KEYSTONE
POLICY CENTER

SUMMER 2021 PUBLIC ENGAGEMENT REPORT

COLORADO WOLF RESTORATION AND MANAGEMENT PLAN

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Colorado Parks and Wildlife

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Key Messages

- Colorado Parks and Wildlife and Keystone Policy Center engaged the public in the summer of 2021 to gather feedback into the development of the Colorado Wolf Restoration and Management Plan.
- Engagement was structured around four major planning topics: wolf restoration; wolf management; livestock interactions; and engagement, education and outreach.
- The diverse public perspectives toward wolf restoration and management often reflect differing value sets concerning management of public lands and wildlife, particularly predators.
- Differences are most often reflected in topics including maximum population thresholds; hunting of wolves; lethal management of conflict wolves; management strategies related to public lands; the decision by voters to restore wolves to the state; and representation in decision processes on wolf restoration and management.
- Potential principles for common ground include: Incorporate science and diverse ecological, social and economic interests; provide an adaptive management model; proactively minimize conflict and fairly compensate for livestock losses; offer educational resources; value engagement and partnerships; and build sustainable capacity and funding.

Executive Summary

Purpose and process

This report summarizes public input provided during public engagement activities conducted in the summer of 2021 to gather feedback into the development of the Colorado Wolf Restoration and Management Plan. The plan is under development by Colorado Parks and Wildlife (CPW) and the Colorado Parks and Wildlife Commission (the Commission) pursuant to the passage by voters in November 2020 of Proposition 114, which directs the Commission to take the steps necessary to begin restoration of gray wolves no later than December 31, 2023 in Colorado on lands west of the Continental Divide.

CPW and Keystone Policy Center, an independent facilitator, engaged more than 3,400 participants through 47 meetings and an online comment form in the summer of 2021. Meetings included 16 in-person public open houses throughout the state; 17 in-person Western Colorado geographic focus groups; 10 virtual interest-based focus groups; 2 in-person Tribal consultations; and 2 virtual town halls. All meetings and the online comment form provided the same informational materials (in the form of video presentations and/or posters) as well as the same questions to the public.

Public input, along with input from stakeholder and technical groups, will be provided to CPW and the Commission for consideration in the development of a draft Wolf Restoration and Management Plan. The draft plan will be provided to the public for further comment prior to the presentation of a proposed final plan for review and approval by the Commission.

Engagement topics

Engagement content and questions were structured around four major planning topics. The public discussed the following themes:

- Wolf restoration: Restoration logistics, including source populations of wolves to be released; considerations for where wolves should be released; release technique; and pace of restoration.
- Wolf management: Indicators of restoration program success, including for wolf populations and other ecological, social and/or economic indicators; multi-jurisdictional management and government engagement; human-wolf conflicts; hunting of wolves; monitoring; and funding.
- Livestock interactions: Depredation trends; ecological, economic and social contexts for wolf-livestock interactions; conflict minimization practices; compensation programs including investigation, verification and direct and indirect costs; nonlethal vs. lethal management of conflict wolves; partnerships; and funding
- Engagement, education and outreach: The planning and engagement process; engagement of different stakeholder interests; education approaches and content.

Wolf restoration

Comments frequently expressed strong support for or opposition to actively restoring or releasing wolves in Colorado. Participants commonly asked for more information about where wolves would be released, how many would be released, and when they would be released (i.e., timeline as well as time of year). Comments on source populations focused on geographic source; subspecies; genetic diversity; family and social structures; concerns regarding sourcing problem (depredating) wolves from other states; and concerns regarding importing diseases. Mexican wolves were discussed as donor populations and in relation to interbreeding and population connectivity with northern gray wolves. Natural migration of wolves into Colorado was also discussed. Comments on potential release locations suggested considering the interaction of a variety of ecological, social and economic factors, while recognizing the likelihood of dispersal of released wolves. Varying views were offered on release technique (hard vs. soft) and the pace of restoration.

Wolf management

Comments debated the value of numeric wolf population thresholds and suggested a variety of other potential indicators for success, such as geographic distribution of wolves. Comments also suggested that success could be tracked against the following: impacts for other wildlife, habitat and ecosystems; social and economic factors such as impacts on livestock and ranchers, outfitters and hunters, and recreationists; and public attitudes and values. Comments discussed multi-species and multiple use management; multi-jurisdictional management inclusive of federal agencies, other states, counties and Tribes; and geographically based management of wolves. Comments on management of human-wolf conflicts included questions about the potential for conflict; input on the need for education on wolf-human interactions and how to be "wolf aware"; and varying viewpoints on lethal and non-lethal conflict management tools. Comments discussed the state and federal listing status of the northern gray wolf and implications for management as well as concerns related to enforcement of protections for wolves in order to prevent illegal take or poaching. Legal hunting (i.e., regulated hunting) of wolves as a management strategy for population control and/or for sport is one of the most divisive topics for the plan, with support and opposition offered based upon arguments related to wolf population dynamics and social structures, ethics and concerns regarding negative or positive impacts of wolves. Comments encouraged a variety of monitoring techniques and objectives and discussed data sharing and partnerships. Funding was discussed as a concern for the sustainability of the plan, with a variety of funding needs and potential sources suggested.

Livestock interactions

Comments offered differing perceptions regarding the potential impact of wolves on livestock operations in Colorado and called for sharing of data on wolf depredation trends as well as experiences of producers from areas where wolves are present. Comments also discussed existing environmental and economic stressors for producers as well as differing perceptions and social attitudes toward the role of private and public grazing lands in ecosystem health. Producer engagement in the development and implementation of conflict minimization strategies was a theme common to many different perspectives, as was the importance of fair compensation for depredation. Beliefs differed as to the extent to which proactive, nonlethal conflict minimization would be feasible and/or successful. Regarding compensation programs, comments discussed investigation and verification processes, the calculation of direct costs for livestock, compensation for unconfirmed and/or indirect livestock losses, and nonlethal conflict minimization practices as a precondition for compensation. Comments offered differing criteria for defining a "conflict wolf" and opposing views on the use of lethal management. Questions were raised regarding how protected species status affects the producers' ability to use nonlethal harassment tools and/or lethal management. Sustainable funding to support wolf-livestock conflict minimization materials, training and implementation, as well as for compensation of livestock losses, was a consistent theme.

Engagement, education and outreach

Commenters generally emphasized that engagement, education and outreach are important components of the restoration and management plan. They encouraged use of a variety of outreach tools and techniques, beginning early in the planning process, carrying on throughout planning, and continuing once a plan is in place. Comments varied in their praise or critique of the current planning and outreach process and often discussed issues of equity, representation, trust and transparency, including with respect to engagement of the Western Slope vs. other communities and interests. Commenters recommended public education that is factual and tailored to meet the specific needs of different audiences and that discusses human-wolf interactions as well as the potential positive and negative impacts of wolf restoration. A general theme from commenters was they would like the provided educational content to be based in science, research and measurable data to address a lack of information or knowledge and/or to dispel misinformation, myths or misconceptions.

Conclusions

This report does not attempt to draw conclusions regarding which specific restoration and management strategies were favored by participants in the process and/or by the public at large, but instead seeks to qualitatively detail the various perspectives heard and, where possible, the underlying rationales, interests and values expressed by participants in describing *why* they held specific views.

Geographic patterns in public input

Comments from Western Colorado, Eastern Colorado and out of state did not vary significantly in the range or priority of planning topics of interest. Rather, patterns in geographic differences were more commonly reflected in the sentiments expressed about these topics, such as general attitudes toward wolf restoration, anticipation of positive or negative impacts, attitudes toward lethal management, and concerns regarding equity and representation in decision-making. Comments from Western Colorado were more likely to oppose wolf restoration, anticipate negative impacts, support lethal management, support a slow pace of restoration, and emphasize the need for engagement in Western Colorado. Comments from Eastern Colorado (inclusive of and largely representative of Front Range communities) and from out of state were more likely to support wolf restoration, anticipate positive benefits, oppose lethal management, and emphasize engagement of all Coloradans as well as out of state publics. However, comments from all geographies reflected a diversity of sentiments, some reflecting strongly held positions and others focused on learning more about wolf restoration.

Divergent values

The diversity of public perspectives toward wolf restoration and management make it a socially complex undertaking. Many areas of divergence reflect what is often described as a "rural-urban" divide but is more specifically a difference of value sets concerning management of public lands and wildlife, predators, and the relationship between people and nature. One value set considers wolf management from the lens of human interests, livelihoods, controlling against negative impacts, and the need for active wildlife management to support ecosystems. The other value set emphasizes the intrinsic value of wildlife, the positive ecological role of predators, and a desire to restrict human activities to restore natural balance and benefits to ecosystems.

Although these values sets are not necessarily mutually exclusive, their differences are most often reflected in the polarization on topics including maximum population thresholds; hunting; lethal management of conflict wolves; management strategies related to public lands; and the decision by the public to restore wolves to the state. Further, these differences are reflected in debates over whose interests and values should be most influential in wolf restoration and management: society at large, in whose trust public lands and wildlife are managed, or those in geographies and industries that wolves directly – and potentially negatively – impact.

Common principles

Despite these differences, areas of convergence likely exist for wolf restoration. Based on the feedback heard through public engagement, the following principles reflect potential starting points for substantial, if not universal, common ground. Colorado's wolf restoration and management plan can:

- Reflect diverse interests and values of the state, incorporating science along with societal input.
- Provide an adaptive model for wolf management with flexibility to address ecological, social and economic interests.
- Proactively minimize livestock conflict where possible, and fairly compensate when loss occurs.
- Offer educational resources that are factual and tailored for specific audiences.
- Value meaningful, ongoing engagement and trust-based partnerships with a variety of stakeholders and communities in the development and implementation of the plan.
- Build capacity and funding to successfully and sustainably implement the plan.

Background & Engagement Process

This report summarizes public input provided during public engagement activities conducted in the summer of 2021 to gather feedback into the development of the Colorado Wolf Restoration and Management Plan.

In November 2020, Colorado voters passed Proposition 114, a ballot initiative directing the Colorado Parks and Wildlife Commission (the Commission) to develop a plan to restore gray wolves to the state, using the best scientific data available; to hold statewide hearings to acquire information to be considered in developing the plan, including scientific, economic and social considerations; and to take the steps necessary to begin restoration of gray wolves no later than December 31, 2023 in Colorado on lands west of the Continental Divide.

In 2021, with the ballot initiative having been codified into law, Colorado Parks and Wildlife (CPW), with guidance from the Commission, created a planning process, established a Technical Working Group (TWG) and a Stakeholder Advisory Group (SAG), selected independent facilitators to support these groups and public engagement, conducted internal planning and outreach to other states, and hosted educational webinars for the Commission and the public.

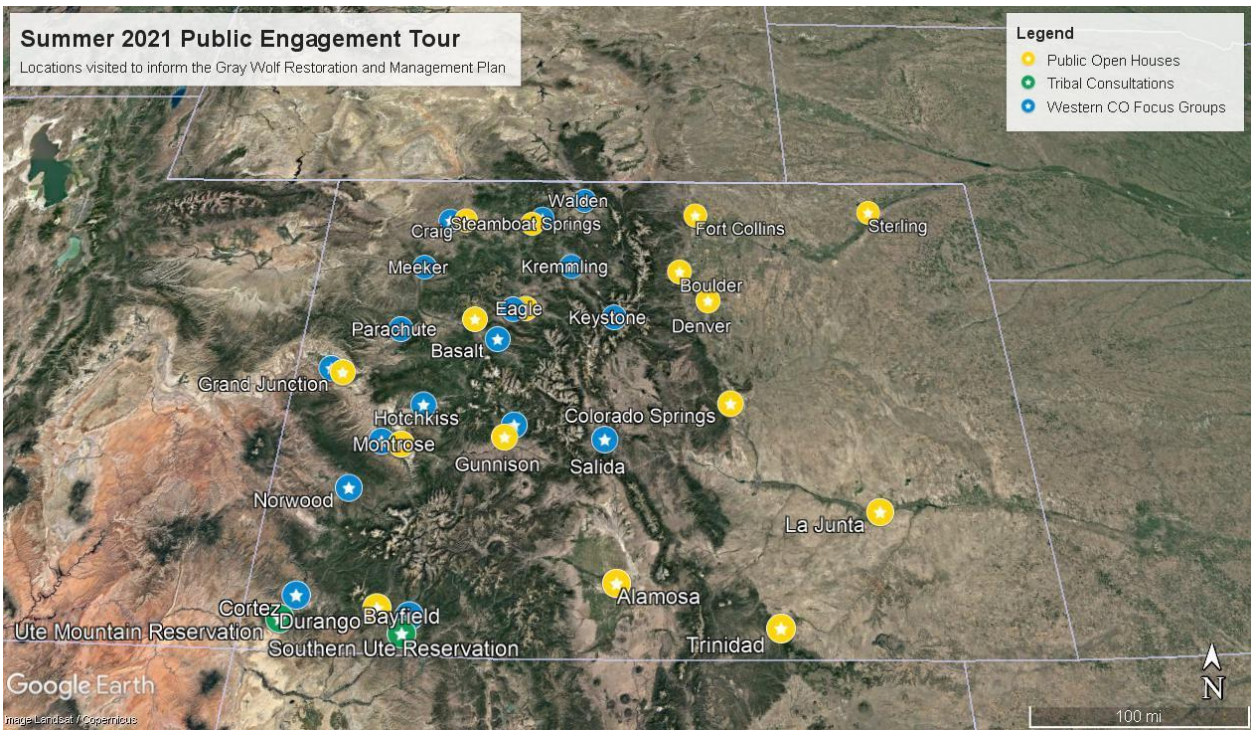
In summer 2021 (July-August), CPW and Keystone Policy Center (Keystone), the independent facilitator, conducted a scoping phase of public engagement, providing a variety of opportunities for the public to inform the restoration and management planning process by sharing ideas, suggestions, concerns and questions through 47 meetings and an online open house and comment form engaging more than 3,400 participants from the public. All meetings and the online open house provided the same informational materials (in the form of presentations and/or posters) as well as the same questions to the public. Content and questions were structured around four major planning topics: wolf restoration; wolf management; livestock interactions; and engagement, education and outreach.

Different formats were offered to reflect different potential public preferences, including considerations related to the ongoing COVID-19 pandemic; in-person vs. virtual participation; written vs. verbal participation; and style and size of engagement. The following summarizes the meetings provided:

- 16 in-person regional open houses (8 on the Western Slope; 8 East of the Continental Divide). Open houses were open to the public and enabled the participants to visit posters and/or watch videos related to key planning topics, engaging at their own pace with the topics and with CPW and Keystone staff.
- 17 in-person Western Colorado geographic focus groups (in-person). These focus groups created in-depth, in-person roundtable discussions with invited leaders representing a diversity of interests to understand attitudes and perspectives on

planning topics and additional issues unique to various communities on the Western Slope, where the law requires restoration to occur. These focus groups were intended to enable additional outreach in the geography most likely to be directly impacted by wolf restoration.

- 10 interest-based focus groups (primarily virtual). These focus groups created in-depth roundtable discussions with invited leaders to understand attitudes and perspectives on planning topics for specific sectors and interests, including interests from agriculture/livestock; American Indian/Alaskan Native; equity, diversity and inclusion; education and youth; outdoor recreation; outfitters; sportspeople; wildlife and habitat; and wolf advocacy.
- 2 in-person Tribal consultations. Consultations with the Southern Ute Indian Tribe and Ute Mountain Ute Tribe enabled in-depth discussion because of their sovereign lands within Colorado's borders.
- 2 statewide virtual town halls. Virtual town halls were conducted live via Zoom and were facilitated by Keystone staff, with CPW staff present to listen to comments. Comments were limited to 3 minutes per person.



The following summary aggregates the number of participants across the engagement opportunities: open houses: 508; geographic focus groups: 179; interest-based focus groups: 100; virtual town halls: 140; online comment form: 2,529; grand total: 3,456. Considering duplication of participants that attended or offered feedback in multiple formats, there were more than 3,000 unique participants. In addition, CPW and Keystone staff were present at all meetings. TWG and SAG members and Parks and Wildlife Commissioners also attended many meetings as observers. A complete schedule of meetings, participation numbers for meetings

and for the online comment form, geographic distribution of online comment form responses, and information provided to and questions asked of the public are provided in the appendices.

The online open house and comment form, along with additional information about the process, educational information, advisory groups, and public engagement opportunities, were hosted on a public engagement website: www.wolfengagement.co.org. Outreach was conducted via CPW media advisories and individual outreach to state, regional and local outlets (print, radio, television); the CPW Gray Wolf eNewsletter, with several thousand subscribers at the time of the summer 2021 engagement activities; CPW and Keystone social media channels; CPW partner channels, like other CPW advisory bodies comprised of agriculture producers, sportspeople, recreationists, and non-consumptive wildlife and habitat interests; through the TWG and SAG membership and additional outreach to stakeholder groups; and through individual outreach to focus group invitees from a variety of private, public and NGO sectors. Regarding media outreach, in July and August, Keystone individually contacted 83 reporters, including 9 Spanish news outlets, counted 29 accepted community calendar postings and 38 posted news articles (two of which were local TV news packages), and conducted several radio interviews.

Posters, available online and at open houses, were translated into Spanish; signage was posted at open houses regarding the availability of Spanish materials; and a native Spanish speaker was available at most meetings. The website was also translatable via Google Translate into dozens of additional languages.

Detailed notes were taken at all focus groups and virtual town halls; Keystone and CPW staff captured key themes and takeaways at open houses while also encouraging participants to provide detailed comments via the online form. All meeting notes and online comment form submissions were analyzed, coded (i.e., tagged as being related to one or more topics or questions) and grouped by Keystone according to themes. Excerpts of notes and online comments for each theme were then further analyzed and synthesized into the summary found in this report. Excerpts were also analyzed for the relative frequency of topics discussed within three geographies: Western Colorado, Eastern Colorado, and out-of-state.

The public engagement activities summarized above reflect a qualitative approach to understanding diverse public perspectives. The engagement – by intention – was not designed to track quantitative responses through polling or voting. Keystone and CPW staff listened for ideas, questions, suggestions and concerns to inform how to build the best possible plan to meet the diverse needs of Colorado. Accordingly, this report does not attempt to draw conclusions regarding which restoration and management strategies were favored by participants in the process and/or the public at large, but instead seeks to detail the various perspectives heard and, where possible, the underlying rationales, interests and values expressed by participants in describing *why* they held specific views. Comments characterized in this report do not necessarily reflect consensus but rather the individual viewpoints that

were heard. Further, this report does not attempt to fact-check participant views, beliefs or claims.

Public comment opportunities are continuing beyond the period of engagement synthesized in this report, including public comment at SAG meetings, Commission meetings, and via an online comment form. Regular Keystone updates to the Commission are also publicly posted to the Commission webpage. Public input, along with input from the SAG and TWG, will be provided to CPW and the Commission for consideration in the development of a draft Wolf Restoration and Management Plan. The draft plan will be provided to the public for further comment prior to the presentation of a proposed final plan for review and approval by the Parks and Wildlife Commission, and for implementation beginning no later than December 31, 2023, followed by ongoing management activities.

Photo credit: Keystone Policy Center

Wolf Restoration

Summary of feedback on wolf restoration

Comments frequently expressed strong support or opposition to actively restoring or releasing wolves in Colorado. Participants commonly asked for more information about where wolves would be released, how many would be released, and when (timeline as well as time of year) they would be released. Comments on source populations focused on geographic source; subspecies; genetic diversity; family and social structures; concerns regarding sourcing problem (depredating) wolves from other states; and concerns regarding importing diseases. Mexican wolves were discussed as donor populations and in relation to interbreeding and population connectivity with northern gray wolves. Natural migration of wolves into Colorado was also discussed.

Comments on release locations suggested mapping and considering the interplay of a variety of factors, including:

- Interactions with and impacts on other wolves and wildlife species, including interactions with Mexican wolves or wolves already present in Colorado.
- Ecological habitat suitability in terms of drought, prey base, and availability of large and unfragmented landscapes.
- Social and economic factors, including likelihood of interactions and/or conflict with livestock and humans as a function of land use, population density and/or recreation; vote results reflecting support or opposition to wolf restoration; engagement of local communities; and equity of release locations.
- Unique issues for public and private lands, including seasonal migration of prey, the allocation of existing grazing allotments on public lands, the National Environmental Policy Act (NEPA), and the role of private lands in wildlife conservation.

Participants also discussed the likelihood of dispersal of released wolves as well as release technique (hard vs. soft). Participant comments on the pace of reintroduction ranged from encouragement for restoration to occur slowly and with minimal numbers of wolves to encouragement for the restoration process to move more quickly and toward a larger population. Comments also encouraged working with the TWG to follow best available science to address the various questions related to restoration logistics.

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Source population considerations

Source locations

Participants frequently asked about the locations and subspecies or genetics of potential source populations of wolves. Northern Rocky Mountain states (Idaho, Montana, Wyoming) were suggested as source locations for reasons of connectivity and proximity as well as because these states' policies currently support lethal management to reduce wolf populations.

There were questions regarding what subspecies of wolf would be released and whether it would be one that was previously present in, or would be new to, Colorado. There were questions and concerns that the subspecies to be released in Colorado might be non-native and a larger and/or more aggressive subspecies than was previously present, potentially increasing the likelihood of conflict. There were also comments suggesting that concerns about the subspecies are myths or misperceptions perpetuated by those opposed to wolf reintroduction.

There was discussion as to whether wolves could be sourced for prey selectivity. For instance, it was suggested that Great Lakes wolves (*Canis lupis occidentalis*) prefer deer and therefore could be conducive to controlling chronic wasting disease. It was also suggested that Great Lakes wolves are slightly smaller but could still interbreed with naturally migrating wolves from the Northern Rockies.

Comments encouraged genetic diversity and cautioned against thinking that subspecies would stay distinct over time. To this end, comments in favor of sourcing from Idaho and Montana argued that this would increase genetic diversity as these wolves would interbreed with wolves that naturally migrate into Colorado from Wyoming. Other comments indicated concern that Wyoming's predator management zone would limit natural migration and thus genetic diversity over time.

