



United States Department of the Interior  
FISH AND WILDLIFE SERVICE

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In Reply Refer To  
FWS/R6  
ES/UT

December 20, 2006

Mr. Jim Karpowitz, Director  
Utah Division Wildlife Resources  
1594 West North Temple  
Salt Lake City, Utah 84116

Mr. Kevin Carter, Director  
Utah School and Institutional Trust Lands Administration  
675 East 500 South, Suite 500  
Salt Lake City, UT 84102

Mr. John Njord, Executive Director  
Utah Department Transportation  
4501 South 2700 West  
Mailstop 141200  
Salt Lake City, UT 84114-1200

RE: Deseret Milk-vetch Conservation Agreement

Dear Mr. Karpowitz, Mr. Carter, and Mr. Njord:

Enclosed is the final signed Conservation Agreement (CA) for the Deseret milk-vetch, for which all of our agencies are signatory. We would like to express our sincere thanks to all parties involved in the development and implementation of this CA. Agency staff, in particular, Mike Canning, UDWR; LaVonne Garrison, SITLA; and Paul West, UDOT, were instrumental in development of the CA, as I am sure other members of your agency assisted with internal review processes.

The CA is intended to facilitate a coordinated effort between our agencies to ensure the long-term survival and conservation of this plant, which occurs on a relatively small area of 345 acres in the Thistle Creek watershed, immediately east of the town of Birdseye in southern Utah County, Utah. All parties to this agreement share surface or subsurface ownership of lands within the species known range.

We appreciate your interest in conserving and recovering endangered species. We will be contacting you in the near future to initiate a coordinated approach for the successful long-term implementation of this CA. If further assistance is needed or you have any questions, please contact Laura Romin (ext. 142) or Larry England (ext. 138), at (801) 975-3330.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry Crist", written in a cursive style.

*for* Larry Crist  
Utah Field Supervisor

Enclosure

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**Conservation Agreement**  
for  
Deseret Milk-vetch (*Astragalus desereticus*)

**Utah Division of Wildlife Resources  
Utah Department of Transportation  
Utah School and Institutional Trust Lands Administration  
U.S. Fish and Wildlife Service**

October 10, 2006

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# 1. Introduction

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## Species Description

The Deseret milk-vetch (*Astragalus desereticus*) is a distinctive plant in the bean family. Deseret milk-vetch is a perennial, herbaceous, subcaulescent (almost stemless) plant (Barneby 1989). Individual plants are about 2-6 inches (5.08-15.24 cm) in height, and arise from the base of an herbaceous stem. Stems are about 2 inches (5.08 cm) tall. The pinnately compound leaves (feather-like arrangement with leaflets displayed on a central stalk) are 2-4 inches (5.08-10.16 cm) long with 11-17 leaflets. Leaflets are elliptical to ovate in shape, with a dense, silvery gray pubescence (short hairs) on both sides. Seed pods are 0.4-0.8 inches (1.02-2.03 cm) long and densely covered with lustrous hairs. The petals of the flowers are whitish except for pinkish wings and a lilac keel-tip. This species resembles *A. piutensis* (Sevier milk-vetch) in habit, but is more loosely pubescent with mixed straightish and sinuous hairs with gray-silvery foliage (Barneby 1989).

The flowering plant genus *Astragalus* is the largest genus of vascular plants on earth (Mabberley 1997). With the common names "milk-vetch" or "locoweed" (family Fabaceae or Leguminosae), the genus contains over 2,000 species, world-wide in distribution, although primarily found in the northern hemisphere (Barneby 1989; Zomlefer 1994). Many *Astragalus* species are narrow endemics, while relatively few are widespread. Within this cosmopolitan genus, Deseret milk-vetch is one of 23 milk-vetches listed as federally endangered or threatened (USFWS 2006). As a genus, *Astragalus* are believed to be typically suited to moderately moist environments; their proliferation into dry climates and otherwise unfavorable microhabitats is a more recent phenomenon which has produced many geographically restricted genotypes (Barneby 1989).

