15,579 ha (38,497 ac) for both species as conservation areas.

Uintah County: Because a large amount of suitable habitat for both species is located in Uintah County and 21 percent and 28 percent of the Graham's and White River beardtongue respectively occur on private lands within Uintah County, County representatives endorsed the 2014 CA, and the County is signatory to this agreement. Uintah County government has the authority to implement land use ordinances on private properties in Uintah County.

Rio Blanco County: Rio Blanco County has the authority to participate in and implement the 2014 CA. Rio Blanco County will work with the BLM White River Field Office if livestock grazing allotment adjustments are needed to protect the species.

SITLA: The SITLA has the authority to issue regulations, director's withdrawal orders, or joint lease stipulations on the lands it manages. The SITLA is authorized to manage its lands under Utah Code Title 53C, School and Institutional Trust Lands Management Act, Chapter 2-202, Activities on Trust Lands. As agreed to in the 2014 CA, SITLA will manage 953 ha (2,356 ac) of state lands as conservation areas for both species.

UDWR: The UDWR has the authority to manage lands for wildlife in its jurisdiction under Utah Code Title 23 Chapter 21.

Signatories to the 2014 CA have full authority to sign the agreement and implement it. Since all parties have the authority to implement this measure we have a high degree of certainty that the proper authorizations are in place to implement conservation measures for Graham's and White River beardtongues.

3. The legal procedural requirements (e.g. environmental review) necessary to implement the effort are described and information is provided indicating that fulfillment of the requirement does not preclude commitment to the effort.

The BLM will continue to conduct National Environmental Policy Act (NEPA) analyses for projects that occur in suitable habitat for Graham's and White River beardtongues. Since both species will be retained as BLM Sensitive species, the need for surveys and avoidance will be evaluated through the NEPA process. The fulfillment of the NEPA requirement is complementary to the conservation commitments in the conservation agreement and does not preclude commitment to the effort.

The SITLA will enact the conservation areas measure through either lease stipulations on new leases, regulations on existing leases, or a director's withdrawal for lands that will be withdrawn

from leasing such as the Recreation Exchange Lands that will be transferred to SITLA from BLM as part of the Utah Recreation Exchange Lands Act of 2009. The SITLA's process for enacting new regulations follows the Utah Administrative Rulemaking Act (Title 63G, Chapter 3), which includes public comments. None of these methods for enacting the conservation measures in the 2014 CA will preclude commitment to the conservation effort.

Uintah County as part of its zoning ordinance requires private landowners within the county to apply for a permit prior to ground disturbing activities within conservation areas. Fulfillment of this legal procedural requirement is an integral part in implementing the conservation agreement and will not preclude commitment to the effort.

The Utah Division of Oil Gas and Mining, a sister agency to UDWR under the Utah Department of Natural Resources requires reclamation as part of their permitting process for small and large mining operations (Utah Administrative Code R647-4 and 647-3). Their standards for reclamation do not preclude ecological restoration as described in the conservation agreement even though the restoration measures in the conservation agreement are more rigorous.

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.

The BLM-UT and BLM-CO have authorization to implement conservation measures on their lands through the Federal Land Policy and Management Act (FLPMA, Section 307, 43 USC 1737) and RMPs for each Field Office.

The SITLA has the authority to implement conservation measures for the species on properties that it manages through Utah Code Title 53C, School and Institutional Trust Lands Management Act, Chapter 2-202, Activities on Trust Lands. On leased lands SITLA has gained permission from the leasee to place designated lands into conservation areas or interim conservation areas.

Uintah County has an understanding with landowners to zone designated private lands as conservation areas for Graham's and White River beardtongues. The private landowners are working with the county to manage their lands in accordance with the measures outlined for conservation areas in the 2014 CA. The Uintah County Commissioners approved the concept of the 2014 CA on February 27, 2014. This procedural vote was the first step that will allow the county to move forward with formally adopting the 2014 CA and a complementary zoning ordinance.

The UDWR already manages the land under its jurisdiction and does not need additional authorizations.

In summary, authorizations for the conservation measures outlined in the conservation agreement have already been obtained or will be obtained from signatory agencies and associated landowners and designation of conservation lands within the timeframe listed in the 2014 CA, so that their management can be immediately implemented. We have a high level of certainty that

these measures will be adopted and incorporated into a regulatory framework through a county ordinance.

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 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).

Both the type and level of voluntary participation necessary to implement the conservation measures are identified. Three of the landowners/managers are signatory to the agreement; BLM-UT and BLM-CO, UDWR and SITLA have statutory authority to participate and implement conservation measures on lands that they manage. These three organizations combined contain the majority of the conservation areas (94 percent) that the 2014 CA identified for the protection of both species (Table 4).