Social structure and age

Questions and comments were also frequently directed toward the pack and social structure of sourced wolves. Comments expressed concerns that wolves are intergenerational, with older males providing basic hunting strategies and negotiating social structure, and that family relations should be considered when sourcing wolves. Comments about which wolves to relocate – entire family groups, breeding pairs, multiple unrelated (and thus more genetically diverse) members of the same pack, or dispersed individuals ("lone wolves") – were based on wanting to avoid disruption of packs that could create anxiety for the surviving pack and relocated wolf. Comments also asked how use of hard vs. soft release techniques would affect whether packs or individuals were sourced (see below for more in the *Hard and soft release techniques* section). A comment expressed concern that lone wolves would be more likely to have conflicts with livestock.

There were few comments on specific gender, age or color ratios. Some comments suggested that gender ratios should be roughly 50:50 male to female; that selection for age should favor wolves that are 2-3 years old; and that color ratios should include a mix of black and gray wolves based on science suggesting mates select for opposite colors.

Prior interactions with humans and livestock

Regarding the reputation of source wolves and their prior interactions with humans and/or livestock, participants advised against bringing in chronic depredators or problem wolves from other states; some comments suggested the pre-capture monitoring of wolves prior to their selection for capture and release in Colorado. Others suggested taking animals from areas that allow wolf hunting under the assumption that these wolves would have a fear of humans. It was suggested that released animals should be sourced from the wild rather than from a zoo or other sources of domestically bred animals because wild animals have not had interactions with humans.

Natural migration

Comments also discussed the role of natural migration of wolves into Colorado as a consideration for restoration and source populations. Some comments suggested that the


Photo credit: Colorado Parks and Wildlife

2004 Wolf Working Group plan emphasized natural migration, and that this should be a continued focus, citing concerns about the expense of restoration efforts. However, other comments emphasized that wolves migrating from Wyoming face significant difficulty due to the predator management zone in Southern Wyoming and concerns around a "shoot, shovel and shut up" mentality toward natural migrators; these comments noted that augmentation through restoration was needed in Colorado to establish a population here. There were questions regarding the current pack in Jackson County, established from naturally migrating wolves, including where it was descended from, whether it could be a source pack to be relocated onto the Western Slope, how it would be managed since it is located East of the Continental Divide, and why additional wolves were needed given the presence of this pack.

Disease, injury and stress

Comments regarding testing, treatment and vaccination included questions of what disease plans would be followed. Comments recommended following disease testing and treatment protocols (one person cited Wyoming's protocols specifically) and working with veterinarians on the releases and follow-up monitoring. There were questions of whether and what wolf diseases could be spread to livestock, wildlife, humans and domestic pets, with specific concerns regarding preventing the spread of Hydatid disease and tapeworm. One comment also emphasized the importance of transparency with the public about disease issues.

Some comments underscored the need to avoid harm and stress to wolves in capture transport and holding; ensuring wolves are well fed in captivity while minimizing time in captivity; and avoidance of the use of traps and snares. There was a question about how injured animals would be handled.

Mexican wolves

Comments on Mexican wolves were directed toward their use as source populations as well as the potential for interbreeding with Mexican wolves currently in Arizona and New Mexico. Regarding use of Mexican wolves as donor populations, there were questions regarding whether they would be considered for reintroduction into Colorado, and questions and concerns about their use due to their federal protected status under the Endangered Species Act. There were also questions about differences among subspecies, and whether the Mexican wolf was smaller than the northern gray wolf. Comments in favor of releasing Mexican wolves into Southwestern Colorado were based on interest to improve the genetics and advance the

recovery of that subspecies. There was also speculation that the Mexican wolf might naturally migrate into Southwestern Colorado before the gray wolf migrated from the North.

Regarding interbreeding of Mexican wolves and gray wolves, there were concerns about genetic integrity and interbreeding or hybridization with Mexican wolves and therefore concerns with the potential release of gray wolves near the borders with New Mexico and Arizona. There was a question about whether interbreeding would affect how Mexican wolves and/or gray wolves were counted in recovery programs. Comments encouraged the objectives and management activities of these other states related to the Mexican gray wolf be kept in mind. There were questions as to what amount of spatial separation or buffer zone would be needed to keep the populations separate; Interstate 40 was suggested as a management boundary. However, there were also some comments in support of creating genetic connectivity among Mexican wolves and gray wolves, north-south from New Mexico through Canada. There was speculation and concern in Northwest Colorado that because of the concerns about interbreeding, Northwest Colorado would be the focus for reintroduction over the Southwest Colorado.

Considerations for where to release wolves

Comments frequently expressed strong support or opposition to actively restoring or releasing wolves in Colorado. Comments on considerations for release locations suggested mapping and considering the overlay and interaction of a variety of factors, including ecological factors, public and private land use patterns, and social and economic factors. Comments also suggested the difficulty of prioritizing one factor over another, with some comments emphasizing that minimization of wolf-human or wolf-livestock conflict should be a primary factor in considerations for release locations, and other comments emphasizing ecological considerations over social and economic concerns.

Ecological considerations for where to release wolves

Comments on ecological considerations for wolf release locations frequently emphasized the importance of considering multiple species and ecosystems. Comments generally either expressed optimism that wolves as an apex predator will help to improve and restore balance to the ecosystems into which they are introduced or concern that wolves will compound existing ecosystem challenges for wildlife, livestock and people. Holders of these viewpoints frequently felt that the other side was perpetuating a myth or misperception of the likely ecological impacts of wolves in Colorado.

Comments on specific wildlife considerations for release included questions about territoriality of wolves and whether packs need to be a certain distance from each other. Specifically, some questioned whether inter-pack dynamics would favor release locations closer or further away

from the current wolf pack in Jackson County as well as how far apart new packs should be released from each other.

Regarding ungulates, comments emphasized the need for good prey density and consideration of the condition or status of elk and deer herds relative to objectives within specific game management unit. Some comments emphasized that some herds are struggling while others are above objective, and others suggested that release of wolves would help improve ungulate herd health and improve areas that are over-browsed by ungulates. Comments suggested that release locations should consider seasonal migration patterns of prey, in some cases suggesting summertime releases to avoid conflict on private lands. Comments also asked whether release strategies could provide opportunities for prey to acclimate to a new predator. Comments also noted the need to avoid undermining the reintroduction efforts of moose and other species; to consider potential impacts to other wildlife such as bighorn sheep, sage-grouse and wild horses; and to consider impacts to other predators such as bears, lions, lynx and coyotes.

Comments also brought up other habitat stressors. Drought was often mentioned as a stressor of concern for habitat as well as for livestock. One commenter mentioned that recent burn areas should be avoided as release locations. Comments asked about the habitat needs of wolves, including what constitutes suitable habitat, how big of a territory is needed, and how wolves will adjust to seasonal prey availability. There were concerns about habitat fragmentation in Colorado, with some arguing that the state lacks the necessary large, contiguous blocks of public land found in other Northern Rocky Mountain states to support wolf restoration. However, other comments emphasized that there are suitable areas in Colorado with vast swaths of public lands and good connectivity.

Land ownership and land use considerations for where to release wolves

Some comments recommended that release occur on federal public lands and that a full NEPA review be conducted prior to release. Comments suggested that release locations should avoid areas with a high density of public land livestock grazing; however, it was noted that federal land livestock allotments are nearly fully occupied (some estimates indicate these allotments are 80-90% occupied in various areas of the state). Some suggested that wolf-livestock conflict minimization practices should be in place at release sites and that livestock allotments near these release areas should be either temporarily or permanently retired.

Comments also frequently underscored the role and value of private lands in wildlife conservation, whether through conservation easements or practices and programs such as ranching for wildlife. There were concerns about the seasonal movement of ungulates and therefore wolves from higher elevation public lands onto lower elevation private lands during the wintertime and the potential for conflict with humans and livestock. There were concerns that should these private lands not remain economically viable for ranching, their value for wildlife would be lost to private land development. Although comments generally suggested

avoiding private lands as release sites, there was also a suggestion that some private landowners may be interested in offering release sites.

Social and economic considerations for where to release wolves

Considerations of public and private land ownership patterns and uses overlap with a broader category of concerns regarding social and economic considerations for release. As noted above, avoidance of conflict was emphasized, along with avoidance of areas with high livestock density; there was a suggestion to take a landscape architecture approach to understanding the interplay of ecological, social and economic factors.

Beyond livestock conflict, comments frequently emphasized potential interaction with humans as a consideration for release. A commonly cited concern is the population density of Colorado as compared to Northern Rocky Mountain states, along with the concern that projected population growth in the future will increase the potential for human-wolf conflict. Comments also noted the difference in Colorado's land use and population since wolves were last present in the state. Increasing recreational use and tourism on public lands, including in areas considered wilderness, was cited as a concern for selection of release locations, both as a concern for wolf-human interaction and for the potential restriction of recreational uses due to wolf presence. Organized recreation groups offered to assist in providing map data on recreation patterns to help select locations and minimize interactions and impacts for recreationists. Related to this, while wolf tourism was cited as a potential economic benefit and a consideration for selection of release location, there were also concerns that wolves should be released in remote places where they can be left alone. Vehicular conflicts due to road density were also mentioned as a concern, and there was a suggestion to create buffer zones for release between wild and urban areas. Others mentioned studies showing that wolves reduce vehicular conflicts with ungulates.

Social acceptance or social tolerance was also noted as a consideration for release locations. Comments suggested taking into account the Proposition 114 vote results, with suggestions that Western Slope counties that voted in favor should be selected as release locations. Comments also suggested consideration of whether a county had expressed interest in being a release location, as well as whether a county passed a resolution against wolf restoration in their county. Voting patterns were also discussed, and many comments, particularly those from Western Colorado comments, expressed frustration and anger that very few Western counties had voted in favor of Proposition 114, yet the initiative requires restoration of wolves west of the Continental Divide. These comments argued that because Front Range voters supported wolf restoration, releases should occur on the Eastern Slope. Another commenter recommended that the Commission and CPW decisionmakers should visit selected release locations and engage heavily with those communities in person.

Many specific areas were suggested for release. The western side of Rocky Mountain National Park (RMNP) was most frequently suggested as a potential release location that would

minimize conflict and optimize ecological, social and economic considerations, considering its elk population, challenges with over-browsing and lack of livestock. It was suggested that RMNP in particular would provide an ideal setting for release that could be accompanied by a study on how wolf restoration impacts chronic wasting disease. However, comments also questioned whether management of wolves would vary by location within the park; noted that release on federal public lands brings additional management questions and NEPA requirements; and mentioned that as compared to Yellowstone National Park, RMNP is smaller and has a bigger population center nearby, increasing the potential for wolf-human conflict.

Comments also asked whether release locations and sites would be shared with the public, with some suggesting that while general locations should be shared, specific sites should not be advertised.

Dispersal from initial release location

Comments frequently recognized that wolves would disperse from their initial release locations, with some commenting that dispersal meant that although certain considerations applied to the selection of release sites and areas, the location did not necessarily matter. There were many questions related to dispersal from initial release location, such as: How far will they travel? Can they be "steered" along appropriate migration corridors? Can release be timed such that wolves disperse to follow ungulates? Are there data from other states to help predict dispersal paths? Would wolves attempt to travel back to their original habitat? How will habitat fragmentation, roads and wildlife corridors affect dispersal? What are the dispersal patterns of packs vs. lone wolves? And, how would wolves be managed should they disperse to the Eastern Slope?

Comments also expressed concern regarding release of wolves near the boundaries of neighboring states (e.g., Wyoming, Utah), where wolves could disperse and be subject to different rules, including potentially being legally killed. Release near these state boundaries was viewed by some as a potential waste of money and effort. Similarly, there were concerns about release near Tribal land boundaries and respect for Tribal sovereignty. There were also concerns about release near the New Mexico and Arizona borders and subsequent interbreeding with Mexican wolves (see above for more in the *Mexican wolves* section). Comments suggested that release locations be selected with a buffer from state boundaries (for example, of 60-75 miles). However, there was also concern that such a buffer would severely restrict the locations where wolves may be released.

Comments on considerations for where to release wolves were often interwoven with comments on where wolves should be geographically allowed and how they should be managed in various geographies. Some comments emphasized support for the 2004 Wolf Working Group recommendations that, regardless of release location, wolves "should be allowed to live with no boundaries where they find habitat." Other comments regarding

dispersal over time (not specific to dispersal immediately upon release) are discussed in the *Wolf Management* section of this report.

Restoration technique, and pace of restoration

Hard and soft release techniques

A hard release would entail capturing wolves and immediately translocating and releasing them to a site in Colorado, whereas a soft release would entail a period of conditioning wolves to their surroundings in Colorado before they were released into the wild. There were many questions about what each technique entails and the benefits and limitations of each, and in some cases confusion on these points. For example, one person asked whether a soft release means natural migration. Another assumed that soft release would allow for better testing for diseases. There were questions about what techniques were employed elsewhere and whether they were successful, for example in Yellowstone and Idaho and in the case of the Mexican wolf. There were also questions as to whether data supported one technique being better than the other.

Comments in support of soft release mentioned interest in preserving family units and social structures; the potential to limit post-release dispersal; and the perception that soft release would be less stressful for the wolves. Comments in support of hard release were based on an interest in being more cost effective and/or an assumption that hard release techniques are effective and that wolves would eventually disperse regardless of the technique used. There were concerns that hard release would result in dispersal into other areas within the state with potential for livestock conflict or other conflict. There was also concern that hard release would result in wolves trying to return to their home states, and that wolves would disperse back into states with lethal management policies. Comments encouraged consideration of biology as well as ethical considerations regarding disruption of wolf social dynamics in determining release technique and other release considerations.

Pace of restoration

Comments on the pace of reintroduction focused on issues of how many wolves would be released over what timeframe, as well as the overall timeline to begin restoration. Recommendations to go “slow and easy” included suggestions to start with low numbers and introduce a pilot pack in a visible area where it can be monitored; to provide opportunity for wolves and prey to acclimate to each other; to release in stages and use adaptive management; and to take a cautious approach with sympathy for both the wolves and the people affected by presence of wolves. Comments expressed concerns that wolf populations in Northern Rocky Mountain states grew rapidly. Questions were raised about the potential relationship between pace of restoration and lethal control, pondering whether a quicker pace

of restoration would mean lethal control options would become available sooner than under a slower pace.


Photo credit: National Parks Service/Neal Herbert

Other comments urged that the restoration planning process not be dragged out, and that it move more quickly with the benefit of technical expertise and learnings from other states. Such comments favored that releases not wait until the December 2023 deadline. There were requests for clarification of the timeline and what is required by 2023 as well as in the longer term, and whether release will be a one-time occurrence or continuous until a certain population or objective is met. Some comments provided more detailed suggestions regarding the phasing of releases. For example, one commenter suggested an approach using a soft release of 20-30 individuals in years one and two, followed by hard releases in years 2-4 to ensure breeding and repopulation are happening. Comments also encouraged that a management plan and objectives should be in place prior to any releases to provide clarity as to how wolves will be managed in the event of conflict as well as when populations grow. Monitoring of released wolves was suggested to provide data to support adaptive management.

Wolf Management

Summary of feedback on wolf management

Regarding indicators of success, input was often framed around support or opposition for specific numeric wolf population thresholds. Other success indicators mentioned included geographic distribution of wolves; health of other wildlife, habitat and ecosystems; social and economic factors such as impacts for livestock and ranchers, outfitters, hunters and recreationists; and public attitudes and values. Examples were sometimes framed in terms of positive outcomes and other times framed in terms of avoiding failures for wolves, wildlife and/or people. Comments often referenced lessons from other states, with interest in avoiding future litigation, sudden shifts in management approaches, and sudden shifts in wolf population. Comments also emphasized the need for clear and ongoing communication with the public regarding goals and approaches to achieve them.

Regarding management, comments discussed the state and federal listing status of the gray wolf and implications for management; penalties and enforcement associated with these protections; multispecies and multiple use management; and multi-jurisdictional management and the need for coordination with federal agencies, states, counties and Tribes. Comments also discussed geographic management of wolves with suggestions ranging from allowing wolves to live with no boundaries where they find habitat, to creation of management zones. Comments on management of human-wolf conflicts included a variety of questions about the potential for conflict, the need for education on wolf-human interactions and how to be "wolf aware," and varying viewpoints on lethal and non-lethal conflict management tools (see below for more in the *Livestock Interactions* section*).*

Hunting of wolves as a management strategy for population and impact control and/or for sport is one of the most contentious topics for the wolf restoration and management plan. Support and opposition for hunting overlap with many of the arguments related to numeric wolf population thresholds and/or social attitudes. Comments in support of hunting were most often rooted in the desire to have flexibility of management tools, including lethal methods, available to control wolf populations and any negative impacts on wildlife, livestock and rural livelihoods. Comments opposed to hunting argued that wolves regulate their own populations, making hunting unnecessary and unethical, that wolves are a nongame species, and that hunting disrupts wolf social structures and their ecological niche.

Funding was discussed as a concern for the sustainability of the plan, with a variety of funding needs and potential funding sources suggested. Comments on monitoring encouraged a variety of techniques and objectives; discussed expectations and concerns related to sharing wolf location data; and encouraged research and monitoring partnerships with agencies, universities, NGOs, recreation and volunteer groups, citizen scientists, and K-12 schools and youth.

Indicators of success

Biological and ecological indicators

Wolf population indicators


Photo credit: Colorado Parks and Wildlife

Input on definitions of a "self-sustaining population" was often framed around support or opposition for specific numeric wolf population thresholds. Comments in favor of numeric thresholds emphasized the desire for clarity and certainty to guide proactive and timely management as well as to set public expectations. For some commenters, firm numeric thresholds for would foster trust in government and were considered an important element of wildlife management and population control.

Comments provided examples of specific numbers for population goals or targets, often in reference to the recovery thresholds in other states (whether arguing that these other examples were too high or low) or to other principles and examples of species management. Examples of specific numbers suggested varied widely, from fewer than 50 to at least 1,000; one pack per 100 square miles of land; or a number comparable to pre-extirpated population size. Some comments suggested population thresholds be considered without political boundaries, to include the contiguous gray wolf population in the continental United States.

Other comments more generally outlined potential categories of metrics, such as total number of wolves, total number of packs, or total number of breeding pairs; some thought that such numbers should be defined statewide while others called for these to be defined regionally or by the carrying capacity of specific geographic divisions such as Game Management Units (GMUs). Some comments called for a firm maximum population number above which hunting of wolves would be allowed and management would be aligned with that of other predators in the state. Other comments supported numeric thresholds as a baseline or minimum for relisting or delisting or as a minimum to support genetic diversity, but strongly opposed a numeric population ceiling or maximum. Arguments regarding genetic diversity included avoiding bottleneck and founder effects, general inbreeding issues, and dispersal and genetic connectivity potential in other states where wolves are present.

Comments opposed to numeric wolf population thresholds argued that they are arbitrary and difficult to develop given ecological uncertainty and complexity; could erroneously result in a number that is too high or too low in the state or in a given area of the state; do not account for potential landscape changes and/or social changes in carrying capacity over time; can create false public expectations; can result in conflation of minimum and maximum population targets such that populations are managed to the minimum; and do not support principles of adaptive management and flexibility to analyze and change course over time. Some comments specifically were concerned that numeric thresholds could create a burden for livestock producers by setting a minimum number of wolves required on the landscape, regardless of livestock conflict or social impact.

Those opposed to maximum numeric thresholds and with particular interest in intrinsic values of wolves and their benefits to ecosystems focused their comments on the science of wolf population dynamics. They argued populations would stabilize at a carrying capacity determined by prey-predator cycles, a decrease in prey and ungulate density, and/or restoration of vegetation health in target areas. Others also argued that neither a maximum population number nor human management of wolf populations is needed because they are an apex species that self-regulates its populations through interspecies strife and territoriality based upon availability of suitable habitat and prey. These commenters were particularly concerned about the use of numeric thresholds to justify lethal management and hunting.

Both those opposed to and supportive of numeric thresholds shared concern about avoiding the situation occurring in other states that have recently increased hunting and lethal management of wolves to reduce total population size. Common were concerns over litigation, politicization and large swings in management and lethal control that are perceived as bad for wolves and people. However, those opposed to numeric thresholds argue that these situations demonstrate the practical, scientific and/or ethical problems that should be avoided in Colorado. Those supportive of numeric populations thresholds argue that these situations in other states demonstrate the need to develop and apply the numeric thresholds proactively and firmly, rather than allowing targets to be exceeded or changed to such a degree that they result in large swings in management.

Alternatives to numeric wolf population thresholds were offered and advocated for as indicators for success. These include geographic indicators, such as multiple packs breeding across a large range of habitat; distribution of wolves throughout Western Colorado, statewide and/or historic range; a connected population rather than a token population; and/or genetic connectivity of Colorado wolves with those to the north and south and thus restoration of a metapopulation of wolves throughout continental North America. On the last point, however, there were also concerns about interbreeding with the Mexican wolf (see above for more in the *Wolf Restoration* section). Some comments were opposed to widespread geographic distribution and defined success as being a minimal number of packs in specific areas of the state with minimal conflict.

Comments discussed temporal indicators of success such as breeding over consecutive years. Comments also described indicators related to genetic diversity, avoidance of inbreeding, and principles of redundancy, representation and resilience. Others asked how wolves that naturally migrate from other states would be considered within definitions and measures of success. Comments also suggested that CPW consider the indicators used for lynx reintroduction in developing wolf restoration indicators.

Wildlife and ecosystem indicators

As noted previously, commenters were generally either optimistic that wolves as an apex predator will help to improve and restore balance to the ecosystems into which they are introduced or concerned that wolves will compound existing ecosystem challenges for wildlife, livestock and people. Accordingly, some comments anticipated that trends in declining ecosystem health would need to be tracked to evaluate and adapt wolf management as needed. Other comments anticipated that wolf restoration would be accompanied by positive trends in indicators of ecosystem health that could be documented as metrics of success. Some cautioned that wolves should not be unduly blamed for ecosystem and social and economic outcomes that are the result of complex factors. More generally, comments reflected concern that management outcomes would focus on a species-based rather than ecosystem-based approach.

Photo credit: Colorado Parks and Wildlife

Comments recommended tracking metrics for different ungulate species based on reductions in chronic wasting disease, and/or based on GMUs or Data Analysis Units (DAUs) that consider herd dynamics for specific areas of the state. The continued success of the moose, which was reintroduced to Colorado, was suggested as an indicator for success. Impacts for wild horse populations were also suggested as an indicator, with some desiring to see wolves help control wild horse populations. Comments also suggested that success be defined and measured in relation to other predator populations and overall carrying capacity for predators, in relation to other protected species such as the sage-grouse, and in alignment with existing wildlife management plans in Colorado.