## Habitat

The species habitat is narrowly restricted to steep, sandy bluffs (Barneby 1989) associated with south and west facing slopes (Franklin 1990) within the Moroni Formation. This formation consists of conglomerate beds that are crudely bedded and commonly poorly sorted containing volcanic cobbles and pebbles, well-rounded tan quartzite, dark-blue limestone, and sandstone. Outcrops vary in composition but include tuff, breccia, and conglomerate of volcanic origin along with siltstone. Soils derived from this exposure of Moroni Formation are stony sandy loams (Witkind and Weiss 1985). The plant is found between 5400 and 5600 feet in elevation (Franklin 1990).

Vegetation within the range of the species is an open to sparse woodland overstory dominated by two-needle pinyon pine (*Pinus edulis*) and Utah juniper (*Juniperus osteospermum*) associated with big sage (*Artemisia tridentata*), Gambel's oak (*Quercus gambelii*), wild buckwheat (*Eriogonum brevicaulis*), Indian rice grass (*Stipa hymenoides*), needlegrass (*S. comata*), *Purschia tridentata*, and *Penstemon scariosus* (Franklin 1990). The more robust plants grow on lower elevations beneath the rocky outcrops (R. England, pers. comm. 2006) where the high rate of soil erosion processes place the

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habitat in a state of "continual succession" indicating little likelihood that this population would ever become threatened through competitive exclusion by the adjoining overstory. Large and vigorous plants are present on the adjoining road cuts above Highway 89 (Stone 1992). Surveys have been conducted in areas surrounding the known range of this species and additional populations have not been located (England 1991). Many species of *Astragalus* are adapted to harsh, xeric, edaphic conditions (Barneby 1964) which suggests that *A. desereticus* is restricted to the ecological conditions present within its current known range (Stone 1992).

Generally, the habitat continues to be intact and little has changed from the early 1990's when Deseret milk-vetch monitoring activities were first initiated. Stone (1992, p. 8) believed that the population was not subject to any deterministic threats (i.e., habitat destruction or attempts at eradication) requiring control. There are currently no plans for highway widening that may affect Deseret milk-vetch populations on Utah Department of Transportation (UDOT) right-of-way. However, a new house has been constructed on a flat bench on private ownership within the range of Deseret milk-vetch.