As described in criteria #4 above, Uintah County has identified and obtained voluntary participation of the private landowners within the boundaries of the conservation areas. The private lands identified as conservation areas in the agreement are shown in Figure 1. These lands encompass 1,128 ha (2,787 ac) of conservation areas for Graham's beardtongue and 1,170 ha (2,890 ac) of conservation areas for White River beardtongue. Although the agreements between the county and landowners are initially voluntary, participants such as the county and oil and gas companies have an incentive to continue to participate, because participation provides regulatory certainty and a stable foundation for planning and future growth. Uintah County's ordinance will remain in effect for the 15 year term of the agreement.

The non-Federal cooperators have an incentive to fulfill their conservation actions on behalf of the two beardtongue species. If the species are not listed as a result of the conservation actions included in the conservation agreement, and the participants were to leave the agreement and discontinue funding, the two species may again be considered for listing. Benefits of the 2014 CA include opportunities to improve habitat for the two plant species and broad landowner willingness to engage in conservation efforts for sensitive species. This effort and its emphasis on conserving plant species on nonfederal lands in a highly-developing energy area in Utah is unprecedented and may foster future similar conservation efforts if successful.

6. Regulatory mechanisms (e.g. laws, regulations, ordinances) necessary to implement the conservation effort are in place.

The authority of the signatories to the 2014 CA is discussed in criterion 2. The BLM-UT and BLM-CO will implement the conservation measures immediately through their permitting process, planning documents, and budgets. The BLM can implement these measures under existing RMP measures such as Conditions of Approval for energy development and other surface disturbing activities. In addition, BLM has committed staff and budgets to continue and increase surveying and monitoring efforts.

Uintah County will pass a zoning ordinance where measures outlined in the conservation agreement will be followed within the designated conservation areas on private lands. This county ordinance is a regulatory mechanism that can be enforced with penalties for non-compliance. Other private landowners may participate at any time through coordination with the county.

The SITLA will issue regulations, a director's withdrawal order, or a joint lease stipulation on designated conservation lands. Other leasees may participate at any time by coordinating with SITLA.

The UDWR will manage its lands where conservation areas are designated according to the terms of the 2014 CA.

Implementation will take place in 2014; Uintah County and SITLA have committed to pass regulatory mechanisms that implement this measure within three months following signing of the CA. We have a high degree of certainty that regulatory measures are or will be in place to implement the 2014 CA.

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.

As discussed in criterion 1 above, one of the primary conservation measures in the 2014 CA is the establishment and management of conservation areas for the species which will be funded through in-kind services (staff time by the SITLA, Uintah County and BLM-UT and BLM-CO). The BLM-UT and BLM-CO, SITLA, and Uintah County have committed staff time over the period of the agreement to ensure the conservation areas will be established and managed pursuant to the terms of the agreement. The regulatory mechanisms identified above (criterion #6) ensure the parties to the agreement can maintain the level of staff time needed to implement the measures in the agreement. Uintah County Commission has already voted in favor of the concept of adopting the measures in the CA and accompanying zoning regulations (Feb 27, 2014; Stearmer 2014, pers. comm). This procedural vote is the first step necessary in order to adopt the CA and enact a zoning regulation.

Other conservation actions, including species surveying, invasive weed control and collection of seed, will be funded by BLM, Uintah County, private landowners and leasees. Since BLM will keep Graham's and White River beardtongues on their list of sensitive species, measures such as surveys and avoidance are a requirement on BLM lands prior to project development and will be completed and funded by project operators. Within designated conservation areas on state and private lands, leasees or project proponents will be responsible for paying for surveys prior to project development. If plants cannot be avoided by 91.4 m (300 ft) on BLM lands or within designated conservation areas on state and private lands, then mitigation may be required, and would be funded by the project operators. Monies received from mitigation will be used, along with other sources, to implement conservation efforts identified in the conservation agreement.

As discussed in the background section above, funding from Uintah County, UDNR and BLM was previously expended on Graham's beardtongue conservation during the implementation of

the 2007 Conservation Agreement (see Table 1). Based on these past commitments and recent actions by the participating parties we have a high level of certainty that the conservation actions identified in the 2014 CA will be funded.

8. An implementation schedule (including incremental completion dates) for the conservation effort is provided.

The 2014 CA includes completion dates for several measures. Other measures including the management of conservation areas for limited disturbance and avoidance of plants and monitoring are on-going conservation measures that will need to be continually implemented for the life of the agreement (Table 8).

Table 8: Implementation schedule for conservation measures in 2014 Conservation Agreement.

