

SAFE HARBOR AGREEMENT

1.0 INTRODUCTION

This Safe Harbor Agreement (Agreement), effective and binding on the date of last signature below, is between Mitchel W. Pace (Cooperator), and the U.S. Fish and Wildlife Service (Service), hereinafter referred to as “the Parties”:

Cooperator: Mitchel W. Pace
P. O. Box 280, 276 N. 200E
Loa, Utah 84747
Phone: 435-836-2303

Service: U.S. Fish and Wildlife Service
2369 West Orton Circle, Suite 50
West Valley City, UT 84119
Contact: Field Supervisor
Phone: 801-975-3330

Agreement/Tracking Number: TE - 106063

This Agreement covers the following species: Utah Prairie Dog (*Cynomys parvidens*). This species is considered the “covered species” as defined in the Service’s final Safe Harbor Policy (64 Federal Register 32717).

This Agreement covers the following property: The property covered by the Agreement and Permit to be issued simultaneously therewith is the approximately 22-acre Pace property (Property), located in Sevier County, Utah, approximately 3 miles north of the town of Koosharem, along Highway 143 in Township 26S, Range 1W, S24. The property is delineated on the map included with the “Conservation Plan” appended hereto. The Conservation Plan was prepared for the property by the Natural Resources Conservation Service (NRCS), U. S. Fish and Wildlife Service (Service) and Environmental Defense. This Property is considered the “enrolled property” as defined in the Service’s final Safe Harbor Policy.

Agreement/Permit Duration: This Agreement becomes effective upon issuance by the Service of the Section 10(a)(1)(A) enhancement of survival permit (hereinafter referred to as the “Permit”) described in Part 5 hereof, and will be in effect for 15 years. The requested Permit will remain in effect for 25 years. The additional 10 years of permit duration beyond the term of the agreement is approximately the amount of time that the Cooperator’s conservation measures are expected to benefit the Utah prairie dog without further active management.

2.0 AUTHORITY AND PURPOSE

Sections 2, 7, and 10 of the Endangered Species Act (Act) of 1973, as amended, allow the Service to enter into this Agreement. Section 2 of the Act states that encouraging interested parties, through federal financial assistance and a system of incentives, to develop and maintain conservation programs is a key to safeguarding the nation's heritage in fish, wildlife, and plants. Section 7 of the Act requires the Service to review programs that it administers and to utilize such programs in furtherance of the purposes of the Act. By entering into this Agreement, the Service is utilizing its endangered species and related programs to further the conservation of the nation's fish and wildlife resources.

Section 10(a)(1) of the Act authorizes the Service's issuance of enhancement of survival permits for listed species. This Agreement is entered pursuant to the Service's Safe Harbor Agreement final policy (64 Federal Register 32717) final regulations (64 Federal Register 32706), and revisions to the regulations (69 Federal Register 24084) and implements the intent of the Parties to follow the procedural and substantive requirements of section 10(a)(1)(A) of the Act. The Permit, for which the Cooperator has applied, has been applied for in good faith. If granted, it is expected to operate to the advantage of the Utah prairie dog (UPD) by increasing and improving the habitat available to them, creating an opportunity to increase their numbers, and providing insurance against the loss of the species in the area as a result of habitat loss or other factors elsewhere. The Agreement and Permit are consistent with the purposes and policies of the Act, because they are expected to further the conservation of the covered species in a manner consistent with the recommendations and strategies contained in the recovery plans for this species.

The purpose of this Agreement is for the Parties to collaborate in order to implement conservation measures for the (UPD) on the Cooperator's property. Foraging and visual surveillance habitat will be enhanced for the UPD by thinning decadent stands of brush, and by increasing forage quantity and quality using mechanical treatments, improved irrigation and re-seeding. Habitat improvements will be maintained throughout the term of this agreement through managed grazing, additional brush treatments if necessary, and to some degree by the UPDs themselves. The Cooperator will receive an enhancement of survival permit that authorizes implementation of the conservation actions and other provisions of this Agreement and authorizes take of the covered species above the Cooperator's baseline responsibilities, as defined in this Agreement.

