

## Questions related to information presented at 2022 OSMP Public Prairie Dog Management Meeting

### **Prairie Dog Removal**

I had heard that you were going to clear Bennet in 2023. Is that now off the table? Why?

Staff evaluate all colonies on irrigated agricultural land within the northern project area for inclusion in management plans each year. Colonies are selected for removal based on several factors including size of the colony, likelihood of success in removal, likelihood in success of excluding prairie dogs after removal (and scale of barriers required), likelihood of success in restoration of the property after prairie dog removal, impacts to other wildlife communities of removal and others. In 2023, Bennett did not present the best opportunity for prairie dog removal and agricultural restoration. Some reasons it was not included in management plans were: current status as an unleased property, scale of the removal necessary, extent of prairie dog occupancy in the surrounding landscape, difficulty in excluding prairie dogs after removal, difficulty and scale of restoration required after removal to return to agricultural productivity, and impacts to other wildlife (particularly raptors and elk) of removal and barriers.

Properties planned for management in 2024 will be evaluated later in 2023. During 2023, staff will be evaluating the current removal program (as discussed with City Council after 3<sup>rd</sup> year of management) to determine how to best focus management in coming years to ensure efficient and effective use of resources. The outcomes of this evaluation will be considered when determining 2024 priorities.

### **Relocation**

Regarding the 10-26% occupancy goals, can you please repeat when relocations are no longer considered?

The Grassland Ecosystem Management Plan outlines criteria for use of relocation receiving sites in Grassland Preserves. One of these criteria is that the Grassland Preserve must be below 10% occupancy. We are evaluating the current situation in the Southern Grasslands with the higher than expected growth rate resulting in current occupancy of 10.3% to determine how to approach relocations in 2023.

I've noticed the expanse of prairie dog colonies in the last year or two. It's reassuring to hear that your data shows that expansion. However, I'm very concerned about the impact of the large pop expansion on the intact native prairie vegetation in the Southern Grasslands. I've walked the Wanake site and am very concerned about what appears to be damage to the native grasses. 2 questions:

What are you doing to avoid damage to native grasslands and to rare plant communities? and how do you know those strategies are being successful?

A number of strategies are employed to help protect important plant communities during relocation. The first is that within the Grassland Ecosystem Management Plan, relocation criteria were established for moving prairie dogs to Grassland Preserves. These criteria include things like only relocating prairie dogs into areas that have previously been occupied by prairie dogs, vegetation criteria to ensure communities are sufficiently robust to support prairie dogs, and habitat suitability evaluations to ensure prairie dogs are placed in the most suitable habitats. In addition to these evaluation criteria, once a receiving site meets the relocation criteria and is selected for use, the location of artificial nest box

installation is carefully considered to avoid areas of rare plant communities. Where these structures are installed, efforts are made to use the smallest equipment feasible and to create the smallest disturbance footprint possible. Plant ecology staff evaluate the areas for seeding needs and determine what other restoration might be necessary. During relocation, travel into the site is minimized to the degree possible and in 2022, relocators were required to use ATVs to access the site whenever possible, resulting in less compaction and vegetation damage from access routes.

Success is evaluated by plant ecology staff and each year modifications are made for the next year to address issues that may have arisen. Prairie dog occupancy and relocation have impacts to native vegetation, some natural from prairie dog occupancy, and some related to infrastructure and operations needed for relocation. Staff work to minimize the unnatural impacts to the extent possible while still balancing the need to remove prairie dogs from irrigated agricultural land and prioritizing non-lethal means to the degree possible as desired by the community and city council.

Why are you proceeding in 2023 with the use of the receiving site near Superior since you know that you are at 10% in Southern Grasslands, know that there are many rare plant communities are in that Superior site, and also know that the Superior site was impacted by the Marshall Fire?

Previous evaluations of the Superior West site suggest that it has recovered well from the Marshall Fire, and the vegetation is sufficiently robust to support a relocation (as determined by vegetation criteria from the Grassland Plan). Staff have identified rare plant communities and as with all other relocations, these areas would be avoided in installation of artificial nest boxes and access routes.

