

Habitat Conservation Plan

for the

Cedar City Golf Course

and the

Paiute Tribal Lands

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1.0 INTRODUCTION

1.1 Purpose and Need

For the past 13 years the Cedar City Golf Course and adjacent Paiute lands—undeveloped areas and an open field used for annual restoration gatherings by the Paiute Tribe of Utah—have been inhabited by the Utah prairie dog (*Cynomys parvidens*) (UPD). All lands are heavily utilized for recreational purposes. Because of the incompatibility of prairie dog occupation of these developed lands with the existing recreational uses, Cedar City and the Paiute Tribe (the Applicants), through this Habitat Conservation Plan (HCP), are seeking to reduce the ongoing conflicts on these sites. Through this HCP, UPDs will be removed from the Cedar City Golf Course and Paiute Tribal lands (Project Lands) while establishing a conservation easement for UPDs in natural habitat where there is no human development.

Due to adverse human/prairie dog interaction, it behooves all parties to seek a solution that will minimize or negate interactions that exist on these recreation areas located within the boundaries of Cedar City Municipality. Seeking a solution would be consistent with guidelines found in the Utah Prairie Dog Recovery Plan (U.S. Fish and Wildlife Service (Service) 1991). Although the current Iron County HCP allows limited take of prairie dogs on the Golf Course, it only allows up to 300 dogs annually across the entire county. This document will allow the Applicant to permanently impact 18 acres of currently occupied UPD habitat and 257 acres of potential habitat in exchange for permanently protecting 303 acres of habitat elsewhere. This HCP covers UPDs only and does not affect critical habitat as no critical habitat has been designated.

1.2 HCP Goals and Objectives

This HCP has been prepared by, Cedar City Corporation, and the Paiute Tribe of Utah to meet the legal requirements contained in 50 CFR §17.22 (b)(1)(iii), which sets forth the application requirements for two Endangered Species Act section 10(a)(1)(B) permits for incidental take for the Cedar City Corporation and the Paiute Tribe. An Environmental Assessment will be prepared in conjunction with this HCP, as required by the National Environmental Protection Act. An Implementation Agreement and Application Form also will be prepared. These documents constitute the permit application. The proposed length of the permit is 20 years.

Goal 1: Protect 303 acres of land (Wild Pea Hollow) which will provide UPD habitat in perpetuity.

Objective 1: After issuance of the permit but before the covered activities commence, the Applicants shall record a conservation easement that will ensure that Wild Pea Hollow is managed to conserve UPDs, and will never be developed.

Goal 2: Improve habitat on 198 acres by 2006 at Wild Pea Hollow through various means including but not limited to burning, Dixie harrowing and seeding to enhance and maintain habitat.

Objective 2: To enhance 198 acres of habitat by thinning shrubs.

Objective 3: To enhance 115 of the 198 acres by seeding.

Objective 4: To ensure 217 acres (both potential and occupied) meet the vegetation success criteria included in Appendix 4.

Goal 3: Contribute to the establishment of new UPD colonies on public lands within the West Desert Recovery Area.

Objective 1: Live-trap a minimum of 79% of UPDs within the complex on project lands within the trap window (see translocation guidelines) each year for 2 consecutive years.

Objective 2: To minimize mortality at the translocation site by adhering to the translocation guidelines included as Appendix 2.

Objective 3: After securing the conservation easement on Wild Pea Hollow, remove the remainder of UPD from the Golf Course using conibear traps after 2 consecutive years of live-trapping. After meeting the success criteria of phase II (described below) remove the remainder of UPD from the Tribal lands with conibear traps after 2 consecutive years of live-trapping.

2.0 PROJECT DESCRIPTION

The Cedar City Municipal Golf Course encompasses 503 acres. Of those acres, 13.5 acres are currently occupied by prairie dogs (Figure 1). There are 250 additional acres of potential habitat on the Golf Course. The Paiute Indian Tribe of Utah owns 48 acres of land contained in two parcels adjacent to the Golf Course (Figure 2). Of the 48 acres, 4.5 acres are occupied UPD and 26 are potential habitat. Both Parties seek to manage their lands for recreational purposes, and other various housing and health facility developments in the future.

Implementation of this proposed HCP will be carried out in two phases. The first phase (phase I) starts with the recordation of a conservation easement on Wild Pea Hollow; recently acquired by Iron County and containing UPD habitat and potential habitat for UPD. Upon final recordation of the conservation easement, the Applicants will initiate intensive translocation efforts on the Cedar City Golf Course. This effort will consist of intensive live-trapping from July 1 through the August 31 (as identified in the Service approved Translocation Guidelines). All trapped prairie dogs will be moved to a designated site approved by the Utah Prairie Dog Recovery Implementation Team to support recovery actions.

Complete removal of the entire prairie dog complex on the Golf Course the first year is not likely to occur. Therefore, a second year of live-trapping will occur beginning the July 1 through the August 31 of the second year. After the second year of live-trapping is completed, lethal control of UPD will commence using conibear traps. All UPD burrows will be filled. The Golf Course will then be managed free of UPD. Allowed activities on the Golf Course which will result in

take of UPD include live-trapping for two consecutive trap seasons; lethal trapping after the second year of live-trapping; expansion of their buildings, greens, fairways, and roughs; and general maintenance and upkeep of the grounds.

Concurrently, the second phase (phase II) will involve restoration of potential UPD habitat at Wild Pea Hollow as described in Section 6.0 below. These habitat improvement efforts will entail reseeding the area with a variety of grasses and forbs to increase plant diversity and forage availability. The success of the efforts will be determined by conducting vegetation monitoring and UPD population monitoring throughout the project area described in Section 7.0 below. Trapping on the Paiute Tribal lands will be permitted to commence only upon meeting the vegetation guidelines at Wild Pea Hollow after the habitat improvement.