3.0 BACKGROUND

3.1 Description of the Enrolled Property

The Property is a 22-acre irrigated pasture located within the Awapa Plateau Recovery Area, one of three recovery areas identified in the UPD Recovery Plan (Utah Department of Wildlife Resources and US Fish and Wildlife Service 1991). Private lands border the Property on three sides, with Bureau of Land Management lands bordering to the east. The private land immediately to the south of the Property contains an active Utah Prairie Dog colony approximately 5 acres in size. This colony abuts the fence-line but does not

extend onto the Property. The Property slopes generally to the west and is bordered by a grazed wetland on that side. An irrigation ditch runs the length of the Property on its eastern border and provides water to irrigate the pasture. No buildings are located on the Property.

3.2 Description of Covered Species

The UPD is a member of the genus, *Cynomys*, and one of five species of this genus in North America. It is endemic only to southwestern Utah. Numbers of the species have declined from an estimated 95,000 individuals in 1920 to 5,000 – 10,000 today (Crocker-Bedford and Spillett 1981, Bonzo and Day 2001). The species is currently federally listed as threatened. UPDs inhabit relatively open, grassy areas within shrubland ecosystems. A full description of the UPD and its habitat requirements can be found in the Utah Prairie Dog Recovery Plan and the Interim Conservation Strategy. According to this plan, actions needed to recover the species include managing prairie dog colonies by developing and implementing site-specific management plans for each colony including modifying and managing habitat according to specific guidelines.

3.3 Description of Baseline Conditions

There are several UPD colonies within the Grass Creek Valley near the Property. An active five acre colony exists on private land immediately to the south of the Property. This colony extends to the boundary of the two properties, but does not extend onto the Pace Property due to vegetation conditions including dense sagebrush and the lack of suitable forage. Conservation measures agreed to will provide additional habitat immediately adjacent to the existing colony on the Cooperator's land, and allow the existing adjacent colony to naturally expand onto the Property. The Service has determined that, although UPDs do not currently occupy the Property, the land should be capable of supporting them once vegetation conditions are improved.

Based on this site assessment, there are no UPD baseline responsibilities on the enrolled property, reflecting the fact that at the present time there are no restrictions on the use of the enrolled property as a result of the Endangered Species Act's protection of the UPD.

Current Vegetation Conditions and Grazing Management

The Pace Property is composed of dense, decadent sagebrush with a sparse under-story of mostly non-native grasses. It is flood irrigated, creating some gullies throughout the pasture.

The Property is grazed from June 1 – October 1 by 10-18 animal units (cattle), or about 40-72 animal unit months (AUMs) annually. Sagebrush is sufficiently dense to hinder UPD colonization. The Property has only a perimeter fence. Cross-fencing is needed to manage grazing within the pasture. This will also allow more flexibility to graze at rates that encourage UPD expansion onto the site (See appendix 1 of Attachment 1)

4.0 AGREEMENT IMPLEMENTATION

4.1 Conservation Measures

4.1.1 *Maintaining the Baseline Conditions*

There are no baseline responsibilities for the enrolled property at the time of this Agreement. Therefore, the Cooperator is not responsible for any baseline-dependent actions or activities associated with this Agreement.

4.1.2 *Providing a Net Conservation Benefit*

The Property is within the Awapa Plateau Recovery Area, which is currently the furthest from meeting the recovery goals identified in the Recovery Plan due to few and sparsely distributed colonies. Existing UPD populations on privately-owned, irrigated pastures in this area and throughout the range of the species are seemingly healthy, in contrast to colonies on more arid public lands, where biologists have had only limited success in restoring the species. Lower success in these areas may be due to several factors, including a lack of water in the forage of the animal during periods of drought, lower forage production in these areas, limiting the prairie dog's ability to obtain sufficient fat reserves prior to hibernation, and fewer source populations on higher elevation public lands. This project presents a rare opportunity to create UPD habitat on irrigated lands with high productivity and high vegetative moisture content where the above factors would not be limiting. It is anticipated that the conservation measures agreed to would encourage prairie dogs to expand onto the Property within several years of the treatments. The Cooperator is willing to allow this expansion to occur even if it means prairie dogs eventually occupy all 22 acres.

