

**U.S. FISH AND WILDLIFE SERVICE
SPECIES ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM**

SCIENTIFIC NAME: *Eriogonum diatomaceum*

COMMON NAME: Churchill Narrows buckwheat

LEAD REGION: Region 8

INFORMATION CURRENT AS OF: April 2009

STATUS/ACTION

☐ Species assessment - determined we do not have sufficient information on file to support a proposal to list the species and, therefore, it was not elevated to Candidate status

☐ New candidate

☒ Continuing candidate

☒ Non-petitioned

☐ Petitioned - Date petition received:

☐ 90-day positive - FR date:

☐ 12-month warranted but precluded - FR date:

☐ Did the petition request a reclassification of a listed species? No

☐ Listing priority change

Former LPN: ☐

New LPN: ☐

Date when the species first became a Candidate (as currently defined): May 2004

☐ Candidate removal: Former LPN: ☐

☐ A – Taxon is more abundant or widespread than previously believed or not subject to the degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

☐ U – Taxon not subject to the degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status due, in part or totally, to conservation efforts that remove or reduce the threats to the species.

☐ F – Range is no longer a U.S. territory.

☐ I – Insufficient information exists on biological vulnerability and threats to support listing.

☐ M – Taxon mistakenly included in past notice of review.

☐ N – Taxon does not meet the Act's definition of "species."

☐ X – Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Flowering Plants, Polygonaceae (Buckwheat Family)

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Nevada

CURRENT STATES/COUNTIES/TERRITORIES/COUNTRIES OF OCCURRENCE: Lyon County, Nevada

LAND OWNERSHIP: All occurrences of *Eriogonum diatomaceum* are located on public lands managed by the Bureau of Land Management (BLM), Carson City Field Office.

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LEAD FIELD OFFICE CONTACT: Nevada Fish and Wildlife Office, Steve Caicco, (775) 861-6341, Steve_Caicco@fws.gov

BIOLOGICAL INFORMATION

Species Description. *Eriogonum diatomaceum* is a low, matted, herbaceous perennial that is only known from the Churchill Narrows area in the Pine Nut Mountains in Lyon County, Nevada. The species grows from a branched, woody caudex with densely gray-tomentose leaves sheathing up the stem. The leaves are elliptic and densely tomentose on both surfaces. The flowering stems are scapose with white tomentose. The inflorescence is capitate with congested, turbinate involucre. The flowers are creamy-white with greenish-tan to reddish midribs (Reveal *et al.* 2002, pp. 87-88).



Eriogonum diatomaceum

U.S. Department. of Interior

Taxonomy. This species was discovered in 1997 during surveys conducted for a proposed mining project and was described by Reveal *et al.* (2002, pp. 87-89). *Eriogonum diatomaceum* is similar in appearance to a species known from the Great Plains (*E. pauciflorum*), but is allied to species of the *E. ochrocephalum* complex, characterized as matted perennials with scapose stems and capitate inflorescences, and specifically those that have a rigid, usually turbinate involucre (Reveal *et al.* 2002, p. 89). This species is currently considered a narrow endemic of the Lahontan Basin section of the western Great Basin, an area of broad, irregularly shaped valleys interspersed among low mountain ranges of relatively short length, with a mean annual precipitation of about 4.5 inches (in) (11.4 centimeters (cm)) (Holmgren 1972, p. 87).

Eriogonum is comprised of about 250 species (Reveal 2005, p. 76). Within the genus, *E. diatomaceum* is placed within the subgenus *Eucycla*, a complex group with many narrow endemics throughout the interior western United States, many of which specialize on volcanic ash/clay and or calcareous habitats (Morefield 1996, p. 10). We have carefully reviewed the available taxonomic information to reach the conclusion *E. diatomaceum* is a valid taxon.

Habitat/Life History. *Eriogonum diatomaceum* is restricted to chalky, diatomaceous outcrops between 4,300 and 4,560 feet (ft) (1,311 and 1,390 meters (m)) elevation in the Churchill Narrows located in the Pine Nut Mountains of western Nevada (Reveal *et al.* 2002, p. 88).