Live-trapping of UPD on Tribal lands will occur as described for the Golf Course for 2 consecutive years. After the second year of live-trapping is completed, lethal control of UPD will commence using conibear traps. All UPD burrows will be filled. Permitted activities which will result in take of UPD on Tribal lands include live-trapping for two consecutive trap seasons; lethal trapping after the second year of live-trapping; expansion of their buildings and recreational facilities; general maintenance and upkeep of the grounds.

After restoration of Wild Pea Hollow, the land will be managed primarily for UPD. Grazing will continue under a grazing management plan in conjunction with adjacent to Bureau of Land Management (BLM) grazing permits. UPD numbers and restoration efforts will be monitored to provide sound management for UPD.

3.0 BIOLOGICAL INFORMATION

3.1 Project Site Existing Conditions

Currently, the lands occupied by the UPD (Golf Course, Tribal) vary from planted and groomed grasslands to undeveloped land which has been disturbed for a number of uses in the past and will likely be developed in the future. An artificially high number and density of prairie dogs occur in this area due to the availability of unnaturally maintained vegetation. Currently, under the “non-permanent take” provisions of the Iron County HCP, prairie dogs are being live-trapped within the trapping window, July 1 through August 31 and being translocated to approved translocation sites on public lands.

Utah Prairie Dog Populations 1999-2003

Table 1 shows the recent (1999-2003) annual spring count of UPDs on the Cedar City Golf Course and on the two (combined) Paiute land parcels. Note that for the years 1999 through 2001, the total Golf Course counts are included in the “Golf course driving range” category.

TABLE 1. Annual Spring Count of Utah Prairie Dogs at the Cedar City Golf Course and Tribal Lands in Cedar City Conducted by Utah Division of Wildlife Resources Using Standard Survey Methods (Appendix 1)

LOCATION	1999	2000	2001	2002	2003	2004
Golf course hole 5	**	**	**	2	0	
Golf course hole 4 &5	**	**	**	0	0	
Golf course hole 6	**	**	**	1	2	
Golf course hole 2	**	**	**	2	1	
Golf course hole 8	**	**	**	3	1	
Golf course hole 1,8 & 9	**	**	**	10	7	
Golf course hole 18 east	**	**	**	2	2	
Golf course hole 18 west	**	**	**	3	4	
Golf course hole 14 & 15	**	**	**	11	6	
Golf course Driving Range	70	9	26	3	5	
Golf Course Totals	70	9	26	37	28	33
Paiute lands*	44	38	13	27	15	38
Grand Totals	114	47	39	64	43	71

* Note: Paiute lands include both the ball field and the Tribal restoration gathering area (Pow Wow lands).

** 1999-2001 counts on Golf Course were not broken down according to holes until the spring counts of 2002.

Topography

Most of the Golf Course is situated on an alluvial fan, with a 2 to 5% slope. The elevation ranges from 5,600 to 6,000 feet above sea level. Mean annual temperature is 45 to 50° with mean annual precipitation of 10 to 12 inches. Normally, there are 120 to 140 frost-free days annually.

Soils

Ashdown loam and similar soils comprise 85% of the soils. Medburn, gypsiferous substratum, along with soutin and squawcave soils are also present in small quantities.

Vegetation

The predominant vegetation of the Golf Course is Kentucky bluegrass (*Poa pratensis*) within the groomed fairways and greens with islands of native vegetation in the roughs. The native vegetation consists of Indian rice grass (*Stipa hymenoides*), bottlebrush squirreltail (*Elymus elymoides*), needle and thread (*Stipa comata*), Hood's phlox (*Phlox hoodii*), Douglas rabbit brush (*Chrysothamnus viscidiflorus*), scarlet globe mallow (*Sphaeralcea coccinea*), and penstemon (*Penstemon spp.*). The predominant vegetation on the Paiute lands is a mix of cultivated lawns and disturbed lands of native and nonnative vegetation.

Wildlife

There are a multitude of species that may on occasion occupy the subject lands including:

Sage thrasher (*Oreoscoptes montanus*)
Sage sparrow (*Amphispiza belli*)
Horned lark (*Eremophila alpestris*)
Western meadowlark (*Sturnella neglecta*)
Mourning dove (*Zenaida macroura*)
Red-tail hawk (*Buteo jamaicensis*)
Northern goshawk (*Accipiter gentiles*)
Desert cottontail rabbit (*Sylvilagus audubonii*)
Black-tail jack rabbit (*Lepus californicus*)
Rock squirrel (*Spermophilus variegatus*)
Striped skunk (*Mephitis mephitis*)
Botta's pocket gopher (*Thomomys bottae*)
Coyote (*Canis latrans*)
American badger (*Taxidea taxus*)
Long-tail weasel (*Mustela frenata*)

Endangered and Threatened Species

Utah prairie dog (*Cynomys parvidens*)

3.2 Utah Prairie Dog

Status

The UPD is a member of the white-tail subgenera, *Leucocrossuromys* whose current habitat is limited to the southwestern quarter of Utah. The species was originally listed as endangered in 1974 (38 FR 14678). In 1979 the Utah Division of Wildlife Resources (UDWR) petitioned the Service to downlist the UPD from endangered to threatened. As a result, the UPD was reclassified to threatened status in 1983 (48 FR 21604). Historically, the UPD was found in southwestern and central Utah from the Nevada border on the west to Nephi on the north, east to the foothills of the Aquarius Plateau and south to the northern borders of Kane and Washington Counties. The species now occurs principally in Iron, Sevier, Beaver, Wayne, Paiute, and Garfield Counties. The historical distribution of UPDs has been reduced, and their population has been in decline for decades due to habitat loss, intentional poisoning, drought, poor grazing practices, and episodes of plague (*Yersinia pestis*). Today, UPD occur in three recovery areas, the West Desert recovery area, the Paunsaugunt Recovery Area and the Awapa Plateau (Figure 4). This project occurs within the West Desert Recovery Area which has maintained the highest number of UPD in spring counts conducted by the UDWR since 1972.

