ADDENDUM #2
Parks and Open Space
Rock Creek Farm Prairie Dog Relocation from 40 Acre Preserve to South County Grasslands at Carlson Lastoka
BID #7343-22

May 12, 2022

The attached addendum supersedes the original Information and Specifications regarding BID #7343-22 where it adds to, deletes from, clarifies or otherwise modifies. All other conditions and any previous addendums shall remain unchanged.

Please note: Due to COVID-19, BIDS will only be accepted electronically by emailing purchasing@bouldercounty.org.

ATTENTION: The Hours of Operation for this Project have been updated to Monday – Sunday, 6:00 a.m. to 6:00 p.m.

1. Question: Is there a specific seed mix to be used for the restoration of the nest box footprints?

   ANSWER: Yes, Boulder County will provide a specific seed mix for restoration of the nest box footprints.

2. Question: Will mowing be necessary at the release site, and if so, will the contractor be responsible for it?

   ANSWER: The need for mowing will be assessed and, when required, the County will provide mowing.

3. Question: What specific monitoring tasks will be required for 2 weeks post relocation besides feeding and watering?

   ANSWER: Our monitoring of relocation sites in the past has included above ground counts (after the removal of the retention caging). These counts

occurred three (3) times a week for approximately one hour per visit. The visits occurred during the first two hours of sunrise, or during the two hours prior to sunset. On cooler days, these counts could occur throughout the day. Multiple counts during this timeframe of above ground prairie dogs can give an estimate of animals remaining on the site. Notations of all other animals observed were also included (predators, etc.). Monitoring for this contract should follow similar methods.

4. Question: Approximately how many t-posts, wooden posts, and H braces will need to be removed on the fence?

   ANSWER: Four hundred and forty-five (445) T posts, thirty-two (32) wooded posts, and seven (7) H/corner braces.

5. Question: Are there any materials from the fence that Boulder County would like to keep?

   ANSWER: Boulder County is unable to utilize any of the existing fence materials for re-use.

6. Question: Is there a coterie mapping protocol or methods I can reference?

   ANSWER: You can reference the methods outlined in the Humane Society of the United States' Prairie Dog Conflict Resolution Team field manual, 2021. (See Attachment D at the end of this document).

7. Question: Does the 3 weeks of trapping exclude weekends or is 21 days of trapping expected?

   ANSWER: County will allow weekend work for a total of twenty-one (21) days of trapping.

8. Question: Are any other payment terms available other than payment upon completion of the Project? (i.e., payment based on milestones reached)?

   ANSWER: Payment will be made when the project is completed.

9. Question: For what purpose is Professional Liability or Errors and Omissions insurance required?

   ANSWER: Professional liability is required in regard to coverage for mishandling of the animals, as well as covering the observation data and lethal control.

10. Question: May contractors bid only on certain items within the bid, or must all items within the bid tab section be bid on?

    ANSWER: Contractors must provide all items on bid. Sub-contracting is allowed, as deemed necessary by the primary contractor.

Submittal Instructions:

Submittals are due at the email box only, listed below, for time and date recording on or before **2:00 p.m. Mountain Time on May 16, 2022.**

Please note that email responses to this solicitation are limited to a maximum of 50MB capacity.

NO ZIP FILES OR LINKS TO EXTERNAL SITES WILL BE ACCEPTED. THIS INCLUDES GOOGLE DOCS AND SIMILAR SITES. ALL SUBMITTALS MUST BE RECEIVED AS AN ATTACHMENT (E.G. PDF, WORD, EXCEL).

Electronic submittals must be received in the email box listed below. Submittals sent to any other box will NOT be forwarded or accepted. This email box is only accessed on the due date of your questions or proposals. Please use the Delivery Receipt option to verify receipt of your email. It is the sole responsibility of the proposer to ensure their documents are received before the deadline specified above. Boulder County does not accept responsibility under any circumstance for delayed or failed email or mailed submittals.

Email purchasing@bouldercounty.org; identified as **BID #7343-22** in the subject line.

All proposals must be received and time and date recorded at the purchasing email by the above due date and time. Sole responsibility rests with the Offeror to see that their bid is received on time at the stated location(s). Any bid received after due date and time will be returned to the bidder. No exceptions will be made.

The Board of County Commissioners reserve the right to reject any and all bids, to waive any informalities or irregularities therein, and to accept the bid that, in the opinion of the Board, is in the best interest of the Board and of the County of Boulder, State of Colorado.

RECEIPT OF LETTER
ACKNOWLEDGMENT

May 12, 2022

Dear Vendor:

This is an acknowledgment of receipt of Addendum #2 for BID #7343-22, Rock Creek Farm Prairie Dog Relocation from 40 Acre Preserve to South County Grasslands at Carlson Lastoka.

In an effort to keep you informed, we would appreciate your acknowledgment of receipt of the preceding addendum. Please sign this acknowledgment and email it back to purchasing@bouldercounty.org as soon as possible. If you have any questions, or problems with transmittal, please call us at 303-441-3525. This is also an acknowledgement that the vendor understands that **due to COVID-19, BIDS will only be accepted electronically by emailing purchasing@bouldercounty.org.**

Thank you for your cooperation in this matter. This information is time and date sensitive; an immediate response is requested.

Sincerely,

Boulder County Purchasing

Signed by: _____ Date: _____

Name of Company_____

Attachment D

THE HUMANE SOCIETY
OF THE UNITED STATES

Wildlife Protection

Prairie Dog Conflict Resolution Team Translocation Field Manual

Photos by Rich Reading, Dave Showalter, and Sandy Nervig

THE HUMANE SOCIETY
OF THE UNITED STATES

Wildlife Protection – Prairie Dog Conflict Resolution Team

Photo by Emma Balunek

Welcome to the HSUS Prairie Dog Conflict Resolution Team!

Working with prairie dogs takes a special kind of person. If you are reading this, you must have a desire to learn more about complex ecology and wildlife management, wildlife coexistence approaches, conflict resolution skills, a big heart, and a good attitude.

Being a member of the Humane Society of the United States' Prairie Dog Conflict Resolution Team (PDCRT) offers many experiences through our field projects, including:

- small mammal handling skills
- wildlife behavior and biology
- landscape planning
- collaborative opportunities with a variety of stakeholders

The purpose of this document is to ensure a safe, effective translocation. Within these pages, you will find information necessary to become an informed team member. It is the responsibility of the PDCRT to ensure care is taken during each step of the process to minimize stress on the individual prairie dogs and maximize the odds of successful colony re-establishment on a new site.

All PDCRT members are required to review this document prior to field season orientation and to implement these procedures and guidelines when in the field.

**Document photos by Lindsey Sterling Krank, Pam Wanek, Noelle Gurnsey, and Jenny Bryant*

THE HUMANE SOCIETY OF THE UNITED STATES

Wildlife Protection – Prairie Dog Conflict Resolution Team

Table of Contents

**This manual must be kept on site at each project.*

Section 1

Translocation Overview

1a. Purpose & Goals
1b. Respect for Others & Code of Ethics
1c. Process Flow Chart

Purpose of Translocation

Prairie dog translocation is a conservation method employed for multiple reasons:

1. **To reduce conflict on multiple use areas where prairie dogs are present**
2. **To augment or reintroduce a prairie dog population into a designated prairie dog conservation area**
3. **To implement non-lethal prairie dog management for prairie dogs in conflict**

Whatever the reason, translocation is a conservation process in which there are multiple beneficial outcomes, including:

- Protecting prairie dogs, a vulnerable species to extirpation
- Conservation of prairie dogs, as a keystone species, to provide food and shelter for multiple dependent and associated species
- Meeting grassland conservation goals at local, state, and federal levels
- Using tax-payer dollars on public lands in a way that conserves wildlife
- Treating animals humanely
- Providing non-lethal options for animals
- Increasing conservation of associated species such as hawks, eagles, owls, coyotes, ferrets, badgers, mountain plovers and more
- Increasing the reintroduction success of North America's most endangered mammal - the Black-footed Ferret
- Achieving conservation goals on public lands

Prairie dog **relocation** is defined as picking up and moving one colony for the benefit of that sole colony. This differs from the term **translocation**, defined as the process of moving a colony of prairie dogs for the sake of that individual colony **and** releasing them into a designated area that is part of a larger prairie ecosystem conservation landscape. Most relocations are considered translocations. Today, it is anticipated that active reestablishment of extirpated (plagued) prairie dog colonies may become increasingly necessary to achieve some conservation goals (Tripp, 2020).

Goals of Translocation

1. **Establish a colony on a new site**
   Translocation is successful when the original perimeter footprint remains occupied or expands and reproduction occurs in the following years.

2. **Keep coteries intact**
   Prairie dogs are highly social, colonial and territorial species. Literature supports that keeping coteries intact increases translocation success, even though over time, prairie dogs can alter their original colonies and sometimes reconfigure coterie structure on the new site.

3. **Move as many individuals with as much age and gender variation as possible**
   Diversity enhances success.

4. **Create connectivity on the landscape**
   Using translocation to create stepping stones between colonies can decrease dispersal distance between colonies; thus creating a functional metapopulation of prairie dogs. Functional metapopulations allow for better genetic exchange among various colonies and protects a larger range of diversity for associates and dependent species.

5. **Create a complex**
   Colonies within a one-mile radius of each other.

Respect for Others

Working long hours in varying weather conditions with people and wild animals can sometimes be stressful! To maintain a positive working environment for all, we are committed to following five cultural norms:

1. Assume positive intent
2. Include others and seek their expertise and input
3. Share information proactively and help others understand
4. Listen actively and seek to understand
5. Be willing to have difficult conversations with kindness
6. Ask questions

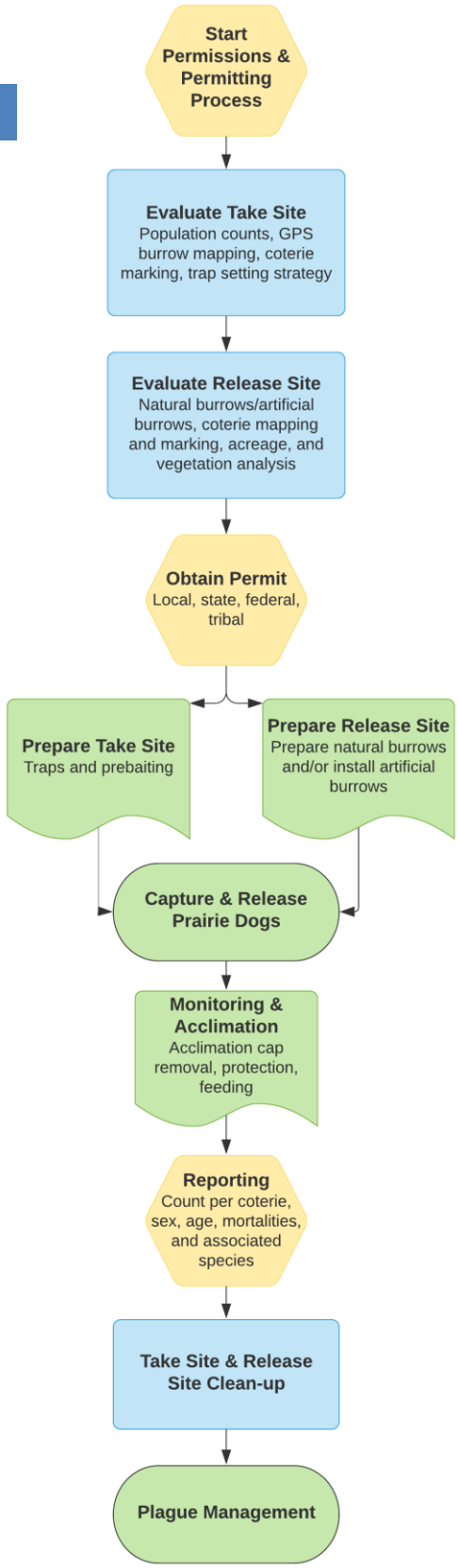
Code of Ethics

- Be respectful – we all deserve to be treated with kindness and consideration, and we can all learn from one another's strengths and differences.
- Uphold the dignity and integrity of the wildlife profession – comply with all local, state, and federal laws. Keep confidential information safe.
- Promote understanding and appreciation for the species.
- Exercise humane, high-standards of care when handling wild animals.
- Act sustainably/environmental responsibility – strive to minimize environmental impactidentify and adhere to environmental best practices

Prairie Dog Translocation Flow Chart

Watch a translocation from start to finish on the Prairie Dog Coalition's Facebook Page

www.facebook.com/PrairieDogCoalition



Section 2

Safety – Personal & Environmental

1a. General Safety
   a. On-site Basics
   b. Accident Reporting
   c. Deltamethrin (Delta Dust)
   d. Backhoe/Ditch Witch Protocol
   e. Trenching & Excavation Protocols

1b. Rattlesnakes
1c. Fleas (Sylvatic Plague) & Other Insects
1d. Deltamethrin & Other Pesticides
1e. Weed Transfer & Fire Hazards
1f. Transportation & Motorized Equipment Safety
1g. Covid-19 Protocol

THE HUMANE SOCIETY OF THE UNITED STATES

Wildlife Protection – Prairie Dog Conflict Resolution Team

General Safety
Standard Operating Procedures

Description

Basic safety protocols for general operational duties to be followed at all times.
**Up-to-date tetanus shots are highly recommended.*

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures for their own safety following proper training.

General Procedures

1. ***Basic On-site Safety***
    a. Work in pairs when on site. If that is not possible, alert another team member and/or your designated on-call staff member that you will be on site by yourself. The Program Director will communicate to the team who your designated on-site and off-site staff members are for the day.
    b. Wear sturdy, closed-toe shoes – the terrain is varied and uneven. Sturdy shoes also offer protection from snakes.
    c. Dress in layers and be prepared for any weather – weather is unpredictable and can change quickly. Also, keep work clothes separate from your living space, in case of fleas, weed seeds, etc.
    d. Protect yourself from the sun – wear long sleeves, long pants, a sun hat, sunglasses, and apply sunscreen regularly. Sunburn can happen even when cloudy.
    e. Pack an adequate water supply – dehydration sets in quickly. Depending on the level of activity, 2 – 5 liters per person per day is recommended. The field lead will have a five-gallon water cooler available on team field days.
    f. Be snake aware – refer to **Rattlesnake Safety SOP**.
    g. Pack a first aid kit.

Make sure to have ample water; 2 – 5 liters per person per day.

h. Keep a fully charged communication device with you when working in the field and have contact information for staff and/or volunteers. This will be handed out at orientation.

2. ***Accident Reporting:*** Any accident, incident, or "near miss" must be reported to an HSUS staff member immediately (Program Director or Field Lead). This reporting should occur regardless of how minor the injury may be. Staff will report the incident to HSUS Human Resources.
3. ***Deltamethrin (Delta Dust) Handling:*** Delta Dust is a primary tool for Sylvatic Plague abatement measures. This insecticide is applied to prairie dog burrows to kill fleas that could potentially carry and spread the plague, a disease that rapidly kills prairie dogs and can cause complete colony collapse. Always use a mask when applying deltamethrin. Refer to **Deltamethrin & Other Pesticides SOP** for more. For accidental exposure or concern, please contact:

   Rocky Mountain Poison & Drug Safety
   Emergency: (800) 222-1222
   1391 Speer Blvd., Suite 600
   Denver, CO 80204
   Administration: (303) 389-1100

4. ***Backhoe/Ditch Witch Protocol***
   A backhoe may be used at the receiving site to dig holes for artificial burrows. Refer to **Transportation & Motorized Equipment Safety SOP** for more information regarding operation and safety.
5. ***Trenching and Excavation Protocol***
   Refer to **Transportation & Motorized Equipment Safety SOP** for more information regarding safety.

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Wildlife Protection – Prairie Dog Conflict Resolution Team

Rattlesnake Safety
Standard Operating Procedure

Description

Prairie rattlesnakes are often present in prairie dog colonies and may be encountered at either trap or release sites. Care should be taken by staff and volunteers to minimize risks of injury from rattlesnakes and have a plan to implement in the case that someone is bitten.

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures for their own safety following proper training.

Materials

- Snake gaiters are recommended
- Hiking boots (with high ankle coverage is preferable)
- Be informed of the closest hospital with rattlesnake antivenom
- Betadine, to be applied in case of a bite

Prairie Rattlesnakes prey on prairie dogs and use their burrows for shelter.

General Procedure

1. ***Antivenom Information*:** The Program Director will locate the nearest hospital(s) with rattlesnake antivenom for each field project. This information will be distributed to staff and/or volunteers who will be involved at that particular field site.
2. ***Personal Protective Gear:*** Wear snake gaiters when working on sites that likely have rattlesnakes. Calls can be made to appropriate land managers regarding unfamiliar sites to find out information on rattlesnake presence. If this information is unavailable, assume rattlesnakes are on site.