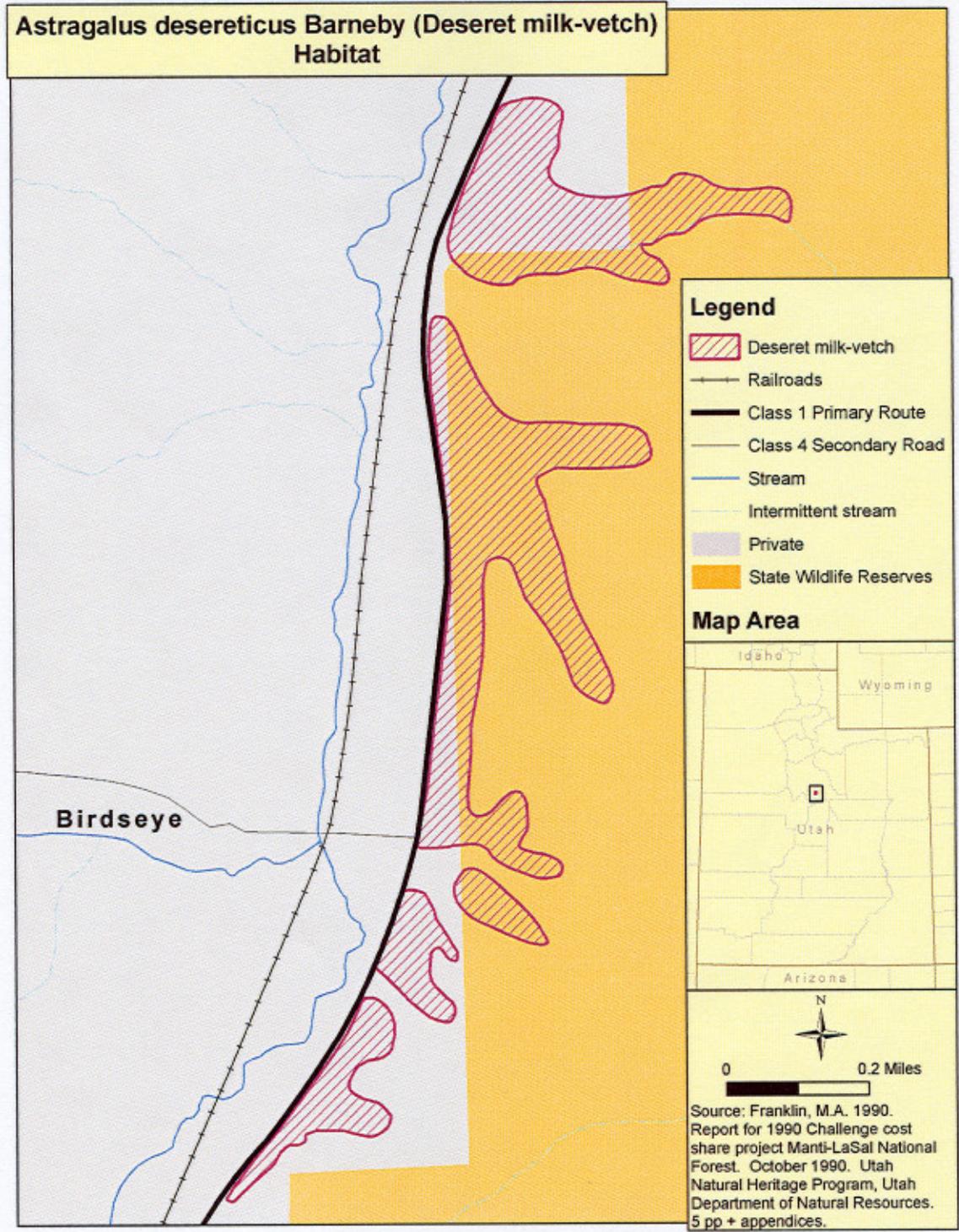
#### Status and Distribution

Deseret milk-vetch was first collected by Marcus E. Jones "below Indianola" in Sanpete County, Utah on June 2, 1893. On May 27, 1981, Elizabeth Neese discovered a population of *A. desereticus* on a sandstone outcrop above the town of Birdseye, Utah County, Utah, less than 6.2 kilometers (km) (10 miles (mi)) from Indianola (Welsh and Chatterley 1985). This population remains the only known occurrence of the species (Franklin 1990, 1991, Service 1991).

The current known range of the Deseret milk-vetch is limited to the Birdseye population (Stone 1992) which occupies an area approximately 1 mile long and 0.3 mile wide. Spatially, the milk-vetch occupies about 345 acres of land in the Thistle Creek watershed, immediately east of the town of Birdseye in southern Utah County, Utah. Of the approximately 345 acres of land occupied by Deseret milk-vetch, 230 acres is owned by the Utah Division Wildlife Resources (UDWR) [Birdseye Unit of the Northwest Manti Wildlife Management Area (WMA)], 25 acres is owned by UDOT and 90 acres exist on private lands owned by several landowners (Figure 1).

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Figure 1. Deseret Milk-Vetch Land Ownership<sup>1</sup>



<sup>1</sup> UDOT lands occur along the right-of-way associated with the Class 1 Primary Route on the map.

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The last comprehensive species surveys and monitoring investigations were conducted in the early 1990's. Franklin (1990) surveyed the population in May 1990 and estimated the population at fewer than 5000 plants. Stone (1992) surveyed the population in late May 1992 and reported that the population had grown to more than 10,000 plants, providing a basis that a substantial seed bank exists in the soil. He reported that the northern portion of the population appeared the same as in 1990, but high densities of seedlings and young milk-vetch plants occurred locally in the southern portion.

### Life History

Little is known regarding the life history of Deseret milk-vetch. Flowering and seed set occur in May and June (Barneby 1989). Monitoring investigations in 1993 (Humphrey 1993) showed that of 2356 Deseret milk-vetch plants recorded on 6 plots, 70% of them were seedlings, illustrating that substantial recruitment of seedlings was occurring. Mature plants were producing between 6.4 and 38.7 fruits per mature plant in 1993 (Humphrey 1993). This reproductive information, although not long-term, suggests that reproduction has successfully occurred and recruitment into the population is occurring.

Pollinators of the Deseret milk-vetch are thought to include bumblebees (*Bombus* spp.) because the structure of the flower indicates an adaptation to pollination primarily by large bees (Stone 1992). Based on studies of both widespread and rare *Astragalus* (Baskin et al. 1972, Sugden 1985), the most frequent pollinators are bumblebees. Bumblebees usually nest in abandoned rodent burrows and pollinate milk-vetch indiscriminately with other flowering plants (England, 2006b).