The unexpected level of growth during 2021-2022 in Southern Grasslands led to higher than expected occupancy levels. Since staff only had the data to see this occupancy levels within 1 week of the public meeting, options for 2023 relocations are still being discussed. Alternate receiving sites are being evaluated, both on and off OSMP. If staff can identify a site outside of Southern Grasslands, that will be the priority. If other feasible sites are not identified, staff will work to determine what the best options are to allow the planned removal to occur from irrigated agricultural lands.

Tory indicated that the Southern Grasslands have reached 10% occupancy. In a previous annual meeting, OSMP staff made two interesting statements in responding to a couple of different questions about the Southern Grasslands - ..."Southern Grasslands and other grassland preserves also protect some of the last remaining untilled prairies in the area including globally rare plant communities like xeric tallgrass prairie that do not tolerate prairie dog grazing at high levels." "We have a goal of 10-26% occupancy of Grassland Preserves, and to support this goal, we will relocate prairie dogs into Grassland Preserves until they reach 10% occupancy giving room for growth of colonies without reaching unsustainable levels of occupation." The Southern Grasslands have reached 10% occupancy in 2022. Why is OSMP going against the plan of discontinuing relocations at 10%? Is OSMP sure this is the correct action, especially considering the colony growth for the last several years?

Please see above

You have said that you have reached your goal of 10% occupancy at the Southern Grasslands, which is the % occupancy where relocations are supposed to stop. However, you are not stopping relocations to the Southern Grasslands. What is the percentage occupancy of the Southern Grasslands, where you will stop relocating there?

Please see above

What is the Superior West designation?

Grassland Preserve

How long has traps been out at oasis? when will you stop doing relocations at Oasis and start doing lethal control with remaining prairie dogs?

Trapping at Oasis began 14 September 2022. Trapping is scheduled to be completed by Dec 31, when the state relocation permit term expires. Lethal control will begin as soon as contractors are available to complete the work and is expected to be completed by February 28, 2023.

Are you monitoring vegetation and native bee populations on receiving areas? What will prevent PDs from destroying our remnant prairies?

Vegetation is monitoring across the OSMP land system annually. Relocation site specific monitoring is done to evaluate the readiness of a site to receive prairie dogs and plant ecologist evaluate recovery of the area following relocation to ensure any restoration, weed control or seeding needs are addressed. OSMP does not currently monitor native bees, but do have plans to contract bee and other invertebrate surveys on prairie dog colonies in the future. This project was recommended by the Prairie Dog Working Group and will be implemented when resources are available to do so. Prairie dog occupancy often encourages forb growth, resulting in additional resources for pollinators such as native bees.

Prairie dogs are a native prairie wildlife species that serve as a keystone species, supporting a large suite of other wildlife dependent on them for food, shelter and habitat maintenance. Balancing protection of prairie dogs and their associated species with grassland communities not occupied by prairie dogs is an ongoing challenge in a fragmented landscape such as OSMP. The Grassland Ecosystem Management Plan contains a variety of strategies to ensure this balance occurs over the long-term, especially in areas where prairie dogs are being relocated into native prairies. The Grassland Plan can be viewed on the OSMP website.

### **Lethal Control**

Council originally directed OSMP to clear 100-200 acres of prairie dogs (PD's) with lethal control each year in the Northern Project area. I have heard that OSMP was only able to clear 94 acres this year using lethal control, due to difficulty finding contractors willing to do the work. What consideration have you given to bringing lethal control "in-house" and funding an OSMP lethal control team with OSMP-owned PERC machines? What are the pros and cons of such a team? Would it decrease costs and allow you to clear more acres of OSMP lands?

OSMP will use lethal control on 167 acres in 2022 based on our most recent mapping efforts. This number was reported to be 124 acres at the 2021 annual meeting. The 94 acres you refer to is what is

being proposed for 2023. Barrier costs for 2023 sites is limiting the number of acres where prairie dogs can be removed and the land restored. We have considered in-house crews but have elected to use PERC contractors up to this point. Given the difficulty in scheduling contractors in 2022, we will certainly evaluate the option of an in-house crew and better understand the costs and pro and cons of such a team. One major con is that we would need to make significant investments in equipment that may not be needed long-term as lethal control efforts will likely only be required for follow-up control.