3. Protocol for Bite:

a. If the snake is still in the vicinity, move carefully away to a safe location. Find a place where the victim can lie flat and rest comfortably.

b. Encourage the victim to remain calm and offer reassurance. Encourage others in the group, and yourself, to remain calm as well.

c. If in a group, send one member to notify land management staff and the nearest hospital. **DO NOT leave the victim alone in order to get help**.

d. Allow the bite to bleed freely for about 30 seconds.

e. **Cleanse and disinfect the bite area with Betadine.** If unavailable or if the victim is allergic to iodine, use soap and water.

f. If hospital treatment is more than 30 minutes away, and the bite is on a hand, finger, foot, or lower arm or leg, an ACE bandage or other wide elastic bandage can be used as a pressure dressing. The bandage should be wrapped quickly from an area just above the bite past the knee or elbow joint, immobilizing it. Wrap no tighter than for a sprain. The goal is to restrict the movement of venom into the bloodstream without cutting off circulation to the affected limb. Check for a pulse above and below the bandage and rewrap if too tight.

g. Apply direct pressure to the bite using a 4x4 gauze pad folded in half twice. Soak the pad in Betadine and tape it in place.

h. Remove all rings, watches, jewelry, and tight-fitting clothing. The bite area and most of the bitten appendage will swell.

i. Immobilize the bitten extremity as much as possible, using splints if necessary.

j. Try to keep the bite location even with the heart. Raising it above the heart will increase the spread of venom into the body. Swelling will increase if kept below heart level.

k. After administering first aid, take the victim to the nearest hospital or medical facility. Move slowly and deliberately, offer encouragement, and avoid any unnecessary excitement or stress.

l. If not done previously, request someone call ahead to the nearest hospital so that it will be prepared for the victim's arrival.

QUICK TIPS!

1. Stay calm
2. Move SLOWLY out of striking distance
3. Call 911; note the time of the bite
4. Keep victim still and position the bite area below the heart
5. Remove jewelry
6. Clean the wound and apply pressure

m. AT THE HOSPITAL:
    i. Ask staff to contact Rocky Mountain Poison & Drug Safety at (800) 222-1222.
    ii. Request that staff use the Poison Control physician consultants and obtain antivenom available through the hospital pharmacy
    iii. Leave pressure bandages in place until antivenom is ready to be administered to the victim.

4. What Not To Do If Bitten By A Rattlesnake:

a. Do not assume that a bite is not serious or that treatment can be delayed.
b. Do not leave the victim alone in order to get help.
c. Do not apply oral (mouth) suction to the bite. Such action has the potential to introduce harmful bacteria into the wound that could cause sepsis. Also, the venom will pass into the would-be-rescuers system through any cuts or sores in the mouth.
d. Do not make any sort of incision into or around the bite marks. This will only increase trauma to the bite location and further agitate a victim who needs to remain as calm as possible.
e. Do not apply a narrow, constrictive tourniquet such as a belt, shoelace, or cord. Restricting blood flow in this manner puts the bitten extremity at high risk for amputation.
f. Do not engage in strenuous physical activity. This will only speed the spread of venom to vital organs.
g. DO NOT APPLY ICE or hot or cold packs to the bite. These have no proven beneficial effects and may compound tissue damage through burns or frostbite.
h. Do not use a stun gun or electric shock treatment of any kind. Electric shock has no proven beneficial effect and increases victim stress and trauma.
i. Do not allow the victim to drink alcohol, take aspirin, or use any medication.
j. Do not give the victim anything to eat or drink unless approved by the attending physician.
k. Do not remove pressure dressings until antivenom is available.
l. Do not waste time or take any additional risks attempting to kill or capture the offending snake. The only wild venomous snakes in Colorado are rattlesnakes and treatment is the same for both species.

Fleas (Sylvatic Plague) & Other Insects
Standard Operating Procedures

Description

Fleas and other insects are commonly encountered when working in grasslands on prairie dog colonies. Annoying, pesky insect bites are the biggest risk; however, diseases can be encountered, such as Sylvatic Plague and West Nile Virus. If you ever feel sick, make sure to alert medical personnel that you work with prairie dogs and make sure to keep an information card in your wallet that advises the same.

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures for their own safety following proper training.

Materials

- Long sleeves and pants
- Bug spray containing DEET

Fleas (Sylvatic Plague)

Fleas are one of the commonly encountered insects on a prairie dog colony. Certain species of fleas can carry the plague bacterium (yersinia pestis). Yersinia can infect some fleas which can then bite humans or domestic pets and cause a plague infection. Sadly, sylvatic plague is an exotic disease capable of killing an entire colony of prairie dogs within a very short period of time. While prairie dogs are highly susceptible and succumb to the disease quickly, the plague can be successfully treated in humans with penicillin. For more information, refer to **Attachment 1 – CDC Plague Fact Sheet** and **Attachment 2 – CDC Plague FAQs**

While not all species of fleas carry yersinia, it is best to take precautions to prevent flea bites. The best mitigation is to apply an insect spray that contains DEET.

To mitigate the potential for plague on a prairie dog colony, prairie dog burrows are commonly dusted with Deltamethrin, also known as Delta Dust. Refer to the **Deltamethrin & Other Pesticides** chapter of this section for more information.

Other Insects

The most common insects encountered, other than fleas, while working in the field on a prairie dog colony are mosquitos and spiders. Again, insect spray with DEET is recommended to prevent bites.

Deltamethrin & Other Pesticides
Standard Operating Procedures

Description

Deltamethrin (a.k.a. Delta Dust) is the most common pesticide encountered on a take or release site. It is used to protect prairie dogs by killing fleas that may carry yersinia pestis and lead to a sylvatic plague epizootic outbreak, a disease that rapidly kills prairie dogs and can cause complete colony collapse. However, various other pesticides may be present as well.

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures for their own safety following proper training.

Materials

- Impermeable gloves
- Long sleeves and pants
- Facemask
- Eye protection

Deltamethrin can be dispensed with several different mechanisms.

General Procedure – Delta Dust

5. ***Handling Precautions:*** Delta Dust is a synthetic, pyrethroid pesticide, a neurotoxin, and it may be poisonous if swallowed or inhaled as a dust or mist. It may be irritating to the skin and eyes. Applicators should avoid skin contact – wear full-length sleeved shirts, pants, impermeable gloves, a facemask, and eye protection when handling the material. Wash thoroughly with soap and water after using the product. Keep the material out of reach of children and far away from foodstuffs, food containers, and animal feed. If poisoning occurs, call a physician immediately. There is no specific antidote.

6. ***Health Conditions:*** Workers who are pregnant or breast feeding, suffering from asthma, allergies, and/or other respiratory disorders and/or cardiovascular disorders should avoid contact with Delta Dust. Persons under medications that contain neuroactive drugs should also avoid contact.
7. ***Exposure or Concerns:***

    Rocky Mountain Poison & Drug Safety
    Emergency: (800) 222-1222
    1391 Speer Blvd., Suite 600
    Denver, CO 80204
    Administration: (303) 389-1100

8. ***Flea-control Requirement*:** The State of Colorado Parks & Wildlife Department requires all take-site burrows to be dusted (alternative pesticides may be used) prior to prairie dog capture.

General Procedure – Other Pesticides & Rodenticides

Site History: Make sure you are aware of past and/or present pesticide or rodenticide use on both the take and release sites involved in the translocation. Landowners may have used any number of chemicals to kill prairie dogs or other wildlife on the property.

THE HUMANE SOCIETY OF THE UNITED STATES

Wildlife Protection – Prairie Dog Conflict Resolution Team

Weed Transfer & Fire Hazards
Standard Operating Procedures

Description

Weeds are problematic on many prairie dog sites, and it is important to prevent accidental distribution of seeds to other areas, known as offsite distribution. Some weeds can be extremely damaging to natural grassland ecosystems and affect forage quality for prairie dogs.

Additionally, many weeds may be listed as noxious and must be controlled under the guidance of the Colorado Department of Agriculture (**https://ag.colorado.gov/conservation/noxious-weeds/species-id**). One weed can carry thousands of seeds that can remain viable for years or decades. Lastly, it is important to be aware of conditions that create fire hazards.

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures for environmental and personal safety following proper training.

Hundreds of noxious seeds can become attached to clothing and shoes and be carried into prime habitat for prairie dogs or your home. The weed above is called Houndstongue (Cynoglossum officinale), a List B Noxious Weed Species, meaning management and control is required.

Materials

- Vehicle-rated fire extinguisher

General Procedure – Weed Precautions

Very Important: After working on take or release sites, check your clothes (pants, shoes and shoelaces, socks, shirt, hat) for any weeds and remove them prior to leaving the site. Additionally, CHECK THE UNDERCARRIAGE OF YOUR VEHICLE to make sure a weed has not gotten caught.

- Do not pull weeds from a site unless previously authorized by the HSUS Program Director or Field Technician Lead, or the Natural Areas Manager.
- **Dry weeds can become a fire hazard.**
- Avoid wearing clothing that attracts weeds, such as fleece material. In some cases, you many need to throw your clothing away if infestations are bad.
- Try to keep socks and shoelaces covered by pant legging.
- Report any weeds that may be on the noxious weed list.

Figure 1 - Wavyleaf Thistle, a Colorado native plant that is a threatened species.

Keep in mind that not all weedy-looking plants are actual weeds. Some, including certain thistles, are native plants and may even be a threatened species. Also, consider asking the land manager if it is okay to reintroduce native forbs that may help combat weeds.

General Procedure – Fire Hazards

Fires can start and spread quickly. Be mindful when working with flammable substances and stay vigilant for sparks, flames, excessive heat and gassy fumes. Common fire hazards encountered include:

- Dry grasses and weeds
- Electric fences
- Vehicles
- Gas-powered equipment
- Combustibles, such as gas cans

Transportation & Motorized Equipment Safety Standard Operating Procedures

Description

Basic safety protocols for operating HSUS vehicles, driving personal vehicles on site, and operating motorized equipment.

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures for their own safety following proper training.

General Procedure – HSUS Vehicles

1. ***Fleet Agreement*:** A Fleet Agreement needs to be completed for any staff/contractor who drives an HSUS vehicle. Volunteers who are driving their own vehicles on HSUS's behalf need to pass a motor vehicle check as part of their background check (see Volunteer and Intern SOPs). The Fleet Agreement must be approved by the HSUS Director of Security prior to driving vehicles owned by the organization.
2. ***In the Event of an Accident:***
    a. Greet the other party and ask if they are okay. Call for medical aid if necessary.
    b. Secure the accident scene – pull to the shoulder or side of the road and set up road flares/reflectors if needed.
    c. Call the police and file a report. **DO NOT** discuss the accident with anyone at the scene other than the police. **DO NOT** accept any responsibility. **DO NOT** argue with anyone.
    d. Exchange information with the other driver(s) involved in the accident. All HSUS vehicles have insurance cards issued annually that must be kept in the vehicle at all times.
        i. Record the names and addresses of all drivers, occupants, and witnesses involved. Additionally, record the names and addresses of any medical personnel who may arrive at the accident scene.

ii. Obtain the other driver(s) license number, insurance company name, and insurance policy number.
iii. Record the year, make, and model of the other vehicle(s).

e. Record the date and time of the accident, and the overall road and weather conditions.
f. Take pictures of the accident and damages, if possible. Note street names, locations of traffic signs and signals, etc.
g. Immediately report the accident to your Program Director. You will be asked to provide a copy of the accident record and/or your written description of the accident. You may be required to fill out an HSUS Accident/Incident Report Form.
h. If Animals are Involved in the Accident:
    i. Not Injured
        - If the vehicle is still drivable and is not in danger of receiving further damage, leave the animals where they are and ensure there is adequate air flow and temperature control.
        - If the vehicle is not drivable but is not in danger of receiving further damage, leave the animals where they are, ensuring adequate air flow and temperature control until a backup transport vehicle arrives.
    ii. Injured – Contact the closest wildlife rehabilitator for immediate care instructions and your Colorado Parks & Wildlife District Manager listed on the Relocation Permit.
        1. Colorado Wildlife Rehabilitators - https://cpw.state.co.us/Documents/RulesRegs/SpecialLicenses/WildlifeRehabilitation/PublicRehabListing.pdf
        2. Animal Help Now – www.animalhelpnow.org
        3. Colorado Parks & Wildlife - (303) 297-1192

2. ***If the Vehicle Breaks Down:*** Contact National Automobile Club Roadside Services provided by HSUS. Roadside services include battery jump, towing, tire change, lockouts, fuel and water delivery, and mechanical first aid.
    a. Contact Number: 1-800-328-7272
    b. Account Number: 8500427
    c. If towing is required, contact your Program Director for a list of approved mechanics.

General Procedure – Personal Vehicles

1. ***Personal vehicles driven on company business are NOT covered by HSUS insurance.*** Staff and volunteers using their own vehicles for project activities are responsible for their own automobile insurance coverage.
2. ***Driving & Parking on Take & Release Sites***
    a. Don't allow your tires to run over burrows
    b. Stay on the two-track roads
    c. Find out where to park from your Program Director or Staff Lead

General Procedure – Operating Motorized Equipment

1. Backhoe Protocol- operation restricted to designated HSUS staff or trained individuals

a. Only handle loads within the rated capacity of the truck.
b. Carry loads low.
c. When necessary, travel in reverse so the driver/operator has a clear view of the path of travel.
d. Ascend or descend grades slowly. When ascending or descending grades more than 10 percent, loaded trucks should be driven with the load positioned upgrade.
e. When left unattended, ensure that the load-engaging means are fully lowered, controls are neutralized, power is shut off, and brakes are set.
f. Maintain a safe distance from edges, including those of ramps and platforms.
g. Only use safety platforms approved by the manufacturer when lifting personnel. Ensure that the lifting platform is firmly secured to the lifting carriage and/or forks before lifting personnel.
h. Persons under the age of 18 may not operate a backhoe.

3. Trenching and Excavation Protocol

a. Stay back while heavy equipment is in operation. Trenchers and ditch witches may fling rocks and other debris while in operation. Wear a hardhat if necessary.
b. Make sure the operator can see you, and always ask for permission to approach before moving toward any heavy equipment.

CAUTION!

When working around a backhoe:

- Stay out of the radius of the bucket
- Ask for permission from the operator FIRST before approaching equipment

c. Cave-ins pose the greatest risk and are much more likely than other excavation-related accidents to result in worker fatalities. Other potential hazards include falls, falling loads, hazardous atmospheres, and incidents involving mobile equipment. One cubic yard of soil can weigh as much as a car. An unprotected trench is an early grave. Do not enter an unprotected trench.
d. Keep heavy equipment away from trench edges.
e. Identify other sources that might affect trench stability.
f. Keep excavated soil (spoils) and other materials at least 2 feet (0.6 meters) from trench edges.
g. Know where underground utilities are located before digging.
h. Test for atmospheric hazards such as low oxygen, hazardous fumes, and toxic gases when at depths greater than four feet.
i. Inspect trenches at the start of each shift.
j. Inspect trenches following a rainstorm or other water intrusion.
k. Do not work under suspended or raised loads and materials.

l. Inspect trenches after any occurrence that could have changed conditions in the trench.
m. Ensure that personnel wear high visibility or other suitable clothing when exposed to vehicular traffic.
n. Persons under the age of 18 may not participate in trenching.
o. Visit OSHA's Safety and Health Topics web page on Trenching and Excavation at www.osha.gov/SLTC/trenchingexcavation/index.html

Installing an artifical burrow after digging a trench.

Covid-19 Protocol

Description

Federal and state recommended Covid safety precautions and measures can change. Please refer to **Attachment 3 – COVID Guidelines 2021** and **Attachment 4 – CDC Covid Prevention** for current safety guidelines.

Responsibility

All field staff and volunteers are responsible for following guidelines.