Because of the number of prairie dogs inhabiting private lands in Southwestern Utah and the resulting conflicts with land owners, the Service established a Federal rule in 1984 that allowed take of 5,000 UPDs on agricultural lands through trapping or shooting in Cedar and Parowan Valleys (Iron County). This rule was amended in 1991 to increase the number from 5,000 to 6,000 UPDs and to permit take throughout the entire range.

Biology

The UPD (*Cynomys parvidens*) is one of three species of prairie dogs that live in Utah, all of which are in the subgenera *Leucocrossuromys* or white-tailed prairie dogs. UPDs range in color from cinnamon to clay, with dark markings above the eyes and white on the tip of the tail. Adult UPDs measure from 12 to 14 inches in length.

One half to two thirds of the adult population of the UPD is female; the skewed sex ratio is attributed to higher mortality rate in young males. Females give birth to one litter per year, with an average of four young which are born in April after a gestation period of 30 days. Young appear above ground at 5 to 7 weeks of age, are full grown by October of their first year and reach sexual maturity at 1 year.

Adult males usually hibernate during August and September, followed by females several weeks later. The young of the year stay above ground for several more months before hibernating, although UPDs have been seen during all months of the year.

Predators on UPDs include badgers, coyotes, raptors, fox, and weasels. In an established prairie dog colony, predators do not make a significant impact; conversely, they have a huge impact on translocation sites where an established social system or burrow system is not present. UPD populations are also very susceptible to plague, a bacterium introduced to the North American continent in the late 1800s (Cully 1993). There is a limited understanding of the variables that determine when plague will impact prairie dog populations. Fleas are the vectors that spread the disease and can be brought into the vicinity of a prairie dog colony by a suite of mammals. Therefore, research is being conducted by Dean Biggins, USGS, on the effectiveness of dusting prairie dog mounds with an insecticide, deltamethrin powder, to reduce the occurrence of fleas. Based on this research, trapping and plague prevention efforts have incorporated the use of deltamethrin powder.

UPDs forage primarily on grasses and forbs, and tend to select those with higher moisture content. They often select colony sites in swales where the vegetation can remain moist even in drought conditions. Vegetation must be short stature to allow the prairie dogs to see approaching predators as well as have visual contact with other prairie dogs in the colony.

Soils need to be well drained for burrow sites. Burrows must be deep enough to protect the prairie dogs from predators as well as environmental and temperature extremes.

UPDs are found in elevations from 5,400 feet on valley floors up to 9,500 feet in mountain habitats. Cedar City is one of three areas of population concentration for the species. Although approximately 24% of UPD colonies exist on public lands in Iron County, the majority of colonies are found on private land (UDWR 1994).

4.0 IMPACTS TO UTAH PRAIRIE DOGS

A total of approximately 18 acres of occupied habitat, 13.5 acres on the Golf Course (phase I), and 4.5 acres on the Tribal land (phase II), will be permanently lost. A description of each is below.

4.1 Golf Course

In the past 5 years (2000-2004), the mean prairie dog spring count is 27 dogs on the Golf Course. Literature suggests that 40 to 60% of the population is above ground at any one time (Crocker-Bedford 1975). Therefore, the adult prairie dog estimate for the Golf Course would be 54 prairie dogs. The literature also suggests that approximately 66% of the adult population is female and that each female produces an average of four pups (Pizzimenti and Collier 1975; Write-Smith 1978; Mackley et al. 1988). Based on this, by mid-summer, there would be a total of 144 pups and 54 adults, totaling 198 prairie dogs on the Golf Course.

Complete removal of the entire prairie dog population the first year is not likely to occur. Based on a trapping success rate of 79% at other colonies in the county (Bonzo, pers. comm.), it is estimated that approximately 42 dogs would remain after the first year of trapping. Applying an overwinter survival of 59%, approximately 25 dogs would emerge in the spring. Based on the calculation used above, there could be 91 dogs present when the trap window opens the second year. Using the same trapping success rates, 19 animals could remain at the end of the trap window when lethal control could commence. Assuming 100% lethal control via conibear traps and filling of burrows, further annual take of animals would be limited because it would consist of animals from the Tribal lands dispersing into the Golf Course. However, this dispersal should be minimal because UPD on Tribal lands will be controlled via the Iron County HCP non-permanent take provisions until the success criteria are met for phase II. Additional animals could come from other colonies throughout Cedar City although control of these animals is covered by the Iron County HCP. Although animals from these colonies could travel into the Golf Course HCP area, the likelihood of this decreases with time due to development authorized by the Iron County HCP.

4.2 Paiute Tribal Lands

The 5-year average (2000 – 2004) number of prairie dogs on the spring count on the Paiute Tribal lands is 26 prairie dogs. Calculating the number of adults, females, and resulting number of pups as in the above section, the Paiute Tribal lands is estimated to have 139 pups and 52 adults, with a total of 190 prairie dogs.

Upon implementation of this HCP, removal of UPD from Tribal lands will not commence until the vegetation success criteria described in Appendix 4 are met or the number of UPDs at Wild Pea Hollow reaches a minimum spring count of 70 adult dogs for 2 consecutive years (minimally 2 years from implementation of HCP). Complete removal of the entire prairie dog population the first year is not likely to occur. Based on trapping success rate on the Golf Course in 2004 and assuming that trapping is occurring every working day during the trapping window (approximately 50 days, 5 hours a day), approximately 79% of the prairie dogs can be trapped.