Comments also suggested that the restoration and management plan should incorporate indicators for ecosystem health such as climate change and drought, fire and post-fire effects, habitat fragmentation and presence of wildlife corridors, and riparian, range and soil health. Presence of positive trophic cascades through the addition of wolves as an apex predator was also suggested as an indicator of success, with commenters arguing that wolves restored in adequate abundance would restore natural balance through such cascades. Comments often

referred to Yellowstone National Park and the Greater Yellowstone Ecosystem as an exemplar of the cascading effects of wolf restoration, while others felt Yellowstone is incomparable to the conditions of Western Colorado and therefore not an appropriate model for success. Comments suggesting trophic cascades as an indicator of success specifically offered as indicators of trophic cascades metrics such as reduced overgrazing; riparian regeneration; improved bank stability; improved water quality; decrease in coyote population; reduction of Rocky Mountain spotted fever; return of lower trophic species such as beavers, raptors and nesting birds; and/or increased carrion for scavengers such as eagles, wolverines and weasels.

Social and economic indicators

Some comments emphasized that social impact should be the primary consideration while others underscored that success should be evaluated based on a combination of biological, social and economic factors.

Livestock, outfitting and hunting, and rural economies

Specific to livestock, comments emphasized that success includes a fair compensation program and effective conflict minimization practices. Some comments emphasized that success includes the ability to lethally remove conflict wolves while others emphasized that success requires that lethal control of conflict wolves be used only as a last resort or not at all (see below for more in the *Livestock Interactions* section). Comments also emphasized the importance of private lands and ranches for conservation of wildlife, suggesting that success includes preserving this value that private lands provide. Relatedly, comments on the role of private lands called out protecting land in conservation easements and not losing private land wildlife habitat, landscape views or agricultural heritage and economies if ranchers go out of business. Comments also cautioned that relationships between private landowners and CPW are at stake, and that success would include maintaining trust and collaboration in support of wildlife management.

Comments also expressed concern regarding the potential negative impacts of wolf restoration to outfitting businesses and hunters. Ungulate herd sizes, hunting license sales, hunter crowding, outfitting business losses (including losses to ranchers that rely on outfitting for income), hunting dog losses, and economic impacts for rural communities that rely on outfitting and hunting related businesses were all suggested as indicators for socioeconomic effects. Referencing statistics and anecdotes in the Northern Rocky Mountain region, some argued that impacts on hunters and outfitters would be greater than on livestock producers and these communities should be well represented in the management plan.

Comments were divided in their expectation of likely impacts for outfitting and hunting. Some stated that there are data showing that herd numbers and license sales have increased in Northern Rocky Mountain states since wolf reintroduction; that wolves would improve herd health including through culling of overpopulated herds and reduction of chronic wasting

disease; that Colorado would not experience substantial negative impacts for outfitting and hunting; and that the potential for such negative impacts was based on misperception and myth rather than data. Some comments also expressed that wolves, not hunters, should be the dominant managers of ungulate species in Colorado.

Commenters concerned about the potential for negative impacts for outfitting and hunting stated that a high proportion of outfitting service providers went out of business in Northern Rocky Mountain states in the first 10 years following wolf reintroduction because elk and deer migration routes had changed as a result. These commenters noted that outfitters' public lands permits are specific to geographic areas, such that permits cannot be moved to where herds might relocate due to wolf restoration, and thus wolves may affect some businesses more than others based on herd migration and redistribution of elk in GMUs. Comments noted that loss of hunting revenue to individual businesses and to the state, through license sales that support wildlife management, could occur whether due to actual impacts on herds or due to the perception from out-of-state hunters that wolves would negatively affect their prospects, resulting in them taking their business elsewhere.

Commenters noted the cumulative economic impact for rural Colorado of a variety of recent policy trends, feared that wolves would compound the challenges for these communities, and advocated that success would include compensation and/or other support not only for livestock losses but also for economic losses to hunting and outfitting businesses and rural communities.

Recreation and tourism

Comments also discussed indicators of success as related to other public activities and attitudes, including: avoidance of conflicts between wolves and recreationists, supported by successful public education and awareness of how to behave in the presence of wolves; continued access to recreational trails, off highway vehicle trails and backcountry; no loss or restriction of recreation opportunities; alignment with and achievement of objectives in Colorado's Statewide Comprehensive Outdoor Recreation Plan (SCORP); and recognition of the importance of recreation and the inclusion of recreational voices in wolf planning. Concerns were also mentioned regarding impacts to developed outdoor recreation opportunities, such as skiing and golf. Often, comments argued that the outdoor recreation participation in other states is not comparable to Colorado's high levels. Comments also suggested that the plan consider potential impacts of increasing recreational uses on wildlife.

Comments on tourism suggested that indicators of success would include wolf-based tourism that provides revenue to the state and local communities, including rural communities. Other comments were skeptical that the tourism economy would offset losses of hunting (and related tourism) and ranching particularly because of wolves' reclusive nature and the socioeconomic value of the former two industries to specific communities on the Western Slope.

Social attitudes

Comments on social attitudes as indicators of success often reflected differing perspectives and values toward the relationship between humans and wildlife. Comments suggested that because public attitudes can impact success of the wolf restoration and management program, success would involve the evolution of these attitudes.

Some emphasized a desire for public respect for wolves, suggesting that social acceptance or social tolerance of wolves should be a measure of success. These comments suggested an interest in growth in public attitudes that support: the intrinsic values of wolves; treating wolves with honor and respect; recognizing wolves' cultural significance to various communities and individuals; and avoidance of blaming wolves for all problems or overstating negative impacts. Comments suggested a desire that the public see wolf restoration as the "right" thing to do to address past extermination of wolves in the state. Related comments suggested that elements reflecting success would include publics informed on the potential benefits of wolves for ecosystems and experiences in other states with wolves; wildlife and public lands managed for the public at large; reliance on scientific experts to make management decisions; and advancement of principles and practices of coexistence, conflict prevention and management of people and livestock rather than lethal control of wolves. Comments also emphasized that failure would be reflected by attitudes supportive of or leading to removal of wolves, either illegally (i.e., poaching, which some comments suggested was prevalent in Colorado) or through legal, lethal control, particularly through hunting.


Photo credit: Keystone Policy Center

Others suggested that conflict minimization is a more appropriate goal and emphasized a desire for public respect for private landowners and rural economies. These comments suggested a need for better understanding of stressors faced by private landowners and rural communities; understanding and respect for private property and the role of private landowners in wildlife conservation; understanding of the connection of ranchers to their livestock that monetary compensation for loss does not address; and appreciation for the anger felt within communities that oppose wolf restoration and see it as imposed upon the Western Slope. Related comments reflected that meeting the needs of these landowners and communities would include the ability to control and lethally manage wildlife populations that threaten humans and human property; management of wolves consistent with management of other wildlife species; respect for various uses of public lands including grazing and recreation; and empathy that losses that are statistically low at an aggregate level can be devastating for individual families, businesses and communities.

Some comments expressed hope that the values described above are not mutually exclusive, and that success would involve public attitudes and a management plan that respect and are receptive toward these different values. Comments also reflected concerns regarding political pressures and interference from in- and out-of-state lobbying groups and special interests, whether aligned with perceptions of urban or rural interests. Comments suggested the importance of social attitudes supportive of collaboration and trust among different perspectives, organizations and management agencies.

Multi-jurisdictional management and government engagement

Comments on *Wolf Management* and on *Engagement, Education and Outreach* emphasized the need to engage and coordinate with federal agencies, other states, counties and Tribes on a variety of multi-jurisdictional management issues.

Federal agency engagement

Comments related to federal agency engagement focused on ensuring communication and coordination between CPW and federal land and wildlife management agencies such as the U.S. Fish and Wildlife Service, U.S. Department of Agriculture Animal Plant Health Inspection Service – Wildlife Services (USDA APHIS-WS), U.S. Forest Service, and Bureau of Land Management. Issues for federal-state communication and coordination include but are not limited to protected species status, implications of wolf restoration for planning and permitting for multiple uses on federal lands, NEPA requirements, livestock damage investigations and prevention practices, management of conflict wolves, and monitoring on public lands. Comments encouraged that wolf management should align with existing federal resource and land management plans and noted that future updates to these plans might need to further consider and address wolf management. Comments expressed concerns regarding the lack of capacity of federal land managers to add additional layers to permitting and NEPA reviews, conduct additional monitoring, and/or update grazing management plans and support implementation of new practices.

Engagement of other states

Comments encouraged coordination with other states and countries in collecting and applying lessons learned from past reintroduction efforts and ongoing wolf management; coordinating on sourcing of wolves for release in Colorado; coordinating on issues of cross-boundary migration of wolves, including into the predator management zone in southern Wyoming and as related to potential litigation from other states; and coordination on potential interactions and interbreeding of Mexican and gray wolves. However, comments also expressed concern about replicating the approaches of other states, with particular concern regarding recent changes increasing lethal management and hunting (see above for more in the sections on:

Wolf population indicators and below on *Hunting*). Comments encouraged Colorado to provide a new model for wolf management.

Engagement of counties

Comments emphasized the need for coordination of management with local government, particularly engagement with county leaders in reflecting the interests of diverse publics and in coordinating management activities related to public land management, multiple species management issues, sustainability plans, enforcement, etc. Comments emphasized that counties will have a long-term role in working with the state on wildlife management issues, including wolf issues, and that trust and collaboration are paramount.

Comments on county level engagement and state-county management coordination often focused on the need for more interaction and concern that local governments do not have enough input into the planning process. Comments emphasized that the best way to ensure a successful restoration and management plan is to have full support and buy-in from local governments and communities, and it was also emphasized that counties will be long-term partners in plan implementation, beyond the plan development phase. Commenters also criticized lack of direct communication with county commissioners when a wolf restoration meeting occurs in their district, and some comments suggested that county commissioners be given a seat at the table during SAG meetings in their districts.

Some comments expressed concern over unfunded mandates and potential costs to counties of managing wolves locally. It was noted that some local governments feel they have borne the brunt of costs and impacts of other wildlife management issues such as the elimination of the spring bear hunt, development of wildlife corridors, management of endangered species, and other issues that may have direct or indirect costs on local government. Additionally, comments also underscored that Western Slope counties largely voted against Proposition 114 and a number of counties have issued resolutions opposing restoration of wolves in their counties. Questions were raised about how the state would handle resolutions passed within counties on the Western Slope declaring they did not want wolves; it was suggested there is a need for a process to engage these counties. Comments focused on local government engagement also suggested that CPW and the Governor visit, in person, with local governments once the release locations for wolves are decided.

Other concerns came from counties near the Western Slope but technically on the eastern side of the Continental Divide. These counties want to ensure their voices and input are still considered in the plan as wolves will likely migrate into their boundaries soon after release and, in the case of Jackson County, have already naturally migrated there.

Tribal engagement

Comments related to Tribal engagement centered on the need to create a robust communication and engagement process with the federally recognized Tribes with sovereign lands within Colorado's borders: specifically, the Southern Ute Tribe and the Ute Mountain Ute Tribe. Because of historical trust issues and the fact that both Tribes are sovereign nations, comments emphasized that it will be important to have a process in place that recognizes their autonomy, considers transboundary management issues, and creates a partnership to successfully manage wolves in Colorado. It was also noted that the Southern Utes have a declaration opposing the reintroduction of wolves and it will be important to engage with them and address their concerns. Comments also discussed wolf management as related to Tribal rights under the Brunot Agreement.

Comments encouraged coordination and engagement with Tribes on management planning and implementation. Tribal feedback included discussion of creating a Tribal management plan for wolves that cross onto Tribal lands within state borders, to include management strategies for depredation of livestock. There was discussion and questions about the applicability of state protected status and restrictions on lethal management within Tribal borders as well as applicability of state livestock damage compensation plans to depredation on Tribal lands. Concerns were expressed regarding the funding and capacity of Tribes to accomplish this planning.

Other comments focused on the need to engage Tribes and Indigenous peoples with historical ties to Colorado that do not have sovereign lands within the state, as well as Tribes with lands bordering Colorado in other states and those that own private lands within Colorado. Some comments focused on the need to engage Tribes and other Indigenous communities to better understand and incorporate traditional practices and values regarding wildlife co-existence that may be instructive in the planning process.

Suggestions for continued engagement between Tribes and the state include bi-annual consultation with both Tribes and regular work sessions to receive feedback. Opportunities to engage with Tribes and other Indigenous communities include the March Pow Wow gathering in Denver as a place to build partnerships and help educate communities on the wolf reintroduction plan.

Management strategies

Listing status and protections

Comments frequently asked about the federal listing status of the gray wolf and how federal relisting would impact management and species protection. Comments reflected anxiety by some around the federal delisting of gray wolves, such as distrust of state and federal

administrations, and the political nature of listing status, with many suggesting Colorado was a potentially important refuge for wolves until federal relisting could occur. Regarding Colorado endangered species status, there was interest in understanding implications for harassment and lethal take of wolves, including in the context of human safety and livestock conflicts (see below for more in the *Livestock Interactions* section). There were questions as to why state listing status diverged from federal listing status, and questions regarding the threshold for recovery and state delisting.

Comments also discussed the potential for federal relisting of gray wolves as an endangered species, and how it might impact the restoration and management plan – including management strategies available (including lethal management); management responsibilities and authorities; and flexibilities that could be provided under a federal Endangered Species Act (ESA) Experimental, Non-essential 10(j) designation that provides management flexibility to address conflict to an otherwise federally protected species.. Some expressed questions and/or concerns that a 10(j) designation may limit the protections provided by the state endangered status. There were questions about the potential implications of federal relisting for land management, land use and permitting by federal agencies as well as what additional NEPA analyses would be required in the case of relisting. There was also discussion of the federal protected status of Mexican wolves and how release of Mexican wolves and/or interbreeding between gray wolves and Mexican wolves would affect the Mexican wolves' status and recovery program (see above for more in the *Mexican wolves* section in *Wolf Restoration).*

There was interest in understanding relevant penalties and plans for enforcement of state – and, as relevant, federal – endangered species status, with concerns regarding illegal lethal take or poaching; "shoot, shovel and shut up" mentalities; protection of existing wolves in Colorado including those in Northwest Colorado; and concerns regarding lethal management being excused based on claims of confusion (accidental or intentional) of wolves with coyotes. It was suggested that "wolf watcher" volunteers could help to monitor packs to help prevent poaching, however it was also suggested that safety of volunteers with respect to poachers could be a concern and should be addressed through any volunteer program.

Multispecies and multiple use management

Discussion of management strategies addressed a range of topics related to management of wolves, wildlife, land use and people, with much emphasis on discussion of lethal management. Discussion of management strategies was often closely linked to varying definitions of success as described above. Comments called for adaptive, impact- or objective-based management guided by indicators and metrics, however other comments called for firm numeric population management thresholds (see above for more in the *Wolf Management* section). Comments also discussed the potential for phased management based on achievement of specific metrics. Comments often described the need for science-based management strategies and avoidance of politically motivated management.

Photo credit: National Park Service

Comments on big game management in relation to wolves often asked about wolf predation patterns; discussed anticipated impacts (positive or negative) for specific herds with respect to reduction of populations; reduction of chronic wasting disease; reduction of overgrazing by ungulates; and impacts for hunting license sales and outfitting businesses. Comments reflected anxieties about existing big game vulnerabilities such as declining cow-calf ratios, land-use and predation stressors, and concerns regarding whether wolves would negatively impact big game management. There were also concerns that there are misconceptions and misinformation regarding impacts of wolves to big game species. Comments discussed the need for the wolf restoration and management plan to align with herd management plans and asked whether big game management plans, including existing GMUs or DAUs, would need to be updated with the introduction of wolves. Some comments suggested that wolves should be managed to maintain big game populations, rather than relying on wolves to manage or impact management of these populations. However, others argued that as apex predators, wolves would have positive effects for game management and cited increases in big game populations and hunting license sales in other states with wolves.

Comments also encouraged that management strategies for big game and wolves consider interactions with and carrying capacity for other predators as well as seasonal migration of predators and prey from high elevation public lands to lower elevation private and Tribal lands. Some comments specifically suggested that wolves should eventually be managed similarly to other predators, while others were adamantly opposed to hunting as allowed for other predators. Some comments cited the loss of the spring bear hunt as an example of challenges of predator management in the absence of lethal management tools.

As noted above, comments also urged that the wolf management plan consider other species of management concern such as the moose, lynx and sage-grouse. Some expressed concern that wolf management would follow the path of wild horse management, with greater populations on the landscape than the land can support.

Comments also emphasized multiple-use management and ecosystem management that considers the full landscape and its uses and that respects other permitted activities on federal lands (e.g., motorized and non-motorized recreation, outfitting, grazing, logging, mineral development, ski areas, etc.). Comments focused on recreational interests emphasized the importance of alignment with the SCORP objectives and advocated against restrictions to recreational access and use. These comments generally emphasized that pre-restoration

activities by humans should not be restricted due to wolves. On the other hand, comments emphasizing "people management" argued that wolves do not require management and belong on public lands, that people should expect wolves as part of the landscape, and that restrictions on human activities as well as conflict prevention and education were the primary management need.

Geographic management

As noted above in the *Wolf Restoration* section, many comments on considerations for where wolves could be released recognized that wolves may disperse quickly and for large distances both upon release and over time. Comments regarding indicators of success for wolf populations (see above for more in the *Wolf Restoration* section) often encouraged intra- and interstate geographic distribution and genetic connectivity, advocating in support of the 2004 Wolf Working Group recommendations that wolves "should be allowed to live with no boundaries where they find habitat," and that wolves "will be left wherever they are if they are not causing problems."

Others skeptical of the relevance of the 2004 recommendations cited statewide changes in human and ungulate populations and land use since that time. Other comments supported limiting wolves to specific geographic areas in the state based on biological, social and/or economic factors. Comments recommended the implementation of management zones, for example, a predator management zone east of the Continental Divide. Comments asked whether management would be different on the Eastern vs. Western Slope, and/or whether wolves that naturally migrate into the state will be managed differently than those actively released in the state.

Management of human-wolf conflicts

The presentation and posters provided to participants noted that "conflict wolves" are generally defined to be any wolf that has been confirmed to have been involved with a human or livestock conflict. Comments discussed a variety of potential wolf conflicts, including conflicts with humans, conflicts with dogs and other pets, and conflicts with livestock. Questions frequently asked what non-lethal and lethal tools would be permitted for management of wolves that come into conflict with people or humans. Wolf-livestock conflict (prevention, compensation and management of wolves that have conflicts with livestock) is addressed in detail below in the *Livestock Interactions* portion of this report.

Concerns regarding wolf-human conflicts often discussed the potential for encounters between recreationists and wolves on public lands. There were also concerns that seasonal prey migration patterns might result in concentration of wolves on private lands in winter, leading to additional potential for human-wolf conflict. Questions asked whether wolves, like bears, would wander into residential settings in search of food. Many commenters were very concerned about the potential for wolf-human conflict, suggesting that even if relatively rare in

other states, the population, land use patterns and outdoor recreational activities in Colorado would increase the likelihood of conflict here. However, many other commenters emphasized that wolf-human conflicts are statistically rare and that fears regarding human safety are based on myth and misperception. Some comments reflected the recency of wolves' prior presence in Colorado through stories of their families' negative interactions with wolves before extirpation; these comments emphasized the relevance of fear and anxiety around potential for conflict. Public education regarding the potential for wolf-human interactions and what to do in a wolf encounter were encouraged, particularly for recreation communities, tourists, local residents and visitors.

Comments offered differing views of management of conflict wolves. Most were related to wolf depredation on livestock (see below for more in the *Livestock Interactions* section). More generally, comments either emphasized the desire for lethal management tools or a preference for non-lethal management of conflict wolves. Comments regarding lethal management emphasized the need for people to be able to legally protect themselves, their families and their property. Comments focused on non-lethal management methods prioritized conflict prevention and non-lethal management of conflict wolves. Some comments called for case-by-case investigation of the nature and cause of the conflict, including whether the wolf created conflict because it was being threatened or harassed. Others strongly opposed any lethal management of conflict wolves, particularly on public lands, while still others opposed all lethal management. Those most opposed to lethal management argued that the framing of "problem wolves" is incorrect, that problems are more often caused by people, and that the activities of people, rather than wolves, should be managed.

Hunting of wolves

Hunting of wolves as a management strategy for population and impact control and/or for sport is one of the most contentious topics for the wolf restoration and management plan. Support and opposition for hunting overlap with many of the arguments discussed above related to numeric wolf population thresholds and/or social attitudes. As noted above, one point of common concern was in avoiding the situation occurring in other states that have recently increased hunting and lethal management of wolves to reduce total population size. However, the underlying rationales for these concerns differ substantially in their view of whether hunting of wolves is biologically necessary and/or socially acceptable.

Comments in support of hunting were most often rooted in the desire to have flexibility of management tools, including lethal methods, available to control wolf populations and minimize negative impacts to wildlife, livestock and rural livelihoods. Pointing toward experiences in other states as well as experiences with the loss of the spring bear hunt in Colorado, comments expressed the need to have a lethal management plan in place to avoid populations growing out of control and beyond ecological and/or social carrying capacity. Some suggested a firm population threshold identified proactively and above which hunting would be allowed. Others suggested allowance of hunting as a management tool from the

outset of restoration, citing perceived validity and importance as a population management tool. Some comments explicitly expressed interest in the ability to provide recreational opportunities as well as economic opportunities through wolf hunting, suggesting that wolf hunting revenue could help to offset economic losses to outfitters and help financially support CPW.

Additional interests in support of hunting included aligning management of wolves with the management of other predators, managing wolves consistently with management of other wildlife in general, and managing consistently through the North American Model of Conservation and its associated approaches to hunting and to wildlife conservation funding. Other comments included the suggestion of zoned management that would allow predator management or hunting in some areas; suggestions to allow trapping; and questions including whether wolves are difficult to hunt, whether the determination of number of wolf tags would be difficult, and the likelihood of hunters mistaking wolves for coyotes.

Comments opposed to hunting argued that the science of wolf population dynamics demonstrates that neither a maximum population number nor human management of wolf populations is needed because they are an apex species that self-regulates its populations through interspecies strife and territoriality and based upon availability of suitable habitat and prey. Comments in opposition to hunting argued that Proposition 114, now law, describes wolves as a nongame species and that this language protects wolves from hunting; they also argued that voters in support of Proposition 114 did not vote to see wolves hunted in Colorado and that allowing hunting would not honor the will of the voters, would be a moral failure, and would be a waste of taxpayer money invested in restoration. They cited support for the 2004 Wolf Working Group recommendations that wolves "should be allowed to live with no boundaries where they find habitat" and that wolves "will be left wherever they are if they are not causing problems."