Section 3

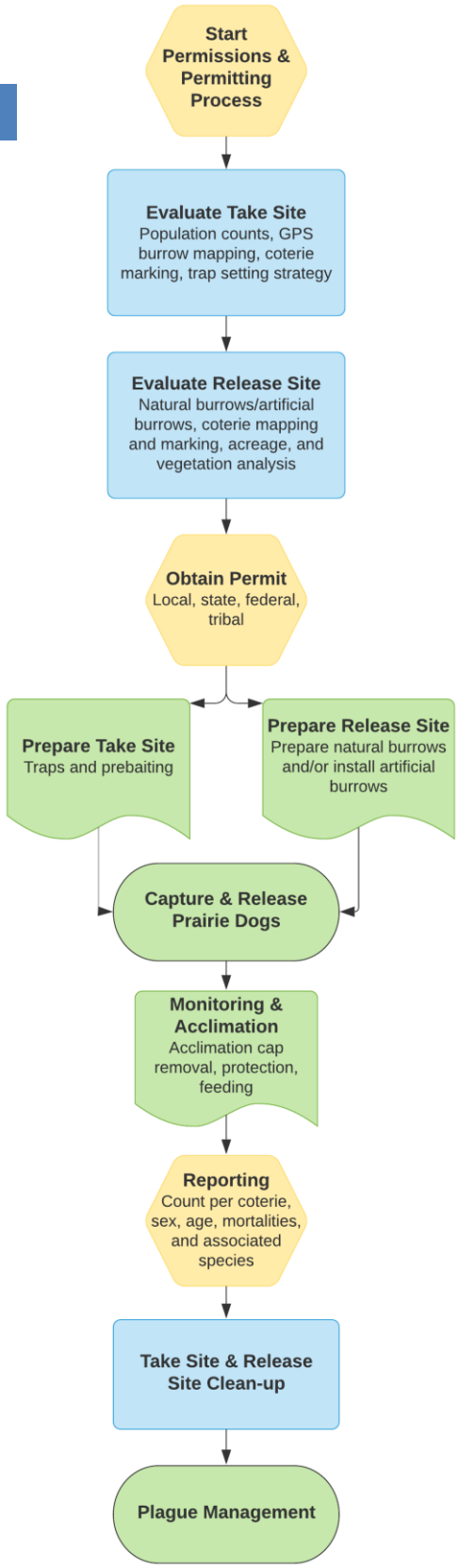
Translocation Process, Permitting, & Equipment/Materials

a. Process Flow Chart
b. Annual Biological Timeline (CO specific)
c. Permitting & Other Legalities
d. Master Equipment & Materials List

Prairie Dog Translocation Flow Chart

Watch a translocation from start to finish on the Prairie Dog Coalition's Facebook Page

www.facebook.com/PrairieDogCoalition



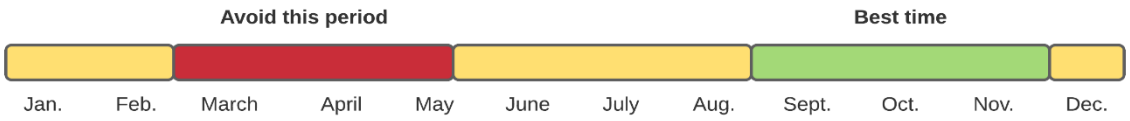
Wildlife Protection – Prairie Dog Conflict Resolution Team

Annual Biological Timeline
Colorado-specific (Black-tailed Prairie Dogs)

Description
Certain times of the year are better than others to translocate prairie dogs due to breeding and population size. Mid-August to mid-November is the best time to work with Black-tailed Prairie Dogs.

Responsibility
All field staff and volunteers are responsible for understanding the below outlined procedures.

When to Translocate Prairie Dogs



Mid-February – breeding occurs only during one 4-hour period per year. Incest in prairie dogs is rare. Successfully impregnated females will defend a nursery burrow through gestation, birth and last weaning. Gestation lasts about 34 days.

March – Mother gives birth to 3 – 4 pups on average but only half survive to adulthood. Babies are born blind and hairless remaining underground until about Mid-April to early May when they emerge from their natal burrow.

Mid-April – early May – First juvenile emergence begins. Overall population can double in size. **Prairie dog translocations should be avoided** as pups are too small and most will not survive translocation. Yearling dispersal begins.

May - June – Mediocre period for translocation as there is still a good sized population and pups are still weaning. Receiving site must accommodate nursery burrows which drives up translocation costs. Trapping pups and moms as families is important.

July - August – Population begins to decline as prairie dogs succumb to various factors: infanticide, lack of food, territorial disputes, and predation. Prairie dogs become more inactive during the heat of the day and can torpor (semi-hibernation). Inactivity of prairie dogs increases unproductive trapping time and heat stress can kill prairie dogs or other non-target animals that get trapped.

Mid-August – mid-November – **Best time to work with prairie dogs.** Prairie dog populations are more stabilized and predictable. As temperatures cool, they become more active throughout the day in search of food and litter to prepare for approaching winter. Prairie dogs are commonly in healthy condition and can adjust to translocation stressors. Good time for surveys.

Late November – February – Prairie dog behavior is more unpredictable due to weather and torpor. Not all prairie dogs torpor at the same time (several may be above ground and others are below ground). Not a good time to survey population numbers due to this pattern.

Permitting & Other Legalities

Description

The permitting process can take several weeks, if not months, to be completed, depending on how many government/tribal and non-government organizations and property owners need to be contacted. This is determined by local, state, federal, and tribal regulations. For example, the City of Boulder, CO has a local wildlife ordinance, and Colorado Parks & Wildlife has state requirements as well. Planning ahead is KEY to a successful prairie dog translocation.

General Procedure – CO Specific

Once a take site and release site have been identified, a permit must be submitted to Colorado Parks & Wildlife, as well as local, federal, and/or tribal organizations, depending on location. This part of the process is very paperwork and permissions intensive, and thus, can take an extended period of time and planning. In general, this process requires:

- Signatures from land owners adjacent to both the take and release sites, including potential mitigation measures
- An evaluation of vegetation and soils
- A description of how prairie dogs will be captured and released
- Special conditions that could arise necessitating the need to hold animals overnight or longer.

Most state departments/game and fish wildlife agencies have a link to their permitting process on their websites. For Colorado Parks & Wildlife, visit https://cpw.state.co.us/learn/Pages/SOC-Black-tailedPrairieDogPermits.aspx

Other Legal Issues

There are other legal issues that can be encountered when planning for the translocation and management of prairie dog colonies, depending on municipality, state, and federal regulations. Please refer to the **Prairie Dog Management Plans** at https://wildearthguardians.org/wildlife-conservation/prairie-dog-management-plans/

Master Equipment & Materials List

Description
Equipment and materials needed to conduct a successful translocation.

TAKE SITE	BOTH	RELEASE SITE
HAND TOOLS		
• Tool pouch/fanny pack	• Hammers • Needle nose pliers	• Screwdriver (flathead) • Shovel • Utility knife • Wire crimper • Wire cutters
ELECTRIC & MOTORIZED TOOLS		
		• Backhoe, mini excavator, and/or trencher • Circular saw • Drill bit (4.5-inch diameter) • Drill saw bit (1/2-inch to 1-inch diameter) • Drill press • Hand drill (electric and cordless) • Miter saw • Reciprocating saw or hacksaw
PERISHABLES		
	• Whole oats	• Carrots • Grass hay • Lettuce • Sunflower seed • Sweet potatoes

OTHER EQUIPMENT		
• Eye protection • Facemask • Impermeable gloves • S-hooks and chains • Traps (Tru-Catch brand) • Trap mats – vinyl material	• ArcGIS or other GPS program • Betadine • Binoculars • Buckets • Bug spray containing DEET • Duct tape • Fire extinguisher (vehicle-rated) • Gloves (study work, bite resistant/welding, leather) • GPS unit • Hand mirror • Notebook • Pens/pencils • Permanent markers (large) • Pet kennels • Sheets/towels • Snake gaiters • Sod pins (6-inch) • Survey flags (multiple colors) • Wood stakes (2 -3 feet)	• Annealed wire (16-gauge, black) • Drill bulb planter bit (24-inch) • Chalk (white) • Corrugated culvert pipe (10-inch diameter) • Drain tubing (4-inch diameter, perforated) • Drain tube end caps (4-inch diameter) • Garden hoses (10-foot length, marked in 1-foot increments) • Heat lamps • Landscape pins (10-inch) • Marking wand (bright color) • Measuring wheel • Plywood board (1/4” thick, 4’ x 8’ • Poultry wire • Pyranha spray • Rabbit cages • Reducers (6-inch to 4-inch) • Rigid pipe (3-inch diameter) • Tarp (strong, durable) • Wood skewers (10-inch) • Wood stake (4-feet) • Zip ties

FLUSHING EQUIPMENT		
• Dish soap (liquid) • Gasoline • Gloves (bite resistant, water resistant) • Hoses (50-feet) • Hose line splitter (optional) • Mirror (hand-held) • Pet kennels stuffed with hay • Spray nozzle (optional) • Towels • Water source • Water tank		

Section 4

Budgeting

4a. Master Budget Items List

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Wildlife Protection – Prairie Dog Conflict Resolution Team

Master Budget Items List

Description

Budgeting for a translocation includes numerous costs from equipment and materials to labor. The following is an example of a general translocation budget.

KEY

S – Sending Site
R – Receiving Site
B - Both

	Unit Cost	Quantity	S/R/B
Equipment Rental: Fixed Expenses			
6000 lb Backhoe with 12" bucket (receiving site)			R
Mini Excavator	1037	1 week	
Water tank 500 gallon (sending site) $500 for one week $1200 for one month	500	1 week	S
Water-tap meter (sending site)	0		S
Mower (receiving site) (skid steer plus 64" deck at 4" depth)	642	1 week	R
Ditch witch 54" blade (insurance, taxes, and delivery)	1382	1 week	
Vehicles (truck) (receiving and sending)			B
Subcontractor:			
Delta dust (sending site)	**3**		S
Backhoe operator (receiving site)	50	8 hrs min	R
Mowing operator (receiving site)	$50	8 hrs min	R
Materials: Variable Expenses			
Nest tubes:			
single wall 10" diameter tube @ .90 per inch @15 inches=	13.5		R
12" x 12" 1/4" plywood boards cut @ 1.50 per board 2 boards per tube	3		R
16-gauge wire for attaching to tubes 100' ($10) @ 2' per tube =	1		R
4-inch drain tubing ($80 per 100 feet) .80 per foot (12' per tube)	10		R
End caps one per nest tube	4		R

Total per unit	31.5		
Feed:			
Grain, sunflower seed, lettuce and carrots $1 per prairie dog	1		B
Pesticides:			
Pyranha spray for pdogs $18 per bottle	2	36	R
Deet for people $10 per bottle	2	20	B
Grass hay: $10 to $15 per bale one bale per 6 acclimation caps	15		B
(100 release areas/6=16.67 bales)			
Miscellaneous supplies:			
Duct tape	5		
Sharpies	10		
Soap	8		
Survey flags $10/100			
Tie rod end wires 1000	15		
Zip Ties	15		
Gasoline	6		
Native grass/forb seed: for release site	Costs are variable depending on need		
Take site:			
6" sod pins for traps	na		S
300' of 50' each 5/8" garden hose	na		S
Spray nozzles	na		S
Towels	na		S
Sheets and pillowcases	na		S
Equipment depreciation fee: Variable			
Traps	1		S
Acclimation caps	1		R
Drill press bits	50	1	R
Drills	1		R
Pet kennels	5		B
Labor: Variable expenses			
Equipment Prep:			
Traps (pads, locks, labels, pins for traps, etc)	na		S
Pet Kennels (assembly or repair)	na		B
Acclimation caps (repairs)	na		R
Assembly of all other necessities (hammers, pins, shovels, buckets)	na		B
Stakes painted or other for take and release site	na		B
Loading vehicles or trailer (take site)	na		S
Loading vehicles or trailer (release site)	na		R
Building nest tube about 1 hr	na		

Take site:			
Preliminary field observations	na		S
Field ID coteries (stakes into ground)	na		S
GPS field stakes	na		S
Unloading traps and setup into prebait	na		S
Monitoring in prebait (two hours per site daily)	na		S
Active Trapping (minimum 8 hours – set, trap, close)	na		S
Site clean-up	na		S
Release site:			
Preliminary field observations	na		R
Bore out old natural burrows or nest tubes	na		R
Install nest tubes (10 to 15 per day) 3 people	na		R
Stake ID release areas and GPS 2 people	na		R
Unload and setup acclimation caps if needed	na		R
Release prairie dogs	na		R
Post release care - feeding site post release	na		R
Site clean-up	na		R
Post site monitoring	na		R
Materials needed at take site: hammers, pins, garden hose, spray nozzles, soap, gasoline can, gasoline, first aid kit for people and prairie dogs			
Materials needed at release site: tarp, hay, 8 inch or greater pins, toolbox, needle nosed pliers, hammers, zip ties, tye rod end ties, toolbox, buckets, shovels, hammers, first aid kit (pdogs and humans), pdog spray, storage bins for feed and materials, wheelbarrow, duct tape, bulb bit and drill, burrow cam, measuring wheel			
Travel:			B
.535 per mile on average 30-mile round trip = 16 per day for one vehicle			
Administrative Costs:			B
Interim reports and communication	na		
Miscellaneous Costs:			
Veterinary and rehab costs $100 fee per prairie dog			B

Section 5

Take Site & Release Site Evaluations

5a. Behavioral Observation – used during every stage of translocation
5b. Mapping the Take Site and Marking Coteries
5c. Release Site Evaluation and Mapping

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Wildlife Protection – Prairie Dog Conflict Resolution Team

Behavioral Observation
Standard Operating Procedures

Description

Behavioral observations are a key part of translocations. Prairie dogs need to be moved with their family groups (coteries). They are territorial animals and fighting can occur, resulting in injuries and/or death, when nonfamilial individuals are placed together. Prairie dogs will fight to the death to defend their territory (Hoogland, "Conservation of the Black-Tailed Prairie Dog"). Therefore, to ensure the maximum opportunity for successful colony reestablishment, it is imperative to minimize stress as much as possible on individual prairie dogs. This requires careful observation to determine coterie boundaries.

The primary goal of behavioral observation is to identify individual coteries within a colony to create a humane and effective capture and release strategy. Overall, behavioral observation is used to assess a general population estimate, identify and adjust coterie boundaries, provide updated data regarding remaining prairie dogs after trapping begins, and identify potential conflicts with humans or other wildlife.

Responsibility

All field staff and volunteers are responsible for understanding the below outlined procedures.

Materials

- Binoculars and/or spotting scope
- Map of colony
- Notebook
- Pen/pencil
- Wood stakes (painted a bright color)
- Survey flags of multiple colors
- Large Sharpies
- GPS unit

Black-tailed Prairie Dogs are highly territorial and live in a family unit called a coterie.

Prairie dogs live in highly territorial family units called coteries. Collectively, coteries that are interspersed together are called a colony. Coterie population size can vary substantially seasonally and from year to year. From late summer to early fall, the population can range from 1 – 26 adults and yearlings; six individuals is the average (Hoogland). In early spring, the population can double in size as new pups emerge from natal burrows. Coteries are dominated by a harem of related females and consist of their offspring (yearlings and juveniles) and one unrelated adult male. Sometimes, there will be two adult males that are close kin.

Due to the coloniality and territoriality of prairie dogs, understanding the social dynamics of coteries within a colony is paramount to using best practices for humaneness, survival, and a successful translocation. Once coteries have been determined, the prairie dogs will be trapped and released in their coterie units.

Once trapping has begun, continued observation helps to affirm or refine coterie boundaries throughout the translocation. It is also essential when determining the number of prairie dogs that remain on a take site.

Additional observations can include prairie dog population counts, predators, nesting birds, and any infrastructure or geographical features that may have an impact on the colony.

General Procedure

1. Conduct colony observations from a distance or where you can blend in with the surroundings so that you can observe prairie dogs engaging in typical behaviors. Prairie dogs are a prey species, and humans are predators, and prairie dogs will remain in their burrows due to perceived threats. Plan for three 2-hour observation sessions to get a grasp of colony dynamics. One of those sessions should include arriving pre-emergence in the morning so that sleeping chambers can be identified.
2. Observations are best conducted within two hours of sunrise or two hours before sunset when the prairie dogs are most active. On cooler days, prairie dog activity may be observable throughout the day.
3. Weather, such as wind, rain, snow, and temperatures below 40 degrees or above 80 degrees Fahrenheit, can cause decreased prairie dog activity above ground. Observations should be scheduled based on weather conditions.
4. Take notes that include the date and time of observation, where on the site activity was seen, and the number of prairie dogs observed at that location. If possible, conduct a population estimate and note the general areas with the greatest activity.

Example of a runway between burrows

5. Share your observations with other team members/volunteers to compare what you are seeing.
6. Add survey flags to the site that mark coteries and unique observations.
7. Vegetation clipping patterns may also help determine coterie boundaries.
8. ***Remember:*** Adjustments to coterie locations may be necessary as more observations are conducted and compiled.

Behaviors That Identify Coterie Members *(Hoogland, "Conservation of the Black -Tailed Prairie Dog")*

- Amicable interactions
- Play
- Grooming
- Mouth-to-mouth contacts that resemble kisses

Behaviors That Indicate Members of Different Coteries *(Hoogland, "Conservation of the Black -Tailed Prairie Dog")*

- Tail flaring
- Tooth-chattering
- Staring
- Bluff charges
- Defensive barks
- Fights and chases

Mapping the Take Site & Marking Coteries
Standard Operating Procedures

Description

Creating maps of the Take Site and Release Site is a core piece of communications and documentation in the translocation process and ensures a smooth, humane transition from one site to another. Full mapping of both sites confirms that individual animals are being kept with their relevant coteries and nearby neighbors, increasing the odds of survival and successfully re-establishing the colony.