Based on the 5-year average, 40 dogs would remain after the first year of trapping. Based on that number and an estimated 59% winter mortality rate, there could be 24 dogs would emerge in the spring and 88 dogs could be present when the trap window opens the second year. Using the same trapping success rates, 18 animals could remain at the end of the trap window when lethal control could commence. Assuming 100% lethal control via conibear traps and filling of burrows, further annual take of animals would be limited to animals that could disperse from other colonies throughout Cedar City although control of these animals would be covered under the “non-permanent” take provisions of the Iron County HCP. Also under the “permanent” take provisions of the Iron County HCP, many of these colonies within the city will be developed. Although animals from these colonies could travel into the Golf Course HCP area, the likelihood of this decreases with time due to development authorized by the Iron County HCP.

4.3 Indirect Impacts

Direct impacts from the proposed action can only be estimated through annual spring counts of UPDs collected by the UDWR calculated above. Indirect impacts could occur from prairie dogs migrating in from other areas adjacent to the Golf Course and Tribal lands. However, all of these lands that are occupied by UPDs are covered under the Iron County HCP. As they are developed under the HCP, they will no longer contribute to the dogs at the Golf Course and Tribal lands.

5.0 AVOIDANCE AND MINIMIZATION MEASURES

Live-trapping of UPDs will minimize the lethal take associated with this project and potentially contribute to recovery efforts by establishing additional UPD colonies on protected lands. Live-trapping will be carried out according to approved Service Translocation Guidance (Appendix 2). Upon the end of the trapping window (July 1 through August 31) lethal trapping will ensue before the prairie dogs go into hibernation for the winter.

Trapping on the Paiute Tribal lands is contingent on the success of “Phase II” or the restoration of habitat at Wild Pea Hollow. Trapping will occur on the Tribal lands according to approved Service Translocation Guidance. After two seasons of live-trapping, the live-trapping will be followed with lethal trapping and filling of the burrows. If prairie dogs remain, efforts will be made to live-trap during subsequent years during the trapping window. These efforts will always be followed with lethal trapping efforts.

Live-trapping efforts will be maintained to augment efforts to increase UPD populations on public or other lands, as identified in the Recovery Plan and Interim Conservation Strategy. In this way, every possible effort will be made to ensure the survival of the live-trapped prairie dogs by moving them to a new location. Therefore, in meeting the goals of the Golf Course and Paiute Tribe, prairie dogs will be aiding in other recovery efforts.

6.0 MITIGATION

To offset the loss of habitat and the colonies on the Golf Course and Paiute Tribal lands, the County and Cedar City will protect in perpetuity, 303 acres of UPD habitat known as Wild Pea Hollow. Wild Pea Hollow has been privately owned and is surrounded by BLM lands. The parcel contains 19 acres of occupied habitat, 198 acres of potential habitat, and 86 acres of buffer that is unlikely be occupied by UPD but will serve as buffer and foraging habitat (Figure 3.). The value of this parcel is its proximity to other occupied habitat, its distance from existing and potential development pressure, and its potential for restoration and future habitat for UPD.

Wild Pea Hollow has been acquired by Iron County from SITLA and upon issuance of the permit associated with this HCP, a conservation easement will be recorded by Utah Department of Natural Resources (Attachment 3) as described for phase I of the project description. Phase II of the project consists of restoring habitat within the 198 acres of potential habitat to increase forage availability for UPD which will result in increased numbers of UPD and increase the acres of occupied habitat. Initial phase II restoration actions will entail reseeded approximately 115 acres of the 198 acres of potential habitat. This action was completed in the spring of 2004. The site will continued to be grazed in conjunction with adjacent BLM grazing leases. Grazing of Wild Pea Hollow will be managed to benefit UPD habitat under a grazing management plan. All other management actions associated with this property are contained within the conservation easement.

Wild Pea Hollow General Description

The average elevation of the Wild Pea Hollow land is 6,400 feet above sea level. The land consists of rolling foothills that historically were covered with basin big sagebrush (*Artemisia tridentata ssp. tridentata*) with a scattering of Utah juniper (*Juniperus osteosperma*). In recent years, due to several wild fires, much of the area has burned off allowing native grasses and shrubs to become the dominant species. The area currently has permittees that graze cattle on the allotment. The grazing will continue into the foreseeable future.

Topography

Much of the landform is a dissected fan remnant, with a 2 to 15% slope. The elevation ranges from 6,000 to 7,000 feet. Mean annual temperature is 45 to 48 degrees with a mean annual precipitation 10 to 12 inches. Normally there are 120 to 140 days annually which are frost free.

Soils

Pavant and similar soils make up 85% of the soils. Ashdown, Muleypoint and Tombar soils make up the other 15% of the soil type. The Pavant soil type is generally shallow (10 to 20 inches) and is well drained. The top 14 inches is cobbly loam and gravely loam under laid with indurated carbonate hardpan.

Vegetation

Black sagebrush (*Artemisia nova*), Indian rice grass (*Stipa hymenoides*), Bluebunch wheatgrass (*Agropyron spicatum*), Wyoming big sagebrush (*A. tridentata ssp. wyomingensis*), and Antelope bitterbrush (*Purshia tridentata*) is the major vegetation species for the area. Other miscellaneous forbs, perennial grasses and other shrubs are listed as occurring in the area. A scattering of Utah juniper (*Juniperus osteosperma*) is also present in the area.