Comments opposing hunting also emphasized that recreational hunting of wolves is unethical and leads to a devaluation of wolves; that wolves should be respected for their intrinsic value as well as biological and cultural significance; and that social attitudes have evolved toward a preference for coexistence rather than domination of nature. Comments further argued that hunting would impede wolves' ability to reach the populations necessary to fully fill their ecological niche, and to create the positive ecological benefits and restoration of balance of nature intended by Proposition 114. They also argued that hunting would disrupt wolves' social structures and could lead to increases in depredation on livestock. In addition to hunting generally, concern was expressed regarding use of snares, traps, poison, helicopter-assisted hunting and other techniques that commenters deemed inhumane.

Monitoring

Comments suggested a variety of monitoring techniques and tools, including radio collars, howl surveys, remote wildlife cameras and wolf den livestreams, mobile apps for citizen

science, and ground truthing. Comments reflected differing opinions in use of monitoring techniques, with some suggesting that non-invasive techniques such as observation, trail cameras, howling studies, temporary trackers and aerial population counts were potential alternatives to techniques such as GPS (Global Positioning System) satellite collars and VHF (Very High Frequency) radio telemetry collars, den cameras, microchips and drones. Comments encouraged that research studies be designed now in anticipation of release, that research and monitoring should go beyond the bare minimum, and that wolf restoration provides an opportunity to study at a landscape scale, involving good data and collaboration possibilities. Capacity, funding and staffing were often referenced as concerns for developing a successful monitoring program.

Comments on what is monitored overlap with discussion of metrics or indicators for success (see above for more in the *Indicators of success* section). Suggestions included monitoring wolf populations, migration and depredation trends. It was suggested that every wolf released should have a collar; however, there were different suggestions and expectations for collaring and monitoring of wolves as the population grows, with some commenters wanting all wolves monitored. Others cautioned about outsized public expectations, emphasizing that monitoring should be aligned with the management that CPW will pursue. Questions asked about current monitoring of wolves already present in the state. Discussion of data release included comments advocating that wolf location data should be promptly shared with ranchers and outfitting permittees, and/or that they should be notified when wolves are in their areas so that they can take proactive management steps. Other comments emphasized concerns about wolf

Photo credit: Lynnb53

safety and cautioned that collar locations should be kept private to CPW so that they cannot be used for poaching/illegal lethal take. Some suggested that collars could alternatively help prevent confusion of wolves with coyotes and accidental lethal take.

Comments suggested that monitoring of ungulates tracks pre- and post-wolf restoration herd health and population metrics and asked whether wolf restoration will impact the current ongoing monitoring of elk, bighorn sheep and other wildlife species. Comments also suggested monitoring of vegetation changes and trophic cascades triggered by wolves and designing studies to understand wolf impacts on chronic wasting disease.

Comments also encouraged research and monitoring partnerships and collaboration with other agencies, universities and NGOs; suggested engagement of citizen scientists, educators and students in learning and contributing toward research; encouraged engagement of the public to urge reporting of wolf sightings; encouraged engagement of organized recreational and volunteer groups to support backcountry research projects as occurred with lynx; and offered financial support for collars for predator monitoring.

Funding

Funding to support wolf restoration and management was often discussed as a concern. Comments included questions on how much funding is needed and where it will come from, including concern that funding should not come from hunting and fishing licenses and those that opposed and/or will be impacted by wolves on the landscape. There were concerns that there was not a fiscal note or funding source attached to Proposition 114 as well as requests for clarification of current fiscal year general funds appropriated for wolf restoration. There was concern about long-term funding sustainability particularly because funding is not continuously appropriated through the state general fund and it is thus not a reliable funding source. There were also concerns that there are shortages in state funding and wolf restoration and management competes with other state funding priorities such as education.

Further concerns addressed related to other CPW funding mechanisms and priorities, including concern that hunting license sales that fund CPW will decrease; concern that CPW will need to take funding out of other priorities, and concern that CPW's enterprise status will be affected by other funding sources. There was also concern that CPW is already understaffed.

There was discussion of opportunities to identify funding from other public and private sources, along with concerns about transparency in funding and influence of outside funding sources and special interests. Finally, there was concern that the North American model of wildlife management, supported by hunting and fishing licenses, will either be used to justify hunting of wolves or will not be applied consistently to wolves as with other species.

Comments often expressed that the planning process provides an opportunity to consider the agency's overall funding structure and diversify funding sources to encourage interests beyond

hunting and fishing to increase financial support for wildlife management. This sentiment was often expressed in terms of equity and a desire to see funding provided by those that voted in support of wolf restoration. Related comments also noted the need to educate the voting public on direct and indirect costs related to funding wolf restoration and management.

Comments identified funding needs for direct costs and capacity, including but not limited to restoration logistics; monitoring equipment; conflict minimization materials, training and costs of implementation; compensation for direct livestock losses and suggested compensation for other indirect economic losses; and capacity and staff at CPW for restoration, management, monitoring, livestock loss investigation, education and outreach, etc. Comments also discussed capacity and costs for land management agencies – such as federal agencies, Tribes, and counties – that will take on additional work associated with wolves.

Comments generally suggested a wide variety of funding sources and were often supportive of the concept (currently in law) that funds should not be taken from sportspersons' dollars (i.e., hunting and fishing licenses). Sources discussed for potential funding included: general fund dollars and Great Outdoors Colorado funding. Comments suggested imposing new taxes including a sales or wolf tax on counties that voted in favor in Proposition 114, a marijuana tax, a soda tax, or a lodging tax; creating new taxes or fees on outdoor recreation including an outdoor recreation license, outdoor recreation equipment tax, mountain rescue tax, or a wolf tourism tax; and creating special taxing districts akin to a conservancy district or implementing development impact fees. Other suggestions included leveraging available revenue generating tools within the state or CPW like habitat stamps, usage fees from state parks, trophy wolf hunting licenses, or offering a wolf license plate. Also discussed was using federal dollars from the Land and Water Conservation Fund and Recovering America's Wildlife Act; employing traditional government funding mechanisms like bonds; creating public-private partnerships with external organizations such as non-government wildlife organizations; and fundraising through gifts, grants and donations.

Livestock Interactions

Summary of feedback on livestock interactions

Differing underlying values and experiences inform varying positions and expectations regarding livestock conflict minimization, compensation and management of conflict wolves. Many perspectives acknowledged that livestock operations have the potential for losses and that it is therefore important to develop solutions that can minimize conflict. Producer engagement in the development and implementation of relevant and feasible conflict minimization strategies was a theme common to many different perspectives, as was the importance of fair compensation for depredation. The importance of offering solutions for producers was sometimes specifically framed as an issue of equity for those in Western Colorado with the greatest potential for immediate negative impact to their operations and livelihoods. Sustainable funding to support livestock producers through wolf-livestock conflict minimization materials, training and implementation as well as for compensation of livestock losses was also a consistent theme.

Comments offered differing perspectives regarding the potential impact of wolves on livestock operations in Colorado and impacts in neighboring states. Comments called for education efforts regarding wolf depredation trends as well as sharing the experiences of producers from areas where wolves are present. Comments also discussed existing environmental and economic stressors for producers as well as differing perceptions and social attitudes toward the role of private and public grazing lands in ecosystem health.

Regarding conflict minimization practices, perspectives generally valued the concept of preventing conflict and depredation when possible; however, beliefs differed as to the extent to which proactive, nonlethal conflict minimization would be feasible and/or successful. Comments emphasized consideration of different operational contexts such as rangeland vs. pasture; sheep vs. cattle; large vs. small operations; and public vs. private lands. Some perspectives emphasized opportunity to learn from and partner with producers and organizations that have successfully implemented conflict prevention practices elsewhere, frequently underscoring the importance of nonlethal conflict prevention for the long-term sustainability of wolf restoration and management. For others, there was significant skepticism regarding the ability to successfully prevent conflict, and greater emphasis on maintaining a variety of nonlethal and lethal options as well as fair compensation.

Regarding compensation programs, many comments emphasized that compensation is a critical part of a successful, equitable and socially acceptable wolf restoration and management plan; however, other comments were less supportive of compensation,

particularly for livestock losses on public lands. Comments discussed experiences and concerns regarding investigation and verification processes; the calculation of direct costs for livestock losses; compensation for unconfirmed and/or indirect livestock losses; and the implementation of nonlethal conflict minimization practices as a precondition for compensation. Comments regarding compensation included feedback on CPW's game damage compensation program, comments on aspects of Northern Rocky Mountain region states' game damage programs, and issues of what constitutes fairness of compensation for losses.

Comments offered differing criteria for defining a "conflict wolf" in a livestock setting, often related to perceptions of likelihood for negative impacts vs. perceptions of the positive benefits and role of wolves on the landscape. Management of conflict wolves for livestock interactions was a highly contentious topic, with opposing views on the use of lethal management. Views were based upon concerns regarding the efficacy and/or ethics of lethal management and emphasis on the need for conflict prevention and the prioritization of nonlethal management strategies with lethal management as a last resort. Comments argued for the need for both nonlethal and lethal tools to address context-specific conflict, prevent the criminalization of a producer protecting their livestock, garner social acceptance or tolerance of wolf restoration, and prevent illegal lethal take. Questions were frequently raised regarding legal protections under the current state endangered species listing status as well the potential for federal relisting and how this affects the ability of livestock producers to employ nonlethal harassment tools or lethal management to prevent and manage wolf conflict.

Photo credit: Colorado Parks and Wildlife

Trends and context

Comments offered differing perceptions regarding the likely impacts of wolf depredation on livestock operations. Respondents often offered additional environmental, economic and social context for their perspectives on wolf-livestock interactions and management. These views on current trends, conflict wolves and broader context informed individual feedback on management of livestock interactions.

Depredation trends

Many commenters were concerned that the likelihood of wolf-livestock conflict is overstated. Comments frequently cited statistics that depredating wolves in Northern Rocky Mountain region states were responsible for less than 1% of livestock death, or at least strongly suggested that the actual impact of wolves on the livestock industry was overstated in comparison to other causes of loss, such as drought and climate change, disease and extreme weather. Some individuals expressed concern that operating under inaccurate information would provide a faulty foundation for a management plan. In some cases, members of the public expressed concern that the focus on livestock interactions during the first phase of public engagement was undeserved because the impacts of wolves on livestock were overstated. Often, individuals who believed concerns around depredation were outsized also expressed a distrust in livestock producers' reports of conflict wolves.

On the other hand, numerous comments suggested the impacts by wolves and other predators to the livestock industry were understated and/or statistics are misleading, particularly because all predation losses are not reported and/or confirmed. Comments expressed concern that the landscape conditions, topography, land use, population and size of Western Colorado is either incomparable to, or has more potential for conflict than, the Northern Rocky Mountain region states such as Wyoming, Montana, Idaho and Oregon. Comments further expressed concern that even if depredation trends in Colorado were small overall, wolves would significantly impact ranching operators in their areas of presence. Individuals who believed depredation trends in states with wolves were understated expressed concern that existing predator management approaches used in Colorado would be inadequate to offset potential losses due to conflict wolves. Some individuals expressed concerns that wolves are "killing machines," that they kill for sport or pleasure, and that restoration of wolves in Colorado would lead to the end of the agricultural industry in the state. Further, some expressed that any livestock losses from wolves should be considered significant impacts, for the financial and psychological burdens it might place on members of the agricultural community.

Uncertainty and/or differing views on the likely outcomes of wolf restoration for livestock in Colorado were often accompanied by requests for education and/or improved predictive modeling. Members of the public expressed a desire to better understand the existing trends

in livestock depredation in Colorado and in states with wolf presence. Others called for out-of-state statistics to also be supplemented with producers' experiences of livestock losses and/or conflict prevention practices from the Northern Rocky Mountain region. Those who believed that fears regarding depredation are outsized called for CPW's educational materials and "Frequently Asked Questions" to include the Northern Rocky Mountain region's depredation statistics.

Additional environmental, economic and social contexts

Concerns regarding wolf-livestock interactions were often contextualized in terms of additional environmental, economic and social stressors or considerations for livestock production. Members of the agricultural community expressed concern that the restoration of wolves would be a compounding stressor for livestock amidst drought, water shortages, heat waves and other extreme weather events. Habitat loss due to unfavorable climate conditions and wildfire or post-fire recovery also affect livestock operations.

Producers also discussed the stress and depredations that are occurring due to black bears, mountain lions and coyotes. Many expressed that social tolerance for black bears is diminishing due to perceived overabundance in some areas of the state. Others expressed frustration with coyotes and their impacts on management of cattle and especially sheep. Some offered that the wolf presence limits coyote distribution and mountain lion depredation through interspecies competition. Producers commented on the care and thought they put into their livestock and the emotional impact of depredation.

These environmental challenges along with market challenges and other rural policy drivers create economic challenges for producers including tight financial margins. Labor shortages may hinder producers from implementing new conflict minimization practices. In some cases, livestock producers reported that they are already using alternative options for income, such as charging for hunting on their land to remain financially solvent. Producers also spoke to the importance of data collection and reporting, while noting they are often constrained by time, knowledge and the ability to hire out consultants to conduct accounting, data collection and environmental analysis. Comments suggested financial constraints and opportunities to adapt operations varied with size of operation; some were concerned about potential for outsized effects on small producers.

Comments also discussed the role of private grazing lands in conservation and habitat preservation. The noted that because private grazing lands most often exist in valleys, they are functionally important as ungulate habitat, often serving as low-elevation winter range contiguous with higher elevation public lands and in some cases as year-round habitat. For some, a key concern is the loss of private grazing lands via cascading effects of wolf restoration, and consequential land conversion to urban development. For these individuals, the preservation of working lands is an important outcome for the restoration and management plan. Commenters were also concerned that wolves would follow ungulates onto

private lands during winter and/or would increase potential for depredation on vulnerable livestock herds penned on private land. Others suggested that wolves would displace ungulates off private land in the winter and reduce hay damage for private landowners.

Differing perceptions of public land grazing reflect significant social tensions. Some argued that livestock grazing practices on public lands are essential to maintain rangeland health and that the presence of wolves would impact successful grazing and rangeland management. Others argued that grazing practices on public lands are the cause of long-term ecosystem degradation via overgrazing, especially in riparian areas. They suggested that livestock producers and public land managers need to adapt practices and policies to accommodate the presence of wolves, foster rangeland health and acknowledge changes in public values toward public land use. They also argued that wolves as an apex predator would improve the health of public lands. Some commented that production and/or consumption of livestock was increasingly at odds with ethics and/or dietary preferences; some supported reducing meat consumption and/or paying higher prices to support livestock management best practices.

The issue of a rural-urban divide was consistently reflected in discussion of livestock interactions. Western Colorado perspectives often expressed distrust for the intentions of in-state and out-of-state environmental groups, special interest groups, and political figures; Eastern Colorado perspectives expressed distrust for large agricultural lobbying groups and toward agriculture in general. Distrust often appeared grounded in preconceptions of another group's interests and values as malicious, ignorant, unaware, and/or at odds with the interests, values and practices of the other group. These contexts, values and divisions regarding livestock grazing, public and private lands, and rural vs. urban distrust often underlie perspectives regarding livestock conflict minimization, compensation and management of conflict wolves.

Photo credit: U.S. Department of Agriculture

Livestock conflict minimization

Discussion of conflict minimization encompassed the strategies for preventing wolf depredation of livestock. In general, various diverse perspectives value the concept of preventing conflict and depredation when possible. However, perspectives differed as to the extent to which proactive, nonlethal conflict minimization would be feasible and/or successful.

Conflict minimization strategies

In discussion of nonlethal management techniques employed to proactively reduce livestock-wolf conflicts, comments frequently expressed that there is no "silver bullet" and that a combination of nonlethal tools applied appropriately to a specific management context will be necessary, along with relevant training, technical support and financial resources for implementation. Comments suggested producers should be reimbursed or incentivized for the use of preventative conflict minimization and management strategies.

There were a range of views on efficacy, relevance and feasibility, with livestock producers most likely to consider nonlethal management tools with significant skepticism. Others pointed toward examples of production operations that are successfully using nonlethal management strategies in other states. Particularly for proponents of nonlethal management, this term was often used interchangeably with the term "coexistence." Some emphasized the importance of nonlethal management for the long-term sustainability of wolf restoration and management, while others specifically endorsed nonlethal management strategies as the only effective conflict minimization tools. Some suggested that such measures should be voluntary while others suggested that nonlethal management practices should be required, calling for producers to modify their practices and adapt to the presence of wolves.

Nonlethal management tools presented to the public included: management intensive grazing; livestock guard dogs and donkeys; carcass management; riders and herders; fladry; scare devices; high risk landscape management; and herd composition. Comments specific to these tools as well as other overarching topics for preventative management are discussed below.

Management intensive grazing. Management intensive grazing often requires herds to bunch, rather than disperse across the range, creating both a stronger defensive potential for a herd of livestock, as well as a potential regenerative effect on rangeland systems because these herds are then regularly rotated. Often, the phrasing of this strategy appeared to confuse members of the public, leading them to be concerned that grazing, rather than the management of the grazing, is intensive under this practice. Other members of the public described the practice of management intensive grazing as "low-stress grazing." Comments in support of this strategy argued that it would improve ecosystem and habitat health and that it has been a successful conflict minimization practice in the Northern Rocky Mountain region.

Comments expressing skepticism about the feasibility of employing management intensive grazing on grazing allotments discussed labor required, accessibility of herds, the common practice of dispersing herds across the landscape, and practices required by federal land managers as part of producers' livestock grazing permits on public lands. Some suggested that management intensive grazing might not be financially feasible, due to a lack of funding for or availability of herders to herd sheep or cattle when wolves were present on the landscape. Some argued that such practices may be constrained by the terms of federal livestock grazing permits, while others suggested that permitting agencies such as the Bureau of Land Management or the U.S. Forest Service be engaged to modify permit agreements to allow management intensive grazing practices.

Livestock guard dogs and donkeys. Livestock guard dogs and donkeys were a frequent subject of discussion. Some believed this to be a highly effective method to minimize conflict. Concerns for use of these tools included: ability to source effective guard animals; maintaining enough guard animals to be effective against wolf packs; cost of feeding guard animals; wolves killing guard animals; inability of donkeys to distinguish between wolves and domestic canines; efficacy of guard animals on large public allotments or forested areas; and cold weather challenges. Comments also emphasized risks and liability of guard dogs in human-dog conflicts, especially with recreators on public lands. Llamas and alpacas were also suggested as a potential candidate to be a guard animal.

Carcass management. Comments discussed context and landscape issues around carcass management efficacy. While some believed carcass management to be easy, necessary, and already part of some operators' practices on private lands, skeptics expressed concern about feasibility on large public allotments, suggesting labor, time and ability to locate carcasses would present barriers to fulfilling overall management responsibilities. Others believed carcass management should be opportunistic on public lands, and primarily targeted in areas where a herd was present. Some suggested carcasses, if not removed, may inadvertently or intentionally increase conflict and incidence of lethal take on lands where conflict could easily be controlled or avoided.

Riders and herders. Primary concerns regarding riders and herders were financial constraints, labor shortages, safety of riders and herders, and effectiveness of range riders for large tracts of forested public lands. Members of the public suggested that a volunteer riders and herders program be developed to help train and provide labor to producers at lower costs. Sharing riders between operations was also suggested, with some noting that, while expensive, the presence of riders was a significant deterrent for wolves. Others suggested that riders also be equipped with technology such as drones, satellite-enabled cameras or communication devices to expedite communication between producers, depredation response teams and management agencies.

Fladry and scare devices. Concerns around the use of fladry, turbo fladry and other scare devices included consistency of efficacy, feasibility of implementation based on landscape

context, and the cost and labor required. Fladry and turbo fladry were suggested to be infeasible on public grazing allotments because of the time and labor required to install and remove and the large number of acres to be marked. Others suggested fladry be implemented in calving and lambing pastures or in conjunction with night penning on public lands. Commenters were concerned that efficacy of fladry and other scare devices may wane over time, and some suggested it was an important practice not to use them regularly, in order to avoid wolf habituation. Commenters also expressed concern about fencing on public lands as an undesirable outcome for other land users such as recreationists on public lands. Other suggested scare devices included proximity shock collars on wolves, radio triggered guard boxes and motion detector-activated lights or sirens.

Herd composition. Producers or individuals familiar with producers' operations often suggested that changing herd composition conflicted with genetic management strategies that have been historically employed by producers. Many perspectives noted that suggestions to suddenly change livestock operations in response to a potential predator or to any one landscape condition was generally infeasible. Comments also argued that suggestions such as use of horned cattle and defensive or aggressive breeds generally are discordant with existing operations. Further, some suggested herd composition strategies were not feasible for specialized operations, such as high-altitude grazing.

High-risk landscape management. Concerns about the concept of high-risk landscape management – avoiding grazing of livestock in areas of high prey abundance or wolf activity areas – were primarily discussed in relation to federal public land grazing permits. It was often noted that grazing allotments were at least 80% allocated in various areas of Western Colorado, with a resulting inability of public grazing permittees to move their livestock in response to the presence of wolves. Some suggested restoration and management of wolves should be determined by the presence of grazing permittees and use of public lands, such as by limiting wolf release and dispersal on active allotments and/or engaging with permittees where wolves may be present. Others believed that public lands should be managed to enable wolf dispersal, with some individuals suggesting retirement of livestock grazing permits (whether permanently or temporarily) to prevent conflict between wolves and livestock. Others suggested public lands grazing allotments could be bought out by well-funded groups or cooperative organizations to create buffers between wolves and livestock.

Other suggested strategies. Suggestions for coordination in conflict minimization included collaborative sharing of tracking data and monitoring information (see above for more on monitoring in the *Wolf Management* section); development of a 24-hour rapid response team that could provide nonlethal or lethal conflict minimization consultation and other services following a depredation; and collaboration with researchers to determine most effective nonlethal conflict minimization practices. Some suggested methods of birth control for wolves, such as spaying and neutering, should be employed. Some suggested temporary or permanent retirement of grazing allotments that overlapped with wolf dens, night penning of livestock, and barn or other containment of livestock during lambing or calving season.