## **Delta Dust**

Delta Dust and water do not mix. How do you keep Delta dust, which is active for up to 8 months and more persistent in clay soils, from moving to neighboring properties through irrigation ditches and hay fields and even worse into the neighboring lake with fish, which is one of the natural tracks for the irrigation water.

Delta Dust is applied only by licensed applicators. OSMP developed a checklist for Delta Dust applicators that essentially reinforces the label requirements, including avoidance of use during windy conditions or precipitation, or when precipitation is forecast within 24 hours; avoidance of application in or near water bodies, or where there is potential for runoff to waterbodies; no application when irrigation water is running; no contact with plants/crops that will be used for commercial sale, seed production, or research purposes; avoidance of contact with any plants, including weeds and non-crop plants near the burrows; no use at burrows used by burrowing owls. In addition, Delta Dust is applied in burrow per label requirements. Burrow flattening and closing burrow entrances greatly reduces the risk of Delta Dust leaving the property via wind or surface water as it is likely incorporated into the soil by this soil disturbance.

Sorry, I missed the part about the use of Deltat Dust. How is it being used? Have you just decided to sacrifice all the native bees, ants, and other insects? Are you consulting DriftWatch and notifying beekeepers before applications?

Delta dust is used exclusively as part of relocation efforts. State requirements for relocation of prairie dogs include the use of plague abatement on the sending site where the prairie dogs are trapped. Delta dust is used for this purpose. To reduce the likelihood of impacts to bees and other pollinators, delta dust is applied inside the burrows, not on surrounding vegetation. Furthermore, it is used later in the year, after the flowering season for many plants. All label requirements are followed including avoiding use during windy conditions or precipitation, or when precipitation is forecast within 24 hours. In addition, other applications of delta dust are not done on OSMP (including for plague management in native prairies). Use of delta dust is restricted to those applications required by state permitting. Because application is done in a way to avoid exposure to bees or risk of delta dust blowing off of OSMP, staff have not previously notified beekeepers in the area.

## **Ag Land Restoration**

What crops are grown on or planned for the restored ag land?

The irrigated land where prairie dogs are being removed has been irrigated and used for growing various crops for likely over 100 years. Most sites have been used to grow hay and pasture grasses in the most recent past. Post-removal, the goal is to re-establish a vibrant perennial community and incorporate these properties back into agricultural production. Productivity, as well as other site-specific characteristics will determine whether these lands will be used for haying, grazing or a combination of the two.

Do you have a list of your revegetation seed mix?

Staff develop site specific seed mixes in coordination with each properties agricultural tenant. Each site's seed list is kept, along with spatial information on the areas that were seeded. In addition, details and associated spatial data for all reclamation treatments are kept in OSMP's GIS agricultural land reclamation dataset.

When you have used lots of irrigation water to push PD's out of areas with passive relocation techniques, how much extra water is that? How much more water does it require to push PD's out of areas? Do other fields get shorted of water as a result? Where does the extra water come from?

Each agricultural lease area is assigned water shares based on the number of shares the city owns in a particular ditch and how much land is being served by that ditch system. The water used on these fields as part of ag land restoration and passive removal techniques is not extra, or above, this set allocation of ditch shares. It is more likely that the fields occupied by prairie dogs are "shorted" as they are difficult to irrigate, yields are greatly reduced because of prairie dog foraging and clipping, and the tenants will generally focus their management efforts on more productive land included in the lease. To actively irrigate fields in the presence of prairie dogs requires more diligent monitoring of the water to ensure even delivery and minimize erosion. To the extent that any other fields get less water is only due to less water being in the irrigation ditch from exercising the department's full water rights for irrigation, not by taking anyone else's water.

### **Soil Health Monitoring**

Do the control sites have different levels of pdog occupancy and historic land uses?

The control sites for the soil health monitoring study are all irrigated pastures or hayfields containing introduced cool-season grasses that are currently and have been occupied by prairie dogs. The sites have different durations of continuous prairie dog occupation. The level of prairie dog occupancy is not a factor that is being considered as part of this monitoring effort.

What historic land use occurred on the control and removal sites?

Historically, the control and removal sites were used for livestock grazing and hay production. Several fields on the Axelson / Johnson complex were also historically used to grow annual grain crops including wheat and corn.

