

Incremental Effects Memorandum for the Economic Analysis for the Proposed Rule to Designate Critical Habitat for the Graham's beardtongue and White River Beardtongue

April 15, 2014

Introduction

The purpose of this document is to provide information to serve as a basis for conducting an economic analysis of the proposed critical habitat for the Graham's beardtongue (*Penstemon grahamii*) and White River beardtongue (*Penstemon scariosus* var. *albifluvis*).

Section 4(b)(2) of the Endangered Species Act (Act) requires the Secretary of Interior (Secretary), and therefore by delegation the U.S. Fish and Wildlife Service (Service), to consider the economic, national security, and other impacts of designating a particular area as critical habitat. The Secretary may exclude an area from critical habitat if the Secretary determines that the benefits of exclusion outweigh the benefits of including the area as critical habitat, unless the exclusion will result in the extinction of the species. In part to comply with section 4(b)(2) of the Act and consider the economic impacts of a proposed critical habitat designation, the Service prepares an economic analysis that describes and monetizes, where possible, the probable economic impacts of the proposed regulation. The data in the economic analysis may be used in the discretionary balancing evaluation under section 4(b)(2) of the Act to consider any particular area for exclusion from the final designation.

Determining the economic impacts of a critical habitat designation involves evaluating the "without critical habitat" baseline versus the "with critical habitat" scenario, to identify those effects expected to occur solely due to the designation of critical habitat and not from the protections that are in place due to the species being listed under the Act. Effects solely due to the critical habitat designation equal the difference, or increment, between these two scenarios, and include both (1) the effects of changes in the action to avoid destruction or adverse modification of critical habitat and (2) the costs of increased administrative efforts that result from the designation. These changes can be thought of as "changes in behavior" or the "incremental effect" that would most likely result from the designation if finalized. Specific measured differences between the baseline (without critical habitat) and the designated critical habitat (with critical habitat) may include, but are not limited to, the economic effects stemming from changes in land or resource use or extraction, changes in environmental quality, or time and effort expended on administrative and other activities by Federal landowners, Federal action agencies, and in some instances, State and local governments or private third parties. These are the incremental effects that serve as the basis for the economic analysis.

There are a number of ways that designation of critical habitat could influence activities, but one of the important functions of this memorandum is to explain any differences between actions required to avoid jeopardy to the species versus actions that may be required to avoid destruction or adverse modification of critical habitat. We analyze whether destruction or adverse modification would occur based on whether the Federal agency's action is likely "to result in the

destruction or adverse modification of habitat which is determined by the Secretary... to be critical.”. To perform this analysis, we consider how the proposed action is likely to affect the function of the critical habitat unit in serving its intended conservation role relative to the entire designation. The information provided below is intended to identify the possible differences for this species under the two different section 7 standards (i.e., jeopardy to the species and adverse modification of critical habitat). Ultimately, however, a determination of whether an activity may result in the destruction or adverse modification of critical habitat is based on the effects of the action to the designated critical habitat in its entirety. The information provided below is intended to identify the possible differences for Graham’s and White River beardtongue under the different section 7 standards for jeopardy to the species and destruction or adverse modification of critical habitat.

We recognize that the “geographical area occupied by the species” at the time of listing as stated under section 3(5)(A)(i) of the Act is the geographical area which may generally be delineated around the species’ occurrences, as determined by the Secretary (i.e., range). Such areas may include those areas used throughout all or part of the species’ life cycle, even if not used on a regular basis (e.g., migratory corridors, seasonal habitats, and habitats used periodically, but not solely by vagrant individuals). The species may or may not be present within all areas of the geographical area occupied by the species. Thus, the “geographical area occupied by the species” can, depending on the species at issue and the relevant data available, be defined on a relatively coarse scale.

Section 7 consultation is required whenever there is a discretionary Federal action that may affect listed species or designated critical habitat. Section 7(a)(3) also states that a Federal agency shall consult with the Secretary on any prospective agency action at the request of, and in cooperation with, the prospective permit or license applicant if the applicant has reason to believe that an endangered species or a threatened species may be present in the area affected by his project and that implementation of such action will likely affect such species. The initiation of section 7 consultation under the jeopardy standard takes place if the species may be present and the action is likely to affect the species.