Partnerships for conflict minimization

Comments identified a number of local, state, federal, NGO, and stakeholder partners that could work with producers to improve the training, adoption, relevance and feasibility of wolf-livestock conflict minimization techniques.

At the state level, the existing network of relationships between CPW staff and local community members was commonly touted as a significant strength. Members of local CPW staff are often embedded in their communities. Some encouraged CPW to build on these relationships by developing a contextualized plan that offers avenues to collaborate with producers to support success and minimize conflict. Members of the public also cautioned that, depending on the outcomes of wolf restoration, the agency risks losing credibility in local communities.

Commenters also viewed Colorado State University (CSU) Agricultural Extension as a familiar, trusted, community-embedded asset relevant to Western Colorado producers that could help disseminate and facilitate producer adoption of conflict minimization strategies. Continuing education courses or local workshops were suggested. The CSU Center for Human Carnivore Coexistence was also cited as an opportunity to research and educate on conflict minimization.

The U.S. Department of Agriculture Animal, Plant, Health Inspection Services – Wildlife Services (USDA APHIS-WS) was also frequently identified as a potential federal partner that could support in investigation and verification of depredation, training, employment of nonlethal and lethal conflict minimization strategies, and fund compensation for game damage. Some individuals expressed caution or concern about partnership with APHIS-WS, suggesting the agency had a reputation for overreliance on lethal management strategies, while other individuals expressed support for and success with the use of their methods. Additionally, individuals noted that APHIS-WS' potential role as a trained investigator may be valuable in improving capacity for CPW.

Members of the public also encouraged raising up as champions of conflict minimization experienced producers from both inside and outside of Colorado. In some cases, individuals suggested these community champions could be hired by CPW to train other producers or work closely with groups such as CSU Agricultural Extension and state-based producer associations to disseminate conflict minimization practices to other producers. Individuals encouraged CPW to reach out to successful individuals regardless of state boundary, and often suggested that producers in the Wood River Wolf Project, the Tom Miner Basin, the Blackfoot Challenge, Alderspring Ranch, and Paradise Valley, as well as Tribal or Indigenous producers with experience in conflict minimization, be the start of CPW's search for successful conflict minimization practitioners.

Additional organizations suggested as potential partners on conflict minimization include a variety of NGOs engaged in education, implementation and funding for these techniques. Members of the public cautioned that NGOs were not always one-size-fits all, and some NGOs,

while they have been successful in the past, are not as trusted as local institutions as messengers. One potential role of these NGOs may be to help connect Western Colorado producers with successful ranchers from communities where wolves are present. Additionally, NGOs could support producers financially, whether in conflict minimization efforts or compensation efforts. However, it was noted that it is important to establish consistency of financial support over time and there were concerns that external funding should be streamlined through state funding mechanisms.

Compensation for livestock damage

Common themes across perspectives regarding compensation for livestock depredation were the importance of avoiding depredation when possible and fairly compensating when necessary. Many comments emphasized that compensation is a critical part of a successful, equitable and socially acceptable wolf restoration and management plan.

Comments regarding compensation included concerns with CPW's game damage compensation program, feedback on aspects of Northern Rocky Mountain region states' game damage programs, and discussion of issues of what constitutes fairness of compensation for losses. Some commenters believed that compensation should be offered regardless of practices in place and with consideration of direct and confirmed costs as well as indirect and/or unconfirmed losses. Others believed that nonlethal conflict minimization methods should be implemented prior to the depredation to qualify for compensation, particularly on public lands.

Some individuals did not support compensation, particularly for livestock losses on public lands; saw losses as the cost of doing business; and believed that the burden of implementing nonlethal conflict minimization techniques to avoid losses on public lands rested on the rancher. These commenters expressed that what they believed to be the inexpensive nature of public lands grazing permits should preclude permittees from receiving full (or any) compensation for livestock loss.

Sustainable funding to support livestock producers through wolf-livestock conflict minimization materials, training, and implementation as well as for compensation of livestock losses was a consistent theme of comments. The most important use of potential funds varied. For some, investment in conflict prevention was seen as the most important use of potential funds; others prioritized damage compensation while some felt it was more important to retain the ability to actively manage wolves (nonlethally or lethally) than to receive funding for losses. Funding opportunities suggested unique to livestock interactions topics include cost-share programs, livestock coexistence funds, predator-friendly beef labels, and private or public insurance programs.

Investigation and verification

Common concerns for investigation of depredation included timeliness of investigation, training and bias of investigators, and existing capacity of investigators. Often noting the remoteness of their livestock operations in terms of distance, motorized access and cell phone service, individuals familiar with CPW's game damage program expressed varying levels of success or frustration regarding their ability to contact CPW staff upon discovering a carcass, the timeliness of CPW staff in responding and providing an investigative service onsite, and experience with the claims process. Additionally, members of the public called for compensation claims to be handled with immediacy, such as within one month of loss, and supported more staffing for investigating agencies. Concerns with other states' investigation and verification practices included similar timing and capacity issues. Members of the public spoke of the use of APHIS-WS investigative services with varying degrees of success.

Some members of the public and agriculture communities were less familiar with the protocols regarding CPW's game damage program. Some of their concerns included the training and credibility of investigators, potential for producers to cheat the system, and/or potential for wolves to be blamed incorrectly for livestock depredation. Common suggestions included using technology, such as satellite-assisted communication, photography, mobile phone applications, and other communication devices to overcome barriers to verification. Further, it was suggested that producers could be equipped to conduct forensic analysis in lieu of a trained inspector. Regarding solutions to capacity concerns, suggestions included increasing the resources CPW and other agencies have to conduct investigations or even automatically compensating for losses reported that were uninvestigated.

Direct costs

Direct costs were defined in public presentations as the fair market value of a head of livestock lost to an investigated and verified depredation. Commenters noted that issues with determining fair market value include time to market, life history of lost animal, breed, utilization, sex, cow-calf production and time of year of loss. Many believed fair market value was an undervaluation of loss and did not adequately compensate a producer for lost profit. Others objected to compensation maximums that were presented, such as a $5,000 maximum value per head for most depredations. Some suggested that this amount was inadequate to compensate for specialized breeds of livestock, such as high-altitude grazing livestock, angus bulls or other specialized breeds. Others suggested $5,000 per head was too high of a compensation amount. Some individuals suggested maintaining fair market value compensation; others suggested a flat compensation should be implemented. Others favored partial or full compensation at fair market value contingent on producer operations, such as implementation of nonlethal conflict minimization strategies. Some believed producers that kill wolves should not be eligible for direct compensation when depredation occurs.

Comments suggested that direct costs for non-livestock animals, including horses, guard animals, and other domestic animals such as pet dogs, should also be compensated. Comments discussed the importance of differentiating between livestock guard dogs and domestic dogs not used in the production of livestock. Individuals also suggested that compensation should be provided if damages occur in human interactions with or human deaths caused by wolves, for example, for hospital bills and family support; many who identified this concern also noted it would be very costly.

Differing perspectives regarding compensating for probable losses or missing livestock were also expressed. Some individuals supported compensation of probable losses to address economic and social impacts for producers. Others believed compensation for non-confirmed losses would foster fraudulent reporting. Many individuals also called for increased transparency of reimbursement amounts, claims, locations and other data.

Indirect costs

Comments also discussed indirect costs of wolf-livestock interactions, such as losses incurred as a result of livestock depredation, stress-based losses and operating costs. Concerns regarding losses incurred as an effect of livestock depredation included genetic losses, such as loss of specialized adaptations or animal behaviors; use losses, for practices such as horseback riding; or losses of reproductive potential. Concerns for stress-based losses included losses in weight; growth; reproductive success, such as aborted calves or lambs and lowered milk production; and declines in long-term herd health. Operating costs included time spent to investigate, verify and claim compensation; labor, time and direct costs spent on nonlethal management; and damage to infrastructure.

Suggestions for compensating indirect losses included paying fair market value with an additional percentage of value per loss, upfront payments for presence of wolves ("pay for presence" programs), and/or use of a multiplier payment on confirmed losses to account for unconfirmed and/or indirect losses. Another idea presented was to calculate indirect costs based on data collected on herd health over time, using metrics such as weight weaned per cow exposed and/or determining declines based on a five-year average of relevant metrics to herd health. Some commenters expressed the importance of these kinds of metrics in determining profit and income, but also noted that not all producers have the capacity to collect and analyze data.

Many comments offered strong reactions to Wyoming's use of a multiplier to compensate for losses, with some individuals endorsing a multiplier as a way for compensating for missing, probable and indirect losses. Others did not endorse a multiplier and believed a successful compensation program should be based on fair market value, should avoid incentivizing fraudulent claims by being overly generous, and should not present a profit margin to a producer. Others disagreed with the concept of compensating for indirect costs for "industrial" scale agriculture but were open to compensating small producers.

Conflict wolves

Defining "conflict wolves" with respect to livestock

Comments offered differing criteria for defining a "conflict wolf," often related to perceptions of likelihood for negative impacts vs. perceptions of the positive benefits and role of wolves on the landscape (see above for information on conflict wolves and human-wolf conflict in the *Wolf Management* section).

Engagement materials provided by CPW noted that "conflict wolves" are generally defined to be any wolf that has been confirmed to have been involved with a human or livestock conflict. With respect to livestock, comments frequently suggested that wolves can be considered "conflict wolves" when an individual animal has actively taken livestock. Many comments expressed interest in a combination of approaches for preventing and managing depredating wolves to minimize conflicts, supporting social tolerance and/or "coexistence" and realizing potential benefits of wolves in the ecosystem.

Commenters most concerned with the potential for negative impacts for livestock suggested that "conflict wolves" can include not only those that depredate on livestock but also those with a history of harassment of livestock through actively stalking or disrupting livestock; others emphasized that wolves could create livestock stress simply through their presence on the landscape. For those most concerned about livestock interactions, no outcome short of rejecting the wolf restoration effort would assuage their concerns regarding "conflict wolves."

Conversely, some consider the term "conflict wolves" to be problematic and disagree that a wolf's behavior should ever be labelled as "conflict" behavior or "problematic." Those individuals that opposed the term "conflict wolves" or only agreed that a "conflict wolf" is one that has a history of depredating livestock emphasized the benefits of natural predators within an ecosystem and suggested that predatory behaviors are natural to the wolf, regardless of whether prey individuals are ungulates or livestock.

Management of conflict wolves

Management of "conflict wolves" for livestock interactions was a highly contentious topic, with opposing views on the use of lethal management. Any lethal control of wolves is considered unacceptable by some; undesirable and a measure of last resort for others; and necessary or essential by others. Some comments called for case-by-case investigation of the nature and cause of the conflict in order to determine the appropriate management, including whether the wolf created conflict because it was being threatened or harassed. Many called for management of conflict wolves to be contextualized and sometimes individualized to an operator's livestock type, landscape characteristics and conditions, and unique concerns. It was

generally suggested that public engagement and education with respect to conflict prevention and management of conflict wolves is a priority of the restoration and management plan.

Concerns regarding lethal management of conflict wolves included skepticism regarding the efficacy of lethal control in reducing depredation rates. It was argued that lethal management can destabilize pack structure and predispose these wolves to prey on more vulnerable targets, such as livestock. Additionally, some believed allowance of lethal take would impede reliance on and use of nonlethal conflict minimization strategies.

Some commenters believed that depredating wolves, particularly those on public lands, should not be managed for conflict at all and adamantly opposed lethal control. They argued that lethal management of wolves is unethical and against the will of the voters that supported Proposition 114. Comments argued that people rather than wolves should be managed and that the responsibility for conflict prevention and loss of livestock should fall on producers. These individuals expressed they would not support a plan that included lethal management (see above for discussion of hunting and opposition to lethal management in *Wolf Management* section).

For those who consider lethal management as acceptable only as a final option or last resort, comments suggested as preconditions that nonlethal conflict minimization practices be attempted, thorough investigation of livestock depredation be conducted, and that lethal take should be highly administered and well-controlled. In some cases, it was suggested that a "three strikes" rule be implemented, and that different nonlethal management strategies – including potential relocation of "conflict wolves" to remote areas or wildlife sanctuaries – should be tried prior to lethal management. Some expressed more comfort with CPW or APHIS-WS being the only parties authorized to take wolves if lethal take was to be allowed for management of conflict wolves. However, trust in these institutions varies because of social perceptions of their history of lethal control of wolves and other predators.

On the other hand, proponents of lethal management expressed that lethal management of conflict wolves is necessary to prevent further depredation and to create a socially acceptable plan. Lethal management strategies were suggested as important to teach wolves learned aversion, to promote wolf dispersal to remote areas, and to limit future impacts of wolves on livestock operations. Allowance of lethal management in livestock interactions was often framed as the ability to allow for incidental take. Many comments also explicitly opposed concepts such as a "three strikes" rule for depredating wolves, and many were concerned with the idea requiring nonlethal strategies prior to lethal removal of a conflict wolf, whether because of the perceived likelihood of effectiveness and/or the financial burdens these techniques placed on producers.

Proponents of lethal management also argued for the social and economic importance of lethal management of conflict wolves. Some suggested lethal management would be economically inexpensive, and some even consider it to be preferred, to compensation. In

many cases, sensitivity to producer concerns regarding the outcome of management tools was high, with comments suggesting that success of the restoration and management plan would be contingent on the ability of producers to legally and lethally manage wolves under various definitions of conflict. Some raised the concern that the lack of a legal lethal option would increase social tensions and contribute to higher rates of illegal take through "shoot, shovel, and shut up" approaches.

Specific to public lands, some suggested that lethal management of conflict wolves should not be allowed on public lands at all or only as a last resort following implementation of nonlethal management practices, arguing that both wildlife and public lands are managed in the public trust and that wolves should not be penalized for predation of any kind on public lands. Others suggested private landowners should have the right to lethally take wolves in defense of their livestock regardless of whether they are on public or private lands.

Questions were raised around legal protections under the current state endangered species listing status, potential for federal relisting, and how this affected the ability of livestock producers to employ nonlethal harassment tools or lethal management to prevent and manage wolf conflict. Producers expressed concerns about having the ability to control wolves without being considered criminals, while opponents of lethal management are concerned about enforcement of legal protections. Multiple perspectives acknowledged it was likely that significant public attention would be given to producers that were reported to kill a wolf, legally or otherwise. Questions were also raised regarding the use of traps to control "conflict wolves."

Photo Credit: Pierre Stickney

Engagement, Education and Outreach

Summary of feedback on engagement, education and outreach

Participants provided feedback and suggestions on the overall engagement process for the wolf restoration and management plan, engagement of different levels of government, and educational approaches and content. Commenters generally emphasized that engagement, education and outreach is an important component of the restoration and management plan that requires a variety of outreach tools and techniques and needs to begin early in the planning process, carry on throughout planning, and continue once a plan is in place.

Comments varied in their praise or critique of the current planning and outreach process. Comments often directly or indirectly discussed issues of equity, representation, trust and transparency. There was a strong desire from the Western Slope for in-person engagement. Comments often emphasized the need for direct engagement with stakeholders that will be most impacted by the restoration of wolves, with many encouraging focusing mostly on Western Slope interests including livestock producers, counties, Tribes, outfitters and sportspeople, and outdoor recreationists. However, other comments emphasized the need to hear the voices of the public at large including voters and out-of-state publics who supported wolf restoration; emphasized that public lands and wildlife should be managed for all interests; and expressed concern about oversampling specific geographies and/or interest groups. Other comments also emphasized the need for bilingual outreach and outreach to historically underrepresented groups.

Commenters suggested public education that is tailored to meet the specific needs of different audiences. Comments suggested that public education specifically discuss human-wolf interactions as well as the potential positive and negative impacts of wolf restoration. A general theme from commenters was that they would like the educational content that CPW provides to be based in science, research and measurable data to address a lack of information and/or to dispel myths or misconceptions.

Feedback on the planning process and public engagement

Sentiment on Proposition 114

The intent of summer 2021 public engagement was to provide feedback into the development of the restoration and management plan, rather than relitigate Proposition 114. However, for many commenters, discussion of their views on the ballot initiative was foundational to understanding their views on public input and engagement in general. These comments frequently addressed concerns over "ballot box biology" and/or equity in engagement and decision making.

Regarding "ballot box biology," commenters expressing concern and/or frustration with Proposition 114 suggested that it is problematic to use citizen-led initiatives to manage wildlife because these decisions should be left to wildlife managers and biologists. On the Western Slope, many questioned why wolves needed to be restored through legislation instead of allowing them to naturally migrate to Colorado from the Northern Rockies. On the other hand, some comments distinguished between the use of ballot initiatives to determine whether wolves should be restored, which they argued is a social decision, as opposed to how they should be managed, which they argued does require the expertise of wildlife managers. Such comments emphasized that the will of the voters must be respected.

Regarding equity, comments on Proposition 114 often emphasized that the vote deepened the political, social and economic divides between Western Colorado and the Front Range. There were deep sentiments within Western Colorado that an economic burden has been placed upon them by voters on the Front Range who will remain mostly unimpacted by wolf reintroduction. Many Western Slope respondents expressed significant concern about potential negative impacts from wolf restoration to ranching, outfitters with public land permits, and private land management and public land access. They also expressed a sentiment that the voters on the Front Range do not fully understand how rural Colorado may be impacted by wolves. Many comments suggested the importance, before a vote is taken, to educate the public on the full impacts of a proposed ballot initiative. Because of this dynamic, many comments emphasized a need for equity in the planning process based on geographic distribution of impacts and interests rather than by popular vote, and specifically by ensuring the voices of Western Slope interests are represented within the plan.

Conversely, proponents of wolf restoration argued that wildlife and public lands are held in the public trust and should be managed according to the interests of the public at large. Comments argued that all interests should be given equal stake – whether urban or rural, in state or out of state – rather than focusing on those in affected geographic areas.

Feedback on the planning process

Advisory groups

Comments related to the Stakeholder Advisory Group (SAG) for the Wolf Restoration and Management Plan varied in their views on the composition of the group. Many were complimentary of the process and optimistic the SAG would provide robust feedback inclusive of relevant interests; such comments were also complimentary of the representation of various interests around the table. On the other hand, there was specific criticism that an outdoor recreation voice was not included in the SAG. Other critiques argued that the SAG is unbalanced, with some comments suggesting that it is unduly anti-wolf and overly representative of hunting interests and individuals supportive of lethal management of wolves.

Suggestions for the process of the SAG included a need to provide more public comment opportunities during its meetings and to livestream SAG meetings online. Concerns regarding the lack of technical knowledge by SAG members led to suggestions for robust education to inform the group on relevant issues. Other comments indicated a desire to continue the advisory group once a plan is adopted by CPW to ensure inclusion of stakeholder voices as the process moves from restoration towards management.

Comments related to the Technical Working Group (TWG) focused more on critiques of the process. While many comments noted the valuable experience and expertise of TWG members, concerns were expressed that there was not enough transparency around the process and how recommendations are made by the TWG because its meetings are not open to the public. There was also concern that the TWG would not take input or concerns from the SAG into consideration when making its final recommendations, and/or that the SAG and TWG were not sufficiently interactive with one another. Finally, comments were provided on the pace of the TWG's work and concern that it is taking too long despite an abundance of information available to make recommendations.

Photo credit: Keystone Policy Center

Pace of the planning process

The public also provided comments on the timing and speed of the overall planning process. Comments focused on expediting the planning process expressed concern that the planning would take all the way until the December 31, 2023 deadline stated in Proposition 114. This is not palatable to those who want a quicker restoration for a number of reasons, including the expenses associated with a longer planning process, the amount of scientific data and best practices from other states on wolf reintroduction readily available to inform decisions, concern that delayed wolf restoration would mean an opportunity loss for realizing ecosystem benefits, and concern regarding lethal management efforts currently underway in other states that commenters perceived as a time-sensitive opportunity for Colorado to effectively "rescue" wolves from other states.

Comments expressing a desire to take time with the planning process emphasized a need to hear all perspectives and to understand potential impacts of restoration in order to get the plan right. This notion included comments on the need to hear from stakeholders who will be most impacted by wolf reintroduction. Comments also touched on the need for a robust planning process to build trust from a myriad of partners by hearing and incorporating their needs, concerns and values into the plan to ensure wolf restoration is as successful as possible with minimal conflict and minimal negative impacts to humans, wolves, other wildlife and the surrounding habitat/ecosystem.

Trust and transparency in the planning process

Trust and transparency were also common themes of comments on the overall planning process. Many comments suggested that trust and transparency will require continuous, in-person, targeted engagement focused on Western Colorado throughout the planning process and once a plan is drafted and implemented. There were also concerns and criticisms of CPW's handling of issues in Northwestern Colorado, with some commenters expressing that trust in the agency had been eroded due to the handling of personnel issues related to CPW staff whom they perceived as anti-wolf, the recent round-up and alleged mismanagement of wild horses in Moffat County, and the disappearance of a wolf pack in the same region. Some comments also expressed concern about conflicts of interest of Parks and Wildlife Commissioners.

Due to these issues, commenters felt the agency needs to do more to rebuild trust that wolf restoration can be successfully managed by CPW. Specific suggestions included continued engagement; disclosure by Commissioners of any conflicts of interest they may have related to wolf reintroduction so the public can better understand their motivations and considerations for the restoration plan; and a focus group and/or other public opportunities for CPW staff to speak openly on their concerns and provide input into the plan.

Other comments included the importance of educating the public on the planning process, including more information on whether and how public comments will be used in developing the plan, who is involved in the development of the plan, and an overall timeline for the planning process and when wolves will be restored. Other concerns about the planning process included how to keep newly appointed Parks and Wildlife Commissioners apprised of the overall restoration process and history of the planning process as they come onboard.

Feedback on the summer 2021 public engagement effort

Comments provided on the public engagement effort were often complimentary of the overall process but also included significant critiques. Many commenters appreciated that the public was engaged prior to writing a draft plan; conversely, some commenters would have preferred a draft plan prior to engagement to provide them with something more specific to comment on.

As noted above, others provided feedback on the value of the in-person engagement efforts with stakeholders from the areas where impacts are most anticipated; various comments suggested that trying to engage the Western Slope via email, webinars or online comment does not build trust. Those who participated in the focus groups (geographic and interest-based) were generally appreciative of the opportunity to be heard and hear from diverse perspectives around the table. However, there was some criticism that these meetings were not open to the public, were hosted by invitation only, and/or were perceived to not always include full or balanced representation of communities in question.