The Take Site map focuses on the number and location of coteries in the colony as determined by behavioral observation (refer to the prior section for **Behavioral Observation SOPs**).

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures following proper training. Maps should be made available to all team members.

Materials

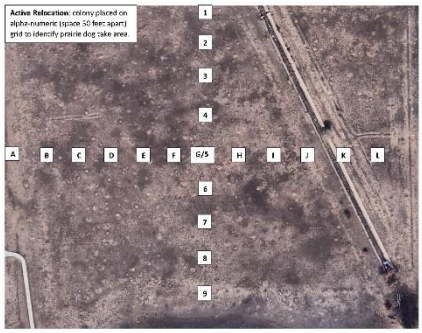
- GPS unit (any type of GPS unit will work)
- ArcGIS program
- Department of Natural Resources GPS program OR Google Earth Pro (free Internetdownloads)
- 2 – 3 foot tall wooden stakes as needed for increased visibility from a distance
- Large Sharpies

General Procedure

1. Once the Take Site colony has been adequately observed, and taking into consideration the locations of survey flags from initial behavioral observations, identify each coterie with abrightly colored, 2 – 3 foot tall stake and label each stake with an individual coterie number. The

number should be written large and bold so that it can be seen with binoculars.

a. In some cases, the density or size of the colony may make the identification ofindividual coteries difficult so a grid system is used. The grid system uses horizontal (numeric) grid lines and vertical (letter) grid lines. For example, theNorthwest section of the colony would be 1A.



Alphanumeric grid system mapping

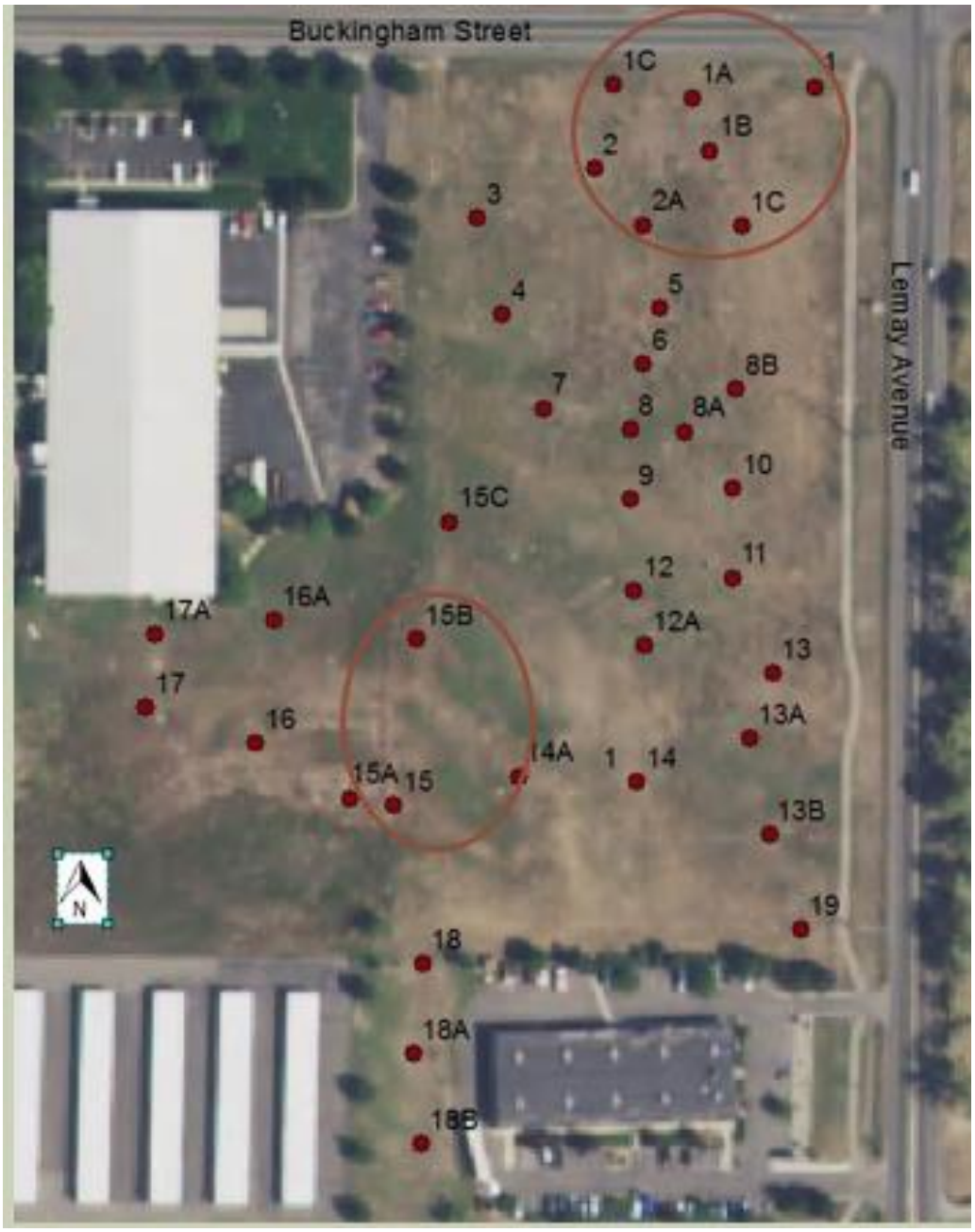
2. Record GPS waypoints for each coterie stake to create a colony map. HSUS uses ETrex 20x units. ***Note:*** Avoid GPSing on a cloudy day as satellite waypoints will not be as accurate.
   a. Turn the unit on.
   b. Use the directional button to scroll to “Position Format” and press **Enter**. Ensurethat the “Position Format” is in UTM UPS, the “Map Datum” is in NAD83, and the “Map Spheroid” is in GRS 80 (This data should not change and should be in the proper format, but it is good to check and may need to be updated if the batteriesdie).
   c. Use the directional button to scroll to “Satellites” and press **Enter**. When the unitis first turned on it may take a couple of minutes for the unit to pick up the satellites. All of the satellites will not always be lit up in orange. Primarily, you want to ensure that there are several satellites working and that you are not taking GPS location points based off of one satellite.
   d. Use the directional button to scroll to “Mark Waypoint” and press **Enter**.
      i. Use the directional button and scroll down to the “Default ID” (Ex. 001) toenter in your preferred ID using the directional button. Press **Done** when satisfied.
      ii. Use the directional button to scroll to “Note” if you want to add anything;otherwise, scroll down to “Done” and press **Enter**. This will save your location and you will be ready to take the next GPS waypoint.
      iii. If you want to see a list of the waypoints that you have taken, return tothe Main Menu, scroll to “Waypoint Manager,” and press **Enter**.
      iv. If you want to see the waypoints on a map, return to the Main Menu,scroll to “Map,” and press **Enter**.
   e. Once back to a computer, download DNR GPS or Google Earth Pro if you

don't have one of these programs already:

i. For DNR:
   http://www.dnr.state.mn.us/mis/gis/DNRGPS/DNRGPS.html
   i.i. Open the DNR GPS program and download waypoints.
   i.ii. Save as a ".txt" file
   i.iii. Open in Excel, then text to columns, then cleanup columns bydeleting excess data that is not necessary (everything except "time," "date," "GPS location," "notes," etc.)
   i.iv. After the cleanup, resave the document as a CSV (commadelimited) file with no spaces and then close Excel.
   i.v. Open ArcGIS and create the CSV into a Shape File.
   > Refresh in Arc Catalog.
   > Right-click on "CSV file" and create Feature Class. Click Coordinate System, then Projected, then UTM -> NAD 83 -> 13. Click on Folder and then save. Refresh again.
   > Drag the Shape File into ArcGIS map.
   i.vi. The map picture can then be brought into a document (saved at 300 dpi for print quality) or the snipping tool can be used to savethe map picture as a JPEG. Make sure to save the ArcGIS project so that it can be reused if needed.

ii. For Google Earth Pro, Google it!
   https://www.google.com/earth/download/gep/agree.html?hl=en-GB

2. Distribute maps to team members. If maps are updated at any point, make sure todistribute the latest version to team members.



Take Site map showing coterie polygons.

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Wildlife Protection – Prairie Dog Conflict Resolution Team

Release Site Evaluation & Mapping
Standard Operating Procedures

Description

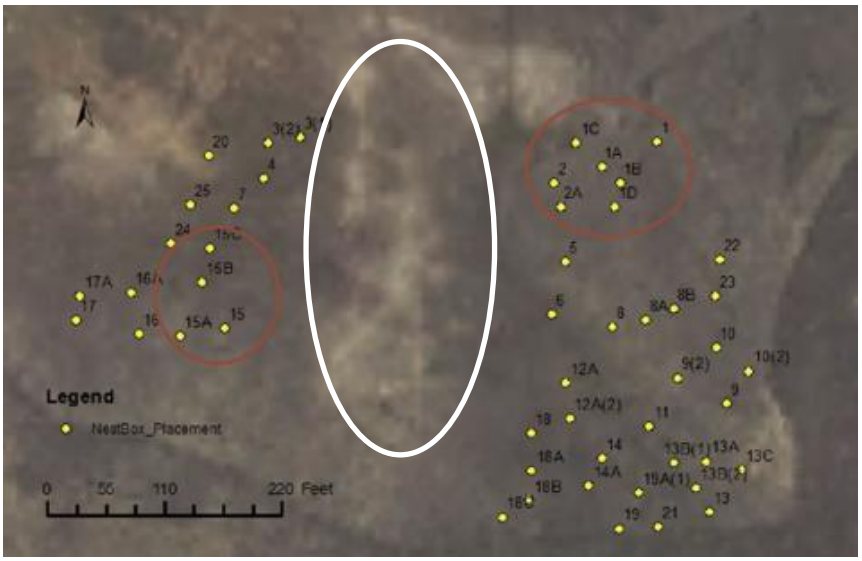
Creating maps of the Take Site and Release Site is a core piece of communications and documentation in the translocation process and ensures a smooth, humane transition from one site to another. Full mapping of both sites confirms that individual animals are being kept with their relevant coteries and nearby neighbors, increasing the odds of survival and successfully re-establishing the colony.

The Release Site mapping and evaluation process is different than the Take Site coterie identification and mapping process. This section will discuss how to evaluate the Release Site for natural burrows, determine if artificial nest chambers are needed, review land-use restrictions (nesting bird closures, livestock grazing, vegetation, sensitive plant species, limited vehicle access, adjacent property conflicts), review historical prairie dog presence (Use Google Earth Pro to evaluate historical presence, dispersal, and potential conflicts for current occupants) and why they are absent (plague, poisoning, other), determine whether prairie dogs still occupy the site (review to reduce conflicts with newly released prairie dogs), and ultimately, determine total releasable acres for prairie dogs.

Note: The Release Site should accommodate all prairie dogs at once. Assuming that newly released prairie dogs will open up burrows for future occupants is a poor strategy that significantly reduces trapping efficiency and creates undo stress on newly released prairie dogs. Additionally, piecemeal trapping significantly reduces trapping efficiency as the remaining prairie dogs will become trap shy.

Responsibility

All field staff and volunteers are responsible for following the below outlined proceduresfollowing proper training.



Example of release site map with coterie polygons. The white oval identifies an existing colony so the translocated coteries are a minimum of 100 feet away.

Materials

- Take Site map with waypoints that identify each coterie
- Historical prairie dog presence mapping of the Release Site – utilize Google Earth ProTimeslider or other mapping from the landowner
- Land use restrictions (generally from local, state or federal background interviews) suchas livestock grazing timing, nesting birds, vegetation, conflicting adjacent properties, and vehicle access restrictions.
- Property site map - from landowner or other satellite images
- Brightly-colored painted 2 – 3-foot stakes
- Sharpie
- GPS unit
- Measuring wheel
- Survey flags
- Gloves
- 10-foot length garden hoses that are marked off in foot-long increments
- Hand mirror
- Notebook

General Procedure

Review the following characteristics to ensure long-term habitat suitability for the prairie dog ecosystem and multiuse objectives for the landscape.

1. **Initial Evaluation**

   a. ***Review the history of prairie dog presence*** (if their absence is plague related, discover what abatement will occur for incoming prairie dogs), ***obtain historical mapping or use a mapping service suchas Google Earth Pro TimeSlider as a guideline for historical presence.***

      i. An analysis of historical prairie dog occupancy on the Receiving Site isone of the best tools for determining where to place prairie dogs. Historical presence provides assurances that the soils and vegetation were adequate and more importantly, the potential for prairiedogs to re-excavate old and abandoned tunnels. If burrows/tunnels are too degraded or the site has either never had prairie dogs or has been unoccupied by prairie dogs for a long time (5+ years), then you will need to increase the number of artificial nest chambers required for the translocation.

      ii. If historical mapping is absent, you may need to read the vegetation on the site, particularly if there are no existing burrows or if they have collapsed over time, to determine where prairie dogs occupied the area.Generally, vegetation areas that are predominately forbs indicate whereprairie dogs may have physically resided; avoid areas where sedges and rushes appear, where plants that like wet areas grow, or where very tallgrasses are growing (also an indicator of wet soils).

   b. ***Review constraints:*** adjacent land uses, livestock grazing, bird nesting, vehicle access, sensitive plant communities, seasonal closures, and existing prairie dog population.

      i. Adjacent land use constraints include neighbors or other facilities requiring prairie dog exclusion. Determine if barriers (manmade or vegetative) need to be installed or if other mitigation tactics need to be applied.

   c. ***Review vegetation*** – Questions to ask to determine a path forward and are key to ensuring food, preventing erosion, and ensuring long-term suitability for the ecosystem:

      1. Are plants dormant?
      2. Are there weeds (noxious requiring control under state/federal guidelines)?
      3. Is reseeding or plant restoration needed?
      4. Does the release site vegetation require mowing? (Vegetation height should not exceed 12 inches)
      5. Will there be intensive livestock grazing prior to releasing prairie dogs?
      6. Are there any sensitive plant communities that need to be avoided?

   d. Mark all natural burrows by GPS and identify where artificial burrows or burrow restoration will be required.

      i. Evaluate natural burrows/tunnels – Natural burrows/tunnels are evaluated for initial release of prairie dogs because over time, in the absence of prairie dogs, burrows and tunnels can become degraded or blocked. Newly released animals must be given a chance to re-excavatetunnels. Releasing too

many prairie dogs into a blocked tunnel system isnot advantageous to creating a successful translocation and, in some cases, can cause suffocation as the animals will sit on top of each other with no place to move. This step requires close scrutiny of each natural burrow:

i.i. Flag all abandoned burrows or suspect mounds.

i.ii. Measure the current depth of each burrow/tunnel using the foot-marked hose todetermine if it is adequate.

> Use a hand-held mirror to capture thelight of the sun and reflect it into the burrow tunnel to see if a snake is present.

> Thread the hose down the tunnel until it stops, but stand back in case any existing inhabitant isdisturbed.

> If the burrow/tunnel is blocked, use a hand drill and a two-foot long attached bulb auger to drill away the debris.

i.ii. Document the tunnel depth and then measure the tunnel diameter. It should be at least 3 – 4 inches wide (the size of a gloved fist).

i.iii. If the tunnel is at least 3 feet long and the width is adequate, that particular burrow/tunnel could accept an initial release of 2 – 3 prairie dogs. If the tunnel is longer than four feet, 3 – 4 prairie dogs could be potentially released.

i.iv. Document your findings on the Natural Burrow Assessment Sheet included at the back of this section.

ii. Install 2 – 3-foot-high, brightly-painted stakes to identify and number each releasable burrow. Collect GPS waypoints providing notes such as the burrow number, the number of prairie dogs to initially release, depth of tunnel, etc.

e. Inventory prairie dogs that may currently exist on the site.

i. Document the location of presently existing prairie dogs by using GPS orhand mark on the property site map. Incoming prairie dogs should be released no less than 100 feet away from existing prairie dogs. In some cases, there may "stepping stone" burrows leading into the core burrow areas. These burrows will need to be judiciously and temporarily closed by way of passive relocation techniques.

f. **Determine how many releasable acres are available**.

i. **Distancing Recommendations:** distances between coteries and pre- existing occupied prairie dog areas at the Release Site should be considered to decrease territorial conflicts among unrelated prairie dogs;yet, release points should still be close enough to accommodate theirneeds as a prey

species – they need to hear and see other prairie dogs asprotection from predators. Avoid releasing newly introduced prairie dogswithin 100 feet of pre-existing prairie dogs that are not from the new Take Site.