Measure	Party	Schedule
Establishment of conservation areas on SITLA lands through regulation	SITLA	Within 3 months of signed CA
Establishment of conservation areas on private lands through county ordinance	Uintah County	Within 3 months of signed CA
Establishment of conservation areas on BLM lands	BLM- Vernal Field Office BLM – White River Field Office	Within 3 months of signing of CA through permitting, policy and budgeting Over the longer term through incorporation in Resource Management Plan during next planning cycle
Maintain species on BLM Sensitive species list and avoidance of plants by 91.4 m (300 ft) outside of Conservation Areas on BLM lands	BLM- Vernal Field Office BLM – White River Field Office	Within 3 months of signed CA through permitting, policy and budgeting Over the longer term through incorporation in Resource Management Plan during next planning cycle
Formation of conservation team	SITLA, DWR, BLM, USFWS, PLPCO, Uintah County, Rio Blanco County	Within 6 months of signed CA
Development of Weed management Plan	Conservation team and BLM	Within 1 year of signed CA
Demographic monitoring	BLM and conservation team	Ongoing
Development and implementation of rangewide monitoring plan	Conservation team	No timeframe given but BLM has started to design monitoring measures for the 2014 survey season
Development and implementation of a livestock monitoring plan	BLM	Within 1 year of signed CA

Genetic testing	Conservation team	No timeframe given but BLM has requested funds to start this project for FY 2014
Conservation team meeting and Annual status report	Conservation team	Annually

9. The conservation agreement or plan that includes the conservation effort is approved by all parties to the agreement or plan.

All signatories approved the 2014 CA for Graham’s and White River beardtongues (Table 9).

Table 9. Approval dates for each participating party.

Party	Approval/ Signature Date
SITLA	July 25, 2014
DWR	July 25, 2014
Uintah County	July 22, 2014
Rio Blanco County	July 22, 2014
PLPCO	July 22, 2014
BLM- Vernal Field Office	July 25, 2014
BLM- White River Field Office	July 23, 2014
USFWS- Utah Field Office	July 22, 2014
USFWS- Grand Junction Field Office	July 22, 2014

Certainty that Conservation Measure will be Effective

1. The Nature and Extent of the Threat is Addressed

The 2014 CA for Graham's and White River beardtongues was the result of a multi-stakeholder effort that includes BLM-UT and BLM-CO, UDWR, PLPCO, Uintah County, Rio Blanco County, SITLA and the Service. The stakeholders developed conservation measures for Graham's and White River beardtongues that would reduce threats to the species that were identified in the proposed listing rule (78 FR 47590). The 2014 CA is based on the best available science regarding the measures needed to reduce threats to the species and its habitat.

Signatories to the 2014 CA have committed to a number of specific conservation measures including identification and management of conservation areas; impact avoidance, minimization, and mitigation for Graham's and White River beardtongue plants; monitoring impacts from livestock and adjusting grazing regimes as necessary; surveying, monitoring, seed collection and research; ecological restoration of disturbed lands; and invasive weed management (see Table 5, above). These conservation measures were specifically developed to address the threat of energy development and cumulative threats of energy development, livestock grazing, invasive weeds, small population sizes, and climate change, as identified in our 2013 proposed rule (78 FR 47590, August 6, 2013). We describe below how these measures are designed to conserve Graham's and White River beardtongue plants and their habitat.

Establishment of Conservation Areas

Our 2013 proposed rule identified energy development as a primary threat to the two species' continued existence. Energy development leases or areas identified for future energy development overlap with 91 percent of Graham's beardtongue known habitat and 100 percent of White River beardtongue known habitat (78 FR 47590). The conservation measure outlined in the 2014 CA that establishes conservation areas with limited surface disturbance is designed to significantly reduce the threat of energy development to the species. This is the foundational conservation measure of the 2014 CA and provides the greatest conservation benefit to the species.

We did not include interim conservation areas in our analysis as they are not certain to be effective in conserving either species, because they are subject to the same energy development activities we identified as threats to both beardtongue species in our proposed listing rule. Interim conservation areas may be converted to conservation areas in the future, but until then, we do not have certainty that they will serve to protect either species over the longer term. Therefore, the acreages and discussion in our PECE analysis include only conservation areas, and not interim conservation areas.

Energy development can negatively impact the species by direct mortality of plants, indirect effects from surface disturbance including increased dust, introduction and spread of invasive non-native plant species, habitat loss and fragmentation, and community disruption. Indirect effects from surface disturbance can also result in restricted pollinator movement and mortality

and loss of nest sites from surface disturbance and roads, energy emissions, and increased sedimentation and erosion.