Commenters were also often appreciative of the number and variety of public opportunities offered. However, some critiques of the public engagement process included sentiments that more public engagement, of all kinds, was required to fully understand the perspectives and potential impacts of wolf restoration. On the other hand, comments offered criticism that the engagement effort was too extensive, not a valuable use of taxpayer dollars, over-representative of the Western Slope, slowing down the planning process, and/or not valuable because it was perceived that social attitudes as well as science on wolf restoration were already generally well understood.

Photo credit: Keystone Policy Center

Further critiques focused on outreach and promotion of the engagement opportunities, with criticism that low turnout at open houses indicated a lack of robust outreach and that the process therefore had not meaningfully engaged the public. Others suggested that facilitators and agency staff were biased either in favor of or against wolf restoration and/or were not sincere in their engagement efforts.

Other comments focused on the content provided at the open houses and focus groups, voicing concern the content was not balanced and did not provide examples of potential benefits from wolf reintroduction or provide enough information to dispel popular myths around wolf-human or wolf-livestock interactions or around impacts for ungulate populations and hunting. Further critiques on the content focused on the videos created, suggesting that they were uninspiring, did not connect with the average user, and/or lacked relevance for public education purposes.

Many open house attendees expressed surprise at the format used, with some sharing that regardless of their initial expectations, the opportunity to visit stations at their own pace and engage in depth with staff was ultimately appreciated over other potential public meeting formats. Other commenters did not like the design of the open houses and would have preferred panel discussions, live presentations (rather than videos), question and answer sessions, town hall style open comment sessions in which individuals could provide comments to decision makers in front of a public audience, and presence of more decision makers.

Suggestions to improve the public engagement process included more robust, in-person engagement as well as recommendations to consider the time of year the engagement takes place and to avoid seasons when ranchers, outfitters and other stakeholders are busiest. Other comments were optimistic that a well-designed public education and engagement process could provide an avenue to create more opportunities for understanding between urban and rural residents. Alternative comments suggested there was little point to engagement, as agreement between differing viewpoints would be too difficult or impossible to reach.

There were also requests to create a more iterative process with key stakeholders and to provide opportunities for increased dialogue and input between stakeholder groups and the advisory groups. Many comments underscored the importance of repeated future engagement with potentially impacted stakeholders including livestock producers, outdoor recreationists (motorized and non-motorized), outfitters and sportspeople, private landowners, and local governments and Tribes. Others emphasized the need to engage proponents of wolf restoration, the public and youth, as well as voices that have historically been left out of decision-making, including Tribal and Indigenous communities and non-English speaking communities.

Engagement was specifically suggested for non-English speaking agricultural workers on the Western Slope, particularly those working under H2A visas from predominantly Spanish-speaking countries, who will need to understand the implications of wolf reintroduction and how to minimize and address conflicts between wolves and livestock. Needs suggested for supporting these workers include bilingual education, interpreters with whom to communicate in the event of a wolf conflict, and more robust protections in place for non-citizen workers.

Government engagement

Engagement of counties, Tribes, federal agencies and other states was frequently emphasized in comments on engagement, education and outreach (see above for more on multijurisdictional management and government engagement in the *Wolf Management* section).

Education approach and content

Many comments provided ideas, suggestions and feedback for the education and outreach components of the wolf reintroduction and management plan. Feedback is organized below in sections on education and outreach approaches and educational content to be provided to the public on wolf restoration and management.

Education and outreach approach

Purpose, timing and tools

Comments received on how to approach education and outreach included feedback on timing, tools, audiences and resources to support education and outreach. With regards to timing, most comments pointed to a need for a robust public education campaign early in the planning process and prior to the restoration of wolves. Suggestions include early education for the public on living and recreating outdoors with wolves and to dispel myths. Suggestions also include education of livestock producers on conflict minimization techniques, compensation programs, and nonlethal and/or lethal practices allowed by law and protected species status. No matter who the audience or content is intended for, a common argument was the need to be proactive with education and ensure that those who may have interactions with wolves are prepared to do so. It was suggested in several comments that public education is a critical component of the restoration and management plan because wildlife management usually involves the management of people more than wildlife. Alternatively, comments also reflected concerns regarding the public's limited attention for educational outreach and lack of openness of public viewpoints to change as a result of education and outreach.

In addition to preparation for potential wolf-human or wolf-livestock interactions, it was also suggested that lessons and information from rural stakeholders who are most impacted by wolf restoration could be taken back to urban populations to foster better understanding of the potential impacts and realities of living with wolves on the landscape. It was further suggested that education and outreach can help facilitate a better understanding of the diverse social perspectives and values about wolves across all Coloradans, regardless of their location or interests.

Comments also emphasized that public education and outreach needs to happen early and proactively as well as become an ongoing component of the management plan. Some commenters encouraged a generational approach to wolf education as attitudes and best practices towards living with wolves evolve, new people relocate to Colorado, and tourism grows.

Comments on tools for education and outreach focused on the fundamental need for good communication with the public. This could be done through targeted education, grassroots level outreach in rural communities, and partnering with trusted individuals and organizations who can bring important messages to ingroups. Commenters suggested the need to keep an up-to-date website providing relevant information and educational materials for a variety of interest groups and end users.

Other suggested avenues and tools for communication included social media; trailhead signage; in-person trainings with agency officials or subject matter experts; pamphlets; informational booths at local and statewide events; and partnering with agricultural associations, rancher and landowner outreach groups, outfitter associations, outdoor recreation groups, Extension offices and environmental education programs to disseminate educational information. Other comments on approach emphasized the need for proactive tools for public outreach and considering ways to get information to the public who may not be looking for this information themselves or may have difficulty finding relevant data. Comments also emphasized providing content that is understandable for the lay person and is not cluttered with jargon or acronyms.

Audiences and bilingual outreach

Many commenters suggested the need to target and tailor education and outreach to specific audiences, noting the variety of stakeholders and publics of interest, for example livestock producers and bilingual herders and ranch hands, recreationists of various types, outfitters and sportspeople, backcountry volunteer groups, land managers (federal, state, county, municipal and Tribal), local governments, Front Range/urban publics, tourists and out-of-state visitors, transient workforce populations, second homeowners, wildlife and wolf interest groups, educators and youth (K-12 and college).

Some comments were particularly focused on outreach to recreational users and tourists and suggested the need for a concerted outdoor education campaign for these audiences engaging a broad range of industries and partners. Many comments focused on the idea of meeting diverse audiences in the most appropriate, relevant and accessible format possible.

Comments on non-English outreach often recognized the need for bilingual information across geographies while focusing mostly on the need to provide educational content and materials to Spanish-speaking communities on the Western Slope. Comments noted that providing Spanish language materials is a first step while emphasizing the need for more intentional, on-

the-ground outreach to Spanish-speaking communities. Some suggestions include using Spanish radio stations to spread the word and partnering with Latinx organizers on the ground in Western Colorado.

Funding, staffing and partnerships

Funding was a common concern for all elements of the wolf restoration and management plan, with emphasis on the need for sustainable funding and diversification of funding sources (see above for more in the *Wolf Management* section). Specific to funding for education and outreach, comments discussed the need to educate the voting public on the direct and indirect costs related to funding wolf restoration and management. Additionally, comments expressed the need for dedicated funding specifically for the education and outreach components of the wolf restoration and management plan.

Comments further expressed concern about the limited capacity of CPW's staff to conduct outreach and education. Related to this, commenters suggested specific strategies and avenues for partnerships with stakeholders, organizations and other audiences to help with education and outreach. Suggested partners to help disseminate educational information include but are not limited to: K-20 educators and institutions; conservation and wildlife NGO, zoos, museums, and wildlife centers; ranching and livestock associations and affinity groups; agricultural education and outreach organizations such as 4H and Extension; motorized and non-motorized recreational affinity groups and industries; hunter education organizations and outfitting and sportsperson communities; outdoor/backcountry volunteer organizations; land trusts; law enforcement and first responders; governments at various levels; and tourism-oriented groups such as hotel and property management companies, destination marketing organizations and tourism chambers.

Comments also suggested the development of a curated speakers list of experts and/or practitioners on wolves, inclusive of speakers' topic areas and locations, that could be shared with partner organizations to build capacity for education and outreach. Comments also suggested developing ambassadorship, "adopt a pack," or "friends-of-wolves" programs, often with the goal of fostering greater social interest.

Educational content

Commenters provided a variety of suggestions for future educational content as well as critiques of current educational content offered by CPW on wolf restoration and management. Proactive education was generally emphasized. Positive comments were generally given to CPW's educational webinar sessions on wolves, with a common piece of feedback to abbreviate the length of format.

Many comments alleged that myths and misinformation are being deliberately or unintentionally spread by both proponents and opponents of wolf restoration. For example,

many comments focused on the need to dispel misperceptions about how often wolves attack humans and take livestock. However, there were also comments received on dispelling overstatements regarding the positive impact wolves have on ecosystems. No matter the sentiment, commenters wanted to see information provided to the public that provides scientific data, measurements and statistics on wolf impacts.

Education topics of interest for public and/or specific stakeholder audiences included: potential for and how to behave in wolf-human interactions; human impacts on wildlife; potential effects of wolf restoration for ecosystems; potential impacts to industries including livestock production and outfitting; nonlethal conflict minimization and management techniques; livestock damage compensation plans and process; lethal management; wolf biology and habitat needs; and why Colorado is reintroducing wolves along with goals and measures for success.

Many fiction and nonfiction book and film recommendations were also provided, with comments reflecting that how wolves are represented in popular culture affects how they are perceived. Many of the specific concerns and perspectives regarding these topics are further discussed in other sections of this report (see above for more in the *Wolf Management* and *Livestock Interactions* section). Themes particularly related to public education are summarized again here.

Education on wolf-human interactions and safety

Commenters emphasized the need for robust public education regarding the likelihood of human interactions with wolves and how to behave to protect human safety and to reduce potential conflicts. It was recommended that messaging be disseminated early and continuously around human-wolf interactions.


Photo credit: Keystone Policy Center

Comments discussed the likelihood of human-wolf conflicts, with many emphasizing that data demonstrate the rarity of human-wolf conflicts and should be shared to calm fears and dispel misperceptions. Others suggested the data on interactions are underreported and/or not predictive of potential trends in Colorado. For some it was important to address the broader issue that fear of wildlife and the unknown is a common barrier to entering the outdoors, especially within underrepresented groups.

Commenters wanted to see educational content that prepares people on the basics of human-wolf interactions as well as education on how to ensure wolves do not habituate towards

humans. They would like information that helps people understand where and when they would be most likely to encounter wolves, what activities to avoid that may attract wolves, and what to do if you do encounter a wolf or wolf pack in the wild.

Because many Coloradans hike and enjoy other outdoor activities with their dogs, many commenters were also concerned this could lead to conflict situations between wolves and domesticated animals. Commenters would like public education on wolf-dog conflicts and best practices for mitigating potential conflicts.

Comments suggested many different audiences for this information. The most prevalent audiences noted were people who may have interactions with wolves including residents of the Western Slope, outdoor recreationists, ranchers and farmers, tourists, and people located in the Front Range, Eastern Colorado, and out of state who visit the Western Slope. Specific locations where commenters were most concerned with potential human-wolf interactions were on trails, open range and other public land spaces located on the Western Slope. Commenters called specific attention to these locations hoping for more proactive outreach in these areas. In particular, there was concern for how to communicate to tourists regarding human-wolf interactions, as they constitute a revolving door of visitors to Colorado's outdoor spaces.

Other commenters wanted more information on their rights should a human-wolf conflict occur. There were questions around what the repercussions or punishment may be for someone who kills a wolf to protect their self, family, livestock, working animal or pet; the consequences associated with lethal take in the situation of mistaking a wolf for a coyote; the burden of proof needed associated with these two prior scenarios; and the repercussions for other incidental killings such as if a motorist hits and kills a wolf on the road.

Education on potential positive benefits and/or potential negative impacts of wolves

As noted previously, commenters were generally either optimistic that wolves as an apex predator will help to improve and restore balance to the ecosystems into which they are introduced or concerned that wolves will compound existing ecosystem challenges for wildlife, livestock and people. Many comments emphasized the need for education on these potential positive and/or negative impacts of wolf restoration (see above for more perspectives on potential positive and/or negative impacts in the *Wolf Management* and *Livestock Interactions* sections). Themes directly connected to educational content are summarized briefly here.

Comments calling for public education on positive benefits of wolf restoration discussed the potential for restoration of natural balance to ecosystems. Commenters sometimes noted that this was their main reason for supporting wolf restoration and encouraged CPW to discuss positive benefits for ecosystems as a rationale for wolf restoration. Comments called for education on the potential for trophic cascades resulting in improved habitats and healthier wildlife populations, including through reduction of chronic wasting disease.

Comments also called for public education on the potential impacts of wolves on livestock and ungulates. Commenters often argued that data from other states should be shared in educational materials to demonstrate that depredation of wolves on livestock is rare and that ungulate populations and hunting industries have not generally declined as a result of wolf reintroduction. Commenters also encouraged education on successful examples of conflict minimization and coexistence in other states.

Conversely, other comments called for public education on the potential for negative impacts to livestock and livestock producers, ungulate herds, outfitters and sportspeople and rural economies. Commenters concerned with negative impacts of wolves also discussed the need for public education regarding the role of lethal tools to manage conflict wolves and/or for the use of hunting as a management tool.

Conclusions

This report does not attempt to draw conclusions regarding which specific restoration and management strategies were favored by participants in the process and/or by the public at large, but instead seeks to qualitatively detail the various perspectives heard and, where possible, the underlying rationales, interests and values expressed by participants in describing *why* they held specific views.

Geographic patterns in public input

Comments from Western Colorado, Eastern Colorado, and out of state did not vary significantly in the range or priority of planning topics of interest. A review of the frequency of comments on specific topics within each geography found no significant differences in the topics of interest nor any significant prioritization of one topic over the other; there was a broad distribution of comments on a wide variety of issues. Rather, patterns in geographic differences were more commonly reflected in the sentiments expressed about these topics, such as general attitudes toward wolf restoration, anticipation of positive or negative impacts, attitudes toward lethal management and concerns regarding equity and representation in decision-making.

Comments from Western Colorado were more likely to oppose wolf restoration, anticipate negative impacts, support lethal management, support a slow pace of restoration, and emphasize the need for engagement in Western Colorado. Comments from Eastern Colorado (inclusive of and largely representative of Front Range communities) and from out of state were more likely to support wolf restoration, anticipate positive benefits, oppose lethal management and emphasize engagement of all Coloradans as well as out of state publics.

However, comments from all geographies reflected a diversity of sentiments, some reflecting strongly held positions and others focused on learning more about wolf restoration.

Divergent values

The diversity of public perspectives toward wolf restoration and management make it a socially complex undertaking. Many areas of divergence reflect what is often described as a "rural-urban" divide but is more specifically a difference of value sets concerning management of public lands and wildlife, predators, and the relationship between people and nature. One value set considers wolf management from the lens of human interests, livelihoods, controlling against negative impacts, and the need for active wildlife management to support ecosystems. The other value set emphasizes the intrinsic value of wildlife, the positive ecological role of predators, and a desire to restrict human activities to restore natural balance and benefits to ecosystems.

Although these values sets are not necessarily mutually exclusive, their differences are most often reflected in the polarization on topics including maximum population thresholds; hunting; lethal management of conflict wolves; management strategies related to public lands; and the decision by the public to restore wolves to the state. Further, these differences are reflected in debates over whose interests and values should be most influential in wolf restoration and management: society at large, in whose trust public lands and wildlife are managed, or those in geographies and industries that wolves directly – and potentially negatively – impact.

Common principles

Despite these differences, areas of convergence likely exist for wolf restoration. Based on the feedback heard through public engagement, the following principles reflect potential starting points for substantial, if not universal, common ground. Colorado's wolf restoration and management plan can:

- Reflect diverse interests and values of the state, incorporating science along with societal input.
- Provide an adaptive model for wolf management with flexibility to address ecological, social and economic interests.
- Proactively prevent livestock conflict where possible, and fairly compensate when loss occurs.
- Offer educational resources that are factual and tailored for specific audiences.
- Value meaningful, ongoing engagement and trust-based partnerships with a variety of stakeholders and communities in the development and implementation of the plan.
- Build capacity and funding to successfully and sustainably implement the plan.

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About Keystone Policy Center

Keystone Policy Center (www.keystone.org) is a non-profit, non-advocacy organization founded in 1975 to drive actionable, shared solutions to contentious policy challenges. Headquartered in Colorado, Keystone Policy Center works throughout the state and country and internationally in engaging communities, stakeholders and decisionmakers to move beyond fixed positions toward collaborative approaches to problem solving.

Appendices

Appendix A: 2021 Public meeting schedules and participants

PUBLIC OPEN HOUSES		
Location	**Date (2021)**	**# Participants**
Steamboat Springs	July 12	24
Glenwood Springs	July 13	23
Durango	July 19	57
Montrose	July 21	48
Gunnison	July 22	21
Craig	July 26	73
Grand Junction	July 28	65
Boulder	August 2	39
Alamosa	August 3	34
Colorado Springs	August 4	30
Trinidad	August 5	16
Denver	August 10	25
Fort Collins	August 11	21
Sterling	August 12	15
La Junta	August 19	11
Eagle	August 24	6
	Total Open House Participants	508

GEOGRAPHIC FOCUS GROUPS		
Location	**Date (2021)**	**# Participants**
Steamboat Springs	July 13	14
Basalt	July 14	12
Eagle	July 14	8
Keystone	July 15	12
Cortez	July 20	9
Bayfield	July 20	9
Norwood	July 21	8
Montrose	July 22	4
Hotchkiss	July 22	12
Gunnison	July 23	11
Kremmling	July 26	15
Walden	July 26	12
Craig	July 27	12
Meeker	July 28	8
Parachute/Battlement Mesa	July 28	13
Grand Junction	July 29	14
Salida	August 6	6
Total Geographic Focus Group Participants		179

INTEREST-BASED FOCUS GROUPS		
Interest	**Date (2021)**	**# Participants**
Sportsperson's Roundtable	August 7	15
Agriculture and Livestock	August 16	12
Outfitters	August 16	7
Education and Youth	August 17	15
Environmental NGOs	August 23	5
Outdoor Recreation	August 23	8
Wolf Advocates	August 24	14
Equity, Diversity and Inclusion	August 30	7
American Indian/ Alaskan Native	August 31	6
Wildlife and Habitat Roundtable	October 7	7
Total Interest-Based Focus Group Participants		100

TRIBAL CONSULTATIONS*	
Tribe	**Date (2021)**
Southern Ute Tribe	July 20
Ute Mountain Ute Tribe	July 21

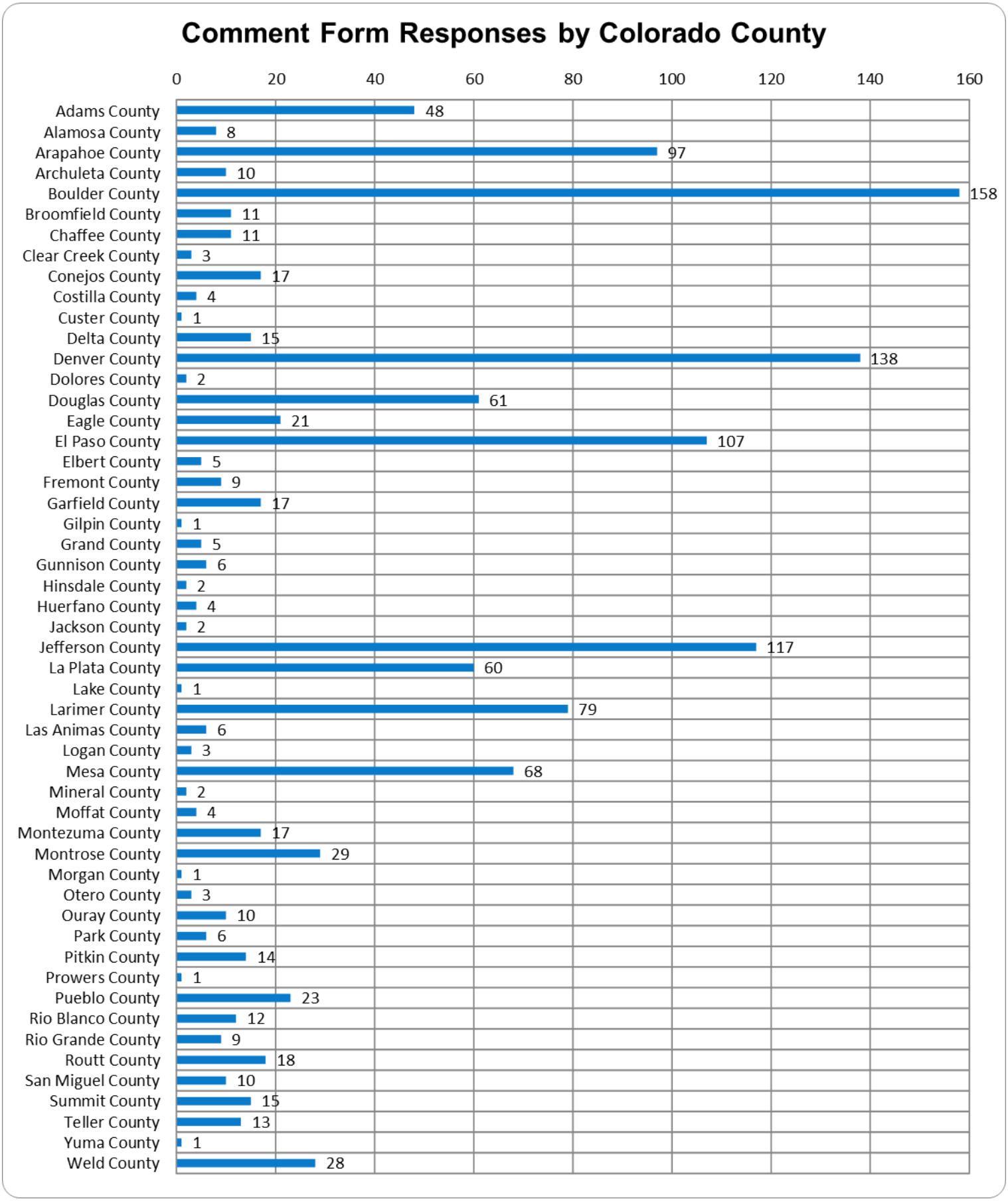
*Participant numbers were not recorded during Tribal consultations as Keystone joined the Tribes on their land and did not conduct the meeting