Prairie dogs released from different coteries should be spaced at least 60 feet apart. Large coteries, for example those over 10 animals, should be released in separate tunnels 30 feet apart from each other. The idea is not to cram too many animals into one spot. These spacing requirements apply to any initial release area for natural tunnels and artificial burrows.

ii. **Refer to the Natural Burrow Assessment Sheet to determine if there are enough readily available burrows for all incoming prairie dogs.** (Six animals can typically be accommodated per natural burrow.) If not, consider installing artificial nest chambersor augering tunnels, fine-tune distancing requirements for all release points: natural tunnels, artificial chambers, and augered tunnels. With a one-foot marking wheel, copies of the Take and Release Site maps, brightly colored wooden stakes, and markers, pinpoint where each new addition will occur (use distancing requirements). GPS all points (on unit, record stake number with: NB=natural burrow, AB = augered burrow, AC= artificial chamber).

iii. **Artificial burrows with nest chambers provide ready-made shelter** for prairie dogs and give the relocator the ability to release more prairie dogs at one time (eight animals can typically be accommodated per artificial burrow with nest chamber) and, they provide a good deal of confidence that prairie dogs will be safe in this contained system. Coordinate nest chamber placement with the waypoints from the Take Site coterie map; keeping distancing recommendations in mind.

iv. **Can other burrows be created using larger auger equipment?** Augering used in addition to existing natural burrows may be adequate, but solelydepending on augered tunnels for a large quantity of animals is questionable. Augering should **NEVER** be used to open old prairie dog tunnels because it is too damaging. Augers are machine driven bits that are roughly 4 – 5 inches in diameter, drilled at a 45 degree angle at a depth of four or more feet. While augering may be less time consuming then installing artificial chambers, there are disadvantages: cave-ins from cobbled or very dry soils, tunnel compaction at bottom of augured hole caused from the pressure of the auger bit (making tunnel deepening difficult for prairie dogs to dig into), the entry point of the auger is frequently greater than 5 - 6 inches and the augered hole only has one exit (both problems make it easy to corner prairie dogs by a predator), flooding by heavy snows or rains fills the tunnel making them unusable. And finally, the quantity of prairie dogs to release is reduced to maybe 3– 4 maximum, much less than what could be released into an artificialchamber.

Note: HSUS has tried to use augered burrows for release in various settings and failed to retain an adequate number of prairie dogs unless the soil conditions were loamy combined with abandoned natural burrows and a pre-existing tunnel system.

2. ***Create a Release Site map with new GPS points and compare with the Take Site map***. The goal is to duplicate the position of release points with coterie identification from theTake Site map depending on how many release site acres are available. Generally, about+/- 16 adult and yearling prairie dogs per acre can be released; this accommodates room for their expansion.

Natural Burrow Assessment Sheet

Name of Site: _____

Date(s) of site review: _____

Page _____ of _____

***2 foot depth = 1 or 2 pdogs, 3' = 2 to 3 pdogs, 4' = 3 to 4 pdogs, greater than 4'=**

Stake #	**GPS Y/N**	**Burrow Depth**	**Burrow Diameter**	**Clustered with other burrows (BU)? Y/N**	**4" tube or 6" reducer (for acclimation caps).**	***Approx # Prairie dog release (from sending colony).**	**Comments: Reducer** 
EX.#1		4'	5"	Yes - multiple	4" with 6" reducer	3	Release up to three prairie dogs into Stake #1 with coterie matching to Stake #2.
EX.#2		5'	4"	Yes - multiple	4"	4 to 5	Cluster with Stake #1, same coterie
EX.#3		3'	3"	No- single burrow	4"	2	Individual coterie, small, isolated. Needs to be drilled out (sm auger).
Ex. #4		2'	2-3"	No	No	0	unusable for release
TOTAL						**9-10 PDOGS**	
#1 …							
Total Pdogs							

Section 6

Take Site Preparation

a. Traps & Trapping Methods
b. Pre-baiting

Traps & Trapping Methods
Standard Operating Procedures

Description

This section reviews the trap mechanism and trapping methods. Prairie dogs need to be trapped with their family units (coteries).

Responsibility

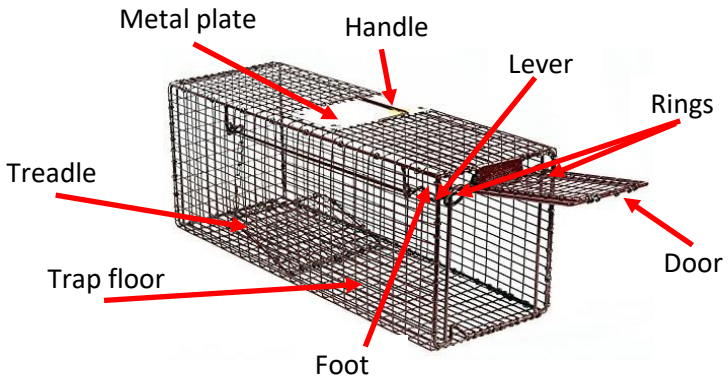
All field staff and volunteers are responsible for following the below outlined procedures following proper training.

Materials

- Site map
- Traps (Tru-Catch brand)
- Trap mats – vinyl material cut to fit the inside back floor of the trap
- Sod pins – 6-inch
- Tool pouch/fanny pack to carry pins, etc.
- Survey flags (bright colors)
- S hooks and chains
- Needle nose pliers
- Hammer
- Duct tape
- Sharpies
- Whole oats
- Buckets for grain

General Procedure

1. ***Parts of the trap:*** trap door, trap door rings, trap floor, treadle, the foot and lever (see diagram below):



2. ***Trap Set-up:*** This procedure occurs after the Take site has been observed and coteries have been marked. Because prairie dogs are highly social within their coteries, it makes sense to cluster traps around burrows at which they are commonly observed; this is where coterie identification markers should have been placed. A one-acre prairie dog site can contain more than 60 burrow entrances, so it is important to determine which burrows are more actively used.

   Placing one or two traps on every burrow is not efficient and makes it difficult to determine which animals belong to which coterie for release. To address this problem, cluster trapping is used – multiple traps surround the most active burrows, effectively creating a central feeding station that draws the prairie dogs to a given area. Follow these steps:

Example of cluster trapping

   i. Position traps on a flat spot within 3 – 4 feet of the mouth of a burrow. The number of animals observed determines the number of traps used. Add one additional trap to that observation number (i.e., if you observe five prairie dogs, set six traps). Always use a minimum of three traps.
   ii. Point the trap opening toward the burrow entrance and lock open the trap door by using a chain and S hook system or by inserting a six-inch sod pin through the open door and into the top of the trap. Test the trap door to ensure it is locked open and will not close.
   iii. Anchor the trap into the ground by hammering 6-inch sod pins into the trap's diagonal (opposite front and back corners).
   iv. With the claw of the hammer, loosen the soil where the trap door closes and push a small amount of this soil onto the trap floor so the wire grid is not exposed. Do not push soils into the back of the trap because it can jam the treadle mechanism.

v. Secure a trap mat (a square, flat piece of plastic material used to keep bait from falling through the bottom of the trap) in the back of the trap between the trap floor and treadle.
vi. Lightly cover the trap mat with a small amount of soil, enough to ensure the bait will stay on the mat and not slide/blow off.
vii. Continue placing additional traps in a circular position around the target burrow. Once all the traps have been positioned, gently sprinkle ¼ cup of oats/grain onto trap mats and create a light trail of grain leading from the trap mats to the burrow opening. Refer to the **Pre-bait section** of this chapter for more information.
viii. Record the number of traps placed at each burrow/coterie station. These numbers will need to be reported on state and federal permits.

3. ***Trapping Strategies:*** After the pre-bait period, trapping strategy should be determined. The first three days of initial trapping are the most productive before the prairie dogs become trap shy. These are also your longest days and require the most help.
    a. ***Whole Site:*** To maximize the number of individuals captured, it is a good idea to activate all the traps on the site. This decision will be dependent upon the number of traps involved and the amount of help available to monitor traps, collect animals, and close or lock open traps at the end of the day.
    b. ***Spot Trapping:*** This occurs when only targeted areas have traps activated. This technique is a good solution if there is minimal help for the day and trapping the whole site seems daunting with limited human resources. If this technique is used, make sure to write down which coterie traps were activated and the number of traps that are active. This list is used at the end of the day to ensure that any activated traps are either locked open or closed for the night.
    c. ***Survey Flag Marking vs. No Flags:*** In some cases, temporary survey flags are used to indicate which traps are activated. This is a safety measure to ensure that all traps are closed or locked open at the end of the day; if a flag is still on a trap, then it was missed and needs to be taken care of. The problem with flags is that prairie dogs are very aware of any changes in their environment and can become more alarmed from the presence of flags.
    d. ***All-day vs. Half-day Trapping:*** Prairie dogs are most active within two hours of sunrise and two hours before sunset. Ideally, the first three days of trapping should be full days. This means opening traps around dawn and closing (or locking open) traps around dusk. The mornings and evenings are usually the most productive since that's when prairie dogs are most active. Prairie dogs can also be captured during the middle of the day; however, this can sometimes become a threat to the prairie dog if the weather is too hot or too cold.

        Half-day (morning-only or evening-only) trapping can be very productive, too, and is a good technique when help is limited for the day. Morning traps should be activated an hour before dawn and then closed/locked open around mid-day, depending on the weather and behavioral cues. Evening trapping should begin in

the mid-to-late afternoon and then traps should be closed/locked open an hour before dusk.

e. ***Overnight Trapping:*** In limited situations, experience trappers may leave traps activated overnight when it makes sense; for example, in areas where prairie dogs are very skittish (typically very rural sites). Scenarios include:

   i. Early rising prairie dogs that are disturbed by humans activating traps in the morning.
   ii. A long-distance commute to the trap site
   iii. Long trapping sessions
   iv. Limited staff availability
   v. Short permitting timelines

   Before employing overnight trapping, consider how isolated the site is from heavy human presence and the potential to capture non-target species, such as rabbits, that are nocturnal and may trigger too many traps.

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Pre-baiting
Standard Operating Procedures

Description

Prior to active trapping, a period of pre-baiting occurs to allow prairie dogs to become accustomed to moving in and out of traps for a food reward; the trap door remains locked open during this period. Once traps become active, different types of bait and baiting strategies may be used.

Note: If you are pending a permit approval and cannot lay down traps, it's acceptable to pre-bait the colony by scattering bait on select burrows, allowing prairie dogs to get accustomed to the bait. The animals will follow the bait into the traps once the devices are placed.

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures following proper training.

Materials

- Whole oats
- Buckets

Use whole oats to pre-bait traps.

General Procedure

1. Multiple traps should be clustered around burrows as described in the Traps and Trapping Strategies section of the Take Site Preparation chapter. This approach to trapping ensures that captured individual animals are most likely from the same coterie; animals that feed together most likely belong together. Cluster trapping also serves as a safety measure to prevent overlooking traps – a cluster of traps is easier to spot than a single trap.
2. The amount of time needed for pre-baiting varies from site to site, but a period of two weeks is generally adequate. Traps in pre-bait should be checked at least every three

days and rebaited if the bait is gone. When rebaiting, place the bait only at the back of the trap (as opposed to creating a trail to the burrow entrance).

3. Prairie dogs are ready to trap when they are actively moving to the back of the device and consuming bait. Signs that indicate prairie dogs are comfortable with the traps:
    - Hulls from the whole oats are found (prairie dogs eat the nut meat that is inside the grain)
    - Scat in the back of the trap
    - Traps that are completely empty of grain
    - Digging around the trap
    - Prairie dogs standing on top of traps
    - Prairie dogs moving into and out of the traps freely

Examples of locked-open, clustered traps around a burrow; these prairie dogs are ready to be trapped.

Section 7

Release Site Preparation

7a. Burrow Preparation – Artificial Burrows & Natural Burrows
7b. Construction of Artificial Burrow with Nest Chamber
7c. Acclimation Caps

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Burrow Preparation – Artificial, Natural, & Augured Burrows Standard Operating Procedures

Description

Release site set-up is an essential component of a successful translocation. The site must mimic the Take Site coterie orientation as closely as possible, which should be reflected in the Release Site Map developed during the Release Site Evaluation. Site preparation will require utilizing abandoned burrows and/or installing artificial burrows, also as determined during the Release Site Evaluation.

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures following proper training.

Materials

Natural or Augered Burrows

- Chicken wire
- 6-inch sod pins
- 10” wooden skewers/sticks
- Cordless hand drill with 24-inch bulb planter bit
- 6-inch to 4-inch reducers

Materials Needed for Both

- Take Site Map
- Release Site Map
- Shovel
- Hammer
- Sturdy work gloves
- 10-foot long garden hose marked off in one foot increments
- Survey flags

Artificial Burrows

- Nest Chambers
- Measuring wheel
- Backhoe, Mini Excavator, Trencher
- Four-foot long wooden stake to measure trench depth
- Marking wand
- 4-inch diameter, corrugated, perforated drain tubes and end caps
- 3-inch diameter rigid pipe, such as PVC
- Strong tarp or ½” plywood sheet (4’ x 8’)
- Duct tape
- Acclimation caps

6" to 4" reducer

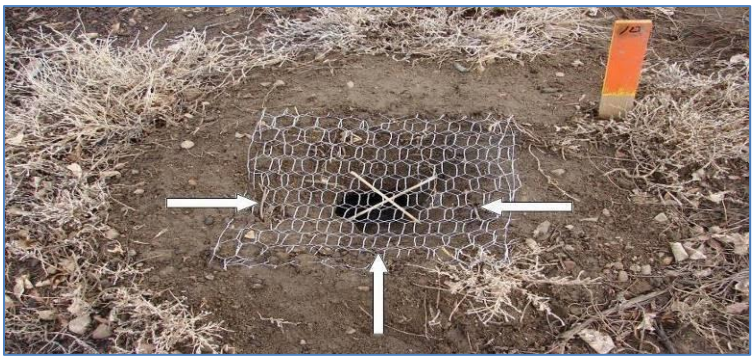
- 10-inch landscaping pins
- Zip ties

Note: The release site may need to be mowed in part or in full before burrow preparation to maximize acclimation for the animals.

General Procedure – Natural Burrow Preparation

To prepare natural burrows marked as reusable during the Release Site Evaluation, they need to be protected from other animals:

a. Place two crossed sticks inside the burrow. This helps to identify if there is activity in the burrow.
b. Cover the burrow opening with a 12” x 12” square of 1-inch poultry wire
c. Using 6-inch sod pins, anchor the wire to the bottom entrance of the tunnel and to the sides. Leave the top flap unanchored so that any animals currently inside the burrow tunnel (such as snakes, frogs, mice, etc.) can escape.



The white arrows indicate where sod pins should be anchored. Also note the crossed sticks just inside the burrow.

The chicken wire will be removed just prior to releasing prairie dogs into the burrow.

An acclimation cap (refer to the **Acclimation Caps** section of this chapter) should be considered. In most cases, 4-inch drain tubing must be secured into the natural tunnel so that an assembled acclimation cap can be placed over the opening; a 6-inch to 4-inch reducer may be needed. Secure the cap to the ground on all sides with 10-inch landscaping pins. Then, shovel dry soil into the acclimation cap and cover the entire bottom. This provides softer footing for the prairie dogs and helps hold the cap in place.

General Procedure – Artificial Burrow with Nest Chamber Installation

Refer to the **Artificial Burrow with Nest Chamber Construction** section of this chapter for assembly instructions.