The conservation measures that the Cooperator will undertake to accomplish the expected net conservation benefit for the covered species are set forth in detail in the Conservation Plan attached hereto and incorporated herein (Attachment 1). The goal of pastureland improvements will be to increase forage quality and quantity and improve visual surveillance habitat through brush treatments, re-seeding, and irrigation that will reduce sagebrush density and increase the quality and quantity of the vegetation available to the colony. It is anticipated that the work proposed would also provide a significant benefit to the Cooperator by increasing the quantity and quality of forage available to livestock on the parcel. It is also anticipated that irrigation measures will improve water flow on the property, thereby reducing soil erosion into the nearby wetlands.

Specific conservation measures include:

- 1) *Brush treatments:* Use mechanical and chemical means to reduce shrub height and percent cover to approximately 0-3% on approximately 17 acres of the Property.
- 2) *Re-seeding:* The treated site will be reseeded with pasture grasses and forbs to increase herbaceous forage quality and quantity.

- 3) *Irrigation improvements*: Irrigation improvement will be installed to increase productivity of forage and to reduce soil erosion into nearby wetlands. The Cooperator will ensure that irrigation flow with the newly installed system is not at excessive levels, which could lead to flooding of burrows.
- 4) *Grazing management*: Grazing will be managed on the entire 22 acres to better distribute cattle for the purpose of encouraging prairie dog expansion, reducing forage impacts, and promoting sufficient vegetative recovery after treatments.
- 5) *Monitoring*: Monitoring designed to assess basic vegetation response to treatments, ensure that the vegetation response generally meets the habitat standards set forth by the Utah Prairie Dog Recovery Team, monitor the potential expansion of the adjacent prairie dog population, and assess whether additional brush treatments or grazing changes are necessary will be implemented.

If UPDs do occupy the Property in the future, the Cooperator agrees only to spot spray brush using Velpar herbicide adjacent to active burrows. No other herbicides will be applied on the enrolled property if it is occupied by Utah prairie dogs.

These conservation measures are expected to result in the following net conservation benefits to the covered species:

- Increased availability of foraging (forage quantity and quality) and visual surveillance habitat for UPDs.
- Increased UPD numbers and colony size.

Nothing in this Agreement prohibits the Cooperator, after first notifying the Service, from applying for control measures pursuant to a Certificate of Registration under the State of Utah's regulations relating to take of non-game mammals as authorized under section 4(d) under the Endangered Species Act, if such regulations are in place at the time of the request, and as long as such control measures are not inconsistent with the purpose of this Agreement to allow the expansion onto and continued use of the Property by Utah prairie dogs from adjacent lands. If the Cooperator applies for a Certificate of Registration, the Service will determine whether control is allowed and the level of control consistent with this Agreement, at that time.

The Service has determined that the Cooperator's conservation measures, as described in this Agreement and the attached Conservation Plan, will provide the net conservation benefits listed above for the covered species. It has also determined that the duration of the Agreement and associated Permit is sufficient to achieve these conservation benefits.

4.2 Take

If the covered species occupies the restored habitat, take of those species could occur as a result of a variety of activities. For example, it is possible that ranch vehicles could kill prairie dogs during the course of normal ranching and associated irrigation activities. It is also possible that irrigation could flood prairie dog burrows. The Agreement authorizes take of the covered species, because the species does not currently occupy the

property, nor would it be likely to do so without the voluntary measures described in this Agreement.

If, after the term of the Agreement, the Cooperator proposes to undertake any actions that fall outside the scope of habitat enhancements or his normal ranching operations, and that he reasonably expects will result in the taking of the covered species, including any activities that will return the property to baseline conditions by taking all individuals of the covered species, he will give the Service at least 60 days advance notice thereof and provide it or Utah Department of Wildlife Resources (UDWR) an opportunity to relocate any affected individuals. The Cooperator and the Service will work cooperatively to minimize negative impacts to the covered species from such actions.

4.3 Monitoring Provisions

The Service and/or NRCS will arrange with the Cooperator to visit the property annually to monitor compliance with the agreed-upon habitat conservation activities, and determine the success of the treatments with respect to potential UPD colony expansion in accordance with the procedures and criteria outlined in the Conservation Plan.