I am concerned about the City's direction to address soil health through the removal of prairie dogs. The actions and associated study seem set to blame prairie dog presence for historical land uses (including agriculture practices) effects on soil health and land degradation. Both native prairie dogs and agriculture are necessary for biodiversity and food production, yet the City's actions and research are

singularly focused on prairie dog removal relating to soil health. How will the City ensure this native keystone species in peril will not be singularly blamed for land degradation and therefore removed from public lands based on the results of their research on degraded ag lands?

The city has acknowledged that the agricultural history and often modified or non-native vegetative community of these converted agricultural fields contributes to lack of resilience in the presence of prairie dogs. We have observed, on our lands, and lands around the county, that converted fields with prairie dog colonies lose perennial vegetation and lose topsoil. The focus on soil health monitoring as part of removal was a directive from Boulder's City Council when lethal removal was approved for the Northern Project Area. Vegetative cover and composition are also being monitored. The outcome of this monitoring is useful data that will be used to inform discussions and policy related to irrigated agricultural lands, which is a small subset of the department's overall land holdings. The findings related to the soil health monitoring will be responsibly interpreted, taking into account the inherent complexity of these properties including varied landuse histories, varied levels and duration of prairie dog occupancy and impacts of restoration techniques following prairie dog removal. As a result, findings will not be attributed solely to prairie dogs, but the combination of variables contributing to changes in soil health. The findings will still be helpful in planning restoration efforts in the future both in the presence of, and without prairie dogs. The City of Boulder and the department have affirmed their commitment to prairie dog conservation through guiding documents like the Grassland Ecosystem Management Plan and Plague Management Plan, as well as through the formal designation of more than 500 acres of OSMP land as prairie dog conservation areas and the goal of 10-26% occupancy in Grassland Preserves.

#### **Barriers and P.dog exclusion**

After PD removal on the Oasis property, how do you plan to mitigate the growth of new colonies?

At Oasis and other OSMP properties where prairie dogs are removed, barriers are erected to discourage recolonization. Vegetation restoration also is expected to discourage prairie dogs due to taller and thicker vegetation growth. Since no prairie dog barrier is 100% effective, OSMP usually uses lethal control to remove any remaining or recolonizing prairie dogs.

How well are the barriers working? Are there any fields that have had barriers installed after removals, where prairie dogs have NOT come back in?

Barriers are effective, but not 100% of the time and not in perpetuity. The removal site on the Nu West property along 51<sup>st</sup> Street has remained prairie dog-free for about three years. Other sites have remained unoccupied on shorter timeframes or with very low occupation relative to conditions prior to removal. Prairie dogs have reoccupied 11.7 acres of the 199 acres of prairie dogs removed from irrigated agricultural land between 2018 and 2021 (5.9%). We believe barriers have helped keep this number lower than if we had not installed barriers.

The cost sharing program for neighbors has been put off for 2-3 years now. Is good neighbor relations no longer a priority for OSMP?

Neighbor relations have always and will continue to be a priority for OSMP. However, many priorities around prairie dog management exist, and the staff that are working to implement a barrier cost share program are the same staff working to follow City Council direction to remove prairie dogs from irrigated agricultural land, manage prairie dogs across OSMP, implement plague management of prairie

dogs, and work to restore irrigated agricultural lands. In 2022, the same staff were responsible for large portions of the Marshall Fire response, damage assessment and restoration. As a result, a neighbor cost-share barrier program has been delayed as staff are fully occupied with urgent and emergent needs. Staff continue to work to support neighbors with technical information and advice to help them to manage prairie dogs on their private property.

Can you tell us what the time frame is for the prairie dog fencing program?

Staff had hoped to implement the program in 2022. Although budget was identified, other prairie dog related work including relocations, removals and restoration of irrigated agricultural lands along with response to the Marshall Fire on OSMP lands took staff time away from getting the program fully set up this year. Currently staff are working with the city attorney's office to design the program in a way that follows City Council direction and regulations around use of open space funding. Staff are hopeful that the program can be rolled out in the second half of 2023.