Conservation areas were designed to protect large sub-populations of the two species and provide connectivity among populations in order to reduce the threat of energy development on the two beardtongue species. Without protections, surface disturbing activities from energy development threaten to fragment the sub-populations of both species thus interfering with genetic exchange, pollinator visits, and increasing stochasticity. Conservation areas will protect the two species from the threat of energy development by limiting new surface disturbing activities to an additional 5 percent for Graham's beardtongue and 2.5 percent for White River beardtongue. In addition, any surface disturbing activity will avoid plants by 91.4 m (300 ft) within conservation areas. If plants cannot be avoided by 91.4 m (300 ft) then impacts to the species will be mitigated as determined by the conservation team. This agreement designates 17,957 ha (44,373 ac) of conservation areas for both species on private, state and federal lands (Table 4; Figure 1). The breakdown of the conservation areas by landowner and species and by the percent of population protected can be found in Table 1. Establishing and managing a significant portion of the known populations as conservation areas addresses the threats to the species from energy development.

The surface disturbance limits and 91.4 m (300 feet) buffers reduce the impacts from dust and introduction and spread of invasive non-native plant species as surface disturbance increases both dust and the likelihood and intensity of the establishment of invasive species. Buffers reduce the impacts from surface disturbing activities as effects are greatest closest to the disturbance. Surface disturbance caps reduce habitat loss since disturbance is limited. The conservation areas incorporate large sub-populations and provide connectivity between sub-populations, and coupled with surface disturbance caps, they reduce fragmentation and community disruption from surface disturbing activities.

The designation of conservation areas also reduces other threats, such as the threat of climate change and drought, and provides for adequate regulatory protections. Within conservation areas both beardtongue species will be protected by regulatory mechanisms as described under the section entitled, "The certainty that the conservation effort will be implemented," numbers 1 and 6 above. Establishment of conservation areas mitigate the threats of climate change and drought by establishing several protected areas that are large enough so that the species can migrate or withstand stochastic events and allow for redundancy, resiliency and representation.

Maintain both beardtongue species as BLM sensitive species and avoid plants by 91.4 m (300 ft) on BLM lands outside of designated conservation areas

This conservation measure reduces the likelihood of habitat fragmentation and small population size from energy development or other ground disturbing activities. Through its permitting and NEPA requirements BLM will ensure that ground disturbing activities will avoid plants by 91.4 m (300 ft). Where plants cannot be avoided by 91.4 m (300 ft) the project impacts will be minimized and then mitigated (in a manner to be determined by the conservation team) for resultant impacts to the species. Species models of potential suitable habitat include areas much larger than the areas that have been surveyed, and we suspect that more plants may be found that we have not accounted for presently. This conservation measure allows for the protection of

plants that have yet to be documented on Federal land and thus provides for redundancy of the species and further addresses the threat to the species from energy development, climate change, and drought. A 300 ft buffer will reduce the impacts from surface disturbing activities by reducing additional potential stress, and thereby increasing species resiliency.

Monitoring livestock impacts and adjusting grazing regimes

Livestock grazing by itself was not considered a threat to the species in our 2013 proposed rule (78 FR 47590); however, it was considered part of the cumulative factors posing a threat to the species, so it is addressed in the 2014 CA. The conservation action that addresses the threat of livestock grazing involves monitoring livestock allotments to detect impacts to the species. Where impacts are detected, BLM will adjust the grazing regime (e.g., Animal Unit Months, season of use) or take other actions necessary (e.g., moving watering tanks, placing mineral licks, erecting fencing) to reduce impacts to the species. This measure allows for tailored conservation actions to address impacts occurring from livestock grazing, thus addressing the threat of livestock grazing to Graham's and White River beardtongues.

Surveying, monitoring, seed collection, and research

Conservation measures related to surveying are designed to help avoid impacts to plants where disturbance is planned within suitable habitat. The project proponent will be responsible for surveying for Graham's and White River beardtongues to see if the species are present and planning projects to avoid plants by 91.4 m (300 ft) within conservation areas and on BLM lands.

Conservation measures related to monitoring include demographic and rangewide monitoring to determine species trends over time. This will allow the conservation team to adaptively manage for species conservation over the life of this agreement. Seed collection measures will be implemented to ensure the genetics of the species are represented in ex-situ collections in case of a catastrophic event in the range of the species. Genetic research will address how White River beardtongue may differ from the closely related Garrett's beardtongue (*Penstemon scariosus* var. *garrettii*) especially where the two species overlap. This information will help to ensure that the species range is accurately identified.

