

UTAH PRAIRIE DOG OCCUPANCY AND HABITAT SURVEY PROTOCOL FOR FEDERAL SECTION 7 CONSULTATIONS

June 2018

The purpose of Utah prairie dog occupancy and habitat surveys is to determine if Utah prairie dogs inhabit a proposed project Action Area (see Glossary), and determine if a proposed action may affect this species. Surveys provide management agencies and project proponents with sufficient resource information to help ensure that proposed projects are planned and implemented to avoid and minimize impacts in compliance with the Endangered Species Act (ESA). Please note that Occupancy and Habitat Surveys are not the same as pre-construction actions intended to protect or further define Utah prairie dog habitat. If Utah prairie dog habitat is identified within the Action Area, the subsequent consultation with the U.S. Fish and Wildlife Service (USFWS) may identify other needed actions or additional surveys to be completed prior to construction.

It is important to note that this survey protocol expresses our scientific opinion on adequate Utah prairie dog survey methods. Our knowledge is continuously developing and changing, therefore this protocol, based upon the best scientific data available, is a work in progress and will be modified as new information becomes available. Circumstances may dictate that Utah prairie dog surveys be conducted differently on a case by case basis. If surveys cannot be accomplished pursuant to this protocol, please contact the USFWS, Utah Ecological Services Field Office for guidance on survey methods before proceeding (801-975-3330).

Surveyor Qualifications

- Surveys may only be conducted by certified individuals in order to meet ESA Section 7 requirements. Certified surveyors (see Glossary) are those who have completed a USFWS approved Utah prairie dog survey training course. Results of surveys conducted by non-certified personnel will not be acceptable as the basis for assessing potential impacts to Utah prairie dogs.
- The surveyor training course must be successfully completed at least once every four years. Significant changes in the protocol may require re-certification before the end of a

surveyor's four year authorization period. The USFWS will notify certified surveyors of the need for early re-certification should significant changes occur. Certified surveyors must carry training certification cards when conducting surveys.

- Please refer to the USFWS website to confirm you are working with the current protocol and updated information for the species (<http://www.fws.gov/utahfieldoffice/>).

Pre-Survey Coordination

- Prior to conducting surveys, surveyors must coordinate with the Authorizing Federal Agency (see Glossary) to identify the Action Area (see Glossary) and survey requirements.
- Surveys will encompass all (100%) suitable habitat in the Action Area, including both public and privately owned lands. The Authorizing Federal Agency may, however, in coordination with USFWS, adjust survey requirements as follows: 1) The Authorizing Federal Agency may provide additional maps of suspected or important habitats that will also require Utah prairie dog surveys. 2) The Authorizing Federal Agency may identify areas, if any, that will be exempt from surveys based on habitat suitability, previous survey results, or other factors.
- Maps of mapped Utah prairie dog habitat (see Glossary) within the Action Area can be obtained from Utah Division of Wildlife Resources (UDWR). A Government Records Access and Management Act (GRAMA) request for these maps must be submitted to the UDWR Southern Region Office, 1470 N. Airport Rd., Cedar City, UT 84721 (435-865-6100 or prairiedogsurvey@utah.gov).
- Written permission from the legal landowner or lessee is required to legally access privately owned lands. If access cannot be obtained to privately owned lands in the Action Area, the surveyor must use other accessible vantage points, optics, aerial photos, audio cues, other technology, and interviews of knowledgeable land managers and agency biologists to assess prairie dog occupancy and extent of suitable habitat. If the above methods are not available or do not provide adequate data for the Authorizing Federal Agency to make a conclusive decision concerning occupancy, then the inaccessible land in question must be assumed to support occupied Utah prairie dog habitat. Surveyors must note on the survey forms and in completion reports those

properties for which legal access could not be obtained and the method(s) used to assess the prairie dog occupancy.

- Survey results will not be considered valid if they are not collected following this protocol and any specific stipulations identified by the authorizing agency(ies). Authorizing Federal Agencies that are not land management agencies must coordinate all survey details with the USFWS.