Our community borders OSMPs Gallucci property and was all but destroyed in the Marshall Fire. Since the fire the prairie dog colonies on the Gallucci property have expanded dramatically, including onto our properties, where they are doing significant damage to access roads, septic systems and the landscape. We are performing lethal control on our properties, however this is somewhat futile given the very large colony to our south. Would it be possible to prioritize cost share on barrier fencing with Marshal fire impacted properties? This is not something our struggling neighborhood currently has the resources to handle on our own.

OSMP is trying to develop a cost-sharing program that follows legal requirements for sharing funds with the community, and is equitable and accessible for OSMP neighbors who have concerns about prairie dogs expanding onto their property.

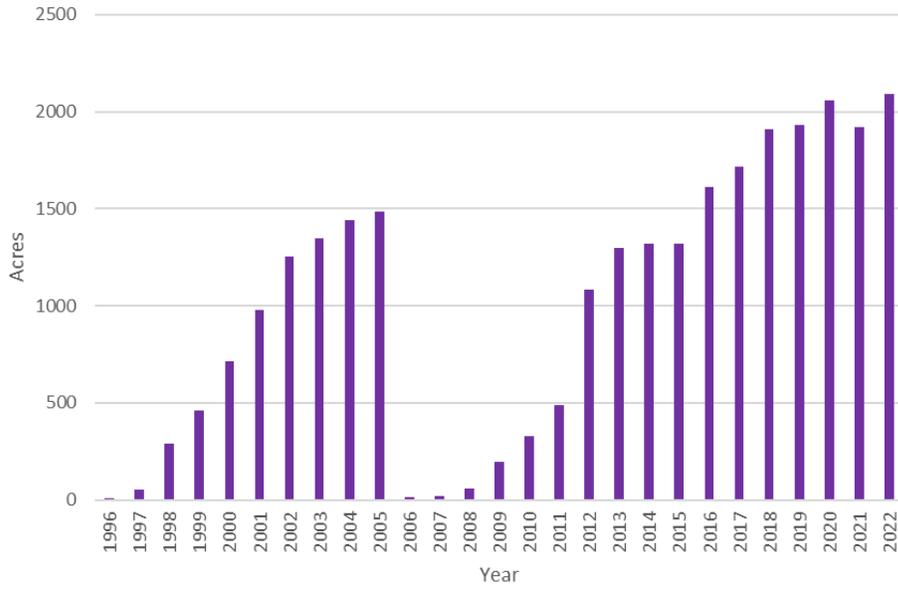
Since barriers are only working about 50% of the time so far to keep PD's out of cleared OSMP lands, and since barriers are such a very large part of the budget, are you reevaluating your use of barriers? What other strategies are you considering to keep PD's out of cleared fields, since barriers are not working all that well?

Staff continuously evaluate the success or failure of management actions in an effort to use adaptive management strategies. This includes the use of barriers and which type of barriers to construct. We have modified our barrier strategy each year based on our previous years' experiences. Although not 100% effective, OSMP believes that barriers are an important management tool and help OSMP minimize lethal control as much as possible and we will continue to use them in a fiscally responsible manner. We will certainly stop using them if we believe they are not effective in helping us achieve the goals of this project. As presented in the meeting, prairie dogs have reoccupied 11.7 acres of the 199 acres of prairie dogs removed irrigated agricultural land between 2018 and 2021 (5.9%). We believe barriers have helped keep this number lower than if we had not installed barriers. We are also working to get vegetation communities restored as quickly as possible as this also helps prevent reoccupation of land where we have implemented removal.