Weed management

Invasive weeds, in conjunction with livestock grazing, climate change, and small population size, were considered a cumulative threat to both species in our proposed listing rule (78 FR 47590). Invasive weeds can impact Graham's and White River beardtongues by invading and dominating habitat, altering community composition and ecological processes, and by direct competition for resources (water, nutrients, etc.). The conservation team will develop a management plan that prevents weed invasion, detects and monitors invasions, and controls invasive weeds. The weed management plan will identify treatment options for each known invasive species, with the goal of selecting the most appropriate option that controls weeds and minimizes adverse effects to Graham's or White River beardtongues and their native plant community. The conservation team will develop and implement a monitoring protocol in the weed management plan to

determine the effectiveness of their actions. The conservation team will review and update the weed management plan annually based on surveys and monitoring and other information and create an annual schedule of work targeting priority areas. The weed management plan will develop and adopt best management practices for preventing the spread of invasive and/or exotic plants within the designated conservation areas on federal and non-federal lands. This conservation measure will reduce the threat to Graham's and White River beardtongues by controlling weed invasion and preventing the establishment of invasive weeds.

Ecological restoration

Ecological restoration is not a proven technique for rare plant species conservation in arid environments; therefore, we are not heavily relying on it for conservation of the species under the 2014 CA and we are not relying on it to support our PECE analysis. However, the non-federal partners have put an emphasis on developing successful ecological restoration techniques, so we acknowledge that it may become an important conservation action in the future if proven successful. Ecological restoration could partially address the threat of ex-situ oil shale and tar sand mining if it can be demonstrated to effectively restore the Graham's and White River beardtongues ecosystem. The conservation team will research ecological restoration techniques that if successful may help alleviate the conflict between species conservation and the surface disturbance associated with energy development. A restoration plan will be developed by the conservation team with goals and reference areas identified and criteria for success outlined and measured.

The goal of ecological restoration is to restore disturbed lands to a self-sustaining natural community where the appropriate ecological processes, community composition and structure are restored to reference conditions based on selected reference sites. Factors of success to be included in the restoration plan are successful recruitment of Graham's and/or White River beardtongues, respective of the site, over three generations and one drought period or 15 years, whichever is longer; stable or increasing population of recruited plants; genetic representation; lack of inbreeding depression; suitability of substrate characteristics; and intactness of community components including pollinators and other flowering plants including other oil shale endemics such as Dragon milkvetch (*Astragalus lutosus*), oilshale columbine (*Aquilegia barnebyi*), Barneby's thistle (*Cirsium barnebyi*), oilshale cryptantha (*Cryptantha barnebyi*), Graham's cryptantha (*Cryptantha grahamii*), Rollins' cryptantha (*Cryptantha rollinsii*), and ephedra buckwheat (*Eriogonum ephedroides*). Understanding the mechanisms related to recruitment for the species and other community components will be important to the restoration process.

A restoration study must demonstrate successful restoration of the species, its environment (i.e. soils, moisture regime) and its community components (i.e. pollinators, other flowering plants) prior to surface disturbance that exceeds the surface limit disturbance caps for each species in designated conservation areas. If successful, this measure may help to ensure the species' conservation post- energy development. Until these methods are proven successful, surface disturbance limits and avoidance buffers will be the primary protection measures within conservation areas.

Formation of a conservation team

The parties signing the 2014 CA will form a conservation team dedicated to conservation of Graham's and White River beardtongues; the team will oversee and ensure implementation of conservation activities listed in the 2014 CA. The team will meet at least annually to review conservation actions and produce a report for the Service that outlines the accomplishments and progress in implementing the conservation measures in the 2014 CA. All governmental parties signatory to this agreement have the option to have one member assigned to the conservation team to review this agreement, and review and assess the effectiveness and implementation of the conservation actions in this agreement. The conservation team will also assist in the development of monitoring plans outlined in this agreement.

The conservation measures in the 2014 CA as described above sufficiently address the threats to both beardtongues species due largely to the establishment of conservation areas and implementation of avoidance buffers within these areas and on BLM lands and commitments to survey and monitor the plant populations to allow for adaptive management in response to potential livestock grazing impacts, invasive weeds, and climate change.

2. Incremental Objectives are Stated

We analyzed whether explicit incremental objectives for the conservation effort and dates for achieving components of the conservation effort are stated. This criterion is designed to ensure that, if information is incomplete, implementation can nevertheless proceed and move towards incremental objectives until the additional information is available at which time implementation can be modified in accordance with the new information (68 FR 15103; 15105-06).

Designation and Management of Conservation Areas

Not all the conservation measures outlined in the 2014 CA have incremental objectives outlined because the main foundational conservation measure, the establishment of conservation areas, once enacted does not require any additional incremental steps. Further enrollments of conservation lands can take place at any time and would further strengthen the conservation of the species, but are not necessary to ensure species viability. In order to protect the species in conservation areas over the life of the agreement, the signatories to the 2014 CA are committing to limit surface disturbance in conservation areas, and where disturbance will occur, it will avoid plants by 91.4 m (300 ft). The BLM is committing to maintain both beardtongue species on their list of sensitive species, and to avoid plants by 91.4 m (300 ft) within and outside of conservation areas. In order to maintain these objectives BLM will evaluate each proposed project through the NEPA process and apply the conservation measures as outlined in the 2014 CA. These incremental objectives are described in the 2014 CA, and timelines to implement these measures through County and SITLA ordinances or regulations are identified (see Table 8). Thus, the 2014 CA adequately states the incremental objectives for this conservation action.

