

**J.4. Alton Coal Tract Special Status Plant Species
Clearance Survey Report**

ALTON COAL TRACT SPECIAL STATUS PLANT SPECIES CLEARANCE SURVEY REPORT

INTRODUCTION

The Alton Coal Tract is in Kane County, Utah, approximately 0.10 mile south of the town of Alton and 2.9 miles east of U.S. Route 89 (US-89). The tract occurs at approximately 6,900 feet above sea level in the semiarid foothills of the Colorado Plateau Semidesert Province (Woods et al. 2001) of south-central Utah. Vegetation in the tract is predominantly pinyon-juniper woodlands (40.2%), with large areas of sagebrush/grassland (24.1%) and sagebrush/grassland (treated) (20.9%), and more limited distribution of annual and perennial grasses (9.1%), mountain brush (1.8%), meadow (1.8%), riparian (1.5%), and rabbitbrush (0.3%) vegetation communities (detailed discussion of each vegetation community is presented in Section 3.15.2 of the SDEIS). These vegetation communities are typical of the surrounding Colorado Plateau vegetation. Numerous plant species have limited distributions in Kane County and nearby counties because of the area's unique geologic or soil conditions, or because of other habitat conditions that have contributed to rarity or restricted ranges.

Five federally listed plant species and 16 BLM-listed sensitive plant species are known to occur in Kane County, Utah. Of these, only a few are known to occur at the elevational range in the tract, and potential habitats are limited. Surveys for suitable habitat for special status plant species were conducted in November 2007, August 2008, and September 2008, and no potential habitats were identified. Because the conservation status and known distributions of both federally listed and BLM-listed plant species have changed since the 2008 surveys, additional potential habitat surveys were required to determine if currently listed special status species or their habitats occur in the tract. This report presents the current knowledge of special status plant species with potential to occur in Kane County, Utah, and the results of the June 2012 field surveys to validate the potential for special status plant species distributions in the tract.

METHODS

Federally Listed Plant Species

In their comments on the DEIS, the U.S. Fish and Wildlife Service indicated four federally listed species that are known to occur in Kane County, Utah: Welsh's milkweed (*Asclepias welshii*), Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesii*), Kodachrome bladderpod (*Lesquerella tumulosa*), and Siler pincushion cactus (*Pediocactus sileri*). In addition, Jones cycladenia (*Cycladenia humilis* var. *jonesii*) was added because it is listed in the USFWS *Federally Listed and Proposed Endangered, Threatened and Candidate Species and Critical Habitat in Utah – Species List by County* (USFWS 2012).

Consultation and Coordination with USFWS following Comments on the DEIS

SWCA consulted with biologists at the USFWS and BLM to determine the potential for the federally listed plant species listed for Kane County, Utah, (Table 1) to occur in the tract. Potential habitat distributions for these federally listed plant species was determined using geographic information systems (GIS) analysis of Southwest Regional Gap Analysis Project (SWReGAP) land cover types, vegetation communities delineated during 2007 field reconnaissance, elevational range, and surface geology. SWCA

identified Welsh’s milkvetch as having limited potential to occur in the tract, but further review of the species’ current distributions and habitat associations indicates that it is unlikely to be distributed in the tract (personal communication, Gubler 2012). Table 1 summarizes the distributions and habitat associations of the federally listed plant species known to occur in Kane County, Utah, and the rationale for eliminating these species from further analysis.