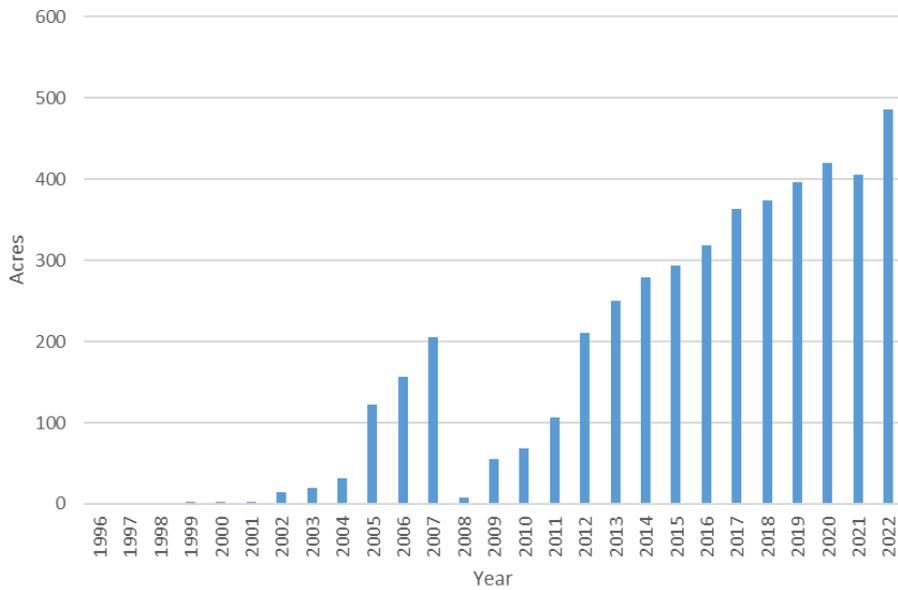
### **Prairie Dog Occupancy**

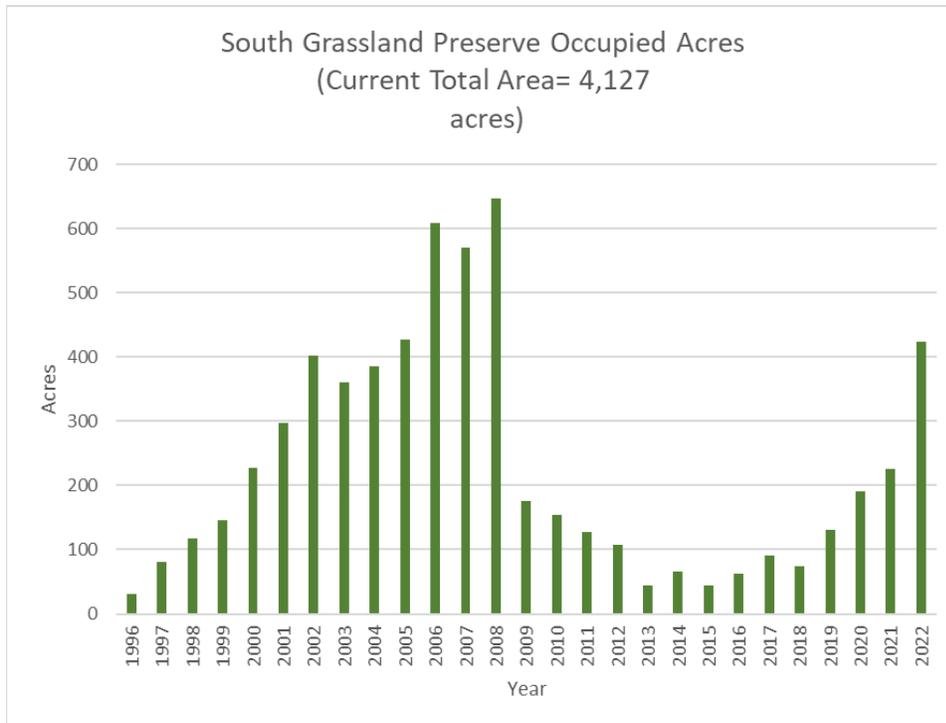
Please breakdown the PD increase in the Grassland preserves between Southern and Northern? Specifically would like to know increase in Northern Grassland preserve.

North Grassland Preserve Occupied Acres  
(Current Total Area= 3,187 acres)



East Grassland Preserve Occupied Acres  
(Current Total Area= 728 acres)





At the annual meeting, I asked about prairie dog occupancy on the Northern Grasslands but did not see my question answered. Can you please provide an answer now?

We were not able to answer all questions live at the meeting. Our intention was to answer as many as we could at the meeting, and then provide answers online to all questions shortly afterward. Please see above.

There is visible degradation on the Northern Grasslands and I am concerned that the Northern Grasslands is well above the acceptable 26% occupancy. If the Northern Grassland Preserve is above 26% occupancy, how will OSMP manage that situation and slow down damage to the Grassland ecosystem? I realize that prairie dog conservation is a priority but that must be balanced with the critically important health of the Grassland Preserves.