The Service and/or the NRCS will annually assess vegetation conditions, and determine the success of the vegetation treatments, irrigation improvements, and determine whether changes in grazing are required to benefit the covered species.

The Service or UDWR will conduct annual early spring population counts (before emergence of young of the year) of the UPD colony in accordance with established protocol to determine the population of the animals over the duration of the Agreement, and to assess whether the colony has expanded onto the Property.

The Cooperator will allow annual vegetation assessments on the Property to determine the success of the vegetation treatments, and thereafter to determine whether changes in grazing are required to benefit the covered species.

4.4 Reporting Provisions

The Cooperator, or his agent, will provide the Service an annual record or report of the conservation, enhancement, and restoration activities described in the previous section as specified in the Permit. This report will be due to the Service on or before Dec 31 of each year of this Agreement.

4.5 Changed Circumstances

Emergency situations, such as drought, wildfire, plague, or insect infestations may require management actions not specified in this Agreement. In these situations, the Parties acknowledge that it may be impossible to provide the 60 day notice required by the Agreement prior to initiation of activities that could result in take of the covered species. However, the Cooperator will notify the Service within 10 days of discovering

such a situation, and will make reasonable accommodations to the Service for surveying for and/or relocating affected individuals or populations of the covered species prior to the action(s). The Parties acknowledge that survey and relocation may be precluded by certain urgent or emergency situations. The Parties will work cooperatively to avoid impacts to the covered species. The Cooperator will allow the Service or its agent to dust the colony (if prairie dogs occupy the site) for fleas in the event of a plague outbreak.

4.6 Adjacent Landowners

Adjacent landowners will be encouraged and given the opportunity to enroll in separate agreements to provide assurances and take authority in the event of UPD migration. Non-participating private landowners are not covered under the take permit associated with this Agreement, although the Service will use the maximum flexibility allowed under the Act to address neighboring properties. If a neighboring landowner requests the opportunity to receive safe harbor assurances, the Service will determine the baseline applicable to the neighboring property and negotiate a separate agreement between the neighboring landowner and the Service that meets the requirements of Part 14 of the Service's Safe Harbor Policy.

5.0 RESPONSIBILITIES OF THE PARTIES

5.1 Cooperator Responsibilities

The Cooperator will make a good faith effort and use due diligence to implement the conservation measures outlined in the attached Conservation Plan, and other provisions of this Agreement and to adhere to the Terms and Conditions of the Permit. The Cooperator will work in partnership with the Parties to assure sufficient funding and other resources necessary to implement the Agreement.

With reasonable advance notice, the Cooperator shall allow Service personnel, or other properly permitted and qualified persons designated by the Service, to enter the enrolled property at reasonable hours and times for the general purposes directly related to this Agreement.

The Cooperator shall allow personnel of the Service, UDWR, or its Agent to visit the property at agreed upon times each year of the Agreement to monitor compliance with the agreed-upon conservation measures, to conduct annual counts of UPDs, and to assess the potential expansion of the UPD colony.

5.2 Service Responsibilities

The Service will coordinate with the Cooperator to implement the Agreement. As noted above, the Service will arrange with the Cooperator to visit the property annually to assess the agreed-upon conservation measures contained in this Agreement are being accomplished.

The Service (through the Partners for Fish and Wildlife Program) will provide the Cooperator with technical assistance on the implementation of conservation measures, and will provide partial funding for project implementation and monitoring (see Monitoring).

The Service or UDWR will monitor the size of the adjacent UPD colony on an annual basis, at no expense to the Cooperator, to help assess the success of the treatment toward encouraging expansion, and to identify the need for additional conservation measures as specified in attached Conservation Plan.

Upon execution of the Agreement and satisfaction of all other applicable legal requirements, the Service will issue an Enhancement of Survival Permit to the Cooperator in accordance with ESA section 10(a)(1)(A), authorizing take of the covered species as a result of lawful activities on the enrolled properties in accordance with the terms of such permit. The term of the permit will be 25 years.

5.3 Shared Responsibilities of the Parties

All actions covered in this Agreement will be consistent with applicable Federal, State, and Tribal laws and regulations. Nothing in this Agreement will be construed to limit or constrain any Party or any other entity from taking additional actions at its own expense to protect or conserve the covered species.