At its type locality, *Eriogonum diatomaceum* is found on diatomaceous soils developed from the Coal Valley Formation on dry, barren exposed knolls and drainages on all aspects; the exposed diatomaceous soils are generally white to yellowish in color, with variable volcanic cobble-rock cover (Reveal *et al.* 2002, pp. 88-89). The major components of the outcrops at the type locality are fossil diatoms (amorphous silica), calcium montmorillonite, feldspar, and gypsum (Reveal *et al.* 2002, pp. 88-89). Gypsum crystalline formations are also frequently associated with these soils, which are generally shallow and well drained; permeability is moderately slow and available water capacity is very low (Reynolds 2001, p. 8). A slight increase in plant size and density was noted where moisture accumulates within the drainages; however, on the knolls and ridgelines, the species is entirely dependent on precipitation and moisture retained in the soil (Reynolds 2001, p. 8).

Species associated with *Eriogonum diatomaceum* include *Atriplex confertifolia* (shadscale), *Stanleya pinnata* var. *pinnata* (princes plume), *Sarcobatus baileyi* (Bailey's greasewood), and *Picrothamnus desertorum* (bud-sage) (Reveal *et al.* 2002, p. 88). *Eriogonum diatomaceum* is generally found on sparsely vegetated sites where competition with other species for light and moisture is minimal or absent. This species has not been found in any other habitat or soil type (Reynolds 2001, Table 4, Appendix 1, p. 6).

Eriogonum diatomaceum breaks dormancy in early spring and can flower as early as April or May, depending on timing of changes in temperature and precipitation events. Plants were observed in full flower in the second week of June for two consecutive years and continued to flower into September; fruits probably mature within a month of flowering, between the end of June and mid-November (Reynolds 2001, p. 100; BLM 2006, p. 11). Older mature plants comprise roughly 77 percent of the living individuals with 5 percent of the total individuals being seedlings, a size class distribution that appears typical for long-lived perennials in an arid environment (BLM 2006, p. 11). No studies have been conducted on the reproductive biology of *E. diatomaceum*, but most species of *Eriogonum* are thought to rely on insect-mediated pollen exchange (Morefield 1996, p. 23); a variety of flying insects were observed in the field as potential pollinators and were collected for identification (Reynolds 2001, p. 2).

Historical Range/Distribution. *Eriogonum diatomaceum* is now known from two locations. The type locality at Churchill Narrows comprises a single population with 15 discrete patches (Reynolds 2001, p. 6). The patches occupy a total area of approximately 97 acres (ac) (39.3 hectares (ha)) in the Churchill Narrows area (Reynolds 2001, Table 1, Appendix 1, p. 1). These occurrences are all on lands managed by the BLM. All but one of these occurrences are small, ranging from 1.5 to 12 ac (0.6 to 4.9 ha), with the other occurrence covering about 40 ac (16 ha) (Reynolds 2001, Table 1, Appendix 1, p. 1).

Over 5,000 ac (2,023 ha) of potentially suitable habitat have been surveyed for this species in the Lyon County portions of the Pine Nut Mountains, Virginia Range, and Desert Mountains (Reynolds 2001, p. 7).

Current Range/Distribution. *Eriogonum diatomaceum* was only recently described and its current range is the same as described above under the Historical Range/Distribution section.

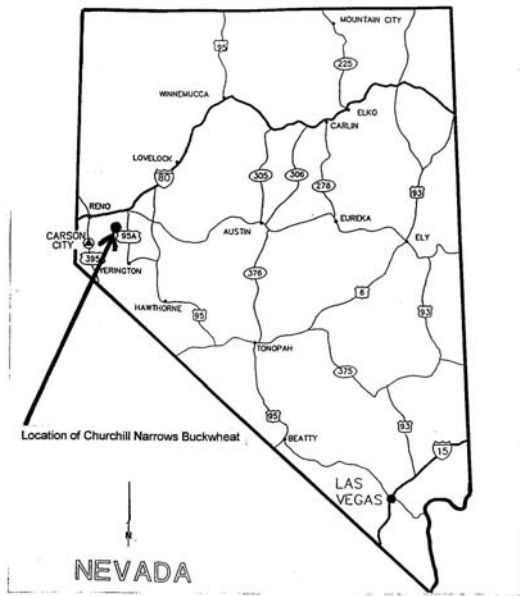


Figure 1. Known Population Area of Churchill Narrows Buckwheat

Appendix 2, page 1

Figure 1. Location map from Reynolds (2001, Appendix 2, p. 1).

