

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

SCIENTIFIC NAME: *Eriogonum diatomaceum*

COMMON NAME: Churchill Narrows buckwheat

LEAD REGION: CNO

INFORMATION CURRENT AS OF: April 2007

**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

**FOR PETITIONED CANDIDATE SPECIES:**

a. Is listing warranted (if yes, see summary of threats below)?

b. To date, has publication of a proposal to list been precluded by other higher priority listing actions?

c. If the answer to a. and b. is "yes", provide an explanation of why the action is precluded.

☐ Listing priority change

Former LP: ☐

New LP: ☐

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 of the occurrences of *E. diatomaceum* are located on public lands managed by the BLM, Carson City Field Office.

LEAD REGION CONTACT: California/Nevada Operations Office: Andy DeVolder, (916) 978-6183, [andy\\_devolder@fws.gov](mailto:andy_devolder@fws.gov)

LEAD FIELD OFFICE CONTACT: Nevada Fish and Wildlife Office: Steve Caicco, (775) 861-6341, [Steve\\_Caicco@fws.gov](mailto: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 Range 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).

Taxonomy. This species was discovered in 1997 during surveys conducted for a proposed mining project and was recently 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, which is characterized by broad, irregularly shaped valleys interspersed among low mountain ranges of relatively short length with a mean annual precipitation of about 4.5 inches (11.4 centimeters) (Holmgren 1972). *Eriogonum* is comprised of about 250 species (Reveal 2007) and is the second largest genus in the intermountain region (Reynolds 2001). We have carefully reviewed the available taxonomic

information to reach the conclusion *Eriogonum diatomaceum* is a valid taxon.

Habitat/Life History. Until recently, *Eriogonum diatomaceum* was thought to be 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); in January, 2007, a second locality was discovered, also on diatomaceous outcrops, about 25 miles (mi) 40 kilometers (km) northwest of the Churchill Narrows site (Dean Tonenna, Carson City Field Office, Bureau of Land Management, pers. comm., 2007). The major components of the outcrops at the type locality are fossil diatoms (amorphous silica), calcium montmorillonite, feldspar, and gypsum (Reveal *et al.* 2002, p. 88-89).

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). 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).

*Eriogonum diatomaceum* likely begins flowering in 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 late October (Reynolds 2001, p. 100). No studies have been conducted on the reproductive biology of *Eriogonum diatomaceum* but most species of Eriogonum are thought to rely on insect-mediated pollen exchange (Morefield 1996); 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 includes 15 discrete occurrences over an area of approximately 97 acres (ac) (39.3 hectares (ha)) in the Churchill Narrows area. These occurrences are all on lands managed by the Bureau of Land Management (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). No size data is available on the newly discovered site, but it is thought to be a small, single occurrence located on both BLM and private land in the vicinity of an active mining operation (D. Tonenna, pers. comm. 2007)

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). The recent discovery of a new population suggests that other undiscovered populations may still exist.

Current Range/Distribution. The Churchill Narrows buckwheat was only recently described and its current range is the same as described under the previous section. The newly located occurrence is adjacent to a diatomite mining operation that has been in existence for many decades and it is possible that it was once more extensive.

Population Estimates/Status. As stated above, *Eriogonum diatomaceum* is known from only two populations, one of which has 15 distinct occurrences and the other is thought to be only a single occurrence. 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). The total number of individuals was determined by performing direct counts within the boundaries of each of the smaller 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 three years of data have been collected (D. Tonenna, pers. comm. 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 the 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). The production of diatomite in the United States accounts for 32 percent of the 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 (D. Tonenna, pers. comm., 2003; Jody Fraser, Service, pers. obs., 2003). In the Churchill Narrows area, the habitat within 11 of the 15 occurrences of *Eriogonum 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) resulted in the loss of an estimated 500 plants; the exploration site was recontoured and seeded but nothing has grown on the site since it was disturbed (BLM 2003, p 6).

This site has since been 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 2003, 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 access road (W.R. Byrd Minerals 2003, p. 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). Several other claims have been made in the vicinity and further losses of habitat and individuals from mining activities and associated road development and maintenance may ultimately impact the long-term viability and lead to extirpation of the species at this site.

In addition to minerals exploration and development, potential threats are posed to the Churchill Narrows buckwheat 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 *Eriogonum 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 that contain 1,620 animal unit months (AUMs) (BLM 2006, pp. 5). The proposed action was to modify the year-round operation 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 the Churchill Narrows buckwheat and because livestock do not excessively use the sparsely vegetated areas characteristic of the 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). There is 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 *Eriogonum diatomaceum*.

Road development or OHV activity has been noted as a threat to four of the occurrences (Reynolds 2001, Table 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 Churchill buckwheat occurrences (BLM 2003). An organized OHV event occurs within 1 mi (1.6 km) of several occurrences (Reynolds 2001, p. 12) and increasing signs of OHV activity is occurring on some sites (D. Tonenna, pers. comm. 2007). However, 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 threat to the species and, in particular, to the largest known occurrence. Impacts from trampling by livestock, wild horses, and other wildlife, and off-road

vehicles is 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 (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* is on public lands managed by the BLM, which considers it a Special Status Species, currently managed under the policies contained in their 6840 Manual. BLM policy is to provide these species with the same level of protection as is provided for candidate species in BLM Manual 6840.06 C, which is to ensure that actions authorized, funded, or carried out do not contribute to the need for the species to become listed.