Nothing in this Agreement shall limit the ability of Federal and State conservation authorities to perform their lawful duties, and conduct investigations as authorized by statute and by court guidance and direction.

6.0 COOPERATOR ASSURANCES

Consistent with section 4.5 above, the Service will provide assurances through this Agreement that no additional measures can be required without Cooperator consent that incur any additional future cost, loss of revenue, or restrictions on the use of the property. In the event of changed circumstances, the Parties agree to work together to adapt management to address these circumstances to the best of their ability.

These assurances allow the Cooperator to alter or modify the enrolled property, even if such alteration or modification results in the take of the UPD to such an extent that the take returns the species to the originally agreed upon baseline conditions of zero. Such assurances may apply to the entire enrolled property or to portions of the enrolled property as designated or otherwise specified in this Agreement. These assurances depend on the Cooperator complying with the obligations in this Agreement and in the Permit. The Service has determined that this level of take will not appreciably reduce the likelihood of survival and recovery in the wild of the UPD.

7.0 MODIFICATIONS

7.1 Modifications of the Agreement.

Any party may propose amendments to this Agreement, as provided in 50 CFR 13.23, so long as all parties agree to the request in writing. Requests should include a statement of the proposed modification, the reason for it, and the expected results. The Parties will use their best efforts to respond to the proposed modifications within 30 days of receipt. Proposed modification will become effective upon written approval of all Parties.

7.2 Termination of Agreement.

As provided for in Part 12 of the Service's Safe Harbor Policy (64 FR 32717), the Cooperator may terminate the Agreement for circumstances beyond the Cooperator's control. In such circumstances, the Cooperator may return the enrolled property to baseline conditions even if management activities identified in Attachment 1 have not been fully implemented, provided that the Cooperator gives the Service notification required in Part 4.2 above prior to carrying out any activity likely to result in the taking of the covered species. If the Cooperator terminates the Agreement for any other reason, the permit referenced in Part 5.2 above shall immediately cease to be in effect, and the Cooperator may be liable to repay a pro-rated portion of the costs associated with the habitat improvements.

7.3 Renewal of Agreement and Permit.

The Agreement can be renewed or extended, with or without modification, for a specified period with the approval of all Parties. If the Agreement is renewed or extended, the Permit duration will be extended by a like amount. If the Service does not agree to renew the Agreement, at the Cooperator's request, the Service will trap and remove any existing UPDs at the end of the Permit term.

7.4 Permit Suspension and Revocation.

The Service may suspend or revoke the permit referred to in Part 5.2 above for cause in accordance with the laws and regulations in force at the time of such suspension or revocation. The Service also, as a last resort, may revoke the permit if continuation of permitted activities would result in jeopardy of the covered species (50 CFR 13.28 (a)). In such circumstances, the Service will exercise all possible measures to avoid revoking the permit.

8.0 OTHER MEASURES

8.1 Remedies

Each party shall have all remedies otherwise available to enforce the terms of the Agreement and permit, except that no party shall be liable for damages for any breach of this Agreement, and performance or failure to perform an obligation under this Agreement or any other cause of action arising from this Agreement.

8.2 Dispute Resolution

The Parties agree to work together in good faith to resolve any dispute, using dispute resolution procedures agreed to by all Parties.

8.3 Succession and Transfer

If the Cooperator transfers his interest in the enrolled property to a non-Federal entity, the Service will regard the new owner as having the same rights and responsibilities with respect to the enrolled property as the Cooperator, if the new property owner agrees and commits in writing to become a party to this Agreement through the existing Conservation Plan and the Permit referenced in Part 5.2 above in the place of the former landowner. If the new landowner does not wish to enroll, the permit referenced in Part 5.2 above shall immediately cease to be in effect, and the Service will reserve the right to remove any animals by trapping and relocating them.

8.4 Availability of Funds.

Implementation of this Agreement is subject to the requirements of the Anti-Deficiency Act and the availability of appropriated funds. As requested by the Cooperator, the Service will provide technical or other assistance in making application for cost-share or other funding from the Service, U. S. Department of Agriculture, or other organizations. Nothing in this Agreement will be construed by the Parties to require the obligation, appropriation, or expenditure of any funds from the U.S. Treasury. The Parties acknowledge that the Service will not be required under this Agreement to expend any Federal agency's appropriated funds unless and until an authorized official of that agency affirmatively acts to commit to such expenditures in writing.