### Regulatory History

Deseret milk-vetch was proposed as an endangered species in 1976 (41 FR 24524). The species was again proposed for listing as a threatened species under the Act on January 28, 1998. Deseret milk-vetch was subsequently listed as a threatened species in 1999 (64 FR 56590). Threats to the species at the time of listing included small population size, restricted distribution, grazing by livestock and other impacts to its habitat (64 FR 56590). The U.S. Fish and Wildlife Service (FWS) was served with a lawsuit on July 5, 2005 for not identifying critical habitat for the milk-vetch. As party to settlement of this dispute, the FWS is required to submit for publication a new critical habitat determination for the milk-vetch by January 19, 2007. Conservation efforts are considered during the FWS's analyses of plant status and critical habitat designation.

## **2. Threats**

Threats to the species at the time of listing included small population size, restricted distribution, grazing by livestock and other impacts to its habitat (64 FR 56590). The UDWR acquired the Birdseye Unit of the Northwest Manti WMA in 1967, comprising a large portion of the species habitat. Prior to acquisition, livestock grazing had occurred for over 50 years in the vicinity (L. England, personal comm. Aug. 21, 2006). This may explain why attempts to locate the species were unsuccessful for decades. UDWR now

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controls all grazing rights on the property. Livestock grazing has been utilized as a management tool by UDWR, but only on a limited basis. Occupied habitat of the milkvetch is not considered to be suitable for livestock grazing, and thus impacts to the plants are negligible if they occur at all (A. Green, UDWR, email, October 10, 2006). Observations of the species and its habitat indicate that the species has rebounded since the acquisition of the WMA property, and is currently stable (J.L. England, pers. comm. 2006).

While the species distribution is still small and restricted, there has been little to no habitat disturbance in recent years, and potential threats are considered non-imminent. The species habitat (steep, rocky slopes) and range is generally not conducive to or currently threatened with conversion or destruction due to impending development. One house has been built on part of the range and has affected < 2 acres of occupied habitat; however, additional development is not anticipated on this parcel. There is no evidence that grazing by wildlife or livestock is negatively impacting Deseret milk-vetch populations. Potential for highway widening that may affect populations on UDOT right-of-way are at least 15-20 years in the future, and there is adequate right-of-way space to minimize impacts to Deseret milk-vetch plants. We do not have any information to suggest that mineral development is imminent. The Utah School and Institutional Trust Lands Administration (SITLA) owns the mineral rights on most of the lands occupied by the Deseret milk-vetch in the Birdseye Unit of the Northwest Manti WMA.

### 3. Conservation Agreement

The purpose of this Conservation Agreement (Agreement) is to ensure long-term survival of the Deseret milk-vetch. Signatories in addition to the FWS include UDWR and UDOT. Such an agreement will include maintenance of the active processes (e.g., succession) of the plant community, pollinators, and other biotic and abiotic (eg., soil ecology) elements to ensure the long term viability of this species. The cooperation of Federal, state and local governments, and non-profit groups in a partnership manner is essential for this Agreement to be a success. This agreement is designed to complement ongoing conservation actions and formalize a program of conservation measures to address actual threats and maintain the unique, specialized habitat upon which the species depends.

The primary reason the species habitat is stable is that the surrounding lands are secure on state ownership due to habitat management by the state. About 74% of the known habitat for the Deseret milk-vetch occurs on State land and trust land. Sixty-seven percent of the habitat (230 acres) occurs on UDWR land while 7% (25 acres) of the habitat exists on UDOT land. The remaining 26% (90 acres) occurs on private lands. Surveys were conducted on adjoining Manti-LaSal National Forest lands in 1990 revealing no new populations (Franklin 1990).

States have limited obligations regarding the conservation of listed threatened and endangered plants (see Section 9 ESA). However, all parties to this Agreement recognize the value of cooperative planning early in the conservation process to make the

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agreement work smoothly for all parties and ensure successful conservation for the Deseret milk-vetch. Implementation of the conservation measures identified in this Agreement will ensure long-term protection and conservation of the species distribution, demographics, and ecological relationships.