Monitoring livestock impacts and adjusting grazing regimes

In the 2014 CA, BLM agreed to develop a monitoring plan to detect impacts from livestock. The BLM will work with the conservation team to develop a livestock monitoring plan with threshold impacts clearly identified, and a monitoring design tailored to detect livestock impacts using allotments where the season of livestock use overlaps with the growing season of the two species. The BLM will conduct the monitoring and analysis and report to the conservation committee. If the impacts from livestock meet or exceed threshold levels BLM will determine what action to take to lower these impacts below threshold levels. Actions BLM can take include changing season of use, lowering animal unit months (AUMs), fencing off areas, moving watering and salt licks, rotating pastures and resting pastures within allotments for certain periods of time. Once enough information is compiled, BLM will consider the results of the monitoring during grazing allotment permit renewal.

The CA includes incremental objectives to meet this conservation measure—the BLM will finish its monitoring plan in 2015 and it is expected that monitoring of livestock impacts will start and be fully implemented in the 2016 growing season. Since the incremental objectives are stated the 2014 CA meets this objective with respect to this conservation measure.

Weed management

The 2014 CA includes a commitment to develop a weed management plan within one year of the document being finalized to detect and control invasive weeds. The plan will include adoption of weed prevention practices; annual targeted surveys to detect invasions; and treatment of invasive species. Treatment options for each known invasive species in the habitat of the species will be explored with the goal of selecting the most appropriate option that controls weeds and minimizes adverse effects to Graham's or White River beardtongues and their native plant community; and monitoring of effectiveness. The conservation team will develop an annual schedule of work that targets priority areas. Annual objectives will be developed based on results from the previous year's work.

The conservation team will complete its weed management plan in 2015. We expect that it will be fully implemented in the 2015 growing season. Thus, the 2014 CA adequately states the incremental objectives for this conservation action.

Survey, monitoring, seed collection and research

The conservation team will develop and implement a survey and monitoring plan. Annual surveys and monitoring can be considered incremental objectives to these conservation measures. In addition, seed collection, which includes incremental objectives of annually gathering seed, will take place both over time and over the species range to ensure seed quality and species representation. Development of a seed collection plan will outline annual objectives and thus can be considered an incremental objective that is stated in the 2014 CA. Genetic research may take place incrementally as different related species or different locations of the same species are analyzed for different objectives. Genetic research on White River beardtongue will help to delineate subspecies ranges and possible overlaps or introgression. BLM has funded this project for FY 2014 and has collected genetic materials during the 2014 growing season for the project. Progress on all of the aforementioned conservation measures will be reported to the conservation team in annual reports as stated in the 2014 CA. Thus, the 2014 CA adequately states the incremental objectives for this conservation action.

Ecological restoration

There will be many incremental objectives included in ecological restoration of disturbed areas. These will be outlined in the restoration plan that will be developed prior to implementing ecological restoration. Since these have yet to be developed, we are not relying on this measure for the conservation of the species in our analysis. Incremental objectives stated in the conservation agreement include researching restoration methods, demonstrating restoration success, and developing restoration protocols. Since these objectives are stated in the 2014 CA this criteria has been met.

In summary, the 2014 CA includes incremental objectives for the majority of conservation measures (see Table 8). Some of the measures will be implemented immediately such as the establishment of conservation areas and use of avoidance buffers on BLM lands. Other measures, such as the establishment of ordinances and regulations to implement the conservation areas and conservation measures on Uintah County and SITLA lands will occur within 3 months of the signing of the CA. The development and implementation of livestock grazing, weed management, population monitoring, and ecological restoration plans will occur within the first year of the CA. Adaptive management processes will be ongoing for the life of the CA. Thus the 2014 CA adequately states the incremental objectives for conservation measures that we analyze for the conservation of Graham's and White River beardtongues.

3. Steps necessary for implementation are identified

Steps needed to implement the 2014 CA are identified in the agreement and outlined in Table 10.

Table 10. Steps necessary for implementation.