Survey Season

- **Active Season** – Generally April 1 through August 31; dates may vary depending on site-specific conditions. Active season surveys can only be conducted when the ground is sufficiently snow free.
- **Dormant Season** – Generally September 1 through March 31; dates may vary depending on site-specific conditions. Dormant season surveys can only be conducted when the ground is sufficiently snow free.
- The determination of the applicable Active/Dormant Season and whether conditions are “sufficiently snow free” will be made by the Authorizing Federal Agency, based on site-specific conditions. Additionally, the Authorizing Federal Agency may determine that site conditions are not conducive to accurate and reliable dormant season surveys, and may require surveys to be conducted only during the active season. If the Authorizing Federal Agency is not a land management agency, these determinations will be made by the USFWS.

Habitat Assessment Survey

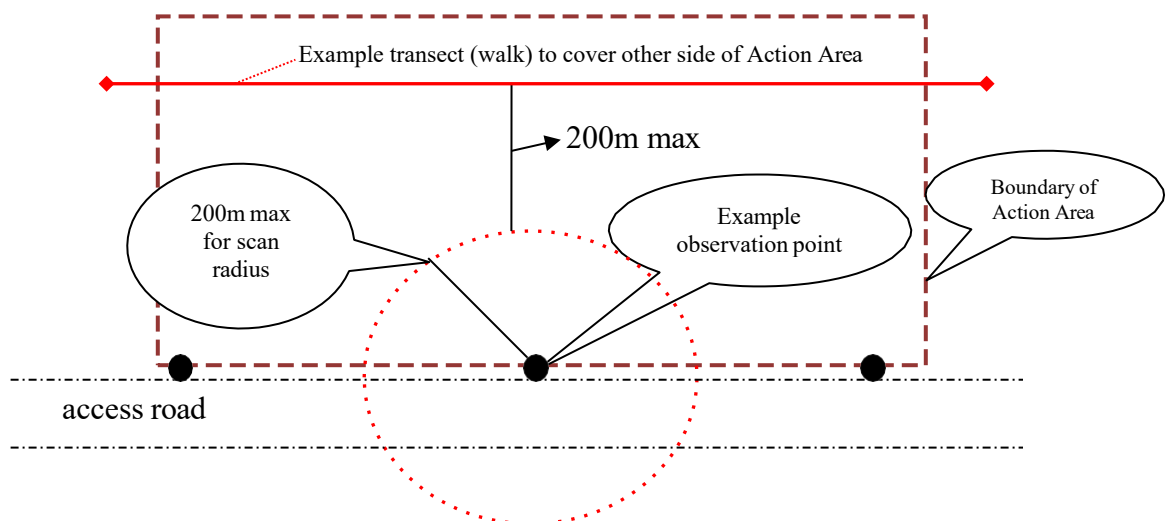
This protocol will be applied to all (100%) suitable habitat within the survey boundaries determined by the Authorizing Federal Agency and USFWS (see Pre-Survey Coordination). There are two levels of intensity for habitat surveys: Low Intensity and High Intensity. The required survey level will be determined by the Authorizing Federal Agency. If the Authorizing Federal Agency is not a land management agency, this determination will be made by the USFWS.

- **Low Intensity Surveys:**
Surveys of suitable habitat that are intended to identify any previously unknown Utah

prairie dog habitat (see Utah Prairie Dog Habitat Classification below) areas within the historic range. Generally conducted in locations ≥ 5 miles from any known and/or mapped Utah prairie dog habitat, where previous surveys or professional knowledge of the local management biologists indicate that the likelihood of occupied Utah prairie dog habitat is low.

- i. All suitable habitat in the Action Area must be surveyed by foot and/or vehicle (on established roads only) to insure 100% visual coverage.
- ii. Aerial methods are not allowed.
- iii. Vehicle surveyors must stop every $\frac{1}{4}$ mile (400 m), or more frequently, and leave vehicles to obtain clear views and scan surrounding areas with suitable optics for the presence of prairie dogs (glassing from inside of a vehicle is not allowed).

The surveyor must also listen for Utah prairie dog vocalizations throughout the survey to locate prairie dogs. Scans should not attempt to clear more than 200m (using binoculars or scopes) in either direction – if suitable habitat exists beyond 200m from the observation point, additional transects should be driven, or walked if there is no road access, (see diagram for example). The surveyor should spend a minimum of 5 minutes at each observation point scanning and listening for Utah prairie dogs.