Balancing the conservation of prairie dogs in Grassland Preserves and the other ecological values in these areas is indeed a challenge. Prairie dogs in the Northern Grassland support a wide variety of wildlife including many species of raptors. However, these large levels of occupancy do have impacts to native vegetation where prolonged high occupation combined with landuse history, drought, and other factors can lead to degradation of native vegetation communities. The Grassland Ecosystem Management Plan provides for the possibility of prairie dog removal in Grassland Preserves if occupancy is above 26%, and vegetation degradation is occurring. Although removal is an option, direction from City Council in 2020 was clear that removal efforts should be focused on irrigated agricultural lands. In 2023, staff plan to remove prairie dogs from irrigated fields that are within the Northern Grassland Preserve. While this action will reduce occupancy percentage within the grassland preserve, it will not

change occupancy levels within non-irrigated, native grassland areas. For now, the full focus on irrigated agricultural lands for removal does not provide staff with options to address other issues within Grassland Preserves through removal. As a result, in the Northern Grassland Preserve, OSMP staff are looking at a variety of options including shifting intensity of grazing by cattle.

Has anyone talked about the annual colony acre doubling time (ie if 1 acre colony at time 0, how long until colony is 2 acres?), or perhaps just a yearly growth rate (ie size of colony in 2022 minus colony size in 2021 divided by colony size in 2021?) (limited to areas that have been left alone)?

Prairie dog colony expansion and contraction are influenced by a wide variety of environmental and human-caused factors, so we do not find it useful to discuss doubling times. We do look at year-to-year change. Over the last 20 years, average colony change has been roughly +7% (low = -48%, high = +68%). We see both expansion and contraction on colonies where there are no focused removal efforts; colony contraction can happen due to events like plague epizootics, flooding, or high vegetation growth.

Are the health of the HCA sites monitored? What actions are taken when an HCA goes above 26% occupancy?

OSMP does not have a prairie dog management designation HCA (perhaps this is related to County Open Space management designations?) However, we do have PCAs (Prairie Dog Conservation Areas). Health of all grasslands is monitored through a system-wide set of vegetation monitoring transects. For the most part, however, PCAs are largely comprised of non-native or low-quality vegetation, and thus are not included in the monitoring framework for native grasslands. Systematic weed monitoring and other efforts will often collect information on PCAs, though there is not a specific, PCA centered monitoring program in place, unless relocation is being considered for a site, in which case more robust monitoring of condition would be done. There are not defined occupancy goals for PCAs. The 26% occupancy goals are applied to Grassland Preserves. Please see above discussion of occupancy in Grassland Preserves.

It would be helpful if the occupancy rates on each property were available to the stakeholders for the annual meeting. The mapping system has not been updated and it is hard to ask specific parcel questions when the numbers are not available. It is important to be able to see how each property occupancy has changed. Since the mapping program is not updated, can OSMP please make available a document with all the parcel names and prairie dog occupancy rates for the last couple of years?

Prairie dog occupancy data is always available on the City of Boulder Open Data Page. There was an issue with one of the GIS servers updating in a timely manner ahead of the public meeting so we apologize that this year up-to-date information was not available ahead of time. It is, however, now updated with the most recent 2022 data. If you search for "prairie dogs" at <https://open-data.bouldercolorado.gov> and click on the "OSMP Prairie Dog Colonies- All Years" you will be able to see the map of prairie dog occupancy and choose which year you would like to view by dragging the timeline at the bottom. In addition, if you click on the button on the right hand side that looks like a spreadsheet or table, it will open a document that lists all properties with occupancy by year.

## **Budget**

What is the annual budget for all prairie dog related work? How does this compare to the budget for other wildlife ? (separately for each species?)

Prairie dog management is unique in that it is the only species that OSMP directly manages. Other budget for wildlife is focused on monitoring, habitat management and research. Budgeting is not done on a species-by-species basis as most of the work is done at the community or habitat-type level. Overall expenditures on prairie dog management in 2022 were \$150,000 from the wildlife budget and just over \$330,000 from the agricultural land restoration capital budget. The non-staff wildlife budget, excluding prairie dog expenditures was \$71,000 in 2022.