Because of the relatively coarse scale of analysis allowed by the definition of “critical habitat,” the species may or may not be present within all portions of the “geographical area occupied by the species” or may be present only periodically. Therefore, at the time of any consultation under section 7 of the Act, the species of interest may not be present within the action area for the purposes of the section 7 consultation, even if that action area is within the “geographical area occupied by the species.” This possibility however, does not change the “geographical area occupied by the species” as stated under section 3(5)(A)(i) for the species. It must however, be reflected in our analysis of the economic impacts of a critical habitat designation. How we implement each critical habitat designation under section 7 is important because even when an area is determined to be within the general geographical area occupied by the species at the time of listing, the specific area where a consultation may occur is based on the presence of the species with the action area and the effects to that species. If a species is not present and the action is not likely to adversely affect the species within a particular area designated as critical habitat at the time of consultation, the economic effects of the consultation would likely be considered an incremental effect of the critical habitat because in almost all cases, the

consultation would not have occurred absent the critical habitat designation¹. These incremental economic effects would derive both from changes in management, such as costs resulting from restrictions on development and other activities due solely to critical habitat, and changes in the scope of administrative review, i.e., the added costs of considering effects to critical habitat during consultation (additional administrative costs would also occur in *occupied* areas due to the need to analyze destruction or adverse modification of critical habitat along with jeopardy to the species.)

In this memorandum, when we describe occupancy for purposes of estimating the probable incremental impacts and therefore, potential economic costs of critical habitat designation, we are referring to the occupancy status within the action area of a particular Federal action at the time of a consultation under section 7 of the Act. In this context the “geographical area occupied by the species” under section 3(5)(A)(i) and the area where a species may be present or may be affected by a particular Federal action under a section 7 consultation may differ. The difference lies in the implementation of the critical habitat designation for purposes of the section 7 consultation, although within the geographical range occupied by the species under 3(5)(A)(i), the species may or may not be present at the time of consultation. The purpose of this memorandum is to describe how the Service will implement the critical habitat designation; however, it is only on a case by case basis that we are able to evaluate whether or not a Federal action may affect the listed species or its critical habitat while considering the species’ presence within the action area.

Background

We designated White River beardtongue as a candidate species on November 28, 1983 (48 FR 53640). We previously proposed to list Graham’s beardtongue as a threatened species with critical habitat on January 19, 2006 (71 FR 3159). On December 19, 2006 (71 FR 76024) we withdrew our proposed rule for Graham’s beardtongue based on information provided during the public comment period, indicating that the threats to the species, particularly energy development, were not as significant as previously believed. On December 16, 2008, the Center for Native Ecosystems, Southern Utah Wilderness Alliance, Utah Native Plant Society, and Colorado Native Plant Society filed a complaint in the United States District Court for the District of Colorado challenging the withdrawal of our proposal to list Graham’s beardtongue. The court ruled in favor of the plaintiffs on June 9, 2011, vacating our December 2006 withdrawal and reinstating our January 2006 proposed rule. On September 9, 2011, we reached an agreement with plaintiffs in Endangered Species Act Section 4 Deadline Litig., Misc. Action No. 10-377 (EGS), MDL Docket No. 2165 (D. DC) to systematically review and address the needs of all species listed in the 2010 CNOR, which included White River beardtongue.

The best available information for Graham’s beardtongue has changed considerably since we withdrew our proposal to list the species in December 2006. To better reflect new information regarding Graham’s beardtongue and its proposed critical habitat and through agreement with the plaintiffs, we published a revised proposed rule on August 6 2013 which proposes to list the

¹ (If the area is not currently occupied and there is no critical habitat designated, it is unlikely that a Federal Agency would consult under section 7 in the first instance unless it is clear that activities in the unoccupied areas “may affect” nearby occupied areas.)

species as threatened; we proposed listing the White River beardtongue as threatened in the same rule. We also published a second proposed rule to designate critical habitat for the Graham's beardtongue and White River beardtongue. We anticipate publishing our final listing and critical habitat determination in fiscal year 2014.

Both species are local endemic plants associated with calcareous (containing calcium carbonate) soils derived from oil shale barrens of the Green River geologic formation. Most populations are associated with the surface exposure of the petroleum-bearing oil shale Mahogany ledge. The historic ranges of these species have not changed considerably since they were first described. Graham's beardtongue occurs along a horseshoe-shaped band about 80 miles long and 6 miles wide extending from the extreme southeastern edge of Duchesne County in Utah to the northwestern edge of Rio Blanco County in Colorado. White River beardtongue's range extends from the vicinity of Willow Creek in Uintah County, Utah, to Raven Ridge west of Rangely in Rio Blanco County, Colorado. The bulk of the species' range occurs between Raven Ridge and Evacuation Creek in eastern Utah, a distance of about 20 miles.