Population Estimates/Status. As stated above, *Eriogonum diatomaceum* is known from only a single population with 15 distinct occurrences (Reynolds 2001, p. 6). The total number of individuals was estimated at 47,251 based on a 1997 mining project review and a 1998-1999 range wide status survey (Reynolds 2001, Table 1, Appendix 1, p. 1). The total number of individuals was estimated by performing direct counts of individuals within the boundaries of each of the smallest occurrences. For the larger occurrences, average densities were calculated within quadrats and extrapolated to obtain a total based on the entire area of the occurrence (Reynolds 2001, p. 6). Permanent monitoring plots have been installed and several years of data have been collected (Tonenna 2007). These data have not been provided to the Service.

THREATS

A. The present or threatened destruction, modification, or curtailment of its habitat or range.

Mineral exploration and mine development for diatomaceous soils is the most significant threat to *Eriogonum diatomaceum* and its habitat (Reynolds 2001, p. 11). Diatomite is an economically valuable mineral with many commercial and industrial uses (Reynolds 2001, p. 6). Diatomite production in the United States accounts for 32 percent of total world production and the demand for this material is increasing as more applications for its use are developed.

Observations in 2003 confirmed that direct and indirect impacts to *Eriogonum diatomaceum* from mining activities have taken place in the recent past and are expected to increase in the future (Service 2003, p. 1; Tonenna 2003, p.6). In the Churchill Narrows area, the habitat within 11 of the 15 occurrences of *E. diatomaceum* has been proposed for exploration and potential

development of existing mining claims, and past mining operations have occurred within another, the largest known occurrence (Reynolds 2001, p. 11). Mining exploration permitted by the BLM in the late 1990's (BLM 1999, p. 17) resulted in the loss of an estimated 530 plants; the exploration site was recontoured and seeded but nothing has grown on the site at the time of the last report in our files (BLM 2003, p. 6).

The site was then identified in a Notice of Operations submitted to the BLM on January 13, 2003, for mining of 600-700 tons of material from four mining claims for field tests as a soil amendment and from 100 to 200 tons for test work as an industrial absorbent (W.R. Byrd Minerals 2003a, p. 2). Under this initial Notice of Operations, about 1.13 ac (0.5 ha) would be disturbed within habitat of the largest occurrence of *Eriogonum diatomaceum* to accommodate removal of the material and the construction of an access road (W.R. Byrd Minerals 2003a, pp. 1-2). A second Notice of Operations was submitted to the BLM on November 14, 2003, for removal of 50,000 tons of material from two adjacent mining claims with an additional surface disturbance of 4.9 ac (1.2 ha) (W.R. Byrd Minerals, Inc. 2003b, p. 6). Both Notice of Operations applications have now been withdrawn and mineral development of the site does not appear likely to occur in the near future (Erbes 2008). Nevertheless, the claimant retains valid existing rights, and mining activity could be proposed in the future (BLM 2008a, pp. 4-50). Further losses of habitat and individuals from mining activities and associated road development and maintenance, therefore, may ultimately impact the long-term viability and lead to extirpation of the species.