This agreement provides for long-term conservation of the Deseret milk-vetch population and habitat within the State of Utah. The majority of the known population is in State ownership, which occurs spatially between the holdings of three agencies, the UDWR, SITLA, and UDOT.

While this CA addresses the potential to further secure adjacent private lands, we also acknowledge that the Deseret milk-vetch population is viable in the unlikely event that the entire 26% of the population occurring on private lands were lost. Plants occurring on the UDWR WMA property constitute the core of the species population, providing the seed source for reproduction and maintenance of the seed bank. Long-term maintenance of Deseret milk-vetch populations on of the UDWR WMA property should consequently ensure species population viability into the future (J. L. England, pers. comm., 2006).

#### 4. Conservation Actions

A. Maintain Deseret milk-vetch habitat within the State of Utah Northwest Manti WMA in its natural state.

1. UDWR will maintain the current pinon-juniper woodland vegetation type with its current diverse understory of native shrubs, grasses and forbs for the long-term conservation of the species and their ecosystem in occupied habitat of Deseret milk-vetch. Vegetation manipulations (i.e., chainings, prescribed burns, or herbicide application) will not be conducted in occupied habitat of Deseret milk-vetch.
2. UDWR will restrict habitat disturbing actions, such as roads, etc., to that essential for managing the site for game and other wildlife, or accessing mineral resources. Habitat disturbing actions will be avoided in occupied Deseret milk-vetch habitat.
3. SITLA, which manages only the mineral estate in the described lands will alert energy and mineral developers to the presence of occupied habitat of the Deseret milk-vetch and the potential for surface use stipulations, on lands described as Township 10 South, Range 3 East, SLM, Portions of Sections 13, 24 and 25, Utah County, Utah. If mineral development does occur in the future, to any extent possible, SITLA will encourage its lessees to work to establish surface use agreements among the parties involved to ensure that disturbances to occupied habitat are avoided; that destruction of individual plants does not occur; and that appropriate mitigation is provided for any unavoidable effects to individual plants or their habitat.

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4. UDWR will work to develop surface use agreements with any prospective energy and mineral developers that avoid and minimize impacts Deseret milk-vetch habitat wherever feasible (e.g., directional drilling).

5. UDWR will manage grazing by domestic livestock at a level that maintains the current vegetation composition of the existing native plant community within occupied habitat of Deseret milk-vetch.

B. UDWR will retain the Deseret milk-vetch habitat on the Birdseye Unit of the Northwest Manti WMA in Utah State ownership under the management of the UDWR.

C. UDWR and USFWS will evaluate the feasibility of acquiring conservation easements or fee title purchases of small parcels of private land between U.S. Highway 89 and the existing Birdseye Wildlife Management Area as resources and opportunities become available. These parcels contain important big game habitat as well as Deseret milk-vetch habitat. Acquisition is to be accomplished on a willing seller, willing buyer basis.

D. UDOT will avoid using herbicides where possible in Deseret milk-vetch habitat. In instances where herbicides must be used, UDOT will not apply by aerial application within 500 feet (152.5 meters) of Deseret milk-vetch habitat and will maintain a 100 foot buffer for hand application of herbicides around individual plants.

E. UDOT will make all efforts to avoid disturbing the plants with widening projects, or construction of accesses. Should disturbing the plants be unavoidable, appropriate mitigation will be coordinated with USFWS and may include protection of additional occupied habitat, collecting seed, or transplanting individual plants.

F. USFWS will monitor population trends and habitat conditions of Deseret milk-vetch on lands managed by the UDWR. Monitoring will occur on an annual basis, as needed, in early May. Data collected during monitoring will include at a minimum the number or flowering plants and habitat condition. The UDWR agrees to allow the USFWS, or their designee, access to the property for monitoring Deseret milk-vetch populations.

G. UDWR and USFWS will maintain cooperative, partnership-based discussions in the development and review of management plans and habitat restoration projects on the Birdseye Wildlife Management Area as affecting the Deseret milk-vetch.