For maximum reproduction, these species are dependent on pollinators. Graham's beardtongue is pollinated by medium to large sized pollinators that are capable of travelling 700 meters (m) (2,297 feet (ft)). White River beardtongue is pollinated by small to medium sized pollinators which are capable of travelling at least 500 m (1,640 ft). We used these pollinator travel distances to define our proposed critical habitat boundaries.

Graham's and White River beardtongues are primarily threatened by energy development. Approximately 91% of all known Graham's beardtongue plants and 100% of all known White River beardtongue plants will be subject to direct or indirect impacts from energy development (oil shale, tar sands, and traditional oil and gas development). By 2020, we anticipate that two oil shale projects that are currently in the planning phases on private and state lands will be underway and will eventually impact 41% of all known Graham's beardtongue and 38% of all known White River beardtongue individuals. In addition, the BLM has leased 40% of the land containing Graham's beardtongue and 56% of the land containing White River beardtongue for oil shale and tar sands development. When we add on the traditional oil and gas leases, most of the Graham's beardtongue individuals and all of the White River beardtongue individuals will be impacted by some form of energy development.

We are proposing to designate 27,502 hectares (ha) 67,959 acres (ac) within 5 units as critical habitat for Graham's beardtongue (Table 1) and 6,036 ha (14,914 ac) within 3 units as critical habitat for White River beardtongue (Table 2). All units are comprised almost entirely of occupied habitat for these plant species. In our August 6, 2013 proposed rule, we identified that all units are threatened by future energy development, particularly oil shale. Primary constituent elements include suitable plant communities, slopes and topography, soils and geology, climate, habitat available for pollinators, and intact soils. Our proposed critical habitat includes lands owned and managed by the Bureau of Land Management (BLM), state of Utah, and private owners.

Other federally listed species that co-occur with Graham's beardtongue include Uinta Basin hookless cactus (*Sclerocactus wetlandicus*), Shrubby reed mustard (*Schoenocrambe*

suffrutescens), and clay reed mustard (*Schoenocrambe argillacea*) (Table 3). Graham’s beardtongue and White-river beardtongue co-occur on 7,028 acres of proposed critical habitat in all three units of White river beardtongue proposed critical habitat units and within the Evacuation Ridge, White River, and Raven Ridge units of Graham’s beardtongue proposed critical habitat.

Table 1: Size and ownership for each unit of Graham's beardtongue

Critical Habitat Unit	Land Ownership	Size of Unit
1. Sand Wash	BLM	3,056 ha (7,550 ac)
	State	27 ha (66 ac)
	Private	76 ha (189 ac)
	Total	3,159 ha (7,805 ac)
2. Seep Ridge	BLM	6,649 ha (16,430 ac)
	State	2,650 ha (6,549 ac)
	Private	862 ha (2,131 ac)
	Total	10,162 ha (25,110 ac)
3. Evacuation Creek	BLM	3,879 ha (9,586 ac)
	State	1,417 ha (3,502 ac)
	Private	1,632 ha (4,033 ac)
	Total	6,929 ha (17,122 ac)
4. White River	BLM	2,243 ha (5,542 ac)
	State	401 ha (991 ac)
	Private	2,047 ha (5,059 ac)
	Total	4,691 ha (11,592 ac)
5. Raven Ridge	BLM	2,257 ha (5,578 ac)
	Private	304 ha (752 ac)
	Total	2,562 ha (6,330 ac)
Total		27,502 ha (67,959 ac)

Table 2: Size and ownership for each unit of White River beardtongue

Critical Habitat Unit	Land Ownership	Size of Unit
1. Evacuation Creek	BLM	1,368 ha (3,382 ac)
	State	185 ha (457 ac)
	Private	1,415 ha (3,498 ac)
	Total	2,969 ha (7,336 ac)
2. White River	BLM	788 ha (1,946 ac)
	State	651 ha (1,608 ac)
	Private	1,397 ha (3,452 ac)
	Total	2,836 ha (7,006 ac)
3. South Raven Ridge	BLM	191 ha (472 ac)
	Private	41 ha (101 ac)
	Total	232 ha (573 ac)
Total		6,036 ha (14,914 ac)