In addition to minerals exploration and development, potential threats are posed to *Eriogonum diatomaceum* from trampling by livestock, road construction and maintenance, and off-highway vehicle (OHV) use. Livestock grazing in three adjacent allotments (Clifton Flats, Fort Churchill, and Adriance Valley) on public lands is the dominant land use throughout the known range of *E. diatomaceum*. Trampling of individuals and soil disturbance has been observed throughout the area and in 65 percent of the occurrence areas (Reynolds 2001, p. 12). The largest occurrence of this species occurs on the Adriance Valley Allotment that is permitted for year-around use. An Environmental Assessment (EA) was prepared by the BLM in 2006 to analyze the impacts resulting from the renewal of the Term Grazing Permit for the Adriance Valley Allotment which includes 31,790 ac (12,865 ha) of public land (BLM 2006, p. 5). The proposed action was to modify the year-round operation (1,620 animal unit months (AUMs)) to one with emphasis on fall/winter/early spring grazing, with 184 cattle (1,282 AUMs) from September 1 to March 31 and 67 cattle (337 AUMs) from April 1 to August 31 (BLM 2006, p. 3). The EA concluded that fewer livestock would be present during the growth period of *E. diatomaceum* and because livestock do not excessively use the sparsely vegetated areas characteristic of the plant species, the area would continue to meet the Standards and Guidelines for Sensitive Species Habitat (BLM 2006, p. 13) and there would be no significant adverse impacts (BLM 2006, p. 19). This new grazing system was implemented in 2006. Although the EA stated that stems and leaves of *E. diatomaceum* can be broken by trampling and soils can become compacted by as much as 3.9-5.9 in (10-15 cm) by human trampling (BLM 2006, p. 11), we have no information in our files that would allow us to assess the significance of trampling and associated soil disturbance by livestock, wild horses, or other wildlife on *E. diatomaceum*. The EA notes that livestock do not excessively use the sparsely vegetated habitat in which the plant occurs, but trampling by wild

horses would be a concern if their numbers were to increase (BLM 2006, p. 13).

Road development or OHV activity has been noted as a threat to four of the occurrences (Reynolds 2001, Table 1, Appendix 1, p. 1). Major dirt roads have been constructed to provide access to the mining claims and a vehicle testing operation has a permit to test vehicles on some of the gravel roads in the vicinity of *Eriogonum diatomaceum* occurrences (BLM 2003, p. 5). An organized OHV event occurs within 1 mi (1.6 km) of several occurrences (Reynolds 2001, p. 12). Although there has been increased OHV activity on some of the sites (Tonenna 2007), overall OHV use off of gravel roads appears to be minimal (BLM 2003, p. 5) and we do not consider it to currently pose a significant threat to the species.

Summary of Factor A

Mining of the economically valuable diatomaceous deposits that provide habitat for *Eriogonum diatomaceum* is the most significant potential threat to the species and, in particular, to the largest known occurrence. However, this threat no longer appears to be imminent because a mining Notice of Operations application, which would have impacted the largest occurrence of *E. diatomaceum*, has been withdrawn. Nevertheless, the claimant retains valid existing rights and mining activity could again be proposed. Impacts from trampling by livestock, wild horses, and other wildlife, and OHVs are a potential threat to most populations, especially the smaller ones which are more susceptible to extirpation; we have no data upon which to assess the significance of these potential threats, but at this time we believe them to be minor.

B. Overutilization for commercial, recreational, scientific, or educational purposes. There are no known threats from overutilization.

C. Disease or predation. A rust pathogen was observed on approximately 26 percent of the overall population within the 15 occurrences at Churchill Narrows. The number of individuals noticeably infected by the rust varied greatly within each occurrence. The identity of this pathogen, its origin, and the potential impact on this species are currently unknown (Reynolds 2001, p. 11). Consequently, we are unable to assess the significance of this threat to the viability of *Eriogonum diatomaceum*.

Although plants have been observed to be grazed (BLM 2003, p. 5), no information was provided on the extent of the herbivory. No significant herbivore damage was noted by Reynolds at any of the occurrences (2001, p. 12). Herbivory is not thought to pose a significant threat to the species at this time.

D. The inadequacy of existing regulatory mechanisms. All but one of the known *Eriogonum diatomaceum* occurrences is on public lands managed by the BLM; as a candidate species it is managed under the policies contained in their 6840 Manual, Release 6-125, newly revised as of December 12, 2008 (BLM 2008b). BLM policy is to manage candidate species as sensitive species, defined as “species that require special management or considerations to avoid potential future listing” (BLM 2008b, Glossary p. 5). The stated objective for sensitive species is to initiate proactive conservation measures that reduce or eliminate threats to minimize the

likelihood of and need for listing (BLM 2008b, 6840.02). Conservation, as it applies to BLM sensitive species, is defined as “the use of programs, plans, and management practices to reduce or eliminate threats affecting the status of the species, or improve the condition of the species’ habitat on BLM-administered lands” (BLM 2008b, Glossary p. 2).