Wildlife

Most wildlife species associated with the Great Basin ecotype should be expected to be present in the Wild Pea Hollow area. Some of the more common species are:

- Pronghorn antelope (*Antilocapra americana*)
- Black-tail jack rabbit (*Lepus californicus*)
- Desert cottontail rabbit (*Sylvilagus audubonii*)
- Mourning dove (*Zenaida macoura*)
- Sage thrasher (*Oreoscoptes montanus*)
- Sage sparrow (*Amphispiza belli*)
- Horned lark (*Eremophila alpestris*)
- Golden eagle (*Aquila chrysaetos*)
- Red-tail hawk (*Buteo jamaicensis*)
- American kestrel (*Falco sparverius*)
- Coyote (*Canis latrans*)
- Badger (*Taxidea taxus*)

Endangered and threatened Species

Utah prairie dog (*Cynomys parvidens*)

Utah Prairie Dog Numbers

A field survey of the Wild Pea Hollow area was completed in the spring of 2003. The survey revealed that 19 acres of the 303 acres were occupied by prairie dogs. Population counts performed by the BLM as per the survey protocol (Appendix 1) counted 45 individuals on the 19 acres. The survey also determined that 198 acres of unoccupied area was suitable for UPDs to the degree that the plant community and soil types were consistent with known UPD habitats. Approximately 86 acres of Wild Pea Hollow are not suitable for prairie dogs.

Table 2 below shows annual prairie dog counts (1996 – 2003) from Wild Pea Hollow as well as adjacent BLM land and SITLA lands. These counts indicate the prairie dog numbers on the Wild Pea Hollow have increased from 9 (1998) to 45 (2003).

TABLE 2. Annual Spring Count of Utah Prairie Dogs at Wild Pea Hollow in Iron County Conducted by Utah Division of Wildlife Resources Using Standard Survey Methods (Appendix 1)

COLONY	OWNERSHIP	1996 COUNTS	1997 COUNTS	1998 COUNTS	1999 COUNTS	2000 COUNTS	2001 COUNTS	2002 COUNTS	2003 COUNTS
a	BLM	3	8	9	18	31	36	70	113
b	BLM				1	0	0	2	4
c	Iron County Previously owned by SITLA			9	18	20	26	39	45
d	SITLA				0	0	0	0	0
e	SITLA				3	2	0	0	0
f	BLM				7	19	7	15	26
g	BLM								1
g	SITLA					2	4	8	6
h	BLM								1
TOTAL		3	9	19	46	74	75	134	196

7.0 IMPLEMENTATION AND MONITORING

7.1 Implementation

Upon issuance of the permits, establishment of an Implementation Committee shall be initiated by the permittees. This Committee shall be comprised of a representative from the Service, BLM, UDWR, Paiute Tribe, Cedar City, and Iron County. During the removal of UPD from the Golf Course and the Tribal lands, the Implementation Committee will meet annually to review progress and ensure all provisions of the HCP are being met.

7.2 Biological Monitoring

Biological monitoring is necessary to ensure that the mitigation proposed in Section 6 is providing the necessary habitat. Success of the habitat restoration completed at Wild Pea Hollow will be measured by meeting at least one of two criteria:

- 1) The Wild Pea Hollow prairie dog population increases to 70 animals in the spring survey for 2 consecutive years.
- 2) Vegetation meets the vegetation guidelines identified by the UPD RIT and supports UPDs.

If the vegetation response is not adequate to provide UPD habitat within the treated sites and the Wild Pea Hollow UPD colonies fail to increase to 70 dogs, a team of biologists from UDWR, the Service, BLM, the Tribe, and Cedar City will assess whether an adequate effort has been put forth or if further efforts by the permittees are necessary and appropriate (i.e., reseed, translocate, etc.).

Utah Prairie Dog Monitoring

UPD surveys will be conducted annually by BLM or UDWR according to survey protocol (Appendix 1) for the life of the permit. Should prairie dog numbers decline below the identified target of 70 animals for 3 consecutive years, a team of biologist from UDWR, the Service, and BLM will be assembled to review and recommend appropriate actions to the permittees. These actions may include – additional seeding, dusting for plague, predator control, or translocation of dogs.

Vegetation Monitoring

Nineteen acres of Wild Pea Hollow are occupied by UPD in 2003. One hundred ninety-eight acres are suitable but currently unoccupied. One hundred forty-eight acres of the 198 acres are lacking an understory component and require seeding in addition to the shrub-thinning treatments. These acres are proposed for vegetation treatments and seedings to improve their suitability for UPD. The treatments are designed to decrease shrub cover and increase the herbaceous understory vegetation.

Vegetation monitoring will be completed by BLM via currently approved methodology. Post-treatment vegetation monitoring will be conducted by BLM for at least two growing seasons following the treatments. If precipitation is below average for any of the two post-treatment monitoring years, an additional year of monitoring will be conducted by BLM for each below average precipitation year.

Wild Pea Hollow will also be monitored by Iron County for noxious weeds annually for the life of the permit. Monitoring results that indicate the presence of a noxious weed will be treated as necessary by methods appropriate for use in proximity to UPDs such as hand removal. All control methods used within the colony will be coordinated with the Service and BLM.

Grazing of Wild Pea Hollow will be managed according to a grazing management plan in conjunction with an adjacent BLM grazing permit. Monitoring of grazing and vegetation response to grazing will occur as defined within the grazing management plan.

Photo Points - Ten photos will be taken by Iron County at least two times during the growing season to document the vegetation at different phenological stages. The photographs will be taken from the exact same spot, preferably, at the same time of day to keep lighting consistent. Photo documentation will continue for the life of the HCP.

7.3 Compliance Monitoring

To ensure compliance with the avoidance and minimization measures outlined in Section 5.0 an annual report will be submitted to the Service by the permittees annually (by February 15) with the following information: Trapping effort and the number of prairie dogs trapped and translocated off of the Golf Course and the Tribal lands and the site they were translocated to; trapping effort and the number of prairie dogs lethally trapped and removed from the Golf Course and Tribal lands and the final disposition of those animals; the number of burrows filled at the Golf Course and Tribal lands; and the monitoring results of all monitoring identified in 7.2 associated with Wild Pea Hollow. The annual report will also include any problems identified at the Golf Course, Tribal lands, and Wild Pea Hollow, and any resolution to those problems. Annual meetings may be held as necessary to ensure compliance with the HCP and Implementation Agreement.