Table 3: Unit and co-occurring listed species for Graham’s beardtongue

Unit	Co-occurring Listed Species or Existing Critical Habitat for Listed Species?	Area	Incremental Conservation Efforts Recommended after Critical Habitat Designated?
Sand Wash	Uinta basin hookless cactus (SCWE), Clay reed-mustard (SCAR), Shrubby reed-mustard (SCSU).	SCWE- 1879 acres SCAR- 1860 acres SCSU- At least 100 acres	Conservation measures including consultations would continue on critical habitat even if the species is extirpated from the site or not present at the time of consultation.
Seep Ridge	Shrubby reed-mustard	Unknown, Needs survey	Conservation measures including consultations would continue on critical habitat even if the species is extirpated from the site or not present at the time of consultation.
Evacuation Creek	none	none	Conservation measures including consultations would continue on critical habitat even if the species is extirpated from the site or not present at the time of consultation.
White River	none	none	Conservation measures including consultations would continue on critical habitat even if the species is extirpated from the site or not present at the time of consultation.
Raven Ridge	none	none	Conservation measures including consultations would continue on critical habitat even if the species is extirpated from the site or not present at the time of consultation.

Baseline Analysis

The following discussion describes the existing regulatory circumstances of a baseline scenario—i.e., if we list Graham’s beardtongue and White River beardtongue as threatened species, without designating critical habitat. In the baseline scenario, section 7 of the Act requires Federal agencies to consult with the Service to ensure that any action authorized, funded, or carried out in Graham’s beardtongue and White River beardtongue habitat will not

likely jeopardize the continued existence of the species. In addition, we discuss other regulatory mechanisms and conservation efforts that are in place and provide some benefit to the species.

Conservation plans and regulatory mechanisms that provide protection to the species and its habitat without critical habitat designation

The following are ongoing conservation efforts that provide some benefits to Graham's beardtongue and White River beardtongue habitat and are considered part of the baseline because these activities are occurring without critical habitat designation. If a specific plan is addressed in the item, we have indicated where it is available for review.

- (1) Graham's and White River beardtongues are BLM-sensitive plant species according to the BLM Vernal Field Office Resource Management Plan (RMP). See http://www.blm.gov/ut/st/en/fo/vernal/planning/rmp/rod_approved_rmp.html -- The 2008 Vernal RMP establishes conservation measures to mitigate impacts to sensitive plant species, including Graham's beardtongue and White River beardtongue (BLM 2008, pp. 18 and L-16). These conservation measures remain in place if the species are listed. The conservation measures provide limited protection to the plants but no protection to unoccupied habitat that may provide habitat for population connectivity or pollinators.
- (2) Within Colorado, the Raven Ridge Area of Critical Environmental Concern (ACEC) was established, in part, to protect listed and candidate species, including Graham's and White River beardtongues (BLM 1986, p. 2, BLM 1997, p. 2-17). The Raven Ridge Area of Critical Environmental Concern (ACEC) contains less than one percent of all known Graham's beardtongue and White River beardtongue plants. This is the only land designation that affords protection to these species. The ACEC would remain in place if we list the species.
- (3) There are no state regulations that protect Graham's and White River beardtongues.

Federal agencies and other project proponents that are likely to consult with the Service under section 7 without critical habitat

As previously described, both species and their habitats occur on BLM, State, and private lands. If Graham's and White River beardtongues are listed, projects occurring on BLM lands will be evaluated for their effects to the species and their habitats through section 7 consultation. These species are primarily threatened by energy development including oil shale, tar sands, and traditional oil and gas development. The BLM-designated areas that are available for leasing for oil shale and tar sands development encompass 40% of all known Graham's beardtongue individuals and 56% of all known White River beardtongue individuals. When we add on the traditional oil and gas leases, 50% of Graham's beardtongue individuals and 62% of the White River beardtongue individuals may be impacted by some form of energy development on BLM lands alone (if we take into account State and private lands, the percentages are 91 and 100%, respectively). We anticipate that only a small number of activities on private and State lands will have a Federal nexus (e.g. federal funding or permits) resulting in a section 7 consultation. We

anticipate projects with a federal nexus on non-federal portions of these species' ranges will be related to energy development.

What types of project modifications are currently recommended or will likely be recommended by the Service to avoid jeopardy (i.e., the continued existence of the species)?