Mineral entry is authorized by the Mining Law of 1872 (Mining Law), as amended (17 Stat 91; 30 U.S.C. 22-54). The Mining Law and its amendments govern the exploration for and extraction of locatable minerals by claimants on public land. The Mining Law guides the Mining Law Administration program managed by the BLM which primarily involves the recordation of mining claims and sites, maintenance (annual work/surface management) of mining claims and sites, and mineral patents (43 CFR 3812). Federal mineral estate falls into one of three categories: locatable, leasable, and salable minerals. Preparing a list of locatable minerals is difficult because the history of the law has resulted in a definition of minerals that includes economics. Any mineral may become locatable if it meets the definition of “valuable mineral deposit” under the Mining Law and the definition of “locatable mineral” (43 CFR 3812.1). In Nevada, the BLM considers diatomaceous earth to be a locatable mineral (BLM 2007).

Federal regulations that apply to locatable mineral entry activities impose reasonable control to prevent undue or unnecessary degradation, but not to prevent, or unduly hinder, mineral entry activities (43 CFR 3809). Federal surface management regulations recognize three levels of operation with increasing requirements. These levels of operation and their requirements are: 1) Casual use by operator who does negligible disturbance and does not use mechanized earth-moving equipment (43 CFR 3809.1-2). No notice or plan is required and the operator does not need to contact the administering agency before proceeding with mineral entry activities; 2) Surface alteration of 5 ac (1.67 ha) or fewer during any calendar year (43 CFR 3809.1-2). A written notice must be submitted to the administering agency 15 days prior to starting operations; this notice must describe the operation, location, and access, and must contain a statement that the lands will be reclaimed to standards specified in the regulations, but no notice of approval is required before proceeding; 3) Surface disturbance of more than 5 ac (1.67 ha), or if operations are proposed in designated Wild and Scenic River Areas, Areas of Critical Environmental Concern (ACEC), or OHV closed areas (43 CFR 3809.1-3). A plan of operation must be submitted to the administering agency describing the entire operation, equipment to be used, location of access, support facilities, drill sites, measures to prevent undue degradation, and a reclamation plan. The administering agency must approve the plan before the operation may proceed.

Earlier mining operations and recent proposals have followed the last process with plans of operation filed with the Carson City Field Office of the BLM. The 1999 proposal was evaluated in an EA (BLM 1999). Although the decision record for the 1999 EA stipulated that all populations of all buckwheat species (*Eriogonum diatomaceum* had not been formally described at the time) were to be avoided and areas to be avoided were to be identified with flagging or fencing, an estimated 530 plants may have been lost without mitigation being required (BLM 2003, p. 6). Two Notices of Operation have been filed since then with the BLM on claims within which lies much of the largest known occurrence of the species (W.H. Byrd Minerals,

Inc., 2003a, b). The BLM notified the applicant of the status of the plant species (BLM 2003, p. 6) and requested that the applicant relocate their mining operation to diatomaceous earth deposits outside of *E. diatomaceum* habitat to avoid unnecessary and undue habitat degradation (BLM 2003, p. 7). Both of the Notices of Operation provide a reclamation plan; the applicant indicated that the proposed operations would cause no undue degradation based on the 1999 EA, which was prepared for a different but similar action in the same area (W.H. Byrd Minerals, Inc. 2003a, b, c). After exploratory activities in nearby areas, the application was withdrawn and mineral development affecting the Churchill Narrows no longer appears imminent (Erbes 2008).

In 2006, the grazing system on the allotment where *Eriogonum diatomaceum* occurs was changed from one that authorized 135 cattle year-around to one which authorizes 184 cattle from September 1 of any given year through March 31 of the following year and reduces the number of cattle to 67 between April 1 and August 31. While the total number of AUMs (1,620) remains the same, the stocking rate is reduced by 50 percent during the period when *E. diatomaceum* is non-dormant. This action results in fewer livestock present during the growth period of *E. diatomaceum*. As noted previously, the sparsely vegetated habitat where the plant occurs does not get excessive use from livestock but trampling by wild horses would be a concern if their numbers were to increase (BLM 2006, p. 13). We believe that this action by the BLM reduces the significance of the threat that trampling by livestock poses to the plant, but are unable to assess the significance of the threat of trampling posed by wild horses at this time.