## **5. Involved Parties**

Utah Division of Wildlife Resources  
Utah Department of Transportation  
Utah School and Institutional Trust Lands Administration  
U.S. Fish and Wildlife Service

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## 6. Authority

This Agreement is subject to and is intended to be consistent with all applicable Federal and State laws and regulations. The signatory parties hereto enter into this Conservation Agreement under Federal and State laws, as applicable, including but not limited to the following:

The FWS listed this species as Threatened under the provisions of Section 4 of the Endangered Species Act of 1973, as amended. Section 2 of the ESA's purpose is to "...provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved...", section 5 directs the Secretary of the Interior to "...establish and implement a program to conserve fish, wildlife and plants...". The intent of the FWS is to provide for the conservation of this species and its ecosystem and thus be in compliance with the broader mandates of the ESA. Signatories to this agreement also recognize the importance of conserving the species in a long-term manner to insure long term population viability.

Endangered Species Mitigation Fund (ESMF). As per H.B. Section 63-34-13 a species protection account has been established by the State of Utah to provide for the implementation of actions "to protect any plant or animal species identified as sensitive by the state or as threatened or endangered under the Endangered Species Act..." The ESMF provides funding annually to implement recovery activities for federally listed species and to implement actions to reduce the likelihood that new species become listed in the future. Funds from ESMF are available on a competitive basis annually for implementing actions to protect and enhance the population of Deseret milk-vetch.

All parties to this agreement recognize that each has specific statutory responsibilities that cannot be delegated, particularly with respect to the management and conservation of wildlife and the management and development of State and public land resources. Nothing in this agreement is intended to abrogate any of the parties' respective responsibilities.

## 7. Coordinating Conservation Activities

The parties agree to assemble a Deseret milk-vetch conservation team, consisting of one designated representative from each signatory to this Agreement, and any technical advisors and other members as deemed necessary by the signatories. The FWS representative will serve as the Conservation Team leader.

The Conservation Team will approve annual conservation action schedules and seek the necessary financial and staffing resources to accomplish the tasks identified in the conservation agreement.

The Conservation Team will meet annually to review the status of Deseret milk-vetch and develop annual conservation action schedules. The Conservation team will schedule conservation actions on an annual basis.

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## **8. Funding Conservation Actions**

Monies to support the Conservation Agreement will be provided by a variety of sources. The three federal and state agencies involved will work in partnership to secure funding for conservation actions emanating from this conservation agreement. Federal and state funding sources include, but will not be limited to, direct appropriation of funds by the State Legislature and Utah State Department of Natural Resources including the Endangered Species Mitigation Funds. Appendix 1 provides estimated annual costs for implementation of this Conservation Agreement.

Any proposals to ESMF would be jointly submitted by UDWR and FWS to ensure ecosystem benefits to both plant and wildlife resources. The FWS may also have funds available through the Endangered Species program (e.g., Section 6 and showing success monies). Private funding sources may include but will not be limited to conservation groups (i.e., The Nature Conservancy).

In-kind contributions in the form of personnel time, field equipment, supplies, etc. may be provided by participating government agencies and private groups. Funding and other resource commitments are contingent upon appropriations by the respective state and federal entities.

## **9. Duration of the Agreement**

This agreement will be effective for 30 years. Prior to the end of the first five-year increment, the conservation team will conduct a thorough analysis of the actions and results of the conservation actions performed for Deseret milk-vetch and prepare a written report. Any party may withdraw from this agreement on sixty (60) days written notice to the other parties.

## **10. Federal Agency compliance**

This conservation agreement has been developed for purposes of conservation planning. Prior to implementing on-the-ground actions that are tied to federal funds, a determination needs to be made whether or not the conservation actions are consistent with existing NEPA analyses. Actions on lands administered by the State of Utah or private lands are not subjected to NEPA analyses.

During the performance of this agreement, the participants agree to abide by the terms of Executive order 11246 on non-discrimination and will not discriminate against any person because of race, color, religion, sex or national origin.

No member or delegate to Congress or resident Commissioner shall be admitted to any share or part of this agreement, or to any benefit that may arise there from, but this

provision shall not be construed to extend to this agreement if made with a corporation for this its general benefit.

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### **11. Agreement Modification**

Modification of this Agreement requires the written consent of all involved parties.

If threats to the survival of Deseret Milk-vetch become known that are not or cannot be resolved through this conservation Agreement, the FWS will immediately notify all signatories. The FWS will, at that time, make a diligent effort to modify this agreement to incorporate and implement needed conservation measures for Deseret Milkvetch. If these revised measures prove inadequate for the species conservation, the FWS intends to use the authorities offered by the Endangered Species Act of 1973, as amended, including listing under the provisions of Section 4 of the Act.