Once the required number of artificial burrows have been prepared:

9. Determine if utility location is necessary
10. Rent a backhoe, mini excavator, or trencher

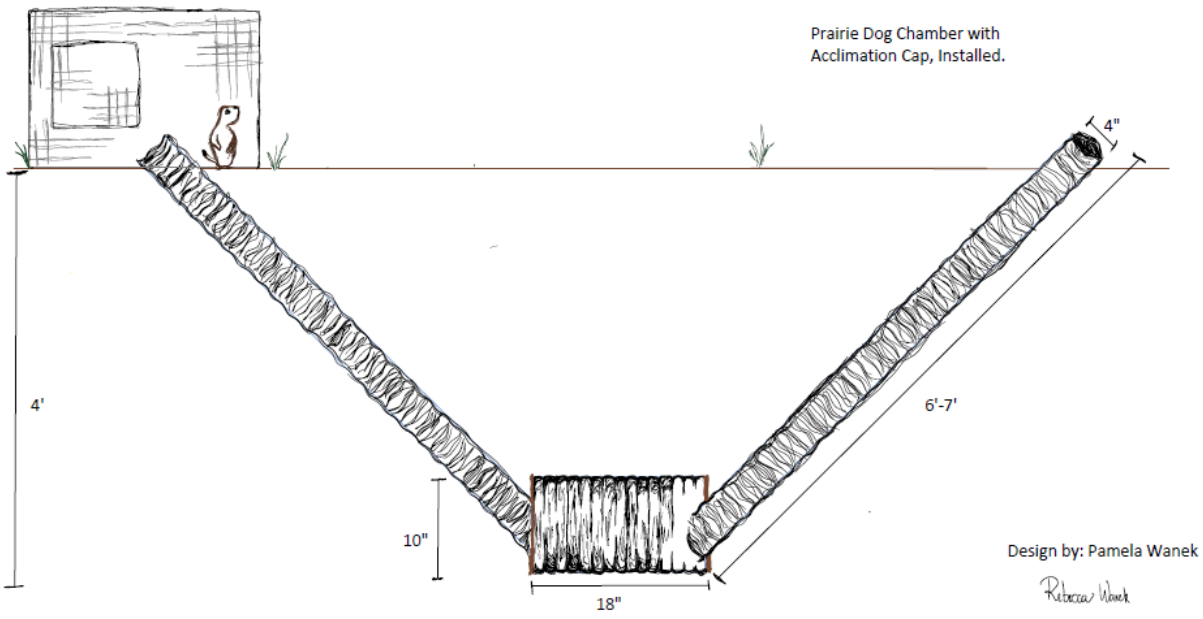
11. Using the marking wand, paint the direction that the artificial burrow should be installed. Orient the trench in a northwest and southeast direction. This is to avoid too much heat from building up on the black piping which can occur from a southwest exposure during the heat of the summer.
12. Take care to avoid unnecessary damage to soils and vegetation by trenching. Using a heavy tarp or plywood board to capture excavated soils is better than piling soils up directly on the ground. Make sure to place the tarp or plywood next to the trench line.
13. Dig a 4-foot deep trench that is one-foot wide and 8 – 9 feet in length. Use the 4-foot stake to measure depth.
14. Assist the equipment operator with determining the depth and length of the trench by using a demo completed artificial burrow with nest chamber.
15. Fill the nest chamber with a shovel-full of dry soil and approximately one fleck of quality hay. Prairie dogs use these materials for warmth and comfort and to absorb waste.
16. Once dug, place the artificial burrow inside the trench with drain holes facing down. Insert 4-inch corrugated drain tubes into the precut 4.5-inch diameter holes on each side of the chamber. Twist at least four rungs of the 4-inch tube into the chamber to secure the connection. Make sure that each corrugated tube extension stays well above ground. Shovel soils around the chamber, underneath the tubes, and against the plywood ends. This stabilizes the tubes and their connections into the chamber.
17. Insert a 3-inch diameter stiff pipe inside the 4-inch tubes. This helps maintain structural integrity while backfilling with soil. Note: This step is not always necessary. Only in conditions where large soil clods and/or rocks are present that could potentially crush the flexible 4-inch tubes. This is especially true on hot days when the tubes can become very weak from the heat.

Example of a 3-inch rigid pipe inserted into a 4-inch corrugated tube.

18. Use the backhoe or mini excavator to backfill the trench with the remaining soil. Tamping down the soil with the equipment wheels can help to further set the artificial burrow in the ground, but be careful not to damage the corrugated tube extensions that stay above ground. Top off the trenched area with a heap of soils as they will settle over time and could create a pit. Once the backfilling is complete, remove the 3-inch stiff pipes.
19. Recheck each opening by inserting the garden hose through the tube and into the nest chamber below ground. Make sure the tubing is not kinked and has not detached from the nest chamber.
20. Cut back the corrugated tube extensions to approximately four inches above the soil line so the tube can fit inside the acclimation cap.
21. The openings need to be protected from unwanted encroachments by other prairie dogs or curious animals. Snap 4-inch tube caps onto the tube extensions and secure each cap and tube together with duct tape. Completely cover the southeast side

extension with soils to prevent any light from shining through. This is to discourage newly released prairie dogs from chewing their way out. Generally, prairie dogs are released into the northwest opening to the chamber, so that entrance will be covered with an acclimation cap.

22. Place an assembled acclimation cap (refer to the **Acclimation Caps** section of this chapter) over the northwest tube opening. Secure the cap to the ground on all sides with 10-inch landscaping pins. Then, shovel dry soil into the acclimation cap and cover the entire bottom. This provides softer footing for the prairie dogs and stops food from falling through the grid wire while also holding the cap in place.



Example of a completed artificial burrow with nest chamber installation, including acclimation cap.

General Procedure – Augered Burrow Preparation

NOTE: HSUS's success with machine augers has been mixed:

- Areas where soils are loamy/clay seemed to retain structural integrity better than areas that were rocky and dry.
- Areas that do not have any old or abandoned burrows makes it more difficult for prairie dogs to adjust because re-excavation of old occupied burrows is easier than starting new burrows.
- Rains and snows can damage augured burrows thus destroying burrows needed for incoming prairie dogs.
- Should only be considered if the site was previously occupied by prairie dogs where already established burrows and tunnel systems once existed (the length of time between old occupancy and new occupancy is determined on a site by site basis).
- Should NEVER be used in an attempt to open up old tunnels because the larger bit size is too cumbersome to operate and could destroy delicate tunnel systems.
- In most cases, prairie dogs did not remain in the augured holes, rather they were used as a temporary shelter during re-excavation of old burrow systems.
- A one-way exit leaves prairie dogs more vulnerable to predation.
- The end of the bit compacts the soil making it difficult for prairie dogs to lengthen or build onto the augured hole.

IMPORTANT! Be very mindful of rain as it can fill up augered burrows quickly, which destroys the burrows and drowns the animals.

Machine augering uses a bit that is roughly 4 – 5 inches in diameter with a length of approximately 5 – 6 feet that is attached to heavy equipment, such as a Bobcat. Hand augers use a 24-inch bulb planter bit attached to a hand drill.

Machine auger

To create an augered burrow, use an auger to tunnel at a 45-degree angle and reach a depth of four or more feet.

Protect the augered burrow from other animals just like a natural burrow. Refer to **General Procedure – Natural Burrow Preparation** of this section.

An acclimation cap (refer to the **Acclimation Caps** section of this chapter) should be considered. In most cases, 4-inch drain tubing must be secured into the natural tunnel so that an assembled acclimation cap can be placed over the opening; a 6-inch to 4-inch reducer may be needed.

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Construction of Artificial Burrow with Nest Chamber Standard Operating Procedures

Description

Artificial burrows with nest chambers are used when release sites lack enough natural burrows to accommodate all incoming prairie dog coteries. They provide safe shelter while the relocated animals establish themselves on the site by digging new natural burrows.

Note: Prairie dogs moved in the spring (not recommended) may require separate nursery chambers to house newborns with their mothers.

Many types of materials can be used to build artificial burrows. The artificial burrow with nest chamber described here is built out of corrugated culvert pipe. There are several advantages to this design:

- Corrugated culvert pipe can withstand the weight of trenched soils
- Ribbing on the inside of the pipe gives prairie dogs a better grip (as opposed to a slick surface) and ribbing on the outside makes the material easier to cut.

A completed artificial burrow with nest chamber

- The nest chamber is large enough for prairie dogs to sit up, but small enough to reduce dead-air space
- The chamber contains two entrances/exits which increases airflow. This also serves as a safety feature should one side of the chamber pipe fail.
- The material is resistant to erosion making the chambers reusable.
- Prairie dogs can build directly off the chamber by gnawing through the interior and exterior ribbing.
- Drain holes can be drilled in the bottom of the chamber allowing for better drainage in the event of excessive moisture from storms (rain or snow) and for sanitary reasons (defecation/urination) by prairie dogs.
- Can be produced in mass quantities

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures for their own safety following proper training.

Materials

- 10-inch diameter corrugated culvert pipe (black; should be corrugated on both the inside and outside)
- Fourteen feet of 4-inch perforated drain tube (black)
- 1/4" thick, 4' x 8' plywood board (NO particle board); makes 32 chamber end pieces
- Two 12" x 12" chamber end pieces
- Picture hanging wire (16-gauge, black, annealed)
- White chalk
- Circular saw
- Miter saw
- Reciprocating saw or hacksaw
- Hand drill and bits (electric-powered works best to drill larger holes)
- 4.5-inch diameter drill bit
- Drill press (highly recommended for mass chamber construction)
- Drill hole saw bit (1/2-inch to 1-inch diameter)
- Utility knife
- Wire cutter
- Needle nose pliers
- Screwdriver

General Procedure

23. ***Order culvert piping from an irrigation or farm supply store.*** This may take several weeks for delivery. Make sure it is the 10" diameter (interior) culvert pipe with ripples on both the inside and outside of the pipe (approximately 11.5" diameter). The ripples are important on the outside for ease of cutting and the ripples on the inside provide traction for prairie dogs. The pipe comes in 20-foot lengths, often called sticks. Each length is cut to whatever size is needed. An 18-inch length is an adequate chamber for 6 to 8 individuals. One stick makes approximately 13 chambers. Mark off every 18 inches along the outside of the culvert tube with chalk, then make individual cuts with a reciprocating saw or a hacksaw.

Cut culvert pipe into 18-inch length pieces.

24. ***Check stock on drain tubing.*** This tubing is usually in stock at most major hardware stores, but check to make sure it doesn't need to be ordered ahead of time.
25. ***Purchase a 4' x 8' quarter-inch thick piece of plywood.*** Cut the plywood into 12" x 12" squares (they don't need to be exact). Some hardware stores will do this;

otherwise, use a circular saw to cut the pieces. The result should be 32 squares per sheet of plywood, enough to make chamber end pieces for 16 nest tubes.

26. Using a miter saw, make a small dog-ear cut at the four corners of each chamber end piece *(see photo to the right)*. This helps the nest chamber better fit into the trench.

27. Using the 4.5-inch diameter drill bit, cut a hole in the center of each chamber plywood end piece *(see photo to the right)*.

28. Using an 11/64 drill bit, drill a small hole near the edge and in the center of each side of the chamber end piece for a total of four holes per piece *(see photo to the right)*.

Nest Chamber end piece

Drilling holes at cross sections of culvert pipe.

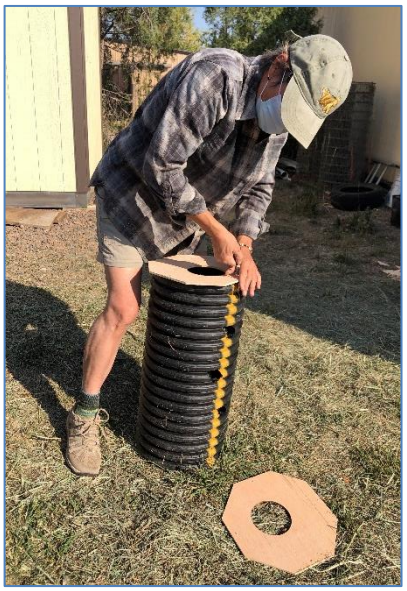
29. Using the same 11/64 drill bit, drill small holes at cross sections on the edges of the culvert pipe for a total of four holes on each side. These holes will match up to the four holes drilled into the chamber end pieces.

30. Drill four 3 – 4 inch diameter drainage holes in the bottom of each culvert pipe.

31. Cut the picture-hanging wire into 6-inch length pieces

32. Thread a piece of wire through each hole at the edge of the culvert pipe and then clasp each wire to itself like a cotter pin. Next, thread the clasped wires through the small holes in the chamber end pieces. Pull the clasped wires up tightly to seal the chamber end piece to the culvert pipe. Now, unclasp the wires and splay the ends out opposite of each other. Using needle nose pliers, twist the wires opposite of each other to tighten the connection and secure the chamber end pieces to the culvert pipe ends.

33. Using the box cutter, cut the 4-inch diameter perforated drain tube into six-foot or seven-foot lengths. Two will be needed for each chamber. Insert the drain tubes into the chamber end pieces. Thread (twist) the tubes into the holes by at least 3 – 4 rungs so that the tubes are secure inside the culvert pipe chamber. This will be a very tight fit; using a screwdriver to begin the threading may be helpful.



Securing chamber end pieces to culvert pipe chamber with wire.

34. The chamber is finished and ready for installation.

Artificial burrow with nest chamber

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Acclimation Caps
Standard Operating Procedures

Description

Acclimation caps are used to restrict prairie dogs from leaving the protection of the artificial nest chamber. Prairie dogs can move freely between the below-ground chamber and the above-ground cap, but they cannot escape the system until they have "acclimated" and the caps are removed.

Note: Cattle or other livestock should not be allowed to roam/graze on the release site while acclimation caps are in use as these animals may disturb or destroy the equipment.

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures following proper training.

Materials

- Rabbit cages, at least 24" x 24" x 18" (Havahart, www.kwcages.com)
- Zip ties
- Wire crimper

Prairie dog being released into an acclimation cap.

General Procedure

Acclimation caps are a six-sided open wire cage that, when fully assembled, measure at least 24" x 24" x 18". While these dimensions are adequate, 30" x 24" x 18" is better. The cap contains a side door and a 4.5-inch square opening in the middle of the floor.

Cap Assembly - Cage is 24” x 24” x 16” with door
Cage comes unassembled and you will need wire crimps and crimper to attach the pieces; leave six sides, (marked with an “ “ in the diagram below) unattached so the cage is collapsible while not in use. When in use, the previously unattached sides are temporarily assembled with zip ties; leave the zip-tie tails on. The door is attached with wire crimps.

Wire crimper

Modifications for acclimation cages: Cut a 4.5-inch square in the center of the bottom of the cage (this will fit over the 4-inch diameter drain tube extending above ground). An additional modification would be to cut a 6-inch square of wire mesh and attach this to the bottom of the cage on one side; this additional piece may be necessary if the bottom hole needs to be covered for temporary indoor housing.

Do not crimp to the top or sides of each end piece; crimp those pieces to the main housing on the bottom only.

Section 8

Capturing Prairie Dogs

8a. Trapping
8b. Flushing
8c. Non-target Species Concerns

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Trapping
Standard Operating Procedures

Description

Live trapping prairie dogs is a strategic process designed to reduce stress on the animals by capturing them in coteries. Additionally, following these protocols will minimize the number of non-target animals captured (Refer to the **Non-target Species Concerns** section of this chapter). Every colony and trapping environment is different, from colony size and colony behavior to weather and permitting deadlines. Flexibility, patience, innovation, and teamwork are required to handle unanticipated scenarios that often arise during trapping operations.

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures following proper training.

Materials

- Take Site Map
- Traps (Tru-Catch) – should already be in place
- Extra trap mats
- Pet kennels
- Sheets
- Towels
- Whole Oats
- Buckets
- Duct tape
- Sharpies
- Hammer
- 6-inch sod pins
- Needle nose pliers
- Survey flags

General Procedure

4. ***Trap Activation:***
    a. Unlock the traps. Lift the two rings up on the trap door and set the foot upwards to catch the lever that connects to the chain attached to the treadle (refer to **Parts of the Trap** in **Section 6, Traps & Trapping Methods**). Be sure no soils or small rocks or other vegetation prohibit the trap door from closing completely. If in doubt, open the door and let it fall; it should close completely. Also, make sure that no rocks or vegetation have lodged underneath the treadle, preventing it from triggering. Place a small amount of bait on the trap mat at the back of the trap. If grain still remains in the trap, go ahead and add a small amount of fresh bait. Lastly, if the trap uses an S-hook and chain locking mechanism, make sure the chain is not dangling at the trap door.
    b. Avoid talking to other team members while setting traps, or talk in a whisper. Human sounds cause anxiety in prairie dogs, which may cause them to remain in their burrows.
    c. Typically, it takes at least an hour for prairie dogs to emerge and begin engaging in normal behavior and activity after humans have been present on site. However, every colony is different.
5. ***Monitoring Activated Traps:*** It is essential that the site remain undisturbed while traps are activated. Observe from a distance using binoculars; this may include finding a good blind spot on the site, parking your car at a distance to watch from different vantage points, or leaving the site entirely. Wild animals, especially prey species like prairie dogs, are attuned to feeling energy/presence. This is not the time for a media event or to encourage a group of onlookers. This stage of a prairie dog translocation is exciting, but the goal is to trap as many prairie dogs as possible with the least amount of disturbance. If traps have visual obstruction and can only be monitored by physical presence on the site, consider checking in time blocks of 1 – 2 hours. If the weather is warm but not hot (50 – 70 degrees Fahrenheit), it's fine to leave captured prairie dogs in traps for 2 – 3 hours in order to not disturb the site. In most cases, the animals will settle down and continue eating the bait.

It is possible to capture more than one animal in a trap.