An ACEC nomination to protect the occupied and potential habitat for the plant on about 5,900 ac (2,388 ha) has been prepared (BLM 2003, p. 7), and signed by BLM (Tonenna 2004). The ACEC nomination has been considered as part of an amendment to the Pine Nut Mountain Land Use Plan; an administrative draft of the plan amendment and the draft Environmental Impact Statement (EIS) recently provided to the Service includes a 5,560 ac (2,250 ha) Churchill Narrows Buckwheat ACEC in all of the action alternatives (BLM 2008b, pp. 2-17). The proposed ACEC would include all 15 of known occurrences of *Eriogonum diatomaceum* and adjacent diatomaceous earth outcrops to allow for expansion of the plant's limited population into the surrounding suitable habitat (BLM 2008a, pp. 2-17).

The proposed management actions for the ACEC include: pursuing a mineral withdrawal for the ACEC; limiting OHV travel in the ACEC to designated roads and trails; authorizing no new surface-disturbing activities, subject to existing valid rights; and considering acquisition of non-Federal lands in the vicinity of the ACEC identified as sites that have similar or potential habitat or have occurrences of the plant (BLM 2008a, pp. 2-17). While the area within the ACEC would be withdrawn from mineral resource exploration, development, and extraction by new claimants, mineral withdrawals are subject to valid existing rights of the mining claimant. Therefore, these types of activities could occur despite the mineral withdrawal (BLM 2008c, pp. 4-50). The BLM has tabled the plan amendment until 2010 (BLM 2008c, p. 1).

Eriogonum diatomaceum was added to the Nevada State List of critically endangered and threatened plants under Nevada Revised Statutes 527.260 *et seq.* in 2003 (Nevada Natural Heritage Program 2003). Under State law, the species may not be removed or destroyed except under special permit issued by the State Forester, Nevada Division of Forestry. In the course of

issuing permits, efforts are typically made to minimize or eliminate deleterious effects on State-listed species through project modifications. The adequacy of this law depends on informed and cooperative landowners, or on deterrent enforcement. However, there are no State protocols in place informing landowners of the presence of critically endangered and threatened plant species on their lands, and deterrent enforcement does not currently exist.

Summary of Factor D.

While *Eriogonum diatomaceum* is protected under State of Nevada law and as a candidate species is managed as a sensitive species by the BLM, mining remains a significant potential threat to its habitat in the foreseeable future. An area which includes all 15 known populations of *E. diatomaceum* has been proposed as an ACEC. Although the proposal would include a withdrawal from new mineral entry, the withdrawal would remain subject to valid existing rights of the claimant. Therefore, although mineral development of the site no longer appears imminent, habitat for the plant will remain at risk from future mining activities that may occur under valid existing rights.

E. Other natural or manmade factors affecting its continued existence. Invasive annual weeds, including *Bromus tectorum* (cheatgrass) and *Descurainia pinnata* (tansy mustard) are present with very low cover in several occurrences (Reynolds 2001, Table 1, Appendix 1, p. 1), but are not considered to be a direct competitive threat to *Eriogonum diatomaceum*, presumably because the specialized habitat is not conducive to their spread. They may, however, pose an indirect threat by contributing to the flammability of the surrounding vegetation and increasing the likelihood and frequency of fires and the need for fire suppression (Reynolds 2001, p. 12). Moreover, these observations were made in 1998 and 1999, years of low precipitation and dry conditions. Precipitation was greater and conditions were wetter in 2005 and 2006. The BLM (2006, p. 11) indicated that no noxious weeds were present in any of their monitoring plots and cheatgrass was a very small component of the habitat. At this time, we do not believe that invasive weeds comprise a significant threat to the species or its habitat.

CONSERVATION MEASURES PLANNED OR IMPLEMENTED

Currently, no conservation strategies or agreements exist for *Eriogonum diatomaceum*. As noted above, portions of the Churchill Narrows area have been nominated for designation as an ACEC to provide added protection to the species and its habitat. The decision on the ACEC designation will be made as part of a larger Pine Nut Mountains plan amendment that has been circulated as an administrative draft (BLM 2008a). The BLM has tabled the plan amendment until 2010 (BLM 2008c, p. 1).