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 (BLM 1999). 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). The discovery of a valuable (i.e., commercially viable) mineral deposit must be verified by a Federal mineral examiner. For these reasons, it is easier to list minerals that are not locatable (BLM 1999). Some exceptional clays may be classified as locatable.

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 FR 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, or off-road vehicle 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.

Mining operations previously or current proposed 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 Environmental Assessment (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 500 plants may have been lost without mitigation being required (BLM 2003, p. 6). Two Plans 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 to relocate their mining operation to diatomaceous earth deposits outside of the Churchill Narrow buckwheat habitat to avoid unnecessary and undue habitat degradation (BLM 2003, p. 7). Both of the current notices of operation provide a reclamation plan; the applicant has indicated that the proposed operations will cause no undue degradation based on the 1999 EA, which prepared for a different but similar action in the same area (W.H. Byrd Minerals, Inc. 2003a,b,c).

An Area of Critical Environmental Concern (ACEC) Nomination to protect the occupied and potential habitat for the plant species on about 5,900 acres has been prepared (BLM 2003, p. 7), and signed (D. Tonenna, pers. comm., 2004). The ACEC nomination will be considered as part of an amendment to the Pine Nuts Land Use Plan (Tonenna 2004), which is currently on hold (D. Tonenna, pers. comm., 2007). As noted above, ACEC designation would not necessarily preclude mineral entry. It is unlikely that any mineral withdrawals would be included in the ACEC designation unless existing claims were voluntarily relinquished by the claimants. Without eliminating mineral extraction as a threat, the habitat would still be at risk of exploration and development but with a stipulation that an environmental assessment would be required because of the land status as an ACEC.

*Eriogonum diatomaceum* is was added to the Nevada State List of critically endangered and threatened plants under Nevada Revised Statutes 527.260 *et seq.* in 2003 (NNHP 2003). Under State law, the species may not be removed or destroyed except under special permit issued by NDF, State Forester. 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 species on their lands, and deterrent enforcement does not currently exist.

#### Summary of Factor D.

While the Churchill Narrows buckwheat is protected under State of Nevada law and managed as a Special Status Species by the BLM, mining remains a significant threat to its habitat and will remain so until action is taken by the BLM that eliminates this threat.

E. Other natural or manmade factors affecting its continued existence. Invasive annual weeds, including cheatgrass (*Bromus tectorum*) and tansy mustard (*Descurainia pinnata*) are present with very low cover in several occurrences (Reynolds 2001, Table 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; 2005 and 2006 were wetter, but we have no information on the abundance of weeds during these years. Therefore, we are unable to assess the significance that weeds poses 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 Area of 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 is currently on hold. (D. Tonenna, pers. comm., 2004, 2007).

#### SUMMARY OF THREATS (including reasons for addition or removal from candidacy, if appropriate)

*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 off highway vehicles, a rust that affects the species, 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 *Eriogonum 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.

## LISTING PRIORITY

THREAT			
Magnitude	Immediacy	Taxonomy	Priority
<b>High</b>	<b>Imminent</b>	Monotypic genus	1
		<b>Species</b>	<b>2</b>
		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. 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, trampling by livestock, and other

land uses are considered imminent. A Notice of Operation for the exploration and development of a mining claim within the largest occurrence of the species has been filed with the BLM. In addition, livestock grazing in the allotments where the species occurs is year around, although the spring livestock numbers have been reduced in the Adriance Valley allotment where the largest population occurs.

Rationale for Change in Listing Priority Number (insert if appropriate)

\_\_\_\_ 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 this *E. diatomaceum* and its habitat through designation of an ACEC in the Churchill Narrows area and negotiating with the mining proponent to avoid occupied habitat. Should these measures fail, 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 are being installed in 2005 to monitor the status of the population. Three years of data have now been collected (D. Tonenna, pers. comm., 2007), 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: None

Indicate which State(s) did not provide any information or comments:

#### LITERATURE CITED

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Tonenna, D. 2004. Personal Communication. Notes from a telephone conversation on June 1, 2004, with Jody Fraser, U.S. Fish and Wildlife Service, Reno, Nevada. 1 pp.

Tonenna, D. 2007. Personal Communication. Notes taken on April 3, 2007, at the Annual Nevada Rare Plant Workshop, Las Vegas, Nevada, by Steve Caicco, U.S. Fish and Wildlife Service, Reno, Nevada. 1 pp.

W.H. Byrd Minerals, Inc. 2003a. Notice of Operations for Snowflake 1A, 2A, 3A, and 4A claims. Submitted on January 17, 2003 to the Bureau of Land Management, Carson City Field Office, Carson City, Nevada. 9 pp.

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 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

8/16/2007  
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 2007  
Conducted by: Steve Caicco