6. ***Re-entering the Take Site:*** Use your best judgement about when to enter the site to retrieve prairie dogs and/or release non-target species. Take into account whether other prairie dogs are close to entering traps; entering the trap site disturbs the site. During monitoring, document the time when the first prairie dog, or non-target species, is captured. Also, consider the weather: wind, rain, snow, sunny, cloudy, and temperature (cold, hot). Remember, if the weather conditions are uncomfortable for you, they are probably uncomfortable for a trapped animal. Additionally, rabbits and birds are more sensitive to heat than prairie dogs. Upon re-entering the site and approaching a trapped animal:

a. Place an appropriately sized piece of bed sheet or towel (enough to entirely cover the trap), immediately over the trap; this cover calms the animal.
b. If the captured animal is a non-target species, calmly pull back the covering and open the trap door, allowing it to escape. Then, reset the trap.
c. If the captured animal is a prairie dog, keep the trap as covered as possible and record the coterie ID number (the closest coterie identification marker) on the piece of duct tape on the top of the trap. Vegetation patterns and runways can also help determine which coterie a prairie dog belongs to. Gently, rock the trap from side to side to dislodge the sod pins, lift the covered trap off the ground, and take the animal to the designated collection area (again, being mindful of the weather conditions). Make sure to keep the trap right-side up so that the door doesn't open. Leave part of the trap slightly uncovered to encourage air flow (Also, refer to **Recovering Prairie Dogs** and **Managing the Collection Area** further down in this document.).

Note: If a predator or human being is disrupting trapping operations or potentially causing harm to a trapped animal, you will need to re-enter the site to address the issue. It is not uncommon for birds of prey, coyotes, foxes, domestic pets, and even curious humans to cause problems.

KICK TRAP DOORS CLOSED, IF TRAPPING THE NEXT DAY

LOCK THE TRAPS OPEN, IF TRAPPING WILL BE DELAYED

7. ***Ending the Trapping Session/Day:*** Use your best judgment on when to end the session so that traps can be checked in sunlight. Using the Take Site Map, walk the entire site in a systematic pattern so that no area is skipped (i.e., snake back and forth from east to west; walk in grids; etc.) and close or lock-open all traps (This is determined by the timing of the next trapping session. See graphic to the right). To maximize familiarity, walk the site in the same pattern each time. For a large site, two different individuals should cross check each other. **ALWAYS DOUBLE CHECK YOUR TRAP SITE AT THE END OF THE DAY** to ensure no trapped prairie dogs have been accidentally missed and that all traps are secured so that an animal does not get trapped when the site is not being monitored. Always visit the site early the next morning to recheck, whether trapping or not.
8. ***When to adjust/relocate traps:*** Traps should only be moved if a prairie dog or dogs are observed in areas that do not have any nearby traps; however, if trapping productivity is waning because the animals have become trap shy, that might also be an indicator to reset the traps. Prairie dogs take time to adjust to and trust moved traps/changes, and we are essentially resetting the acclimation period every time they are moved. Once traps have been moved, a new pre-bait period may be needed. Keep in mind during resetting that you want to bring prairie dogs to the traps, not the traps to the prairie dogs.

Note: Even if you are only seeing one prairie dog, set-up a minimum of three traps – there may be more prairie dogs than originally thought, a non-target species may get trapped, or a trap might malfunction. Prairie dogs like being around other prairie dogs as there is safety in numbers. Lone prairie dogs or small clusters of prairie dogs will be

on high alert, frighten easily, and may not appear above ground for long periods of time. All of these factors significantly decrease trapping success.

9. ***Recovering Prairie Dogs:*** When retrieving multiple trapped prairie dogs at the same time, follow these steps:
    a. Cover every trapped animal with a sheet, pillow case, or towel big enough to cover the entire trap.
    b. Record the coterie ID number (the closest coterie identification marker) on the piece of duct tape on the top of the trap. Vegetation patterns and runways (subtle trails between burrows) can also help determine which coterie a prairie dog belongs to.
    c. Gently rock the trap from side to side to dislodge the sod pins that are keeping the trap in place.
    d. Lift the covered trap off the ground and take it to a designated transport vehicle or collection area.
10. ***Managing the Collection Area:*** Over the course of a day, many prairie dogs will be trapped. The following are best practices for collecting and preparing prairie dogs for transport and release.
    a. Designate an area to collect captured prairie dogs, making sure to keep traps and pet kennels out of the direct sun.
    b. Make sure there is adequate airflow in the trap, but maintain partial cover so that the prairie dog still feels hidden.
    c. If traps need to be stacked on top of each other for transport, use a light sheet between each layer of traps.
    d. When several members of the same coterie are captured, they can be transferred to the same pet kennel. Only transfer prairie dogs at the release site; if a prairie dog gets loose on the take site, it will be extremely difficult to trap that animal again.
        i. If outdoor temperature is below 70 degrees, it is acceptable to combine 4-5 prairie dogs from the same coterie into a single pet kennel (depending on the size of the kennel).
        ii. When temperatures are greater than 70 degrees, or if the animals need to remain in a vehicle for an extended period of time, leave the prairie dogs in their individual traps and make sure there is adequate airflow. You shouldn't keep a domestic pet in a closed vehicle on a hot day, nor should you keep prairie dogs in a pet kennel.
    e. Prairie dogs trapped in the morning should be released that afternoon. Ideally, prairie dogs trapped in the late afternoon and evening should be released immediately; however, if that is not possible, they may need to be overnighted

Make sure there is adequate air flow.

Prairie dogs waiting for transport and release in a shaded collection area.

and released first thing the next morning. Refer to the **Caring for Prairie Dogs in Captivity** section of the **Releasing Prairie Dogs** chapter.

11. When/How to Rebait

a. When trapping daily, take a bucket of whole oats when activating traps in the morning, or beginning of the trapping session, and refresh traps as needed with a small amount of whole oats placed at the back of the trap.

b. Traps that are being locked open should also have grain in the back to reinforce the pre-baiting experience of earning a food reward with no negative consequence, and they should be checked every day to monitor food consumption. Only a small amount of whole oats should be supplied for each rebait, unless the traps have just been moved to a new location. Then, a small trail of grain can lead from the burrow entrance to the trap, just like during the original pre-bait period.

c. Other baits to try toward the end of the trapping period:
Note: Use your best judgment, keeping in mind non-target species that may get trapped. For example, birds are more attracted to sunflower seeds, carrots, and corn. Refer to the **Non-target Species Concerns** chapter of this section. Also, do not change the bait mix until you've obtained approval from the field manager.

   i. Shelled and crushed unsalted peanuts
   ii. Molasses-scented bait, such as Equine Senior (a horse feed)
   iii. Three-way sweet feed (don't add too much as it can give animals diarrhea and cause dehydration). It also contains corn and can attract more non target species
   iv. Peanut butter added to whole oats
   v. Carrots
   vi. Corn

Flushing
Standard Operating Procedures

Description
Flushing is the practice of using soapy water to "flush" prairie dogs out of a tunnel system. It is a valuable tool for removing prairie dogs who have become trap-shy or when there isn't enough time to continue trapping; it is usually employed at the end of a trapping session.

Responsibility
All field staff and volunteers are responsible for following the below outlined procedures following proper training.

Materials
- Secure a water source (might require a permit, hydrant wrench, hydrant adapter, and a water meter)
- Hand-held mirror
- Hoses (preferably in 50-foot lengths)
- Liquid dish soap
- Hose spray nozzle (optional)
- Pet kennels stuffed with hay
- Towels
- Bite-resistant, water-resistant gloves
- Water tank
- Gasoline for the water tank motor
- Hose line splitter (optional)

General Procedure
To flush out prairie dogs, soapy water is injected into the tunnel system. When prairie dogs emerge, they are captured by hand, towel dried, and placed into a pet kennel lined with dry hay or towels. Liquid dish soap is used as a foaming agent to seep into chamber lobes that branch off from the underground tunnel system. Movement in the bubbles indicates whether a prairie dog is in the tunnel.

1. Be aware of snakes and other species that may get flushed out of the burrow.
2. Determine who will be the flusher and who will be the catcher. All individuals should have leather protective gloves. The catcher should have the pet porter and at least two towels.
3. Observe the site from a distance with binoculars to watch for prairie dogs.
4. Once an individual is spotted:
    a. Drive the water tank toward the spotted individual. Have one person ride on the back of or alongside of the water trailer with the hose uncoiled and ready to go, when safety allows.
    b. Start the water tank engine and make sure that the pet porter door is open.
    c. The flusher and catcher should situate themselves on the backside of the burrow, taking care to not cover the burrow entrance with shadows.
    d. Allow the sudsy water to enter the burrow.
    e. There are two techniques at this point:
        i. The catcher places their arm in the burrow to feel the prairie dog crawling up.
        ii. The catcher waits with their hands at the burrow entrance for the prairie dog to emerge.
    f. When a prairie dog begins to exit the burrow, you will typically see their whiskers through the bubbles. Sometimes, they will appear and disappear as they figure out how to move out of the burrow. Be patient and wait until you are sure you can get a firm grip around the body of the prairie dog (Ideally, grip their shoulder or behind their front legs. Avoid capturing by the head to minimize injury to the prairie dog and biting.).
    g. Once the animal is in hand, dry it off with a towel and then transfer the animal to the pet porter and shut the door.
    h. Place the pet kennels containing captured animals in a safe, comfortable place while you continue to flush for other prairie dogs – keep them out of the sun, away from stressful noises and cover with a sheet or towel (make sure you allow ventilation).
    i. Label the pet porter with the coterie ID number of the closest identified coterie.

Typical 600 gallon water tank.

Non-target Species Concerns
Standard Operating Procedures

Description
Non-target captures, such as birds, rabbits, and other mammals, may occur during capture of prairie dogs

Responsibility
All field staff and volunteers are responsible for following the below outlined procedures following proper training.

Materials
- Sheet or towel
- Gloves

General Procedure
It is best to release a trapped non-target animal as soon as possible. Some non-target species, such as rabbits and birds, are more sensitive to heat than prairie dogs, and they can injure themselves in a frantic effort to escape.

35. Approach the trapped animal slowly and with caution.
36. Cover the trap with a sheet or towel.
37. Open the trap door and allow the animal to exit.
38. If the animal needs some encouragement, you can pull back the covering slightly and/or gently tap the back of the trap.

In rare instances, a raccoon or skunk may be trapped. If this happens, contact your field lead supervisor or the program manager for more information on how to safely release these animals.

Section 9

Releasing Prairie Dogs

9a. Transport, Handling & Release
9b. Caring for Prairie Dogs in Captivity

Transport, Handling, & Release
Standard Operating Procedures

Description

Once prairie dogs have been captured, they need to be transported to the Release Site and, in most cases, transferred to pet kennels as soon as possible. Sometimes, situations arise that require overnighting captured prairie dogs until they can be released the next morning. Refer to the **Caring for Prairie Dogs in Captivity** section of this chapter.

After arriving at the Release Site and organizing the animals, they are ready to be released. The following protocols are suggested to minimize stress on prairie dogs and the humans who are translocating them and to ensure confidence in handling.

Responsibility

All field staff and volunteers are responsible for following the below outlined procedures following proper training.

Materials

- Maps of Release and Take Sites
- Additional notes or data as needed for Release and Take Sites
- Release Site Data Sheet
- Sharpie, pen, pencil
- Pyranha spray
- Welding gloves
- Personal leather gloves
- Towels (at least two)
- Dry foods - whole oats and sunflower seed
- Wet foods - Produce (carrots, lettuce, sweet potatoes)
- Pet kennels
- Grass hay
- 4-inch diameter drain tubing - spare pieces

General Procedure

1. ***Transport:*** Prairie dogs are transported in either the trap that they were captured in (labeled with coterie number) or a pet kennel (labeled with coterie number). Best practice is to transfer the animals from trap to pet kennel (containing hay or dry towels) at the Release Site in case of escape. Adhere to the following guidelines to keep prairie dogs as calm as possible:
    a. Work quietly and speak in soft voices.
    b. Minimize handling of the animals.
    c. Keep the trap or kennel partially covered with a towel or sheet to reduce human interference yet allowing for good ventilation.
    d. Keep animals cool and out of direct sunlight/heat. This may also mean transporting prairie dogs in traps rather than pet kennels because enclosed kennels can raise ambient temperatures and restrict airflow causing discomfort to contained animals.
    e. Drive cautiously to avoid unnecessary jostling.
    f. Keep prairie dogs separate from human occupants in the vehicle.
    g. Leave domestic pets at home.
2. ***Unloading at the Release Site:*** Remove all traps and/or kennels from the vehicle and sort traps on the ground by coterie number. Make sure to keep traps half covered by the sheet/towel for the animal's protection, but allow the coterie number on the top of the trap to be visible. Once sorting is complete, transfer groups of prairie dogs to the designated coterie release burrows. In some cases, multiple prairie dogs from the same coterie are placed into a single pet kennel for easier transport. In all cases, a pet kennel should be used as an intermediary step prior to human handling.

Captured prairie dogs sorted by coterie, waiting to be transferred to pet kennels.

3. ***Locating Receiving Coteries:*** Use the Release Site map to locate the receiving coteries for captured prairie dogs. Some coteries may have more than one nest chamber/burrow allocated to them. If you are unsure into which artificial, natural, or augured burrow to release, review the coterie identification stakes to see which one has the fewer number of prairie dogs. If you have an adult male, release it into the chamber that does not already have an adult male.
4. ***Handling:*** The only times prairie dogs are handled after capture are to transfer them from traps to pet kennels and to examine their general health, sex, and age just before

release. Since prairie dogs will bite due to fear, wearing bite gloves or leather gloves, such as welding gloves, or doubling up on gloves is required. Prairie dogs should be transferred directly from their traps into pet kennels. They should never be pulled out of traps by hand. Before removing prairie dogs from the pet kennel, lay a towel on the ground directly next to the release burrow/chamber entrance. You will place the prairie dog on this towel so they can be quickly examined just prior to release.

Transferring a prairie dog from a trap to a kennel.

a. To hold a prairie dog, use a firm grip with one hand locking your thumbs behind the shoulders and your front fingers just below their front legs. Prairie dogs are strong and can squirm and get loose quickly. Do not be afraid to hold them very firmly.
b. If a prairie dog escapes your grip, use a towel to try and cover/catch the running animal; it is easier if you can corner the prairie dog. Sometimes, when there is no immediate place to hide, prairie dogs will lay flat on the ground, called "pancaking." This is a natural instinct to try to avoid predation. If you are able to catch the animal, wrap them in the towel like a burrito. If you are unable to catch the loose prairie dog, observe which burrow/coterie the animal enters and record it on the data sheet.

Note: **If at any time you feel you do not have a good grasp on the prairie dog, quickly place the animal back into the pet kennel and reposition for a better grip.**

5. ***Examination – Sex, Age, Health:*** Part of the purpose of handling prairie dogs at this stage is to examine their health, determine their sex, and estimate their age. This is all performed while the prairie dog is on the towel that was placed next to the release burrow.
   a. Sexing a prairie dog involves looking at their genitals. Genital bumps located close together are generally females (the vagina and anus). Genital bumps that have a finger space between them (the penis and anus) are generally males. This process can become difficult when prairie dogs are very young or small (juveniles and yearlings).
   b. Prairie dogs are aged based on their first emergence from the natal burrow. Several other estimated factors – the size of genitalia, color of teeth, supple fur, scaring from fights, weight, size and general condition of the animal – also help with aging. Younger prairie dogs are generally in better shape with little to no scaring, supple fur, white teeth, and smaller genitals. Older prairie dogs look a little more time-

The photo on the left is of a female. The photo on the right is male, which can be distinguished by the coloration and the big nuts!

tested; females may have dried or swollen teats, and adult males may have a reddish fur color on their testis. Use these acronyms for recording sex and age:

i. AM/AF = Adult Male/Adult Female (generally, an animal older than 21 months)
ii. YM/YF = Yearling Male/Yearling Female (generally 9 – 21 months old)
iii. JM/JF = Juvenile Male/Juvenile Female (generally less than eight months old)

c. To assess the general health of a prairie dog:

i. Determine if the animal is stout, lean, or somewhere in between
ii. Examine their two eyes, four limbs, and 20 digits (referred to as "2/4/20") and the tip of the nose. These are areas most prone to injuries. Most injuries are minor and caused by the trap or other prairie dogs. Minor bleeding on the nose (generally from "cage nose"- where the animal tries to push itself out of the trap), a toenail pull, or small scrapes are the most common minor injuries found. They can be addressed in the field using items from a prairie dog first-aid kit. If injuries are more severe, the animal should be sent to a wildlife rehabilitator. Severe injuries include: gaping wounds, small holes in the skin (caused by maggots), injuries caused by predators (claw marks from birds-of-prey) or a lack of resistance/fight during handling. Each limb may need to be checked for strength by simply pressing a gloved finger against the bottom of the foot or front paw. The prairie dog should react by pushing away with that limb. If the animal does not resist/push away, there may be a broken limb, back or other medical issue.