SUMMARY OF THREATS

Eriogonum diatomaceum is a highly localized endemic restricted to a specific mineral substrate of economic value. The most significant threat is development of this mineral resource. Additional potential threats to the species include trampling by domestic livestock, wild horses, or other wildlife, damage from OHVs, a rust disease, and the potential for an increase in non-

native weeds to alter fire frequency and intensity in its habitat. We have no data on which to assess the significance of these potential threats. We find that *E. diatomaceum* is warranted for listing throughout all its range and, therefore, find that it is unnecessary to analyze whether it is threatened or endangered in a significant portion of its range.

For species that are being removed from candidate status:

___ Is the removal based in whole or in part on one or more individual conservation efforts that you determined met the standards in the Policy for Evaluation of Conservation Efforts When Making Listing Decisions (PECE)?

RECOMMENDED CONSERVATION MEASURES

If the owner of the mineral rights can be persuaded to voluntarily relinquish his rights, all lands supporting the species should be withdrawn from mineral entry when the ACEC is established.

LISTING PRIORITY

THREAT			
Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	5
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

Rationale for listing priority number:

Magnitude: Direct and indirect impacts to *Eriogonum diatomaceum* from mining activities have taken place in the recent past and are expected to increase in the future. The demand for production of high quality diatomite is increasing as more applications for its use are developed. Threats to the species and its habitat occur range-wide, occurrences are small and no enforceable regulatory mechanisms are in place to protect this species throughout its range. The economic value of the mineral deposits on which the species depends produces a threat of high magnitude. The diatomite deposits may be determined to be locatable under the Mining Law of 1972, in which case staking of patenting of mining claims would be possible. The magnitude of

threats from trampling by livestock and off-road vehicles are not quantifiable at present because of lack of data but are not believed to be significant.

Imminence: Threats to *Eriogonum diatomaceum* from mining are no longer considered imminent. A Notice of Operation for the exploration and development of a mining claim within the largest occurrence of the species previously filed with the BLM has been withdrawn. The effects of livestock grazing and other land use activities remain unknown. Although livestock grazing in the allotments where the species occurs year around, the spring livestock numbers have been reduced in the Adriance Valley Allotment where the largest population of *E. diatomaceum* occurs. Impacts from trampling and other land use activities are likely localized and cumulative over time and, therefore, do not constitute an imminent threat to the persistence of the species.

____ Have you promptly reviewed all of the information received regarding the species for the purpose of determining whether emergency listing is needed? Yes

Is Emergency Listing Warranted? Not at this time. The BLM is actively working to gain more protection for *Eriogonum diatomaceum* and its habitat through designation of an ACEC in the Churchill Narrows. Although mining claims exist throughout much of the species' habitat, there is no current proposal to initiate mining activity. Should mining be proposed, the Service will reevaluate the need to emergency list the species.

DESCRIPTION OF MONITORING

In 2004, the BLM received funding to develop a monitoring protocol, and permanent plots were installed in 2005 to monitor the status of the population. Several years of data have collected (Tonenna 2007, p. 1), but these data have not been provided to the Service.

COORDINATION WITH STATES

Indicate which State(s) (within the range of the species) provided information or comments on the species or latest species assessment: Nevada

Indicate which State(s) did not provide any information or comments: None
The State of Nevada does not consider plants in its State Wildlife Action Plan.

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W.H. Byrd Minerals, Inc. 2003b. Notice of Operations for Snowflake 5 and 6 claims. Submitted on November 14, 2003, to the Bureau of Land Management, Carson City Field Office, Carson City, Nevada. 8 pp.

W.H. Byrd Minerals, Inc. 2003c. Letter dated July 23, 2003, to the Assistant Field Manager, Carson City Field Office, Bureau of Land Management, Carson City, Nevada. 2 pp.

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes, including elevations or removals from candidate status and listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all resubmitted 12-month petition findings, additions or removal of species from candidate status, and listing priority changes.

Approve:


Regional Director, Fish and Wildlife Service

6/15/09
Date

Concur:

Director, Fish and Wildlife Service

Date

Do not concur:

Director, Fish and Wildlife Service

Date

Director's Remarks:

Date of annual review: April 2009

Conducted by: Steve Caicco

FY 2009, R8 Churchill Narrows buckwheat