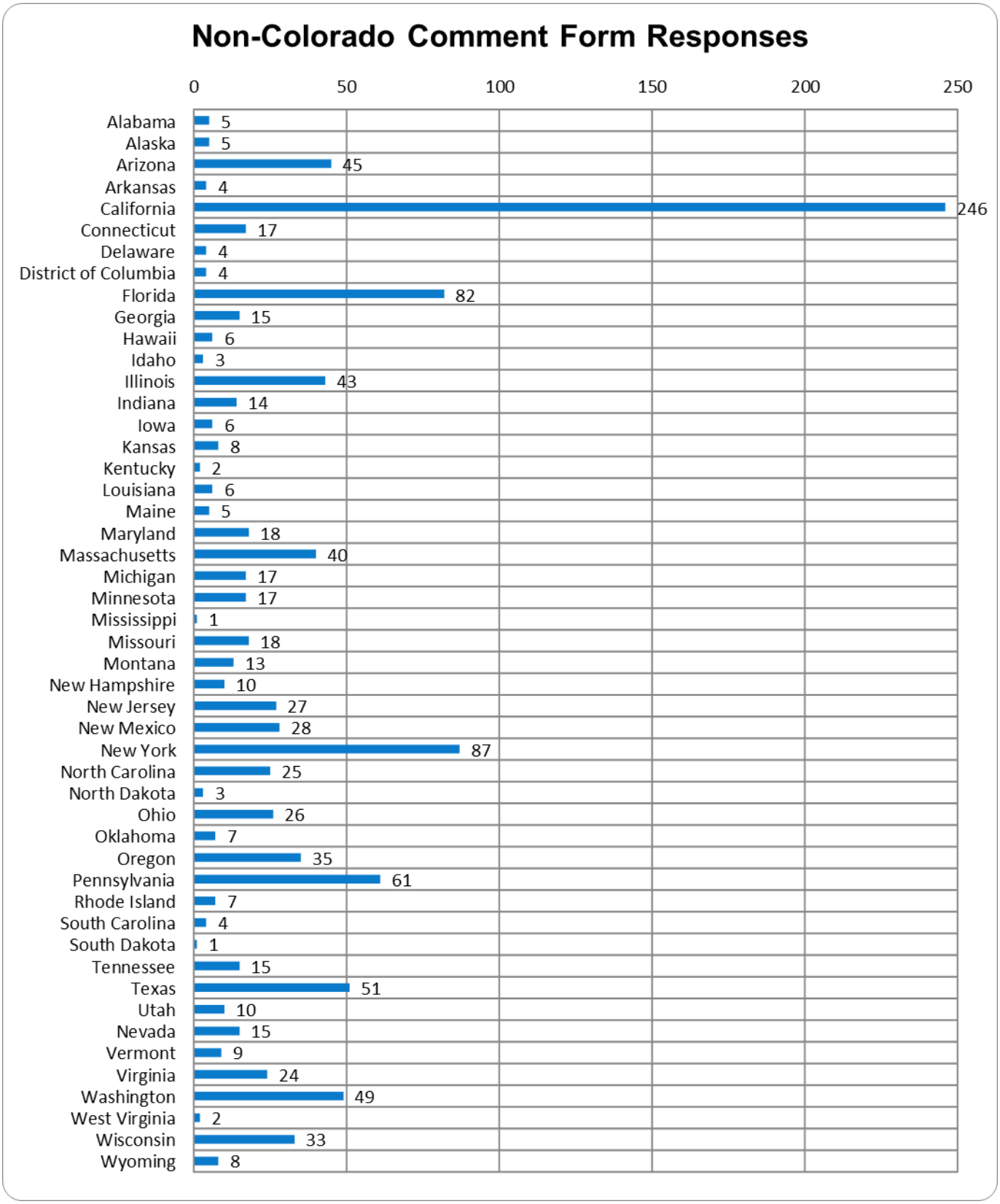
VIRTUAL TOWN HALLS	
Date (2021)	**# (Participants)/Speakers**
August 17	42/11
August 26	98/36
Total Virtual Town Hall Participants/Speakers	140/47

Appendix B: Online public comment form data on respondent geographies

Online Comment Form Respondents	
Location	**# Participants**
Colorado Respondents	1313
Western Colorado Residents*	389
Eastern Colorado Residents*	924
Out of State Respondents	1216
Total Respondents	2529

*Western/Eastern Colorado distinction is defined by CPW Regional boundaries.


Comment Form Responses by Colorado County
0
20
40
60
80
100
120
140
160
Adams County 48
Alamosa County 8
Arapahoe County 97
Archuleta County 10
Boulder County 158
Broomfield County 11
Chaffee County 11
Clear Creek County 3
Conejos County 17
Costilla County 4
Custer County 1
Delta County 15
Denver County 138
Dolores County 2
Douglas County 61
Eagle County 21
El Paso County 107
Elbert County 5
Fremont County 9
Garfield County 17
Gilpin County 1
Grand County 5
Gunnison County 6
Hinsdale County 2
Huerfano County 4
Jackson County 2
Jefferson County 117
La Plata County 60
Lake County 1
Larimer County 79
Las Animas County 6
Logan County 3
Mesa County 68
Mineral County 2
Moffat County 4
Montezuma County 17
Montrose County 29
Morgan County 1
Otero County 3
Ouray County 10
Park County 6
Pitkin County 14
Prowers County 1
Pueblo County 23
Rio Blanco County 12
Rio Grande County 9
Routt County 18
San Miguel County 10
Summit County 15
Teller County 13
Yuma County 1
Weld County 28


Non-Colorado Comment Form Responses
0
50
100
150
200
250
Alabama 5
Alaska 5
Arizona 45
Arkansas 4
California 246
Connecticut 17
Delaware 4
District of Columbia 4
Florida 82
Georgia 15
Hawaii 6
Idaho 3
Illinois 43
Indiana 14
Iowa 6
Kansas 8
Kentucky 2
Louisiana 6
Maine 5
Maryland 18
Massachusetts 40
Michigan 17
Minnesota 17
Mississippi 1
Missouri 18
Montana 13
New Hampshire 10
New Jersey 27
New Mexico 28
New York 87
North Carolina 25
North Dakota 3
Ohio 26
Oklahoma 7
Oregon 35
Pennsylvania 61
Rhode Island 7
South Carolina 4
South Dakota 1
Tennessee 15
Texas 51
Utah 10
Nevada 15
Vermont 9
Virginia 24
Washington 49
West Virginia 2
Wisconsin 33
Wyoming 8

Appendix C: Focus group agenda and ground rules

Colorado Wolf Restoration and Management Plan

Focus Groups - Summer 2021

Agenda

Focus group objectives:

- Create an in-depth roundtable discussion with invited leaders to understand attitudes and perspectives on planning topics and additional issues unique to various communities.

Focus group guidelines:

- Focus group meetings are by invitation and not for attribution.
- Be respectful of different points of view; no personal attacks.
- Strive to be solution-oriented.
- Share the floor - offer comments and allow time for others.
- This focus group is to gather input on the Wolf Restoration & Management Plan. It is not a re-litigation of Proposition 114.
- This meeting is about sharing ideas, not showcasing numbers.
- Speak to interests, not positions - help us understand your ideas, suggestions, values, questions and concerns.
- Staff are here to listen, foster conversation, and answer questions where possible. We are early in the process; staff will not be able to answer all of your questions but will be glad to hear them, nor can they tell you what will be in the plan.
- Observers from advisory groups, the Parks and Wildlife Commission, and/or CPW may be present to listen to the conversation.
- Stay connected: the Focus Groups are just one part of the Summer 2021 public engagement efforts, and just one point in the planning process. You may want to sign up for the Gray Wolf Reintroduction eNews to get the latest updates.

Focus group agenda: (all times approximate):

1. Welcome, objectives and guidelines (Keystone Policy Center) (5 minutes)
2. Participant and observer introductions (10-15 minutes)
3. Brief background presentations followed by discussion of planning topics (90 minutes)
    a. Wolf restoration
    b. Wolf management
    c. Livestock interactions
    d. Engagement, education & outreach
4. Final roundtable reflections (10 minutes)
5. Next steps and adjourn (5 minutes)

Appendix D: Public comment form and focus group questions

Wolf Restoration & Management Plan

Summer 2021 Comment Form

Please use this comment form to provide feedback on specific topics and questions related to the Wolf Restoration and Management Plan. **To complete this form online** and for additional information, such as short educational videos and posters relevant to the questions below, please visit https://www.wolfengagementco.org/.

Name: _____

Organizational affiliation (if applicable): _____

Where did you attend an open house?: _____

Do you live in the United States?*

- € No What is your country of residence? _____
- € Yes

If yes, are you a resident of Colorado?*

- € If no, what is your state of residence? _____
- € If yes, what is your county of residence? _____

Engagement, Education, and Outreach

What suggestions do you have for **engagement, education, and outreach** to make gray wolf restoration and management as successful as possible?

What concerns or questions **about engagement, education, and outreach** do you have?

Wolf Restoration

What specific suggestions do you have for **restoration logistics** to make gray wolf restoration in Colorado as successful as possible?

What **concerns or questions about wolf restoration logistics** do you have?

Wolf Management

What **wolf population and other biological information** would indicate that the gray wolf restoration program was a success?

What suggestions do you have for **management strategies** to make gray wolf restoration in CO as successful as possible?

What suggestions do you have for **monitoring**?

What suggestions do you have for **funding** gray wolf management?

What **concerns or questions about wolf management** do you have?

Livestock Interactions

What suggestions do you have for **conflict minimization** best practices?

What suggestions do you have for **compensation programs**?

What suggestions do you have for **management of conflict wolves**?

What **concerns or questions about livestock interactions** do you have?

Other

What **additional feedback** do you have?

Optional Participant Information*

Thanks for sharing your feedback. The following questions are optional and enable us to learn more about who is responding to this form.

If you would like to be contacted by Keystone Policy Center about the wolf restoration and management effort, **please write your email here**: _____

Age: _____

Gender: _____

How would you describe your **current residence or community**? (Select one)

- € Large city with about 250,000 or more people
- € City with about 100,000 to 249,999 people
- € City with about 50,000 to 99,999 people
- € Small city with about 25,000 to 49,999 people
- € Town with about 10,000 to 24,999 people
- € Town with about 5,000 to 9,999 people
- € Small town or village with less than 5,000 people
- € A farm or rural area

How would you describe your **racial or ethnic background**? (Please check all that apply)

- € White
- € Hispanic/Latino
- € Black or African American
- € American Indian or Native Alaskan
- € Native Hawaiian or other Pacific Islander
- € Asian
- € Other (please specify)

**This information was not asked during the Geographic or Interest-Based Focus Groups*

Appendix E: Wolves in Colorado FAQs from CPW website (as of July 2021)

Wolves in Colorado FAQ (CPW Website)

Excerpted from the CPW website, July 2021
Current FAQs available at: https://cpw.state.co.us/learn/Pages/Wolves-in-Colorado-FAQ.aspx

Colorado Parks and Wildlife staff have worked across areas of expertise, scientific backgrounds and partner agencies to prepare this FAQ page in response to significant public outreach. This page will be updated and expanded as the agency works through the reintroduction and public involvement process. Proposition 114, a ballot initiative directing the Colorado Parks and Wildlife Commission to develop a plan to introduce gray wolves onto the Western Slope of Colorado, passed on November 3, 2020.

Proposition 114 passed on November 3, 2020. What are the next steps?
The first part of the directive from the ballot initiative is to create a plan, so it should be understood that this is not a plan that would be released immediately.

Proposition 114 directs the Colorado Parks and Wildlife Commission to:

- Develop a plan to reintroduce and manage gray wolves in Colorado;
- Take necessary steps to begin reintroduction no later than December 31, 2023, on designated lands west of the Continental Divide; and
- Pay fair compensation for livestock losses caused by gray wolves

Timeline
Colorado Parks and Wildlife staff presented a draft proposal for consideration by the Parks and Wildlife Commission during the January 2021 meeting. The Commission approved the proposal and directed staff to begin creating a robust, adaptive management plan to reintroduce wolves in Colorado no later than December 31, 2023. Schedules and agendas for upcoming Commission meetings are available on the Commission Meetings page.

To stay updated with any current developments, visit CPW's wolf management page. Sign up for CPW's Conservation eNews and follow us on social media to receive email updates concerning wolf management.

Background Information on Gray Wolves

- On October 29, 2020, the Department of the Interior announced a rule to delist the gray wolf from federal protection under the Endangered Species Act. The rule was published in the Federal Register on November 3, 2020 and took effect on January 4, 2021, transferring management authority over the gray wolf in Colorado from the U.S. Fish and Wildlife Service to CPW.
- The species remains listed as a state endangered species in Colorado, and take of gray wolves will remain prohibited. Under C.R.S. 33-6-109, penalties including fines, jail time and/or loss of license privileges apply.
- CPW will continue to monitor wolf dispersal into and within Colorado. Additionally, as directed by the voters of Colorado through the passage of Colorado Proposition 114, CPW will work with federal counterparts, neighboring states, partners and stakeholders across Colorado to create a plan to implement the outcome of the ballot vote.

Wolves in Colorado

When was the last time there were resident wolves in Colorado?
Gray wolves historically inhabited most of Colorado, but were extirpated. The last known resident wolves in Colorado were in the 1940s until the most recent discovery of two separately migrating wolves - one in 2019 and the other in 2021 - that produced a litter of pups in northern Colorado in 2021.

Has CPW had prior reports of wolves in Colorado?
Yes, as well as evidence of occasional dispersers. We typically field around 100 sightings per year. However, wolf reports are typically not considered reliable without strong supporting evidence.

Confirmed or probable wolf dispersals into Colorado have occurred in 2004, 2007, 2009, 2015, 2019, 2020 and 2021.

When CPW receives credible reports of wolves in Colorado we work closely with our federal partners to investigate them. We will continue to work with USFWS and others in sharing information regarding verified sightings with the public.

Colorado Parks and Wildlife cannot provide a specific population number for wolves in Colorado. As many as six congregating wolves have been identified by CPW staff in 2020, but that does not mean that is a definitive number of animals on the ground in the state.

How many wolves are in the state today?

- Wolf F1084 from the Snake River Pack in Wyoming has been detected as recently as February 2021 in north-central Colorado.
- In January of 2020, CPW confirmed the presence of at least six wolves in northern Moffat County.
- In January of 2021, CPW confirmed the presence of another wolf traveling with known wolf, M1084. CPW staff fitted this additional wolf with a GPS collar to monitor movement, range and behavior.
- In June 2021, CPW confirmed that F1084 and M2101 had produced a litter of pups. At least three pups have been observed by staff, who continue to monitor these adults and pups.

Where do most wolves that disperse into Colorado originate?
Most dispersal into Colorado is believed to have originated from the Greater Yellowstone Area, which is part of the Northern Rocky Mountain gray wolf population. However, it is often difficult to determine a dispersing animal's specific point of origin with certainty as only a small portion of the Northern Rocky Mountain gray wolf population is marked or fitted with telemetry collars.

Where will new wolves come from?
The potential source populations of introduced wolves is not yet known; this information will be included in the overall introduction and management plan being developed as a result of the passage of 114.

How will wolf populations be monitored?

A variety of tools could be used to monitor wolves including collared animals, cameras, howling surveys and other techniques. Monitoring plans will be included in the overall introduction and management plan being developed as a result of the passage of 114.

Can you provide a report listing all sightings in Colorado the last 15 years?
Below is a list of confirmed wolves in the state since 2004.

Date	Location	Origin	Sex	Color	Outcome
06/07/2004	Near Idaho Springs, CO	Unknown	Female	Gray	Found by side of I-70 deceased.
02/16/2007	North Park, CO	Unknown	Unknown	Black	Video taken by Colorado Division of Wildlife (CDOW) staff.
02/2009	North of Rifle, CO	Montana, Mill Creek 314F	Female	Gray	Presumed poisoned.
04/2015	North Park, CO	Wyoming, 935M	Male	Black	Trail camera and radio collar data.
04/29/2015	Kremmling, CO	Unknown	Male	Gray	Shot by legal coyote hunter.
11/12/2018	Divide, CO	Colorado Wolf and Wildlife Center	Male	Mexican Wolf	Captive raised wolf escaped from facility near Divide, CO. Animal was recaptured.
07/08/2019	North Park, CO	Wyoming, F1084, Snake River Pack	Male	Black	Wolf was photographed in North Park, CO.
01/06/2020	Moffat County	Unknown	Group of approximately six	N/A	Scavenged elk carcass and prints reported. Genetic analysis of scat is conducted. CPW staff later saw this group of at least six animals.
01/19/2021	Jackson County	Unknown	Male	Gray	Visually confirmed and collared by CPW staff. Wolf now identified as M2101.
06/04/2021	Jackson County Colorado	Unknown	Group of approximately three	varied	Visual confirmation of three pups with F1084 and M2101 by CPW staff.

<u>Colorado Parks and Wildlife's Position/Role in Wolf Management</u>

Initial Wolf Management
In 2004, CPW convened a diverse group of stakeholders (the Colorado Wolf Management Working Group) representing livestock producers, wildlife advocates, wildlife biologists, sportsmen, and local government officials to develop a set of recommendations for managing wolves that disperse into Colorado. Now that wolves are delisted under the Endangered Species Act, the wolf management recommendations will guide CPW managers and others responsible for the planning and policy decisions that affect wolf management in Colorado now that wolf reintroduction is called for by the passage of Proposition 114.

Read the Wolf Management Working Group report.

Does CPW want wolves in the state?
It is not a question of "want" or "don't want." We have long anticipated that gray wolves would eventually enter the state as some have already, and we have been prepared for their arrival. With Colorado voters electing to reintroduce additional wolves to the state, our team of biologists, researchers, wildlife officers and other staff will work with stakeholders statewide to create a plan that provides the best chance for the species to thrive in Colorado. This planning will factor in the best available science regarding habitat, prey availability, and will include input from the public and key stakeholders.

As a result of the gray wolf delisting, CPW will begin assuming the management of gray wolves in the state from USF-WS. CPW will use the 2004 working group plan until the new plan required by Proposition 114 is developed.

What is CPW's role in management and reintroduction now that the ballot initiative has passed?
The U.S. Fish and Wildlife Service retained sole management authority of gray wolves until recently. On October 29, 2020, the Department of the Interior announced a rule to delist the gray wolf from federal protection under the ESA. The rule was published in the Federal Register November 3, 2020 and went into effect January 4, 2021. There are also potential legal challenges to this rule in the coming months. The implications of these pending lawsuits are uncertain at this point in time.

CPW will use the 2004 working group plan until the new plan required by the ballot initiative is developed. The passage of Proposition 114 requires that the Colorado Parks and Wildlife Commission begin developing the plans for wolf restoration on the Western Slope. As described above, that plan does not exist today, but will be developed using the best available scientific, economic, and social considerations.

Who will actually do the work on reintroduction?
The ballot initiative assigns to the Parks and Wildlife Commission the responsibility for developing a plan to restore and manage gray wolves in Colorado, to hold statewide hearings, to obtain public input, to oversee wolf restoration and management, to assist owners of livestock, to prevent and resolve conflicts and to pay compensation for livestock losses caused by gray wolves. CPW staff will execute the plan as developed and approved.

Who will pay for the reintroduction? How would it impact Colorado Parks and Wildlife budgets?
The Legislature passed HB21-1243 in 2021, which (upon signing by the Governor) requires the general assembly to appropriate money to Colorado Parks and Wildlife, and authorizes the division's expenditure of money from one or more of the following funds:

- The general fund;
- The species conservation trust fund;
- The Colorado nongame conservation and wildlife restoration cash fund; or
- The wildlife cash fund; except for any money generated from the sale of hunting and fishing licenses or from associated federal grants. This money within the wildlife cash fund is not available for appropriation.

The division is also authorized to solicit, accept, and expend any grants, gifts, sponsorships, contributions, donations, and bequests, including federal funds, for the program.

Once wolves are introduced, fair compensation for livestock losses as called for in the ballot initiative are to be borne by CPW's wildlife cash fund not derived from the sale of hunting or fishing licenses or from associated federal grants, unless it cannot pay for such expenses (Funding is discussed in the Joint Budget Committee briefing document).

There will be funding and staffing impacts to CPW to bring additional wolves into the state. A more precise understanding of what this would look like will be apparent after a management plan is developed.

What is the possibility of the Colorado General Fund being used for reintroduction?
Upon signing by the Governor, HB21-1243, appropriates General Fund dollars to support gray wolf reintroduction as directed by Proposition 114. $1.1M was appropriated for FY 21-22.

What other steps will need to happen for a reintroduction to take place and how long will they take?
The language directs the Parks and Wildlife Commission to "take the steps necessary to begin reintroduction of gray wolves no later than December 31, 2023..." CPW will use the 2004 wolf working group plan until the new plan required by the ballot initiative is developed. Should the plan as developed include reintroduction onto federal lands, CPW would need to collaborate and cooperate with federal partners and land managers to work through any required federal processes.

What number of wolves will it take for a complete reintroduction to be successful?
There is currently no recovery plan for wolves in Colorado, so there are no specified recovery goals. As a management plan is developed, objectives for success (e.g., wolf numbers, pack numbers) will be defined.

Will the presence of wolves require more CPW regulations, and what kind of regulations will be necessary?
CPW and the Parks and Wildlife Commission will create or modify appropriate regulations to manage the species according to the management plan developed.

Does this ballot initiative include the possibility that Mexican gray wolves will come into the state?
We don't believe the intent of the ballot initiative proponents was to introduce the Mexican gray wolf. The recent revision to the Mexican Wolf Recovery plan limits the geography of recovery to the area south of I-40, including Arizona, New Mexico and Mexico.

See the Perils of Recovering the Mexican Wolf Outside of its Historical Range study.