8.0 CHANGES AND UNFORESEEN CIRCUMSTANCESError! Bookmark not defined.

8.1 Unforeseen Circumstances

Unforeseen circumstances are events or changes in circumstances affecting a species or geographical area covered by an HCP that cannot be reasonably anticipated and that result in a substantial and adverse change in the status of the covered species. All reasonably foreseeable changes or events are addressed in Section 8.1; all other changes or events are unforeseen circumstances. In the event that such unforeseen circumstances occur during implementation of the HCP, the permittees shall immediately notify the Service. In determining whether such an event constitutes an unforeseen circumstance, the Service shall consider, but not be limited to, the following factors: size of the current range of the affected species; percentage of range

adversely affected by the HCP; percentage of range conserved by the HCP; ecological significance of that portion of the range affected by the HCP; level of knowledge about the affected species and the degree of specificity of the species' conservation program under the HCP; and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild. If the Service determines that additional conservation and mitigation measures are necessary to respond to the unforeseen circumstance where the HCP is being properly implemented, the additional measures required of the Permittee must be as close as possible to the terms of the original HCP and must be limited to modifications within any conserved habitat area or to adjustments within lands that are already set-aside under the HCP. Additional conservation and mitigation measures shall involve the commitment of additional land or financial compensation or restrictions on the use of land or other natural resources otherwise available for development or use under the original terms of the HCP only with the consent of the Permittee.

8.2 Changed Circumstances

Changed circumstances include plague outbreaks, predation, fire, drought, noxious weed invasions and shrub encroachment which will be addressed through adaptive management.

Plague

If signs of a plague outbreak appear in or around Wild Pea Hollow, precautions to decrease the potential impact to the prairie dogs would be taken by the permittees. Current research suggests that dusting burrows with Delta Dust to kill the plague vector, fleas, at the first signs of a plague event can decrease the total mortality. If a plague outbreak is suspected, the Permittees will coordinate with the Service to test animals for plague and dust the colony. If plague does decimate the colony, translocation of animals from other sites within the West Desert will be considered. Translocation would occur by UDWR according to Service approved Translocation Guidelines.

Predation

In a healthy prairie dog colony, predation is normal and expected and will not adversely impact the colony; therefore, predator control should not be necessary for this location. However, should circumstances arise which require translocation to be undertaken at this site, predator control would be initiated by the permittees as per Service approved Translocation Guidelines.

Fire

A fire could occur in this area due to the generally dry climate and conditions. Generally this habitat and the species are adapted to fire which can benefit the habitat. If a fire were to occur, brush and herbaceous understory would burn. The intensity of the fire would most likely not be high because the amount of plant fuel is low. Should a fire occur, the Permittees, in conjunction with BLM and the Service will assess the amount of natural revegetation, if a seedbank of

appropriate diversity is not available and revegetation is not occurring at a rate to create the habitat consistent with identified vegetation guidelines, the Permittees will take action to apply seed to the burned area.

Drought

In the event of a drought, available forage vegetation for UPD could be decreased. This could decrease the overall productivity of prairie dogs in Wild Pea Hollow by decreasing resource availability. In addition, later in the season, low forage resources could negatively impact over winter survival. If drought alters the habitat to the point that it no longer supports UPDs, reseeding the site by the permittees may be necessary. Upon official declaration of the end of the drought, the Permittees, in conjunction with BLM, the Service, and UDWR will assess the site conditions. If natural revegetation is not occurring due to lack of source seeds the Permittees will reseed the site.

Noxious Weed

Due to the soil disturbing nature of prairie dogs, various annual and perennial forbs may be common within colonies. However, all noxious weeds should be controlled immediately upon identification by Iron County. The local County Extension Service will be consulted on all methods used to control noxious weeds. All control methods used within the colony will be coordinated with the Service and BLM.

Shrub Encroachment

Over time, shrub encroachment can significantly alter UPD habitat making it unsuitable for occupation. If shrub encroachment occurs to the point that the site no longer meets the vegetation guidelines OR the site no longer provides adequate habitat for UPD, the Permittees, in consultation with the Service, BLM, and UDWR will employ methods such as harrowing or disking to decrease the shrub component on the site where necessary.

TABLE 3. Changed Circumstances at Wild Pea Hollow

CIRCUMSTANCE	ACTION	COST ESTIMATE	FISCAL RESPONSIBILITY	LABOR RESPONSIBILITY
Plague	Dust Colony	\$0.25/burrow (maximum \$1,400)*	Iron County	contract
	Translocate Animals	\$100/dog	UDWR	UDWR
Drought	Seed	\$75/acre	Iron County	contract
	Translocate Animals	\$100/dog	UDWR	UDWR
Fire	Seed	\$160/acre	Iron County	contract
Shrub Encroachment	Brush Treatment	\$40/acre	Iron County	contract
Noxious Weeds	To be determined		Iron County	contract
Predation	Trap predators	\$500/annually	Iron County	contract

* Cost to dust colony is based on a cost of \$0.25 per burrow at a density of 25 burrows/acre, over a maximum 217 acres of potentially suitable habitat.

9.0 ADAPTIVE MANAGEMENT

Adaptive management is a process that allows for the conservation measures identified in Sections 5 and 6 to be modified or adjusted to reflect new information about the covered species obtained through research or through the monitoring provision described below. It is possible that additional and different conservation measures not currently identified Sections 5 and 6 may be more effective in achieving biological goals and objectives. Results of monitoring may also indicate that some are less effective than anticipated. Conservation measures that will require adaptive management include failure of habitat restoration efforts at the Wild Pea Hollow; failure to successfully trap the percentage of animals anticipated at the Golf Course or Tribal land for translocation; loss of habitat on site due to a drought or fire, crash of prairie dog population due to plague or other disease.