- iv. If no Utah prairie dogs or their sign are observed within the entire Action Area, then the results of the Low Intensity Survey will be considered valid for two (2) years from the following March 31 (e.g. if a survey is completed May 15, 2018 the survey is valid until March 31, 2021). If any new biological information

becomes available during this time which indicates the potential presence of Utah prairie dogs in the Action Area, or if any changes are made to the size, scope, and/or nature of the proposed project before or during implementation, survey expiration dates may change and additional surveys may be required during the course of the project.

- v. If any Utah prairie dogs or their sign are observed anywhere within the Action Area during the Low Intensity Survey, then High Intensity Surveys (see below) will be required in those areas of Utah prairie dog activity.

- **High Intensity Surveys:**

Surveys of suitable habitat intended to identify the extent of Utah prairie dog habitat in areas suspected of containing Utah prairie dogs. Generally conducted within <5 miles of known and/or mapped Utah prairie dog habitat areas where previous surveys or professional knowledge of the local management biologists indicate that occupied prairie dog habitat may occur.

- i. All (100%) suitable habitat in the Action Area must be surveyed.
- ii. The surveyor must walk parallel transects no more than 30 meters apart through the entire area of suitable habitat searching 15m on both sides of the transect for burrows and other prairie dog sign. Surveyors must walk transects using a compass or GPS unit for orientation, ensuring that all suitable habitat within the entire Action Area is adequately surveyed. Care must be taken while walking in order to not impact any burrows.
- iii. Surveyors must stop periodically and scan surrounding areas with suitable optics for the presence of prairie dogs. The surveyor must also listen for Utah prairie dog vocalizations throughout the survey to locate prairie dogs.
- iv. The results of the High Intensity Survey are only valid from the date conducted through to the following March 31 (e.g. if a survey is completed May 15, 2018, the survey is valid until March 31, 2019). If a project is not implemented until after the following March 31, and/or if there are gaps in construction activity within the same year (generally two weeks or more), new surveys may be required.

Utah Prairie Dog Habitat Classification

Portions of suitable habitat that support Utah prairie dog burrows, mounds or other sign of the presence (past or recent) of Utah prairie dogs are considered “Utah prairie dog habitat” and will be classified as follows:

- **Occupied Utah Prairie Dog Habitat:**

- i. Active Season: Any area where Utah prairie dogs are seen or heard, or any Functional Utah prairie dog Burrows (see Glossary) are found and show evidence of recent prairie dog activity (fresh digging, scat, tracks).
- ii. Dormant Season: Any Utah prairie dog burrows (functional or not functional) or any Utah prairie dog mound system (see Glossary) is found, even if no other signs of Utah prairie dogs are present.
- iii. If legal access cannot be obtained to any portion of the Action Area, please refer to the instructions under the Pre-Survey Coordination section on page 2.

- **Unoccupied Utah Prairie Dog Habitat (previously supported the species):**

- i. Active Season: No Utah prairie dogs are seen or heard and Utah prairie dog burrows are found but are not Functional; or Functional Utah prairie dog burrows or mound systems are found but there is no evidence of prairie dogs: such as fresh digging, scat or tracks.
- ii. Dormant Season: Unoccupied habitat cannot be determined during the dormant season, however if the schedule allows, project proponents can wait until the active season to have a survey performed. During the dormant season, if any Utah prairie dog burrows are found (functional or not functional), or there is any evidence of a prairie dog mound system, they must be documented and will be assumed occupied.

Utah Prairie Dog Counts

If occupied Utah prairie dog habitat is found, those areas must be counted according to the following Utah Prairie Dog Count Protocol:

- Counts must only be conducted on relatively calm, sunny days when cloud cover is < 40 % and the ground is snow free. Care must be taken to avoid extremes of heat and cold. Surveys should be discontinued if winds exceed 3 on the Beaufort scale (>12 mph), if

cloud cover exceeds 40%, if clouds cast moving shadows across the colony, or if otherwise inclement weather is encountered. Counts are generally made between 0800 and 1800 hours, but should be timed to coincide with periods when prairie dogs are most active above ground according to the season and elevation. For example, avoid counting at mid-day at low elevations during mid-summer. Peaks in Utah prairie dog activity generally occur from ½ hour after sunrise to 10:00 a.m., and then from 3:00 p.m. to ½ hour before sunset.