Measure	Steps needed for Implementation
Formation of conservation team	Designate team chair, develop process for decision making, and set annual meetings with all signatories
Designation and management of conservation areas on SITLA lands	<p>Enact regulation, director’s withdrawal order or joint lease stipulation</p> <p>Survey for plants prior to development within conservation areas</p> <p>Avoid, minimize and mitigate impacts from disturbance</p> <p>Complete annual report of activities within conservation areas</p>
Designation of conservation areas on private lands in Uintah County	<p>Enact county zoning ordinance to designate conservations areas</p> <p>Survey for plants prior to development within conservation areas</p> <p>Avoid, minimize and mitigate impacts from disturbance</p> <p>Complete annual report of activities within conservation areas</p>
Designation of conservation areas on BLM lands	<p>Establish conservation areas through permitting, policy and budgeting</p> <p>Survey and avoid plants during project planning, NEPA and permitting phase</p> <p>Mitigate if plants cannot be avoided</p> <p>Incorporate conservation areas in Resource Management Plan during next planning cycle</p>
Maintain species on BLM sensitive species list and avoidance of plants by 300	Retain Graham’s and White River beardtongues on BLM’s sensitive species lists

<p>feet outside of Conservation Areas on BLM lands</p>	<p>Survey and avoid plants during project planning, NEPA and permitting phase</p> <p>Mitigate if plants cannot be avoided</p> <p>Incorporate a 91.4 m (300 ft) avoidance buffer in Resource Management Plan during next planning cycle</p>
<p>Development and implementation of standard procedures for mitigation</p>	<p>Develop standard procedures for mitigating impacts to plants</p> <p>Apply mitigation measures to projects where plants are impacted</p>
<p>Development and implementation of Weed management Plan</p>	<p>Develop weed management plan with BLM and conservation team</p> <p>Assess and prioritize areas for treatment and monitoring</p> <p>Treat invasive weeds</p> <p>Monitor results of treatment on target and non-target species</p> <p>Develop annual work plans</p>
<p>Demographic monitoring</p>	<p>Continue annual monitoring</p> <p>Continue annual reporting</p> <p>Analyze plant demographics</p>
<p>Development and implementation of rangewide monitoring plan</p>	<p>Develop rangewide monitoring plan</p> <p>Select sites for monitoring</p> <p>Monitor sites annually</p> <p>Analyze results of monitoring</p> <p>Report results annually to conservation team</p>
<p>Development and implementation of a livestock</p>	<p>Develop a livestock monitoring plan</p> <p>Monitor high risk allotments annually</p>

monitoring plan	<p>Analyze data collected to determine impacts to plants</p> <p>Adjust livestock regimes as necessary to reduce impacts where and when needed</p> <p>Conduct follow-up monitoring</p> <p>Report results of monitoring and adjustment</p>
Genetic research	<p>Find and contact interested researcher</p> <p>Fund genetics study</p> <p>Assist with collection of test samples or identifying areas of interest for sampling</p> <p>Review resulting report</p>
Ecological restoration	<p>Develop a restoration plan</p> <p>Start restoration research</p> <p>Evaluate success of different restoration methods</p> <p>Apply selected restoration to demonstrate successful restoration on a scale representative of anticipated surface disturbance levels</p>
Conservation team meeting and Annual status report	<p>Meet annually</p> <p>Develop annual report</p> <p>Review annual report</p> <p>Develop annual plan of work based on annual report to meet objectives of the CAS</p> <p>Revise conservation boundaries or mitigation measures as needed for species conservation based on new information</p>

4. Quantifiable, Scientifically Valid Parameters

We evaluated whether quantifiable, scientifically valid parameters that demonstrate achievement of objectives and standards by which progress will be measured are identified. The 2014 CA

includes conservation measures that were designed to minimize the threats impacting the species that were identified in the proposed listing rule (78 FR 47590). The 2014 CA conservation measures took into account the best available data on both species by using the most recent population viability analysis (McCaffrey 2013) to select conservation areas. The population viability assessment showed that larger populations of both species were more likely to persist over the next 50 years (McCaffrey 2013). We used this information to develop conservation areas that included large populations with a low chance of extinction based on a population viability analysis.

In order to evaluate whether achievement of the objectives of the 2014 CA are being met, we will annually quantify the amount of surface disturbance within conservation areas and will compare them to our surface disturbance limit caps of 5 percent additional disturbance for Graham's beardtongue and 2.5 percent for White River beardtongue. We will also quantify the percent of population within conservation areas based on new survey information and any adjustments to conservation areas. Presently, 64 percent and 76 percent of Graham's and White River beardtongues respectively are within conservation areas. From monitoring data, we will quantify population changes, impacts to plants from grazing, and the amount of invasive weeds through the life of the 2014 CA. We will also track mitigation activities in terms of the number of plants impacted within 300 feet of surface disturbing activities on BLM lands or within conservation areas, and the amount of mitigation implemented. Quantifiable information regarding the species' distribution, abundance, and disturbance will be included in the annual report to the conservation team. In addition, the livestock grazing, weed management, population monitoring, and restoration plans will include quantifiable, scientifically valid parameters when they are completed within the first year of CA implementation. Thus, we have identified quantifiable, scientifically valid parameters to ensure continued conservation of both beardtongue species.