PRAIRIE DOG FIRST-AID KIT ITEMS:

- QUICK STOP FOR BLEEDING
- ANTIBIOTIC CREAM
- INSTANT HEAT PADS
- GAUZE
- Q-TIPS
- BETADINE (DILUTE)
- TWEEZERS
- TOENAIL CLIPPERS

i. **Animal Emergency Situations:** If a prairie dog has a severe injury, locate a wildlife rehabilitator or rehabilitation center. ***Note:*** *For transport to a rehabilitator/rehabilitation center, place a small sheet or pillowcase (not a towel) inside a small pet kennel. Prairie dogs can be further injured by getting toenails stuck in the looped fabric of towels.*

COLORADO FRONT RANGE REHABBERS:

Donna Nespoli (Colorado Native Bird Care)
Home: (303) 823-2326
Cell: (303) 618-0357

Greenwood Wildlife Rehabilitation Center
5761 Ute Hwy., Longmont, CO, 80503
(303) 823-8455

**Most states have a list of certified wildlife rehabilitators. For Colorado, visit Colorado Parks & Wildlife's website - https://cpw.state.co.us/Documents/RulesRegs/SpecialLicenses/WildlifeRehabilitation/PublicRehabListing.pdf*

6. ***Treat for fleas (plague management):*** Prairie dogs are sprayed with flea repellent called Pyranha prior to being released. Pyranha is very strong and care should be taken to avoid spraying into the animal's eyes, mouth or genitalia. Adults and yearlings should be sprayed on their backs and then have the product rubbed into their body with a glove. Juveniles (pups) do not need to be sprayed as they will be with other treated adults (herd immunity). Such young prairie dogs may have a reaction.

Spraying a prairie dog with flea repellant, Pyranha.

7. ***Release:*** Releasing animals into burrows with acclimation caps is called a soft release; releasing without acclimation caps is called a hard release. When prairie dogs are introduced to a new burrow entrance, they may resist because they are afraid. With a little coaxing and as they calm down, the animal will scurry down the tube/tunnel.

   Note: Adding more prairie dogs to an acclimation cap already in use is fine as long as they are from the same coterie. Simply release the prairie dog into the 4-inch tube and lock the acclimation cap door closed.

   a. ***Releasing prairie dogs into an artificial nest chamber:*** Firmly grasp the prairie dog below their underarms. Direct the head of the prairie dog toward the 4-inch drain tube. Be patient! Some prairie dogs are frightened and need to calm down to understand that the tube is their best choice. Once their head and front feet begin to go into the tube, release all pressure on the animal. Allow some time for the prairie dog to go deep into the chamber before releasing the next prairie dog. After sending down the last prairie dog, place at least one-half to one fleck of hay inside the acclimation cap. Prairie dogs will pull the hay down into the nest chamber and use it for bedding. **Please do not release the animal into an acclimation cage.** If a prairie dogs gets loose inside an acclimation cap, you must capture the prairie dog and gently coerce the animal down the tube/tunnel. DO NOT leave a prairie dog in an acclimation cap without introduction to the tube/tunnel. The release is not complete until the prairie dog is down the hole.
   b. ***Releasing prairie dogs into a natural burrow with acclimation cap:*** If released prairie dogs will be contained in a natural burrow covered by an acclimation cap, a 4-inch diameter drain tube will need to be installed to securely connect the acclimation cap to the burrow entrance. The drain tube must be anchored snuggly into the natural burrow so prairie dogs cannot dig out along the outside of the tube.

      There are four potential issues when containing prairie dogs in a natural burrow/tunnel system:

      a. It is difficult to determine if the natural, below-ground chamber is clear

b. Prairie dogs will have a hard time digging in and discarding soils with a tube in their way
c. The animals must be introduced to the drain tube so they are not afraid to move through it into and out of the acclimation cap
d. This process can take more time for initial releases compared to artificial nest chambers.

Consider the following steps:

a. If the assigned release burrow has already been prepared with an acclimation cap and drain tube, removing the apparatus for the initial prairie dog release may be highly beneficial. This is especially important if the tunnel depth stops within five feet. Use a 1-foot length piece of 4-inch drain tube for initial release. This is just to introduce the animal. (This tube will not be used as a connector into the acclimation cap; it will be replaced after initial release).
b. If there are several prairie dogs to release, choose the largest female to go first, over any male (female prairie dogs are typically better diggers than males). If there are no females, choose a yearling male over a larger adult male as they are typically the least productive diggers.
c. Place the short drain tube into the natural burrow entrance and release the first female through the tube. Then, immediately remove the tube so that you can help this newly released prairie dog excavate the tunnel. As the prairie dog digs in, place a gloved hand into the tunnel behind her and scrape out the loose, excavated soil. At this point, the prairie dog has no desire to bite you, and on the contrary, is trying to get away from you by digging. Continue removing soils until you can no longer feel her backside (your entire arm may be in the tunnel at this point). This process can take 15 – 30 minutes, and it is crucial to do it correctly. Replace the short drain tube in the burrow entrance and add the next prairie dog. Choose an adult or yearling if available. This second prairie dog will help the first prairie dog excavate soils like a train of diggers. Again, remove the tube help the second prairie dog remove soils until you can no longer see or feel their backside. Repeat the process for any remaining prairie dogs. Once the last prairie dog is released, reinsert the longer drain tube snugly into the burrow entrance. Affix the acclimation cap back over the tube and resecure the cap to the ground with the 10-inch

Prairie dogs who have acclimated to the artificial burrow entrance.

landscaping pins. Place dry soil inside the cap, add hay, lock the door closed, and generously feed.

8. ***Document the ages, sexes, and number of prairie dogs released:*** Record relevant information (coterie number, date, sex, age) on the coterie identification marker and in a paper log (see the back of this section for **Release Site Data Sheet**); daily logs are transferred to a master log for reporting. The marker to the right reads:

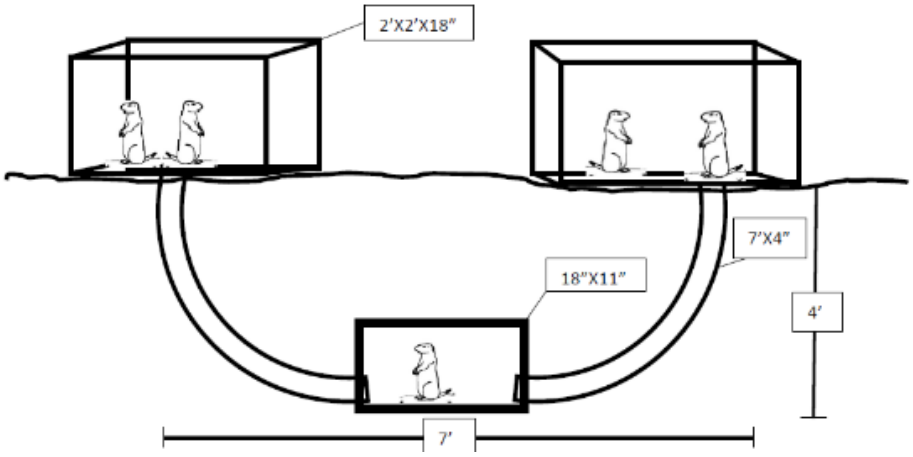
    - Coterie # 36
    - On June 27 released: 1 AF (one adult female) 1 LAF (one lactating adult female), 1 AM (one adult male) and 6 J (six juveniles)

Coterie identification marker with released animal information.

A total of nine prairie dogs were released into this artificial nest chamber. Because more than 5-6 animals were released into the same nest chamber, another acclimation cap was added (see photo to the right; total of two acclimation caps) to the other chamber entrance/exit tube, thus providing more room for the animals.

Two acclimation caps were used to accommodate a larger number of released animals.

The diagram below shows the artificial nest chamber set up using two acclimation caps.



Artificial burrow with nest chamber and acclimation caps.

9. ***Generously feed the prairie dogs:*** The amount of food needed depends on the number of animals in containment. A general rule of thumb is about ½ cup of dry foods and ½ cup of wet food per animal. Prairie dogs are fed: whole oats, sunflower seeds, lettuce (Romaine offers the best nutrition, but Iceberg Lettuce holds moisture better), mini or sliced carrots (1/4-inch slices), sweet potato chuncks, low-sodium cattle cake, and fresh corn on the cob. Refresh dry and wet foods every day. **Do not put food down the tube**! Feeding prairie dogs above ground gives them a reward to investigate their new surroundings while keeping them safe from predators.

Carrots, lettuce, and other food are used as a reward for investigating new surroundings.

Take & Release Site Data Sheet

TAKE AND RELEASE SHEET MASTER

Adult Male (AM) or Adult Female (AF) is greater than 20 months; Yearling Male (YM) or Yearling Female (YF) more than 8 months but less than 20 months; and Juvenile Male (JM) or Juvenile Female (JF) less than 8 months.

RELEASE	*NB, AB	AM	AF	YM	YF	JM	JF	TOTAL	TAKE AREA	COMMENTS
DATE:										
EX. 8/22	NB 2	1	1	2	3	1		7	E/F 5	Connects to 6
23-Aug	NB 10	1	3	1	2	2	3	12	#10	Pdog cage nose
Total		2	4	3	5	3	3	19		

*NB=Natural Burrow, AB=Artifical Burrow

THE HUMANE SOCIETY OF THE UNITED STATES

Wildlife Protection – Prairie Dog Conflict Resolution Team

Care for Prairie Dogs in Captivity
Standard Operating Procedures

Description
This section addresses the treatment of prairie dogs in temporary captivity.

Responsibility
All field staff and volunteers are responsible for following the below outlined procedures following proper training.

Materials
- Approved holding site
- Heat lamps (for colder temperatures)
- Floor fans

General Procedure
Any animal held in captivity requires permitting by state wildlife departments, unless the facility holding the animal is a state licensed wildlife rehabilitator.

Animals in captivity are completely dependent upon human care, this includes:

a. Meeting daily nutritional requirements (dry and wet foods)
b. Providing adequate shelter and protection from predators
c. Ensuring ambient temperatures are comfortable
d. Keeping the animals sequestered from daily human activity (noise, telephones, vehicles, domestic pets)
e. Ensuring the area is kept sanitary; soiled bedding is changed frequently

Interact with prairie dogs as little as possible and provide shelter/hay hiding spots. Although they are cute and adorable, they are likely petrified of you and their new surroundings and are under high stress.

Overnighted prairie dogs can be housed in a pet kennel or Tru-Catch trap stuffed with hay. If housed in a trap, be sure to add several good handfuls of hay and a pillow case or torn sheet,

(do not use towels stuffed inside the trap). This will provide them some comfort for hiding, sleeping, getting their feet off the trap grid and for absorbing waste. If hay or a sheet is unavailable, fold a section of newspaper several times and slid it through the bottom of the trap door all the way to the back of the trap and over the treadle. Be sure to keep at least half of the trap covered with a towel or sheet, but allow for plenty of ventilation. Add some dry food and wet food if possible. Place traps on cardboard, tarp, newspaper, or similar material to help absorb wastes.

Reasons to hold prairie dogs longer than overnight:

1. Holding juveniles to be released with an adult once one is trapped.
2. The release site is a long distance from the take site.
3. It's more efficient to release multiple dogs at the same time.
4. Holding them in quarantine for various reasons

***If the animals need to be held for longer than 48 hours**, they should be transferred into a pet kennel or acclimation cap stuffed with hay.

****If the animals need to be held for longer than 72 hours**, they should be transferred into an acclimation cap stuffed with ample hay.

An example of more than 100 prairie dogs being overnighted.

An example of prairie dogs being held for longer than 72 hours.

Section 10

Monitoring, Reporting, & Site Clean-up

10a. Monitoring - Acclimation Cap Removal & Feeding
10b. Documentation
10c. Clean-up

THE HUMANE SOCIETY
OF THE UNITED STATES

Wildlife Protection – Prairie Dog Conflict Resolution Team

Monitoring – Acclimation Cap Removal & Feeding
Standard Operating Procedures

Description
Once prairie dogs are released, acclimation caps need to be removed after a short period of time. Additionally, the colony needs to be fed and monitored for several weeks as the animals re-establish themselves.

Responsibility
All field staff and volunteers are responsible for following the below outlined procedures following proper training.

Materials
- Gloves
- Dry foods – whole oats and sunflower seed
- Wet foods – Produce (carrots, lettuce, sweet potatoes)
- Notebook and pen/pencil

General Procedure – Initial Feeding Period & Acclimation Cap Removal
Monitoring prairie dog activity in acclimation caps is an important step after the release process. The goal is to have prairie dogs come up into the acclimation cage on a daily basis to explore their new area. Sometimes prairie dogs may not come up for an entire 24 hours after initial release; others may surface within 15 minutes of your departure.

One strategy to assess acclimation cap activity is to place a handful of hay into the drain tube entrance/exit or natural burrow after the last prairie dog has been released. If the hay plug is gone the next time the coterie is checked/fed, this indicates prairie dogs are coming up into the cap, even if it looks like the food has not been touched.

The colony should be fed dry and wet foods daily after release. The amount of food inserted into the acclimation cap depends on the number of animals. In general, feed 1/2 cup of grain

per prairie dog and at least a handful of both lettuce and carrots. Do not put food down the four-inch drain tube (food can rot and mold; this also discourages prairie dogs from coming above ground). Food should appear to be mostly consumed each day. It may take a little time at first as the prairie dogs adjust to their new environment. Do not be concerned if food remains uneaten for the first 24 hours. However, if there is no activity after 72 hours, pull off the acclimation cap as it's highly likely the animals found another exit.

Acclimation caps should be monitored daily, and activity and food consumption should be recorded. Remove acclimation caps 3 – 5 days after release:

1. For three or fewer animals, leave the cap on for the full five days.
2. For more than 3 animals, remove the cap within 3 days; this is primarily for sanitary reasons.

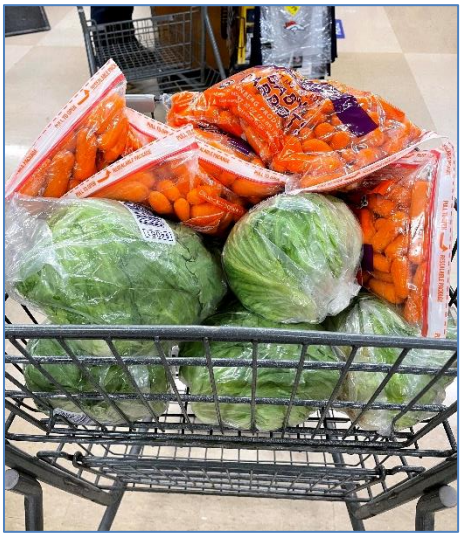
If you need to release a prairie dog into a coterie after the acclimation cap has been removed, DO NOT replace the acclimation cap. Just release the prairie dog into the open drain tube/natural burrow. In most cases, the current residents will recognize their family member. You may even hear their chirps and other verbal sounds of greeting.

General Procedure – Monitoring and Continued Feeding

General site monitoring involves reviewing the progress of the entire colony. You may see high predation, some territorial fighting (this is normal), and new excavations of tunnels and mounding.

Continue feeding prairie dogs daily after the acclimation caps are removed. Once all of the animals have been released, the site should be monitored and fed less frequently – two times per week for 4 – 6 weeks. A newly translocated colony should be busy with lots of activity. Some prairie dogs will stay above ground when you arrive while others will quickly hide. Observe for food consumption, fresh prairie dog scat, and new mounding. This should be consistent throughout the site.

If general site monitoring indicates little to no activity, this is cause for concern for potential plague and the natural resources manager should be contacted immediately to discuss possible exotic disease in the area. If activity is spotty or heavy in one area but not in others, this should also be reported.



Leave a handful of both lettuce and carrots at each capped burrow.

Documentation/Reporting
Standard Operating Procedures

Description

All translocations and associated data should be documented. Not only for state and/or federal reporting, but also for historical records. Basically, you want to create a story of the translocation from start to finish.

Items to Include in Documentation

Prepared final reports include:

- General summary, including highlights and lowlights of the translocation, number of animals moved, and project duration.
- Take Site and Release Site maps
- Take Site & Release Site Data Sheet, including final inventory of prairie dogs released (include dates of capture and release, and the number of traps used).
- Daily trapping records
- Capture and Release methods (note that some of this information may be proprietary)
- Natural Burrow Assessment Sheet
- Observation Records (pre, during, and post translocation)
- List of all people and agencies involved
- Documentation of non-target species captured/released

Clean Up
Standard Operating Procedures

Description
Once the translocation is complete, both the take site and release site need to be returned to as natural a state as possible.

Responsibility
All field staff and volunteers are responsible for following the below outlined procedures following proper training.

General Procedure – Take Site Clean Up
1. Remove all wooden stakes and survey flags.
2. Remove any remaining traps.
3. Remove equipment from the staging area.

General Procedure – Release Site Clean Up
1. Remove all wooden stakes and survey flags.
2. Remove any remaining acclimation caps.
3. Remove equipment from the staging area.

General Procedure – Disinfect Equipment & Materials
Use soap and water or a diluted bleach solution to clean:
- Traps
- Acclimation cages
- Pet kennels
- Sheets and towels