- Counts should be made from a vantage point which provides an unobstructed view of the entire colony. If this is not possible, surveyors should choose multiple vantage points from which to count easily identifiable portions of the colony. Surveyors should count each of these subdivided areas and arrive at a composite count for the colony by summing these partial counts. In this latter case, special care should be taken to avoid over counting. At least three counts will be made at each colony. If multiple vantage points are used, at least three counts should be made at each spot. If the counts continue to rise, counting must continue until the number of prairie dogs reaches a plateau or begins to decrease. The surveyor should record the maximum total number of prairie dogs observed (see survey form).
- Surveyors should approach colonies in such a way that they avoid disturbing the resident prairie dogs. However, there is wide variability in prairie dog behavior between locations. In areas where the prairie dogs are habituated to people, such as in urban areas, it may be helpful to wait a brief time after arriving to allow Utah prairie dogs to acclimate to the observer. The surveyor can then slowly scan the colony from one end to the other with binoculars or spotting scope and count all prairie dogs visible in the colony. However, this method often does not work in areas where people or vehicles may be perceived as a disturbance or predator by the prairie dogs. In these cases, it is preferable to park vehicles out of sight of the colony and walk closer. Often it is best to conduct the first count as soon as prairie dogs are visible. The surveyor should progressively move closer and count each time they move until prairie dog numbers begin to decline. As stated above, record the maximum number of prairie dogs seen on the survey form.

Utah Prairie Dog Habitat Mapping

- The surveyor must determine the extent of all Utah prairie dog habitat encountered, whether occupied or unoccupied. GIS polygons of Utah prairie dog habitat must be created by marking the locations of all perimeter burrows within the Action Area with a GPS device.
- The surveyor shall assign each new individual Utah prairie dog habitat polygon they discover a unique Polygon ID # (see Glossary). Individual habitat polygons are those areas in which all nearest neighbor burrows are within 650 ft. (198.1 m; Utah prairie dog foraging distance¹) of one another.
- Mapped habitat polygons received from UDWR should be identified by their existing UDWR assigned colony identifiers. All data pertaining to each habitat polygon will be tied to a unique Polygon ID# or UDWR assigned colony identifier.
- These unique Polygon ID#s and/or identifiers must be used and recorded on the Survey Data Form along with any subsequent GIS attribute data. All survey results will be provided to the authorizing agency as an ESRI compatible product (shapefile or personal geodatabase) that is in the UTM Zone 12 North NAD 1983 datum. Spatial data must be attributed in a table (see Table 1 for example attribute table), and include metadata following ESRI standards.

Table 1. Example attribute table for the Polygon shapefile.

Polygon ID #	Surveyor	Land Use	Polygon Status	Total # of UPDs	Date of Survey
KRP01	J. Cliff; S. Rubt; K. Kirken	US	Unoccupied	0	5/18/2018
KRP02	J. Cliff; S. Rubt; K. Kirken	RP	Occupied	8	5/18/2018
KRP03	J. Cliff; K. Kirken	DC	Occupied	14	5/18/2018
KRP04	S. Liner; B. Box	IP	Unoccupied	0	5/18/2018
KRP05	S. Liner; B. Box; R. Sunner	IC	Unoccupied	0	5/18/2018
KRP06	S. Liner; B. Box; R. Sunner	BG	Occupied	5	5/19/2018
KRP07	B. Box; R. Sunner	US	Unoccupied	0	5/19/2018

¹ In earlier USFWS documents (e.g., USFWS 2012), we reported that the daily movement distance of prairie dogs was 730 ft. This was an error. The Jacquart et al. 1986 paper reports a maximum movement of one translocated prairie dog of 730 meters (m). The average of the mean distances per move of translocated prairie dogs was reported in Table 2 of Jacquart et al. 1986 to be 189 m (620 ft). However, the movement distances for foraging of juveniles born at the release site were reported as 200 m (656 ft) by the end of the summer. We are therefore using a foraging distance of 650 ft in this protocol.