Monitoring of vegetation and prairie dog numbers will determine whether the biological objectives to improve habitat and increase the prairie dog colony are being achieved. Both vegetation monitoring and prairie dog monitoring will be the most appropriate monitoring method identified. Vegetation monitoring methods may be changed if more appropriate methods are identified. If vegetation monitoring indicates that the vegetation guidelines are not being met, land use activities such as grazing may be manipulated to achieve vegetation guidelines.

If prairie dog numbers at the Golf Course indicate that trapping efforts are not sufficient to meet the biological goals, trapping efforts and methods may be modified to increase trapping success rates. Loss of habitat due to drought, fire or plague will be addressed as described in changed circumstances above.

10.0 AMENDMENT PROCEDURES

Amendments to this HCP are expected during the life of the plan. Proposed amendments must be supported by sufficient and sound reasoning in order to actually amend the HCP. “Minor” amendments may be proposed at the discretion of, and by unanimous vote of, the Implementation Committee (as described in Section 7.1). Minor amendments are defined as routine administrative revisions or changes to the operation and management program that do not diminish the level or means of mitigation such as those identified in Section 12.1(a) of the Implementation Agreement (Appendix 5). Minor amendments may not cause a net loss of mitigation area, alter the effectiveness of the HCP, or alter the terms of the ITP. Upon written request of the permittee, the Service is authorized to approve minor amendments to the HCP as long as the amendments do not conflict with the primary purpose of this HCP. “Major” amendments to this HCP can be proposed to Service by any signatory to the HCP. Proposed “major” amendments will be reviewed by the Implementation Committee and comments regarding these will be provided to the Service, which will have final approval authority. The Service will determine whether a proposed amendment is considered “minor” or “major,” based on the need for public review and compliance with applicable law.

11.0 PERMIT REVOCATION

Procedures for the suspension or revocation of the Cedar City Golf Course and Paiute Tribal Lands Habitat Conservation Plan Permit, is described in Section 6.2 of the Implementation Agreement (Appendix 5).

12.0 FUNDING

Central to Service approval of habitat conservation plans and issuance of an Endangered Species Act section 10(a)(1)(B) Incidental Take, is the assurance that adequate funding is available to implement the proposed action. Table 5 identifies the costs of each minimization and mitigation measure identified in Sections 5 and 6. Acquisition of Wild Pea Hollow has been completed. Issuance of the conservation easement to the UDWR is pending the approval of this HCP and subsequent issuance of a permit. Restoration of Wild Pea Hollow was undertaken in the fall of 2004 to maximize the moisture patterns to increase germination success and was fully funded by the County. Implementation of trapping, both live and lethal will occur in close coordination and oversight of UDWR with current personnel. During Phase I, Cedar City will provide one additional person for 10 weeks of intensive live-trapping each year for the period of 2 years. A line item will be included in their budget to fund this additional annual expense for 2 years. When Phase II is initiated, the Paiute Tribe would provide one additional person for 10 weeks of intensive live trapping each for the period of 2 years. A line item will be included in their budget to fund this additional annual expense for 2 years. Funding to address changed circumstances and long term management of Wild Pea Hollow will be provided through the State of Utah Endangered Species Mitigation Fund (Appendix 6). The identified costs represent estimates only and do not supersede or limit the Permittees’ obligation to create acquire, restore and manage the Wild Pea Hollow in perpetuity.

TABLE 4. Estimated Cost of Proposed Action

PROPOSED ACTION	COST ESTIMATE	FISCAL RESPONSIBILITY	LABOR PERFORMED BY
Phase I			
<i>Wild Pea Hollow acquisition</i>	\$90,000	<i>Iron County</i>	<i>Iron County</i>
Purchase 75 live-traps	\$2,650	Iron County, Cedar City Corporation and Paiute Tribe	Cedar City, Paiute Tribe
Purchase 48 lethal-traps	\$200		
Live-trapping Personnel (10 weeks)	\$4,000	Cedar City	Cedar City
Lethal-trapping following year 2 live-trapping	\$960	Cedar City.	Cedar City
Total Cost	\$97,810		
Phase II			
Preparatory Treatment	\$6,000	Iron County	Iron County
<i>Purchase of Seed</i>	<i>\$13,000</i>	<i>Iron County</i>	<i>Iron County</i>
<i>Application of Seed 198 acres</i>	<i>\$6,000</i>	<i>Iron County</i>	<i>Iron County</i>
Live-trapping Personnel	\$4,000	Paiute Tribe	Iron County and Paiute Tribe
Lethal-trapping Personnel	\$960	Paiute Tribe	Paiute Tribe
Annual Monitoring of prairie dogs at Wild Pea Hollow	\$500	BLM/UDWR/County	BLM/UDWR/County
Total Implementation Cost	\$30,460		
Long Term Management Costs			
Vegetation Treatment (if needed)	\$25,000	Iron County	Iron County
Biological Monitoring	\$500/year	BLM	BLM

* Cost calculated for 4 hours per week for 5 months of the year--April, May, June, September, and October at \$12/hour.

* "Actions" in italics have been completed.

* Estimated costs are based on year 2005 costs and may increase due to inflation.

13.0 ALTERNATIVES

13.1 No Action

Alternative #1

No action. Under this alternative, the Permittees would not apply for a section 10(a)(1)(B) permit. UPDs would continue to be present on the site but controlled under the Iron County Habitat Conservation Plan which allows up to 300 dogs annually to be “non-permanently taken” across the whole county at “.....developed recreational areas that still remain suitable as habitat.” Conflicts between human uses and the conservation of the UPD would remain. In addition, the Wild Pea 303-acre mitigation site would not be protected in perpetuity and managed for the conservation of the UPD. This alternative was not chosen because it did not meet the needs of the Permittees. Consideration was given to this alternative, but it offered no solution to the problem.