8.5 No Third-Party Beneficiaries.

This Agreement does not create any new right or interest in any member of the public as a third-party beneficiary, nor shall it authorize anyone not a party to this Agreement to maintain a suit for personal injuries or damages pursuant to the provisions of this Agreement. The duties, obligations, and responsibilities of the Parties to this Agreement with respect to third parties shall remain as imposed under existing law.

8.6 Other Listed Species, Candidate Species, and Species of Concern.

Although the Service regards it as unlikely, the possibility exists that other listed, or candidate species, or species of concern may occur in the future on the enrolled property as a result of the management actions specified in Attachment 1. In the event that a non-covered species that may be affected by covered activities becomes listed under the ESA, Cooperator will implement the no-take/no-jeopardy measures identified by the Service for that species until the permit is amended to include such species, or until the Service

notifies the Cooperator that such measures are no longer needed to avoid jeopardy to, take of, or adverse modification of the critical habitat of, the non-covered species.

8.7 Notice and Reports.

Any notices and reports, including monitoring and annual reports, required by this Agreement shall be delivered to the person listed below as appropriate.

Field Supervisor
U.S. Fish and Wildlife Service
2369 West Orton Circle, Suite 50
West Valley City, UT 84119

9.0 SIGNATURES

By our signatures below, each Party agrees to abide by and uphold the provisions of this Agreement and any conditions of the Permit associated with this Agreement.

Deputy Regional Director, U.S. Fish and Wildlife Service

Date

Cooperator

Date

10.0 ATTACHMENTS

Attachment 1. Pace Conservation Plan

Description and Purpose

This is a cooperative project between Mitchel W. Pace (the Cooperator), the US Fish and Wildlife Service (USFWS), the Natural Resources Conservation Service, and Environmental Defense. These parties have agreed to work together to restore degraded pastureland on the property (Property) owned by Mr. Pace for the purpose of improving habitat quality for the threatened Utah Prairie Dog (*Cynomys parvidens*). The broad purpose for doing this work is to create a conservation benefit for the Utah Prairie Dog (UPD) on private lands, and more specifically to increase the likelihood that an existing colony on neighboring lands will expand onto the Cooperator's land. Private lands conservation efforts for this species are considered important, if not essential, for the species' long-term survival. Through this project, the parties seek to improve pastureland, as well as prairie dog habitat. Regulatory assurances and financial incentives provided by the parties will accompany this Conservation Plan.

The total length of this Conservation Plan is 15 years. It is expected that the conservation measures will be completed within that time, and that no further treatments will be necessary to accomplish significant conservation benefit for the UPD.

The Cooperator will enter into a 5-year contract with the NRCS, and a 15-year contract with the Service Partners for Fish and Wildlife Program to provide funding and technical assistance for this work. These agencies and UDWR will cooperate to implement the conservation measures and monitoring described in this Plan.

Property Description

The Property is a 22-acre irrigated pasture composed of dense, decadent sagebrush with a sparse under-story of mostly non-native grasses. It is currently flood irrigated, which is creating some gullies throughout the pasture. Private lands border the Property on three sides. The private land immediately adjacent to the Property contains an active Utah Prairie Dog colony approximately 5 acres in size. This colony abuts the fence-line but does not extend onto the Property. The Property slopes generally to the west and is bordered by a grazed wetland on that side. An irrigation ditch runs the length of the Property on its eastern border and provides water to irrigate the pasture. There is also an unpaved road on this property border. No buildings are located on the Property. The brush treatments, re-seeding, and irrigation measures described here will be undertaken on 17 acres. Grazing management will occur on the entire 22-acre parcel.

The Property is currently grazed from June 1 – October 1 by 10-18 animal units (cattle), or about 45 animal unit months (AUMs) annually.