### **12. Conservation Certainty**

All parties have experience implementing conservation agreements to conserve and maintain habitat for endangered species. UDWR, UDOT, and SITLA own and manage the surface and subsurface rights of the majority of occupied habitat for Deseret milk-vetch and therefore maintain authority to allow and/or implement conservation measures for the species on their properties. As discussed under section 8 of this CA, funding is available through several federal and state programs.

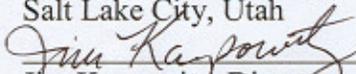
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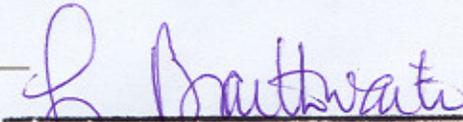
**13. Signatures**

In Witness Whereof, the parties have caused the Deseret Milk-vetch Conservation Agreement to be executed as of the date of last signature below.

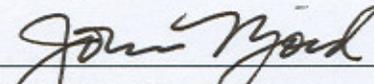
**APPROVED:**

Utah Division Wildlife Resources  
1594 West North Temple Street  
Salt Lake City, Utah

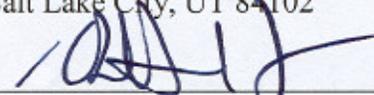
  
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Jim Karpowitz, Director

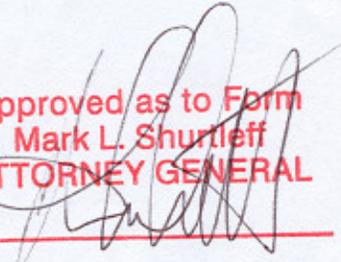
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Financial Manager, Division of Wildlife Resources

Utah Department of Transportation  
4501 South 2700 West  
Mailstop 141200  
Salt Lake City, Utah

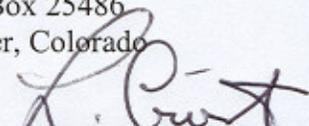
  
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John Njord, Executive Director

Utah School and Institutional Trust Lands Administration  
675 East 500 South, Suite 500  
Salt Lake City, UT 84102

  
\_\_\_\_\_  
Kevin Carter, Director

Approved as to Form  
Mark L. Shurtleff  
ATTORNEY GENERAL  
By: 

United States Department of the Interior  
Fish and Wildlife Service  
Region 6  
P.O. Box 25486  
Denver, Colorado

  
\_\_\_\_\_  
~~Michael Cox, Regional Director~~ Larry Crist - Field Supervisor

## Appendix 1

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### Conservation Actions and Estimated Annual Costs

Task	Year 1 (08)	Year 2 (09)	Year 3 (10)	Year 4 (11)	Year 5 (12)	Out years
Population Inventory (CA action F) *	60 fld hrs 5 vhl dys 10 lab hrs \$3,600	20 fld hrs 3 vhl dys 10 lab hrs \$3000				
Population Monitoring (CA action F)*	50 fld hrs 3 vhl dys 5 lab hrs \$3,000	20 fld hrs 3 vhl dys 10 lab hrs \$3000	20 fld hrs 3 vhl dys 10 lab hrs \$3000	20 fld hrs 3 vhl dys 10 lab hrs \$3000	20 fld hrs 3 vhl dys 10 lab hrs \$3000	Ongoing
Biological and Ecological Studies (CA action F)*	40 fld hrs 5 vhl days 12 lab hrs \$2,400	40 fld hrs 5 vhl days 12 lab hrs \$2,400	40 fld hrs 5 vhl days 10 lab hrs \$2,400	40 fld hrs 5 vhl days 10 lab hrs \$2,400	20 fld hrs 3 vhl days 5 lab hrs \$1,200	Ongoing for 5 years
Plant database mgt*	8 lab hrs \$750	8 lab hrs \$750	Ongoing			
Final report prep*					80 lab hrs \$3200	
Conservation Easements/Fee Title Acquisitions (up to 53 acres)	\$30,000	\$20,000	\$20,000			
<b>SUBTotal</b>	\$39,750	\$29,150	\$26,150	\$6,150	\$8,150	
<b>TOTAL</b>						<b>109,350</b>

\* A percentage of this work will be in-kind services; staff and vehicle time.

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## References Cited

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