Table 1. Federally Listed Plant Species Potential to Occur in the Alton Coal Tract

Species Name/ Common Name	Status*	Location/Habitat (county—location; geologic stratum; plant community; elevation range)	Potential for Occurrence in the Alton Tract†
No Potential in Tract			
<i>Asclepias welshii</i> Welsh’s milkweed	T	Garfield, Kane—sand dunes; sagebrush, juniper, and ponderosa pine communities; 5,600–6,200 feet above mean sea level (amsl). June–early September. (UNPS 2003–2013).	None. Igneous gravel substrates and species’ elevational range do not occur in the tract (personal communication, Defreese 2012a).
<i>Cycladenia humilis</i> var. <i>jonesii</i> Jones cycladenia	T	Garfield, Kane—gypsiferous soils of the Chinle, Cutler, and Summerville formations; desert shrub and juniper communities; 4,400–6,000 feet amsl. Mid-May–June. (UNPS 2003–2013).	None. Potential habitats and the species’ elevational range do not occur in the tract (personal communication, Defreese 2012b).
<i>Eriogonum corymbosum</i> var. <i>nilesii</i> Las Vegas buckwheat	C	Kane—Paria River; Moenkopi formation, sandstone talus slopes, gypsiferous soils, burned or eroding basalt slopes; sparse vegetation; 650–2,800 feet amsl. Late September–early October. (Tilley 2012).	None. Potential habitat for the species does not occur in the tract (personal communication, Defreese 2012c).
<i>Lesquerella tumulosa</i> Kodachrome bladderpod	E	Kane—known only from the Kodachrome Flats area of the Paria River on white shale knolls; Utah juniper communities; 5,700 feet amsl. May–June. (Tilley et al. 2010).	None. Highly restricted local endemic. The species’ potential habitats and elevational range do not occur in the tract (Tilley et al. 2010).
<i>Pediocactus sileri</i> Siler pincushion cactus	T	Kane—gypsiferous clay and sandy soils derived from the Moenkopi Formation; desert shrub communities; 2,800–5,400 feet amsl. April–June. (USFWS 2008)	None. The species’ potential habitats and elevational range do not occur in the tract (USFWS 2008).

* Status: C = federal candidate; E = federally endangered; T = federally threatened.

† Occurrence: None = suitable and/or potential habitat for this species are unknown in survey area; Low = some suitable and/or potential habitat for this species, but populations unknown near survey area; Moderate = substantial suitable and/or potential habitat for this species, or know populations near, but unknown in survey area; High = populations known in survey area or immediate proximity.

BLM Sensitive Plant Species

The *INTERIM Bureau of Land Management Sensitive Plant Species List for Utah February 2011* provides guidance for the management of sensitive plant species occurring on BLM lands in Utah and is maintained by the BLM’s Utah State Office (BLM 2011). In accordance with Utah BLM Instruction Memorandum (IM) No. 2011-037, the updated sensitive plant species list became effective for BLM lands in Utah April 18, 2011. The *INTERIM Bureau of Land Management Sensitive Plant Species List for Utah February 2011* replaces the 2002 list. The 2011 list contains 16 sensitive plant species that are known to occur or have potential to occur in Kane County, Utah.

SWCA identified three BLM sensitive species as having limited potential to occur in the tract: Cronquist’s phacelia (*Phacelia cronquistiana*), pinnate spring-parsley (*Cymopterus beckii*), and escarpment milkvetch (*Astragalus striatiflorus*). Review of the current distributions and habitat associations for these species indicated that only *Phacelia cronquistiana* had potential to occur on the

tract. Before conducting clearance surveys, SWCA botanists met with BLM ecologist Kim Anderson, who recommended that surveys be conducted for *Phacelia cronquistiana*.

Table 2 summarizes all Utah BLM sensitive plant species known to occur in Kane County, their distributions and habitat associations, and the rationale for either retaining or eliminating each species from further analysis.

Table 2. Utah BLM Sensitive Plant Species Potential to Occur in the Alton Coal Tract