Goal

The primary goal of the habitat treatments is to increase the size of an existing UPD colony on a neighboring property by allowing the colony to expand onto the Cooperator's Property. This will be achieved by increasing forage quantity and quality and by improving visual surveillance habitat on the Cooperator's Property through brush treatments, re-seeding, irrigation improvements, grazing management, and monitoring. Since the existing colony on a neighbor's property is immediately adjacent to where these treatments will take place, it is expected that the improved habitat quality adjacent to the colony will encourage its expansion onto the Cooperator's Property within a few years of the treatments.

A secondary goal is to provide a significant benefit to the Cooperator's livestock operation by increasing the quantity and quality of forage available to livestock on the parcel. Finally, the improved water use efficiency and water flow due to the irrigation measures and increased vegetative cover will improve water flow on the property, thereby reducing soil erosion into the nearby wetlands.

Objectives

- 1) *Brush treatments:* Use mechanical and chemical means to reduce shrub height and percent cover to approximately 0-3% on approximately 17 acres of the Property.
- 2) *Re-seeding:* The treated site will be reseeded with pasture grasses and forbs to increase herbaceous forage quality and quantity.
- 3) *Irrigation improvements:* Irrigation improvement will be installed to increase productivity of forage and to reduce soil erosion into nearby wetlands.
- 4) *Grazing management:* Grazing will be managed on the entire 22 acres to better distribute cattle for the purpose of encouraging prairie dog expansion, reducing forage impacts, and promoting sufficient vegetative recovery after treatments.
- 5) *Monitoring:* Monitoring designed to assess basic vegetation response to treatments, ensure that the vegetation response generally meets the habitat standards set forth by the Utah Prairie Dog Recovery Team, monitor the potential expansion of the adjacent prairie dog population, and assess whether additional brush treatments or grazing changes are necessary will be implemented.

The parties will also encourage the neighboring landowner to control rabbit brush so that the colony is able to maintain itself while the new habitat is created.

Treatment Descriptions

Most treatments will begin after the accompanying Safe Harbor Agreement is signed. It is possible that some minor improvements (ex: fencing and water development) may be completed before that time: but these improvements would not be sufficient to encourage UPD expansion onto the property (ex: brush management).

A qualified range ecologist with NRCS will oversee all the treatments in coordination with the Service.

- 1) *Brush treatments.* The brush treatments will occur on approximately 17 acres (see Appendix 1 for location of treatments). Sagebrush will be reduced in density to approximately 3% cover or less, as recommended by the Utah Prairie Dog Recovery Plan, by using a tandem disk. Two passes in opposite directions will be sufficient to reduce the sagebrush canopy. Success of this treatment will be determined by evaluating re-growth or reoccurrence of sagebrush after sufficient time has passed. The landowner will perform this work as part of his cost-share contribution to the project.
- 2) *Re-seeding.* Re-seeding is needed to improve vegetation production. The re-seeding will occur in the same location as the brush treatments (Appendix 1). The seedbed will be plowed, disked, and leveled prior to planting. The seedbed will be prepared free of weeds and firm enough to leave no more than ½ inch shoe print. Seeding will be drilled at ¼ inch depth with a broadcast seeder attached to a tractor on the second pass, or by pulling a rangeland or no-till drill behind a tractor. The seed mix will consist of tame pasture grasses that can tolerate irrigation and intense grazing pressure, along with forbs to provide increased nutrient quality for prairie dogs (see Appendix 2). Ammonium Nitrate will be disked in with the seed. Irrigation water will be applied in light frequent applications for the first 2 months of establishment. Water stress may require additional irrigation or replanting of failed stands. If prairie dogs are not present on the site, the Cooperator may control the invasion of undesirable plants, insects, and diseases with herbicide and pesticide when an infestation effects stand survival. If UPDs occupy the Property in the future, the Cooperator will be allowed only to spot spray brush using Velpar herbicide adjacent to occupied burrows. No other herbicide treatments will be applied in areas where UPDs are present, in the wet meadow pasture, or anywhere else outside of the 17-acre brush treatment area.
- 3) *Irrigation improvements.* The irrigation system will be improved on the parcel to increase water use efficiency, reduce gullying, and distribute water more evenly. It is anticipated that this will greatly improve the suitability of the vegetation for prairie dogs, since moisture rich vegetation is often a limiting factor in dry habitats. The current flood irrigation system is uncontrolled flood that comes out of a dirt ditch and into a dirt head-ditch that runs down the sides of the pasture. This is about 20% efficient in delivering irrigation for the pasture. Also, the current system has the potential to flood prairie dog burrows that could otherwise be established on the site. A 12 inch gated pipe will be installed from the head of the field down both sides of the property. This will improve the irrigation efficiency to about 35-40%, and allow prairie dogs to occupy the site without the burrows being flooded. The Cooperator will take steps to ensure that irrigation flow with the newly installed system is not at excessive levels or unevenly applied, which could lead to flooding of burrows. The Cooperator currently owns