To date, we have not conducted any section 7 conferences that have resulted in a finding of jeopardy to either of the beardtongue species. We have conferenced with the on Graham's and White River beardtongues for proposed projects within their habitat. During oil and gas development activities that have occurred to date, the BLM minimized some impacts to Graham's and White River beardtongues and its habitat through incorporation of conservation measures through section 7 conferencing under the Act. Conservation measures included moving well pad and pipeline locations to avoid direct impacts to the species, implementing dust abatement during flowering season, flagging avoidance areas, using on-site monitors during construction, post-construction plant monitoring when activities occur within 300 feet (ft.) (91 meters (m.)) of plants in Utah and 328 ft. (100 m.) of plants in Colorado, and post-construction weed control. These measures minimized direct impacts to the species, particularly at current low rates of development that have occurred in the habitat. All other activities as described in BLM's RMP that occur within the range of either of the beardtongue species, i.e. grazing, will undergo section 7 consultation if the species are listed.

We have not conferenced on oil shale and tar sands projects to date. The section 7 consultation boundary for open-pit mines is 1640 ft. (500 m.) in Utah and Colorado. Conservation measures would include similar measures for oil and gas development described above.

Mitigation recommendations for all energy development activities that will destroy plants and occupied habitat will include: land protection (either land purchase or land easement in perpetuity) of occupied areas on a 3:1 area basis of occupied habitat on private or state lands.

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

Adverse Modification Analysis

The following discussion describes the regulatory circumstances that are anticipated with designation of critical habitat, as proposed, for the Graham's beardtongue and White River beardtongue. Once critical habitat is designated, section 7 of the Act requires Federal agencies to ensure that their actions will not result in the destruction or adverse modification of critical habitat. As will be discussed in more detail below, the key factor for determining adverse modification is whether, with implementation of the proposed Federal action, the affected critical

habitat will continue to have the capability to serve its intended conservation role for the species. From section 3(3) of the Act:

The terms “conserve,” “conserving,” and “conservation” mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided under the Endangered Species Act are no longer necessary.

Thus, designation of critical habitat helps ensure that proposed project actions will not result in the adverse modification of habitat to the point that the species will not achieve recovery, meaning they will not be capable of being removed from the threatened or endangered species list.

What Federal agencies or project proponents are likely to consult with the Service under section 7 based on designation of critical habitat? What kinds of additional activities are likely to undergo consultation with critical habitat?

Occupied critical habitat units and their primary constituent elements (PCEs) reflect the needs of Graham’s beardtongue and White River beardtongue, which are clearly defined in the proposed rule. As discussed above, all proposed critical habitat units are occupied by these species. Therefore, adverse modifications to the PCEs are closely tied to adverse effects to the species, so that activities that require consultation for critical habitat are primarily the same as activities that currently require section 7 consultation for the species. An adverse modification analysis will focus on a project’s impacts to the physical features (PCEs) of critical habitat.

The same federal agencies or project proponents that would be consulting with us under section 7 consultation if the species is listed would also likely be consulting with us to determine effects to critical habitat. These agencies and project proponents include BLM, oil and gas industry, livestock grazers and recreational users. We do not anticipate that there will be additional activities that will need to undergo consultation for critical habitat designation that will differ from the listing of the species unless the species becomes extirpated from areas designated as critical habitat, the species is not present above-ground but persists as a seedbank, or the project area occurs within critical habitat that is not occupied by the species at the time of consultation.

What project proponents are likely to pursue HCPs under section 10 after the designation of critical habitat?

No project proponents will pursue HCPs under section 10 because HCPs do not apply to plants.

What types of project modifications might the Service make during a section 7 consultation to avoid destruction or adverse modification of critical habitat that are different than those for avoiding jeopardy?

When consulting with other agencies under section 7 of the Act in designated critical habitat, we conduct independent analyses for jeopardy and adverse modification. Jeopardy occurs when an action is reasonably expected, directly or indirectly, to diminish a species’ numbers,

reproduction, or distribution so that the likelihood of survival and recovery in the wild is appreciably reduced (50 CFR 402.02). According to the Director's Memorandum of December 9, 2004 (Application of the "Destruction or Adverse Modification" Standard under Section 7(a)(2) of the Endangered Species Act), the analysis for "destruction or adverse modification of designated critical habitat" considers whether critical habitat would remain functional to serve the intended conservation role for the species.

Jeopardy and adverse modification are not equivalent standards; however, the outcome of section 7 consultations under these standards may be similar in some cases. Alterations of occupied habitat that diminish the value of the habitat would result in adverse modification if the effect is severe enough to render the habitat incapable of providing its intended conservation function. If the action also would affect the remaining population, population size, reproduction, and recruitment to the extent that the likelihood of survival in the wild is appreciably reduced, a jeopardy determination also would result. Because the ability of these species to exist is closely tied to the quality of its habitat, significant alteration of its occupied habitat may result in jeopardy as well as adverse modification. In most instances, we anticipate that section 7 consultation analyses will result in no differences between recommendations to avoid jeopardy or adverse modification within all critical habitat units as all units are occupied.