5. Provision for monitoring

We determined whether 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 efforts identified in the 2014 CA were provided. The 2014 CA has a comprehensive monitoring strategy in place for the conservation efforts. Monitoring plans will be developed and implemented for livestock grazing, population trends, invasive weeds, and ecological restoration. In addition, the conservation team will track surface disturbances to ensure they do not exceed the limits outlined in the 2014 CA. The BLM has a track record of monitoring as it has funded demography monitoring that has occurred for the previous 8 years, and this monitoring will continue under the provisions of the 2014 CA. The conservation team will meet at least once annually to review the status of the two species, develop yearly conservation action schedules, review the conservation strategy, and modify the strategy as appropriate. Based on past monitoring commitments from the BLM since 2004, we have a high certainty that the provisions for monitoring are adequate and that this monitoring will continue to be implemented under the 2014 CA.

6. Adaptive Management

We determined whether principles of adaptive management were incorporated into the conservation agreement. Operating under an adaptive management framework is essential for success of the conservation of Graham's and White River beardtongues. Adaptive management is a decision process that promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Because of uncertainties associated with future energy development, environmental conditions, and ground disturbing activities, conservation strategies need to be adaptable to address habitat changes and emerging threats and to take advantage of new information based on research findings, monitoring and the results of prior conservation efforts. Whether responding to the dynamics of climatic conditions and resultant livestock or energy use or based on population responses to other conservation actions, adaptive management as it pertains to Graham's and White River beardtongues conservation will be an ongoing activity at many levels.

At annual meetings, the conservation committee will review and adjust annual work plans for surveys, monitoring, livestock grazing, mitigation and invasive weed control in response to information from the previous years' activities and as described in the conservation team's annual report. In addition the team can adjust the boundaries of the conservation areas based on the previous year's surveys and monitoring to ensure the conservation of both species. The annual report on the accomplishments of conservation measures, results of surveys and monitoring, the amount of disturbance/projects occurring in conservation areas or overlapping the species is the primary tool that will be used to base adaptive management decisions. We have concluded that principles of adaptive management are incorporated into each conservation measure identified in the 2014 CA.

Summary of Analysis for Conservation Measures

In summary, using the criteria in PECE (68 FR 15100, March 28, 2003), we evaluated the certainty of implementation (for those measures not already implemented) and effectiveness of conservation measures pertaining to Graham's and White River beardtongues. We have determined that the measures will be effective at eliminating or reducing threats to the species because they protect occupied and suitable habitat, provide habitat and additional management information to address the effects of energy development, livestock grazing, invasive weeds, climate change, small population size, and inadequacy of regulatory mechanism, and institute on-the-ground protections that better manage and protect habitat and address threats.

We have a high degree of certainty that the measures will be implemented because several of the conservation team partners have a track record of implementing conservation measures for this species since 2007. Over approximately the past 6 years of implementation, BLM, UDNR, the Service and Uintah County have implemented many of the conservation measures from the 2007 Conservation Agreement for Graham's beardtongue, including species surveys, habitat modeling, avoidance of plants by surface disturbing activities, incorporating the conservation measures from the conservation agreement into the BLM Vernal Field Office RMP, examining reproductive biology of the species, and conducting a demography study of the species.

New conservation measures prescribed by the 2014 CA are already in the process of being implemented, such as establishment of protected conservation areas on private lands. Uintah

County approved the concept of adopting the CA on Feb 27, 2014, thus paving the way for the subsequent adoption of the CA and enactment of a zoning ordinance. The 2014 CA has sufficient annual monitoring and reporting requirements to ensure that all of the conservation measures are implemented as planned, and are effective at removing threats to a substantial amount of Graham's and White River beardtongues and their habitat. The collaboration between the Service, Uintah County, Rio Blanco County, UDWR, SITLA, PLPCO and BLM requires regular conservation team meetings and involvement of all parties in order to fully implement the 2014 CA, and a process has been agreed to among these entities to achieve this conservation objective. Based on the implementation of previous actions from several members of the conservation team, we have a high level of certainty that the conservation measures in the 2014 CA will be implemented (for those measures not already begun), and that they will be sufficiently effective.

Conclusion

Using the criteria specified in PECE (68 FR 15100, March 28, 2003), we have evaluated the certainty of future implementation and certainty of effectiveness of the 2014 CA that is being implemented by the Service, Uintah County, Rio Blanco County, BLM, UDWR, SITLA and PLPCO. Based on our evaluation, we have determined that all of the PECE criteria have been satisfied. As such, we find that the 2014 CA for Graham's and White River beardtongues has a high level of certainty of future implementation and certainty of effectiveness, and can be considered as part of the basis for our final listing determination for Graham's and White River beardtongues.

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