13.2 Alternative #2. On-site Mitigation on Golf Course Roughs

This alternative would allow prairie dogs to remain on an 8- to 10-acre portion of the Golf Course (roughs). This area would permanently be managed acreage specifically for prairie dogs. The 13.5 acres of currently occupied UPD habitat on the Golf Course and the remainder of the Golf Course, including currently unoccupied areas, would be managed to be free of prairie dogs. This alternative was rejected because, with a source population of UPDs in the roughs, the rest of the Golf Course areas would be impossible to keep clear of prairie dogs. It is extremely difficult to keep locations free of prairie dogs through means such as fencing (including buried fences). In addition, adjacent Tribal lands would not be able to address their prairie dog population issues. Moreover, the Tribal prairie dog population would represent another source population dispersing into the greens of the Golf Course in the future. Although this alternative would allow for the presence of some prairie dogs within the Golf Course and Tribal lands, these animals would not provide any effective contribution to the long-term survival and recovery of the species as they would be isolated and surrounded by development. Under this alternative, the Wild Pea 303-acre mitigation site would not be protected in perpetuity and managed for the conservation of the UPD.

13.3 Proposed Action

Alternative #3 (proposed alternative)

This is the proposed action as described more completely in Section 2.0. Under this alternative, the Permittees would translocate prairie dogs from the covered lands to public lands in support of the Utah Prairie Dog Recovery Plan. Following translocation, the City and the Tribe will maintain the covered lands to be free of prairie dogs. To offset the removal of these colonies, Wild Pea Hollow will be protected in perpetuity under a conservation easement. This area currently supports a colony of prairie dogs and has potential to support additional animals. The permittees will also initiate habitat improvements at Wild Pea Hollow to increase suitable prairie dog habitat.

FIGURE 1. Cedar City Golf Course Map

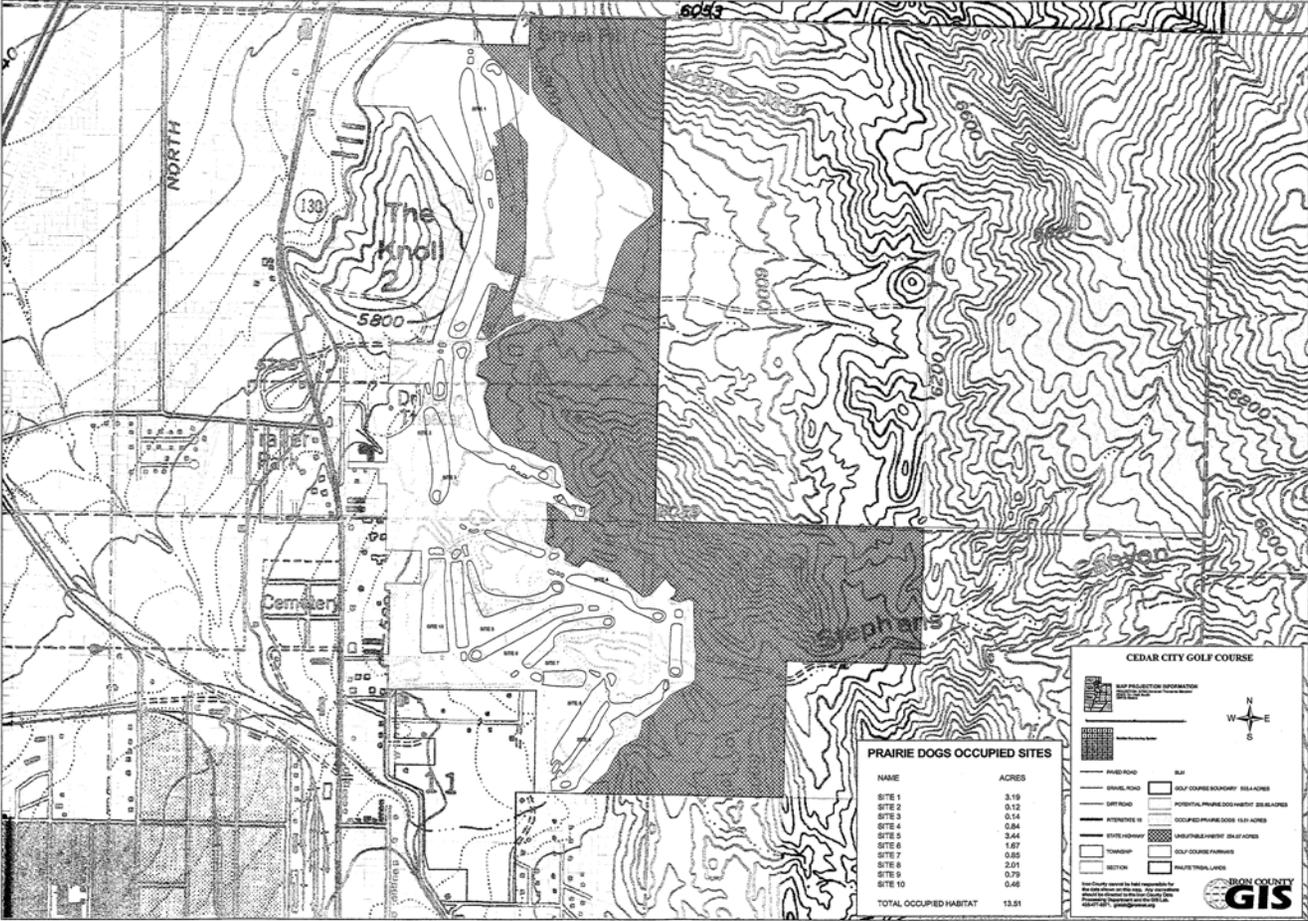


FIGURE 3. Wild Pea Hollow Map



FIGURE 4. Utah Prairie Dog Recovery Areas