In section 7 consultations for proposed projects that may impact the species' habitats, a determination of adverse modification of critical habitat will usually be coincident to a jeopardy determination for the same action. Although independent analyses are made for jeopardy and adverse modification, most measures necessary to avoid adverse modification of critical habitat will avoid jeopardy as well. Therefore, the incremental cost differences of these consultations will likely be limited to administrative costs.

In rare instances, even after measures to minimize and compensate for impacts of a project are pursued, we may determine that a project will not jeopardize Graham's beardtongue or White River beardtongue but will result in adverse modification of critical habitat. Any costs of implementing reasonable and prudent alternatives associated with such a consultation will be incremental costs beyond those attributable to these species being listed.

Of particular concern when analyzing impacts to the primary constituent elements of proposed beardtongue habitats is the extent and location of a project within the critical habitat unit. Projects that: (1) significantly impact the features essential for the survival of the species; or (2) fragment a critical habitat unit may result in adverse modification if the impacts affect the ability of that unit to continue to function and support the species. For example, loss of habitat on the outside edges of a critical habitat unit may not lead to a determination of adverse modification, while significant losses or fragmentation of the plant community and pollinator habitat within a unit is more likely to generate a determination of adverse modification if not offset by conservation actions.

If we determine that an adverse modification finding may be likely, we will recommend changes to the proposed action or provide reasonable and prudent alternatives to eliminate or reduce the impacts. These measures or alternatives may modify the development project such that: (1) less land disturbance will occur within critical habitat; (2) the proposed action will be redesigned to

avoid specific areas important to the species; (3) the proposed action will incorporate “best management practices” to protect habitat; and (4) the proposed action will include conservation measures to enhance and protect habitat within the critical habitat unit. These alternatives may have economic consequences to primarily the energy development companies as well as potentially to the local community.

UNOCCUPIED AREAS

We delineated the geographical area around the species’ occurrences to include pollinator travel distances (pollinator habitat) in order to support seed production and genetic diversity of the species. The pollinator distance is 700 m for Graham’s beardtongue and 500 m for White River beardtongue. While we consider the proposed critical habitat to be occupied habitat, portions of critical habitat may not be occupied at the time of consultation because the project area occurs within pollinator habitat, the species is not present above-ground but persists as a seedbank, or the species becomes extirpated from areas.

BEHAVIOR CHANGES

Even if we determine than an adverse modification is not likely, we will recommend the proposed action implement conservation measure (4) in the last paragraph of the preceding section (see **Adverse Modification Analysis**) to enhance and protect the habitat within the critical habitat unit. This measure will primarily support the species’ pollinators until such time that restoration efforts to re-establish the species on reclaimed or disturbed soils prove to be successful. Pollinators generally need a diversity of native plants for foraging throughout the seasons. Thus, it is important to protect vegetation diversity within and around the species’ populations to maintain pollinator diversity. Specific project requirements include a) post-construction seeding of the appropriate mix of native species to support pollinator populations; and b) post-construction weed control.

ADMINISTRATIVE EFFORTS

How much administrative effort does or will the Service expend to address adverse modification in its section 7 consultations with critical habitat? Estimate the difference compared to baseline.

The additional time required to address adverse modification of critical habitat compared to a baseline section 7 consultation on the species will be minimal because all critical habitat units are occupied by the species. Therefore, section 7 consultation would occur across the entirety of the critical habitat units even if critical habitat was not designated. We estimate the incremental increase in time to be 10% of the total time needed to complete a consultation.

PROBABLE PROJECTS

Probable projects that may require consultation under section 7 of the Act include oil and gas development, livestock grazing, conservation/restoration actions, recreation, mining, and utility development (Table 4). Past consultations for Graham’s’ and White River beardtongues were

limited to oil and gas development and grazing projects. Recommended project modifications consist of avoiding occupied habitat, and limiting activities outside of plant reproductive periods.