10 shares of water, which allows him to water every 18 days from April 15 – November 1. Shallow parallel furrows, 4” in depth, will be dug across the pasture to direct water flow across the surface. Proper maintenance of these furrows should help prevent burrow flooding by distributing water evenly. The Cooperator will contribute labor to help with the installation of this system.

- 4) *Grazing management.* Grazing management will occur on the entire 22-acre parcel. The goal of the grazing plan will be to sustain the vegetation treatments over time and provide high quality and quantity of forage to prairie dogs and to livestock. Grazing will be deferred for at least one growing season after re-seeding. Grazing will resume when vegetation has sufficiently recovered as determined by NRCS. The Property is currently grazed from June 1 – October 1 by 10-18 animal units (cattle), or about 40-72 animal unit months (AUMs) annually. It is anticipated that after the treatments the forage production on the pasture will approach 6,000 lbs per acre, providing about 119 AUMs of useable forage for livestock and prairie dogs. Planned grazing will occur on the property from June 1 through October 1, and will utilize approximately 50% of the useable forage, or 61 total AUMs (60 utilized by cattle, 1.4 by prairie dogs). This is equal to 15 cattle using the pasture for 4 months, plus supporting prairie dog colony of approximately 50 total prairie dogs (total number not equivalent to spring count number). The potential forage consumed by prairie dogs on the site has been estimated at 1.4 Animal Units per year, based on 210 days (7 months) of utilization by prairie dogs at 0.004 Animal Units per prairie dog (NRCS Pasture Handbook). If the site supports more prairie dogs, grazing by livestock may need to be adjusted accordingly. The grazing plan will include the installation of 2 cross-fences dividing the pasture into 3 units (see Appendix 1) and rotating the cattle through 3 pastures with the goal of maintaining a stubble height of 3-8” when prairie dogs are active (April – October). Grazing will begin in a unit when the stubble height reaches 6-8” and end when stubble height reaches 3-4”. This range of stubble heights will be low enough to improve forage quality and visual surveillance habitat, allowing the animals to expand onto the Cooperator’s Property, while not significantly harming the health of the plants. The grazing plan may require an alteration of the timing of grazing, or in the amount of forage utilized to benefit prairie dogs while keeping pasture plants healthy. Grazing will be adjusted, as needed, with these two goals in mind. The Cooperator may be asked to reduce the number of cattle on the entire 22-acre Property to as low as 8 animals (or 32 AUMs annually) during the term of this Agreement, but no lower. The wet meadow pasture (west side of Property) will be used as an alternative forage source if cattle need to be removed from the pastures containing prairie dogs. It is unlikely that prairie dogs will occupy this pasture due to the persistent moisture there. A water trough will be installed between the two other pastures to provide a water source for livestock.
- 5) *Monitoring.* NRCS in cooperation with the Service will monitor the implementation of the brush management, re-seeding, irrigation improvements, and grazing management. The Cooperator will keep records in a pasture record

booklet that NRCS will provide and will present these records to the NRCS annually to ensure that the stubble heights identified above are obtained and that grazing is managed in response as described above. An NRCS range specialist will review these pasture condition sheets and proper grazing use for the life of the contract (5 years), and will visit the site at least once in the spring and once in the fall or as often as possible. The Service will monitor grazing in coordination with NRCS, and the response of the neighboring UPD colony to determine whether potential expansion has occurred for the life of the Agreement (15 years). This colony will be incorporated into UDWR annual colony counts and this annual count number will be obtained by the Service to help assess the success of the treatments.