Species Name/ Common Name	Status	Location/Habitat (county—location; geologic stratum; plant community; elevation range)	Potential for Occurrence in the Alton Tract [†]
Moderate Potential			
<i>Phacelia cronquistiana</i> Cronquist's phacelia	S	Kane—clay outcrops; pinyon-juniper, sagebrush, and ponderosa pine communities; (5,700) 6,000–6,900 feet amsl. May–June. (UNPS 2003–2013)	Moderate. Potential habitats occur in the tract (personal communication, Gubler 2012). Surveyed in June 2012. No individuals were found during surveys of the tract and reference sites.
Low Potential			
<i>Cymopterus beckii</i> Pinnate spring-parsley	S	Kane (?)—sandy or stony soils, rock crevices and cliffs; pinyon-juniper, mountain brush, ponderosa/manzanita, conifer/oak and Douglas fir communities; 5,600–7,500 feet amsl. April–July (UNPS 2003–2013)	Low. Species is not known to occur in Kane County. Limited or no potential habitats in the tract (personal communication, Gubler 2012). No surveys performed.
<i>Astragalus welshii</i> Welsh's milkvetch	S	Garfield, Kane—igneous gravels; sagebrush, pinyon-juniper, and sagebrush-aspen communities; 7,000–9,200 feet amsl. May–early June. (UNPS 2003–2013)	Low. Potential habitats on igneous gravels do not occur in the tract (personal communication, Gubler 2012). No surveys performed.
<i>Astragalus striatiflorus</i> Escarpment milkvetch	S	Kane, Washington—Navajo Sandstone; sandy channels in ponderosa pine, sandy desert shrub, and pinyon-juniper; 4,900–6,600 feet amsl. May–June. (UNPS 2003–2013)	Low. Potential habitats and distribution may occur, but the species is not predicted to occur in the tract based on GIS-based predictive models (Krause 2012). No surveys performed.
No Potential in the Tract			
<i>Astragalus ampullarius</i> Gumbo milkvetch	S	Kane, Washington—clay soils of the Chinle and Tropic (?) shale formations; mixed desert shrub and juniper communities; 3,200–5,400 feet amsl. April–May. (UNPS 2003–2013)	None. Elevational range of the species is below the elevations present in the tract.
<i>Dalea flavescens</i> var. <i>epica</i> Hole-in-the-rock prairie clover	S	Garfield, Kane—sandstone bedrock and sandy soils; blackbrush and mixed desert shrub communities; 4,700–5,000 feet amsl. (No flowering dates published). (UNPS 2003–2013)	None. Elevational range of the species is below the elevations present in the tract.
<i>Euphorbia nephradenia</i> Utah spurge	S	Garfield, Kane—dark clay hills, blown sand, and stabilized dunes derived from Tropic shale and Entrada formations; mat saltbush, blackbrush, <i>Ephedra</i> , mixed salt desert scrub, and grassland communities; 3,800–4,800 feet amsl. June–August. (UNPS 2003–2013)	None. Elevational range of the species is below the elevations present in the tract.
<i>Haplopappus zionis</i> Cedar Breaks goldenbush	S	Garfield, Kane—Cedar Breaks (Claron limestone) formation; spruce-fir and ponderosa pine communities; 8,000–10,000 feet amsl. Mid-July–August. (UNPS 2003–2013)	None. Elevational range of the species is above the elevations present in the tract.

Table 2. Utah BLM Sensitive Plant Species Potential to Occur in the Alton Coal Tract