Data/Report Submission

- Results of Utah prairie dog surveys must be entered on the approved Utah Prairie Dog Occupancy/Habitat Survey Form (see last page of this protocol).
- Survey data must be provided to the Authorizing Federal Agency in the approved format within the timeframe determined by the authorizing agency. The Authorizing Federal Agency may accept, reject, or ask for additional information on the surveys. They may also conduct field checks of survey data to validate results. The Authorizing Federal Agency will coordinate results with USFWS. Authorizing Federal Agencies are responsible for providing copies of data to UDWR.
- Complete data/report submission includes a written report summarizing methodology and results, completed survey forms, maps and geospatial data. Methodology sections and maps must clearly define low intensity and high intensity survey areas. Vehicle and foot survey areas must be delineated within the low intensity survey areas. Reports must include both positive and negative survey results. Negative data includes all areas in the Action Area that were determined to be unsuitable habitat; and suitable habitat that was surveyed but showed no evidence of Utah prairie dogs or their burrows. Reports must identify the Action Area, all suitable habitat that was surveyed, and the presence of all identified Utah prairie dog habitat areas (occupied and unoccupied). Survey forms submitted with negative data only need the top portion of the form completed.
- The Authorizing Federal Agency will make the appropriate effects determination of the proposed action.

GLOSSARY

Action Area: The entire right-of-way or exterior boundary of a proposed action plus the 1,000 ft. buffer (see definition of Buffer).

Active Season Survey: Surveys that occur generally from April 1 through August 31 when prairie dogs are most active above ground, including breeding and rearing of young. The determination of the applicable Active Season will be made by the Authorizing Federal Agency. If the Authorizing Federal Agency is not a land management agency, USFWS will make this determination.

Authorizing Federal Agency: For projects on federal lands; the authorizing agency is the agency which administers the lands where the proposed project occurs and from whom a permit or other authorization is needed before the project may be implemented. This is most commonly the Bureau of Land Management, U.S. Forest Service, or National Park Service.

For projects on private lands with a federal nexus, the Authorizing Federal Agency is the federal agency connected to the private lands action (see definition of Federal Nexus). If the Authorizing Federal Agency is not a land management agency, it must coordinate all survey details with USFWS.

Buffer: The survey buffer for any projects that may impact Utah prairie dog habitat (either temporarily or permanently- see definitions) is a 1000 ft. zone extending out from the proposed project right-of-way or exterior boundary. The 1000 ft. buffer is based on a 350 ft. disturbance distance (Ashdown 1996) and 656 ft. mean foraging distance (1006 ft., rounded to 1000 ft.).

Certified Surveyor: An individual who has completed a USFWS approved Utah Prairie Dog Surveyor Course within the last 4 years.

Dormant Season Survey: Surveys that occur generally from September 1 through March 31 when prairie dogs are less active above ground and are often below ground for long periods of time. The determination of the applicable Dormant Season will be made by the Authorizing Federal Agency. If the Authorizing Federal Agency is not a land management agency, USFWS will make this determination.

Federal Nexus: A federal nexus may occur for projects on private lands. Any private actions that are federalized for purposes of NEPA through a key federal decision must be considered as connected actions and included within the scope of the federal agency's decision making. A "federalized" project is one for which the agency has discretion to authorize or permit the action, or proposes to contribute funds, equipment or staff to implement.

Functional Burrow: Any Utah prairie dog burrow that is structurally suitable to house Utah prairie dogs (entirely open, partially filled with dirt, or open but blocked by sticks, weeds, cobwebs, or other debris). Burrows that are less than 3" in diameter are not considered potential prairie dog burrows. Whenever a surveyor is uncertain of the species of origin when identifying burrows or mounds, they must err on the side of the Utah prairie dog. Any areas where burrows or mounds are in question, must be documented on the survey form. Follow-up visits may be made by USFWS, UDWR, and/or the Authorizing Federal Agency to verify the species.

Note: The species of origin (the species that originally dug the burrow or created the mound) and the current occupant of the burrow must be considered.

Government Records Access and Management Act (GRAMA): A Utah State law which in part “provides guidelines for both disclosure and restrictions on access to government records, which are based on the equitable weighing of the pertinent interests and which are consistent with nationwide standards of information practices.” UDWR is the official curator of Utah prairie dog maps. Distribution of this information must be consistent with GRAMA.

Historic Utah Prairie Dog Range: All suitable habitats in the following areas: all of Beaver, Iron and Piute Counties; Garfield County – the Aquarius Plateau and west of the Escalante Mountains, including Tropic Valley; Kane County – the main stem Sevier River Valley and East Fork Sevier River Valley, including primary tributaries; Juab County – areas south and east of SR132; Millard County – areas east of the San Francisco Mountains, Cricket Mountains and the Sevier River; Sanpete County – the Sevier River Valley; Sevier County – areas west of, and including, the Old Woman Plateau and west of SR72, including the Tidwell Slopes; Washington County - all areas in the Kanarra Creek and Ash Creek drainages; Wayne County – west of the Water Pocket Fold.