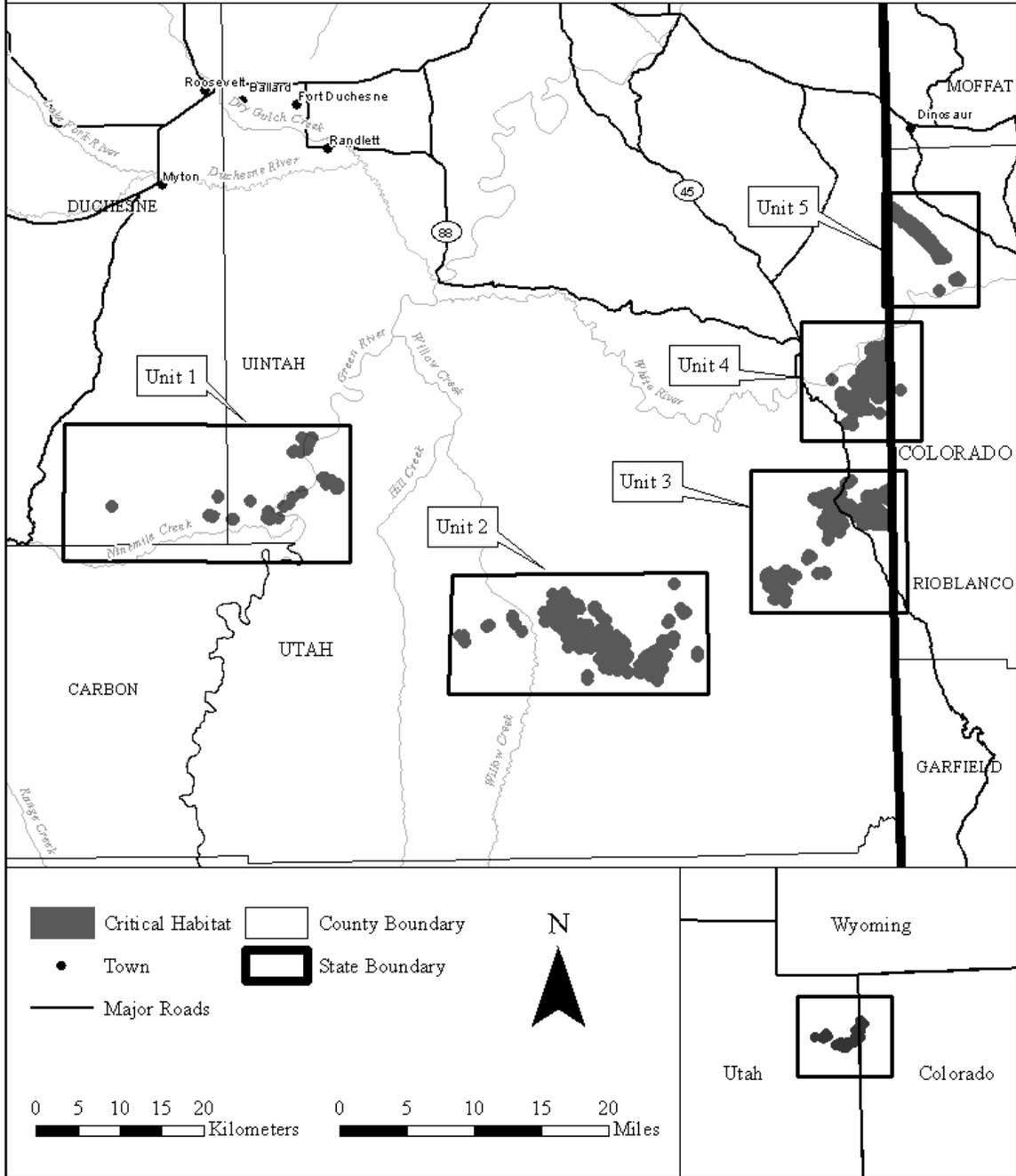
Table 4: Probable projects requiring section 7 consultations with proposed critical habitat

Project	Land Use Sector	Project implementation date	Possible Federal nexus	Species affected
Enefit oil shale research and development	Oil and gas development	2017	BLM lands	Graham's and White River beardtongues
Red Leaf oil shale development	Oil and gas development	pending	Colorado River water withdrawals	Graham's beardtongue
Ambre Energy oil shale development	Oil and gas development	2013	BLM lands	Graham's beardtongue
Gas well development	Oil and gas development	On-going	BLM lands, Colorado River water withdrawals	Graham's and White River beardtongues
Livestock grazing	Livestock grazing	On-going	BLM lands	Graham's and White River beardtongues
Ecological Restoration (non-native weed control, wildfire restoration)	Conservation	On-going	BLM lands	Graham's and White River beardtongues