Species Name/ Common Name	Status*	Location/Habitat (county—location; geologic stratum; plant community; elevation range)	Potential for Occurrence in the Alton Tract†
<i>Jamesia americana</i> var. <i>zionis</i> Zion jamesia	S	Kane— hanging gardens, sandstone crevices, cliff sides and bases; pinyon-juniper, oak, and ponderosa pine communities; 3,900–6,600 (8,200) feet amsl. (No flowering dates published). (UNPS 2003–2013)	None. Potential habitats are not present in tract.
<i>Lupinus caudatus</i> var. <i>cutleri</i> Cutler lupine	S	Kane—pinyon-juniper woodland communities; 5,150 feet amsl. Mid-April–May. (UNPS 2003–2013)	None. Elevational range of the species is below the elevations present in the tract.
<i>Oenothera murdockii</i> Chinle evening primrose	S	Kane—red-purple or grey clay silty barrens of the Chinle and Moenkopi(?) formations; pinyon-juniper communities; 4,400–5,600 feet amsl. April–May. (UNPS 2003–2013)	None. Elevational range of the species is below the elevations present in the tract.
<i>Pediomelum epipsilum</i> Kane breadroot	S	Kane—Chinle and Moenkopi formations; pinyon-juniper woodland and desert shrub communities; 4,000–5,500 feet amsl. May–June. (UNPS 2003–2013)	None. Elevational range of the species is below the elevations present in the tract.
<i>Phacelia pulchella</i> var. <i>atwoodii</i> Atwood's pretty phacelia	S	Kane—Moenkopi and Carmel derived soils; pinyon-juniper, oak, sagebrush, ash, and serviceberry communities; 5,100–5,500 feet amsl. April–May. (UNPS 2003–2013)	None. Elevational range of the species is below the elevations present in the tract.
<i>Salvia columbariae</i> var. <i>argillacea</i> Chinle chia	S	Kane—saline clay silts and “gypsum boils” of the Chinle formation on alluvium or colluvium; sparse pinyon-juniper communities; 4,250–5,600 feet amsl. Mid-May–mid-June. (UNPS 2003–2013)	None. Elevational range of the species is below the elevations present in the tract.
<i>Sphaeralcea grossulariifolia</i> var. <i>fumariensis</i> Smoky Mountain mallow	S	Kane—Straight Cliffs, Tropic Shale, and Dakota formations on and near Smoky Mountain; matchweed, <i>Ephedra</i> , galleta, shadscale, and juniper communities; 4,400–5,400 feet amsl. April–June. (UNPS 2003–2013)	None. Elevational range of the species is below the elevations present in the tract.
<i>Thelypodopsis ambigua</i> var. <i>erecta</i> Kanab thelepody	S	Kane—clay soils derived from purple Chinle shales; Pinyon-juniper and desert shrub communities; 5,000–5,400 feet amsl. April–May. (UNPS 2003–2013)	None. Elevational range of the species is below the elevations present in the tract.
<i>Trifolium variegatum</i> var. <i>parunuweapensis</i> Variegated clover	S	Kane—sand seeps; pinyon-juniper and ponderosa pine communities; 4,200–5,905 feet amsl. (No flowering dates published). (UNPS 2009; UNPS 2003–2013)	None. Elevational range of the species is below the elevations present in the tract.

* Status: C = federal candidate; E = federally endangered; T = federally threatened.

† Occurrence: None = suitable and/or potential habitat for this species are unknown in survey area; Low = some suitable and/or potential habitat for this species, but populations unknown near survey area; Moderate = substantial suitable and/or potential habitat for this species, or know populations near, but unknown in survey area; High = populations known in survey area or immediate proximity.

Clearance Survey Results

Presence/absence surveys for *Phacelia cronquistiana* were conducted by SWCA botanists on June 25 and 26, 2012. Clearance surveys followed the protocols established in the *U.S. Fish and Wildlife Service Utah Field Office Guidelines for Conducting and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed and Candidate Plants* (USFWS 2011). Under these guidelines, SWCA conducted clearance surveys for plants within suitable habitats (pinyon-juniper and sagebrush communities) on the

Alton Coal Tract. Clearance surveys included the tract and all potential habitats within a 300-foot buffer of the tract boundary.

No individuals of *Phacelia cronquistiana* were found in the tract or at two reference populations visited before the site surveys. The species absence at the reference populations may have been due to the very hot and dry early growing season of 2012, which may have limited or prevented the germination and/or growth of this annual flowering plant.

SUMMARY

Of the five federally listed and 16 BLM sensitive plant species known to occur in Kane County, Utah, one species, *Phacelia cronquistiana* (BLM sensitive), was identified as warranting surveys of potential habitats in the Alton Coal Tract. Surveys for *Phacelia cronquistiana* in pinyon-juniper and sagebrush vegetation communities were conducted on June 26 and 27, 2012. No individuals were found either on the tract or during site visits to reference sites. The absence of the annual forb from the reference sites may have been due to the very hot and dry conditions during the early 2012 growing season.

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