High Intensity Surveys: Surveys of suitable habitat intended to identify the extent of Utah prairie dog habitat in areas suspected of containing Utah prairie dogs. Generally are conducted within <5 miles of known and/or mapped Utah prairie dog habitat areas where previous surveys or professional knowledge of the local management biologists indicate that occupied prairie dog habitat may occur.

Land Use: Surface management of the area being surveyed. Classifications include Rangeland/Dry Pasture (RP), Irrigated Pasture (IP), Irrigated Cropland (IC), Dryland Crop (DC), Bare/Fallow Ground (BG), and Urban/Suburban (US).

Low Intensity Survey: Surveys of suitable habitat that are intended to identify any previously unknown Utah prairie dog habitat areas. Generally conducted in locations ≥ 5 miles from any known and/or mapped Utah prairie dog habitat where previous surveys or professional knowledge of the local management biologists indicate that the likelihood of occupied prairie dog habitat is low.

Mapped Habitat: Any and all areas within the species’ range that were mapped since 1972 as currently or historically occupied by Utah prairie dogs. Official maps of Utah prairie dog habitat are maintained by the UDWR and are updated annually.

Mound System: A mound is the pile of earth, gravel, sand, rocks, or debris associated with making a burrow hole in the ground. A Utah prairie dog mound system is identified as 3 or more prairie dog mounds clustered within a 10m diameter space. If any evidence of a Utah prairie dog mound system is found, the area must be mapped and reported as Utah prairie dog habitat. Whenever a surveyor is uncertain of the species of origin when identifying burrows or mounds, they must err on the side of the Utah prairie dog. Any areas where burrows or mounds are in question, must be documented on the survey form. Follow-up visits may be made by USFWS, UDWR, and/or the Authorizing Federal Agency to verify the species.

Note: The species of origin (the species that originally dug the burrow or created the mound) and the current occupant of the burrow must be considered.

Occupied Utah Prairie Dog Habitat:

During the Active Season: Any area where Utah prairie dogs are seen or heard, or any Functional Utah prairie dog burrows (see definition of Functional Burrow) are found and show evidence of recent prairie dog activity (fresh digging, scat, tracks).

During the Dormant Season: If ANY Utah prairie dog burrows (functional or not functional), or any Utah prairie dog mound system (see definition of mound system) is found, even if no other signs of Utah prairie dogs are present, the area must be mapped as occupied Utah prairie dog habitat.

If legal access cannot be obtained to any portion of the Action Area, please refer to the instructions under the Pre-Survey Coordination section on page 2.

Permanent Projects: Projects with a large permanent surface or buried structures that may substantially alter Utah prairie dog habitat or behavior, or extend into the following breeding season.

Polygon ID #: The ID number is a unique identifier for each Utah prairie dog habitat polygon that is defined by the surveyor and provides a to link the spatial data of that polygon with the data captured on the survey form.

Polygon Status: Utah prairie dog habitat polygons are classified as occupied or unoccupied.

Suitable Habitat: Habitat capable of supporting Utah prairie dogs including grassland or low-density sagebrush sites, agricultural fields, vacant lots, and other areas as identified by the Authorizing Federal Agency. Habitat previously mapped by UDWR must be treated as suitable, regardless of current vegetative status.

Temporary Projects: Projects that temporarily impact Utah prairie dog habitat (do not extend into the following breeding season and the habitat can feasibly be restored), or those projects with small permanent surface or buried structures that do not substantially alter Utah prairie dog habitat or behavior.

Unoccupied (previously supported) Utah Prairie Dog Habitat:

During the Active Season: No Utah prairie dogs are seen or heard and Utah prairie dog burrows are found but are not Functional (see definition of Functional Burrow); or Functional Utah prairie dog burrows or mound systems are found but there is no evidence of prairie dogs: such as fresh digging, scat or tracks.

During the Dormant Season: Unoccupied habitat cannot be determined during the dormant season. If any Utah prairie dog burrows are found (functional or not functional), or there is any evidence of a prairie dog mound system, they must be documented and will be assumed occupied.

Utah Prairie Dog Habitat: Portions of suitable habitat that support Utah prairie dog burrows, mounds, or other sign of the presence (past or recent) of Utah prairie dogs