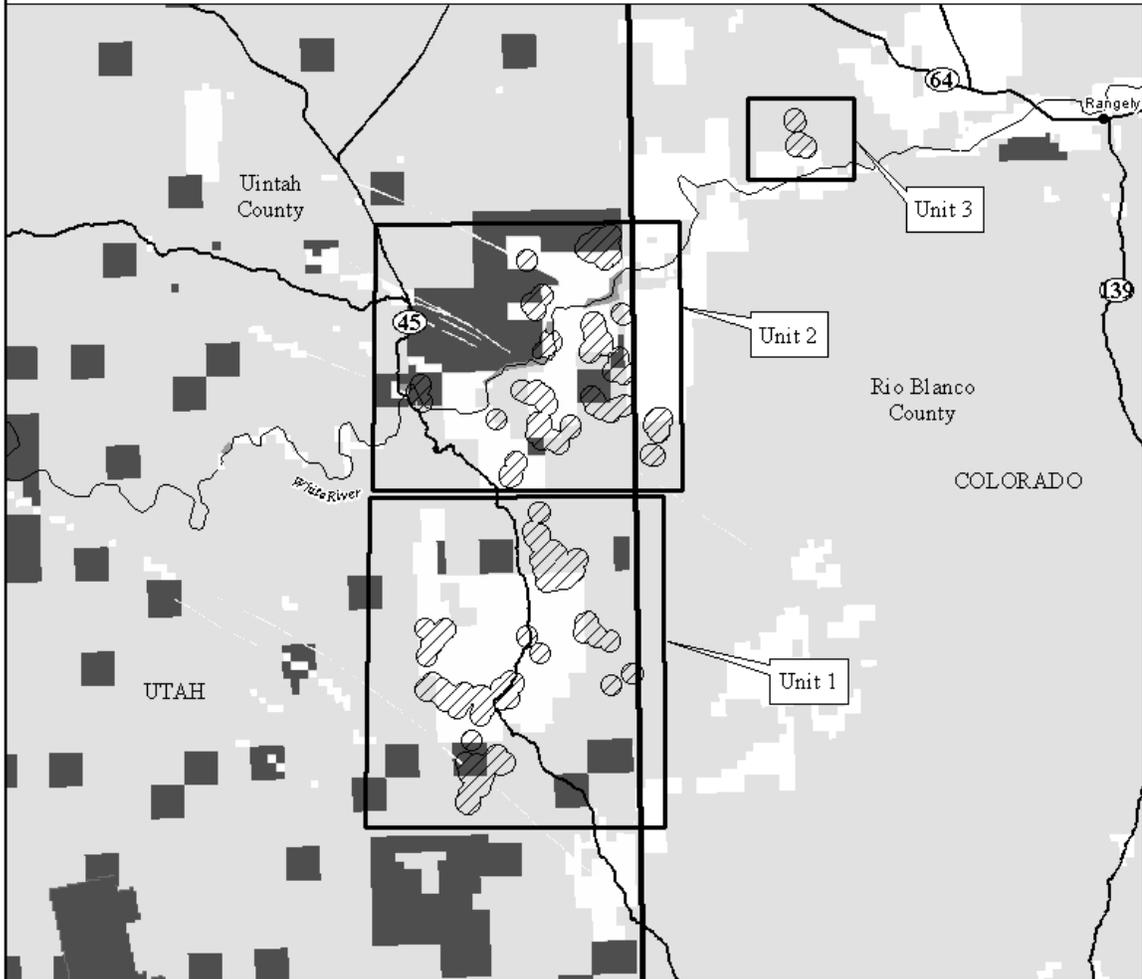
CONCLUSION

Proposed critical habitat for Graham's and White River beardtongues will have a minimal effect on current and future projects. These species are narrow endemics that are closely tied to the specific formations and quality of its habitat. In areas of critical habitat currently occupied by the species at the time of section 7 consultation, the same action that will result in significant alteration of occupied habitat will result in jeopardy as well as adverse modification of critical habitat. In most instances, we anticipate that section 7 consultation analyses will result in no differences between recommendations to avoid jeopardy to the species or adversely modify critical habitat within all critical habitat units. We anticipate there will be some instances where the species is not present within the project area and the incremental cost of critical habitat is the full cost of the consultation and recommended conservation measures.

Graham's beardtongue Critical Habitat



White River beardtongue Critical Habitat



- | | | |
|--------------------|-------------|---------------------------|
| • Town | Light Gray | Bureau of Land Management |
| — Major Roads | Medium Gray | Tribal |
| ▨ Critical Habitat | Dark Gray | State |
| ▭ State Boundary | White | Private |

0 1.25 2.5 5 7.5 10 Miles

0 1 2 4 6 8 Kilometers