Regulations and Legal Consequences of Taking or Killing a Wolf

What are the penalties for killing a gray wolf in Colorado?
Illegally harvesting these animals are cause for a criminal investigation, punishable by fines and jail time under C.R.S. 33-6-109.
C.R.S. 33-6-109. Wildlife--illegal possession

- (1) It is unlawful for any person to hunt, take, or have in such person's possession any wildlife that is the property of this state as provided in section 33-1-101, except as permitted by articles 1 to 6 of this title or by rule or regulation of the commission.
- (2) It is unlawful for any person to have in his possession in Colorado any wildlife, as defined by the state or country of origin, that was acquired, taken, or transported from such state or country in violation of the laws or regulations thereof.
- (2.5) This section does not apply to the illegal possession of live native or nonnative fish or viable gametes (eggs or sperm) which is governed by section 33-6-114.5.
- (3) A person who violates subsection (1) or (2) of this section is guilty of a misdemeanor and, depending upon the wildlife involved, shall be punished upon conviction by a fine or imprisonment, or both, and license suspension points or suspension or revocation of license privileges as follows:
- (a) For each animal listed as endangered or threatened, a fine of not less than two thousand dollars and not more than one hundred thousand dollars, or by imprisonment for not more than one year in the county jail, or by both such fine and such imprisonment, and an assessment of twenty points. Upon conviction, the commission may suspend any or all license privileges of the person for a period of from one year to life.

What should someone do if they accidentally kill a wolf?
Contact CPW immediately to notify them of the error.

Why wouldn't someone just dispose of wolves on their own?
Killing a wolf is cause for a criminal investigation, punishable by fines and jail time. We strongly encourage people to be ethical and follow the law.

Will CPW respond to wolf/human conflicts?
Yes, CPW will respond as it does with other wildlife conflicts in the state (e.g., bears, mountain lions, etc.), dispatching the necessary wildlife officers to the scene.

Can landowners kill a wolf that is depredating livestock? If not, who is responsible for removing a depredating wolf?
No the landowner cannot. CPW is responsible for removing a depredating wolf.

Who will pay for landowner losses from wolf depredation?
Proposition 114 directs Colorado Parks and Wildlife to "provide fair compensation for any losses of livestock caused by gray wolves", following the Game Damage processes established in Colorado Revised Statutes Section 33-3-107 through 33-3-110.

CPW continues working with state and federal partners to review the full complement of available resources to ensure that future depredation claim processes meet the needs of Coloradans.

Who will be responsible for responding to damage claims/human health and safety issues and how will the costs be covered, including wages?

CPW will respond. A source of state funds other than CPW's wildlife cash fund has not yet been identified.

Once wolves become established in Colorado, will they be hunted?

If wolves have established a population greater than yet-to-be-determined thresholds, population management options, including hunting, will be evaluated.

Wolves on the Landscape

What is considered wolf habitat?
Wolves are habitat generalists, meaning they do not have specific habitat requirements that determine where they can live. As long as prey is available, wolves can use a variety of areas.

How will wolves impact Colorado's ungulate populations?
Wolves consume approximately 7-10 pounds of meat per day on average. In some other areas where wolves exist at a sustainable population level, there have been impacts to ungulate populations. Elk, moose, and deer are primary prey species for wolves. However, wolves are opportunistic hunters. Wolf populations would need to be established for an extended period before we can evaluate the extent to which they impact populations of prey species in Colorado. However, with a pack identified in Northwest Colorado, efforts to monitor elk herds in the region will begin as early as winter of 2020-21.

I've heard that elk/deer herds are struggling in areas and the agency is doing a lot of research to understand why. How would wolves play into that?
Wolves would be one of many factors that may influence ungulate population dynamics. It is impossible to predict precisely how wolves would impact Colorado ungulate populations on either a local, regional or statewide scale Mule deer populations in portions of western Colorado have declined significantly, causing concerns within CPW and its many constituencies who depend upon or enjoy mule deer. Recognizing the need for action, CPW embarked on a comprehensive public engagement effort to gather input for developing the West Slope Mule Deer Strategy to guide future management actions.

- See more about CPW's West Slope Mule Deer Strategy.
- See more information about the status of mule deer populations in Colorado.

Colorado has the largest elk herd in the world. Does it matter if wolves eat a few?
The statewide elk population is stable; the 2018 estimate is 287,000. CPW has intentionally reduced some elk populations to achieve population objectives set for those herds. Currently, 22 of 42 (52 percent) elk herds are still above their current population objective ranges. However, some herds remain below the established population objective. Public perception of the desired number of elk in Colorado varies. Elk research and continued management changes such as reductions in cow elk hunting licenses are necessary since elk calf production remains low in many herds.

See more information about the status of elk populations in Colorado.

As wolves become more established on the landscape, CPW will adjust its research and management efforts to address these questions.

Are wolves more likely to increase or decrease the severity of chronic wasting disease (CWD) in Colorado?
The geographic distributions of wolves and chronic wasting disease in the United States have overlapped little until fairly recently, so this interaction has not been sufficiently studied.

It is not possible to say with certainty the extent to which wolves will or will not reduce the prevalence of CWD in specific areas of Colorado. Predictions would be speculative and based on very little actual

data. However, we do believe that it is not feasible for CWD to be completely eliminated from Colorado. Beneficial effects have been suggested by limited modeling, but have yet to be shown empirically. If wolves could selectively kill CWD-infected animals within a herd and were sufficiently abundant, then this would help suppress the disease. We know that infected deer and elk are more vulnerable to predation (including non-human and hunting "predation") than healthy animals. We also know that selectively culling infected deer from a herd can reduce prevalence and that "predation" (from hunting or culling) can help suppress CWD. But we don't know whether wolves would be selective enough or sufficiently abundant to have a measurable effect on disease suppression. Mountain lions selectively kill CWD-infected deer, yet their presence has not prevented increases in prevalence in some areas. Even if wolves do not selectively kill CWD-infected animals, it is possible that predation or scavenging by wolves could help reduce environmental contamination with the prion that causes CWD.

Studies have shown that passing CWD-infected elk brain tissue through the coyote digestive tract reduced the amount of prions available to cause infection. Whether wolves would also reduce the prion load in carcass tissues they consume has not been studied. Nor can we evaluate the extent to which wolves, through extensive landscape movement, could introduce prions to areas where CWD is not known to exist, and if they do, to what extent that poses a risk of increased disease distribution. Based on what we know today, the majority of direct and indirect evidence suggests wolves can be expected to have a neutral effect on CWD occurrence and distribution in Colorado.

If impacts to deer and elk are noticed at a high enough level, how will wolves be managed to mitigate those impacts?
Understanding that the current rule may be challenged, management authority has now been returned to the states and tribes. All consideration for impacts to wildlife populations will help inform the range of management options for wolves in Colorado.

What impacts do wolves have on other predatory species, like lions, bears, coyotes or foxes? How common is it for wolves to prey on mountain lions/bears/coyotes in areas with high predator densities?
Wolves do have a tendency to displace other canids like coyotes and foxes, but not lions or bears. Different combinations and densities of predator and prey species, terrain, vegetation, climate, land-ownership patterns and land uses result in different ecological relationships. It is difficult to predict how the interactions will play out. It is not common for wolves to prey on other carnivore species.

What impacts have states with wolves witnessed and how have those impacts been handled?
Other states have noted that both big game distribution and habitat use by big game animals can be impacted by wolves. Additionally:

"How much, where, and how wolves impact prey varies through space and time. Wolves like mountain lions, coyotes and bears eat deer, elk, moose, and other game animals. Research in Montana and elsewhere has shown that predation may influence deer, elk and moose populations through changes in the survival of young and adult animals or a combination of both. In Montana, elk numbers in some areas have declined, due in part to wolf predation. Yet in other areas where wolves and elk interact, elk numbers are stable or increasing. Habitat, weather patterns, human hunting, the presence of other large predators in the same area and the presence of livestock seasonally or year-round are important factors, too. Wolf predation by itself does not initiate declines in prey populations, but it can exacerbate declines or lengthen periods of prey population rebounds. Research in Yellowstone National Park and elsewhere has shown that elk use habitats differently since wolves have returned. One study showed that when

wolves are in the local area, elk spend less time in open areas and more time in forested areas. However, extrapolation of this potential effect to broad landscapes should not be made. Hunters may need to adjust their strategies in areas where wolves exist."

From Montana Fish, Wildlife and Parks.

Frequently Asked Questions About Wolves in Colorado

Excerpted from the CPW website, July 2021
Current FAQs available at: https://cpw.state.co.us/learn/Pages/LivingwithWolves.aspx

While the plan is being developed, below you will find some questions we frequently receive regarding living with wolves in Colorado. Wolves are elusive, even to wildlife officers and biologists, but there are some things you should know about living with wolves.

How can people identify wolves?
Wolves are bigger, stockier and have a longer tail than other canids (e.g., foxes and coyotes). Despite their name, gray wolves may be white, tawny gray or black, or any combination of those colors. Approximately half of any gray wolf population actually is gray. Adult male gray wolves typically weigh between 90 and 110 pounds, and may exceed 5 feet in length from nose to tail tip. Adult females typically weigh between 80 and 90 pounds and can be 5 feet long.

Pups are born with black spots on the upper outside of their tails, which may fade with age. Young wolves may resemble coyotes or some larger domestic dogs. However, wolves can be distinguished from most coyotes and dogs by their longer legs, larger feet, wider head and snout, shorter ears, narrow body and straight tail. Coyotes are 1.5 feet tall, and 4 feet long, weighing between 20-50 pounds.

- Wolf heads/faces are broader, and ears are rounder than the coyote's narrower face and tail, and pointed ears.
- Apparent sightings of wolf tracks often are a case of mistaken identity. Dog and coyote paw prints can be mistaken for wolf tracks. Adult wolf prints are larger than dog and coyote prints. An average-sized wolf makes a track about 5 inches long (without claws) and 3 to 4 ½ inches wide. Coyotes are considerably smaller and narrower.
- Although some dog breeds can have tracks greater than 4 inches in length, in general, if a 4-inch or greater canid track is observed, the probability that it may be a wolf is increased. Due to some overlap in size or the substrate the track was made in, tracks identification can be challenging. It is recommended to follow the tracks out, if possible, to obtain additional measurements, to look for other signs that may be in the area, and to identify the general travel path as wolves tend to travel in a straight line whereas domestic dogs tend to weave more.

What should I do if I see a wolf in Colorado?
Please report all sightings to Colorado Parks and Wildlife using our wolf sighting form.
To ensure the most credible information, please try to provide a photo or video, provide exact location coordinates or other detailed information for confirmation purposes.

What is a wolf pack?
The wolf pack is an extended family unit that includes a dominant male and female. In each pack, there is usually only one breeding pair, preventing subordinate adults from mating by physically harassing them. Thus, most packs produce only one litter of four to six pups each year. A pack typically includes

the breeding pair, the young wolves born that year, perhaps last year's young and sometimes a few older wolves that may or may not be related to the breeding pair.

Are wolves a threat to humans, in particular small children?
Aggressive behavior from wild wolves towards humans is rare. Mark McNay of the Alaska Department of Fish and Game compiled information about documented wolf-human encounters in "A Case History of Wolf-Human Encounters in Alaska and Canada" which was published in 2002. There are 59,000 to 70,000 gray wolves in Alaska and Canada, and since 1970 there were 16 cases of non-rabid wolves biting people. Six of those cases were severe. Since that report was written, wolves killed a man in Saskatchewan, Canada in 2005. In 2010, a woman jogging outside a remote village in Alaska was killed by wolves. In both instances, habituation to humans was a key factor in the deaths.

Generally, wild wolves are shy of people and avoid contact with them whenever possible. However, any wild animal can be dangerous if it is cornered, injured or sick, or has become habituated to people through activities such as artificial feeding. People should avoid actions that encourage wolves to spend time near people or become dependent on them for food.

The gray wolf remains listed as endangered in Colorado regardless of the federal designation. State law allows for the protection of human safety if there is an immediate threat from any endangered or threatened species. However, these situations are extremely rare and would be thoroughly investigated. Additionally, although rare, state and federal land management agencies can remove or kill a wolf that presents a demonstrable, non-immediate threat to human safety.

Are wolves known to eat pets? What about backyard farm animals, like alpacas and chickens?
Wolves are predators, and generally feed on ungulates in the wild. However, wolves are opportunistic hunters and may kill pets and other farm animals such as alpacas and chickens. In general, techniques used to reduce depredation risk on private property from other predators may also be effective at minimizing risks associated with possible wolf depredations.

How are wolves managed in Colorado?
Visit our Wolf Management page for additional information about species management in the state.

Appendix F: Open house posters

The below posters were displayed at open houses and also provided in digital form online. The content includes background information, topics to be determined for the plan, and questions asked to the public. Similar content was also provided in videos provided online, at open houses, and in focus groups.

Posters were designed by Colorado Parks and Wildlife.

COLORADO PARKS & WILDLIFE

Wolf Restoration

WOLF RESTORATION & MANAGEMENT PLAN; SUMMER 2021 PUBLIC ENGAGEMENT

Status of gray wolves in Colorado

- Native to Colorado and once lived in every county of the state.
- Were eliminated from the state in the 1940s.
- Have been documented to move from populations in northern states into Colorado.
- In June 2021, CPW documented the first confirmed litter of pups in the state since the 1940s.
- Wolves were listed as Federally Endangered in the U.S until January 2021 when they were delisted nationally.
- Gray wolves in Colorado remain a State Endangered species; killing a wolf in Colorado is a crime punishable with jail time, fines and/or the loss of hunting/fishing license privileges.

Gray wolf biology and habitat needs

- Habitat generalists; do not have specific habitat requirements.
- Live in and hunt in packs, made of a breeding pair and their offspring.
- Defend their territories from other wolf packs.
- Breed in mid-February, give birth in a den in mid-late April to litters ranging from 4 to 10 pups.
- Pups move with the pack by late summer to early fall.
- Consume an average of ~10 pounds of meat per day per wolf, which equates to one elk per month.

Other gray wolf reintroductions

- Conducted in Yellowstone National Park and Central Idaho in 1995-1996.
- Hard-released in Idaho (open cages and release animals immediately) and soft-released in Yellowstone (conditioned in pens and released after several weeks of adjustment to surroundings).
- Mexican wolves (a separate subspecies) have been reintroduced into Arizona, New Mexico, and Mexico.
- Other wolf reintroduction programs have occurred in areas of the Great Lakes.

Restoration logistics to be determined in the restoration and management plan

- Number of wolves and timeframe for reintroduction.
- Identification of characteristics of areas in Colorado where wolves could be released.
- Age and gender ratios of wolves to be reintroduced.
- Genetic considerations for reintroduced wolves.
- Veterinary care and travel logistics.
- Reintroduction techniques (hard versus soft releases).

What we want to know from you

- What specific suggestions do you have for **restoration logistics** to make gray wolf restoration in Colorado as successful as possible?
- What **concerns or questions about wolf restoration logistics** do you have?

C O L O R A D O P A R K S & W I L D L I F E

Wolf Management

WOLF RESTORATION & MANAGEMENT PLAN; SUMMER 2021 PUBLIC ENGAGEMENT

2004 Wolf Working Group Recommendations

Current management plan that CPW is using to manage wolves. It includes the following key points:

- Fundamentally determined that wolves should be allowed to live with no boundaries where they find habitat.
- If wolves cause problems or when negative impacts occur due to wolves, the issues should be addressed on a case-by-case basis using management tools and damage payments to resolve, including allowance of take (killing) of wolves to manage depredations.
- Wolves should, over time, be brought into existing management programs and policies for other carnivores, such as mountain lions and black bears.
- CPW should work cooperatively with other agencies, organizations and the private sector to achieve wolf management goals in a proactive manner.
- Recommended that funding for wolf management come from sources other than hunting license sales.

Issues to be addressed through the gray wolf restoration and management plan:

- Management principles and goals for wolves in Colorado.
- Population levels that may trigger different management strategies.
- Responses in ungulate populations (for example, elk, deer and moose) or other metrics inform wolf management.
- Reliable funding sources can be used to support reintroduction, monitoring, depredation payment and management.
- Considerations for the possibility of relisting of the gray wolf under the U.S. Endangered Species Act.
- *Note: Development of prescriptive management of conflict wolves & funding sources for damage payments is discussed in "Livestock Interactions."*

What we want to know from you:

- What **wolf population and other biological information** would indicate that the gray wolf restoration program was a success?
- What suggestions do you have for **management strategies** to make gray wolf restoration in CO as successful as possible?
- What suggestions do you have for **monitoring**?
- What suggestions do you have for **funding** gray wolf management?
- What **concerns or questions about wolf management** do you have?

Wolf Management

WOLF RESTORATION & MANAGEMENT PLAN; SUMMER 2021 PUBLIC ENGAGEMENT

Management strategies in other states

- All other reintroductions of wolves have involved Federal Endangered Species Act (ESA) Experimental, Non-essential 10(j) designations, which provide management flexibility to address conflict to an otherwise federally protected species.
- While not currently listed on the ESA, the gray wolf may be relisted at some point in the future. Developing tools to maintain management flexibility is viewed by CPW as being an important component to a restoration program.
- Management can include lethal and non-lethal tools (see Livestock Interactions table for more detail).

Recovery and management thresholds

- A population threshold is when a population is larger than some number (yet to be determined); for example, the number of animals or the number of breeding pairs.
- Identifying thresholds for State delisting recovery will be an important outcome of the planning effort.
- Recovery & delisting thresholds: Examples in MT, ID, and greater Yellowstone Area for federal delisting:
  - Revised recovery plan approved by the US Fish and Wildlife Service in 1987.
  - Identified a recovered wolf population being
    - at least 10 breeding pairs of wolves,
    - for 3 consecutive years,
    - in each of 3 recovery areas (northwestern Montana, central Idaho and the greater Yellowstone area).
    - A population of this size would comprise approximately 300 wolves.
- Management thresholds
  - Points where management flexibility and management strategies may change as the population grows.
  - As an example, we will have to identify a threshold to identify the point at which gray wolf reintroduction was a success.

Monitoring and reporting programs used elsewhere

- Tools used to monitor wolves include: Radio/GPS collars, cameras, howling surveys, tracking surveys, and other tools.
- Dens are monitored to document recruitment into the population.
- Population estimates are conducted at the end of the calendar year.

C O L O R A D O P A R K S & W I L D L I F E

Livestock Interactions

WOLF RESTORATION & MANAGEMENT PLAN; SUMMER 2021 PUBLIC ENGAGEMENT

CPW Livestock Damage Information:

The Game Damage Program is a Colorado Parks & Wildlife (CPW) prevention and reimbursement program that compensates ranchers, farmers and landowners for damage caused by big game animals.

CPW Game Damage Program History: Since the inception of the Game Damage Program in 1931, the original broad legal language has evolved to specify what game damage laws cover. Twenty years ago, the program was expanded to include damage prevention.

Game Damage Program Funding: The program is funded by the appropriation of sportspeople's dollars from the Game Cash Fund. This funds the two key components of CPW's Game Damage Program, damage compensation and damage prevention.

What is considered damage? Damage is any change in the quality or quantity of any property which reduces its value. Damage shall include all costs necessary to restore property to its condition immediately prior to damage, to replace it with property of equal value or to compensate for restoration or replacement.

The state is liable for damages to livestock caused by big game wildlife and wolves: Up to $5,000 per head of livestock injured or killed, and damages to livestock are limited to physical trauma resulting in injury or death.

The State is not liable for: Livestock damages caused by coyote, bobcats or domestic dogs; damage to motor vehicles caused by wildlife; injury or death of any person caused by wildlife.

Value of Livestock: Payment for all livestock claims are based on sales receipts/contracts. This excludes transportation, yardage, feed, and sales costs. If sales receipts/contracts are not furnished with claims, payment of calf, lamb and adult range sheep claims are based on prices from USDA-AMS reports. Payment for all other livestock claims are based on the fair market value at the time of loss.

Damage Claim Process

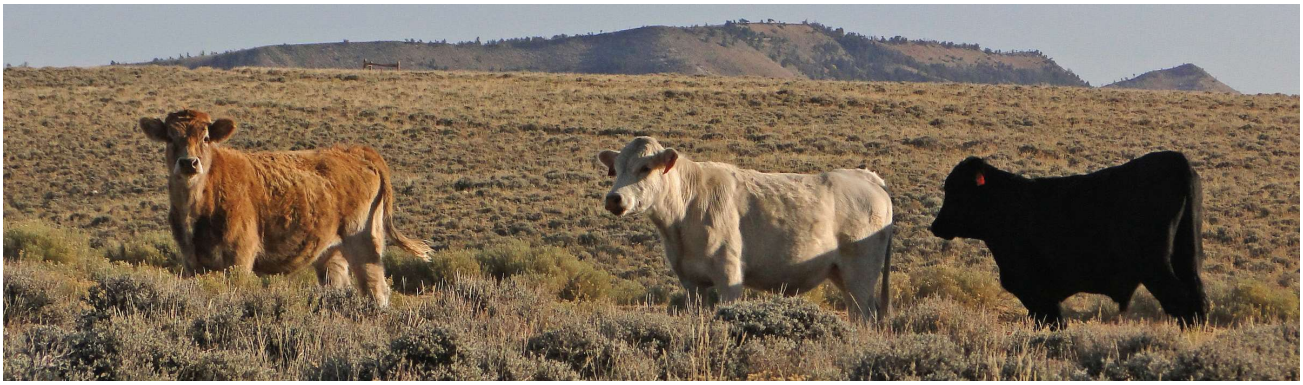
- Contact your local CPW office and ask to speak to a District Wildlife Manager (DWM).
- DWM will conduct an on-site inspection, provide the claim forms and answer claim procedure questions.
- Claim forms must be fully completed and submitted to CPW.
- The claim is recommended for either approval or denial.
- All denied claims are reviewed by the Parks and Wildlife Commission.

Issues to be addressed through the gray wolf restoration & management planning process

- Development of a depredation compensation program.
- Roles and responsibilities for investigation.
- Compensation rates and format.
- Development of conflict minimization Best Management Practices.
- Consideration for development of cost share programs to encourage conflict minimization practices.
- Development of prescriptive management of conflict wolves (also in Wolf Management) - for example, non-lethal and lethal control methods. Generally, a conflict wolf is any wolf that has been confirmed to have been involved with a human or livestock conflict.
- Funding Sources.

What we want to know from you

- What suggestions do you have for **conflict minimization best practices**?
- What suggestions do you have for **compensation programs**?
- What suggestions do you have for **management of conflict wolves**?
- What **concerns or questions** do you have?



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Livestock Interactions

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Depredation Compensation Programs in Other States

State:	Funding	Unconfirmed Losses	Who Investigates	How Value is Determined	Percentage Paid	Other
Arizona	Livestock Interdiction Fund (USFWS/NFWF). Administered by the AZLLB. NGO funding for range riders.	Pay for presence program. Pays only for cattle losses. Confirmed or probable losses.	USDA APHIS - Wildlife Services (WS)	Market value of livestock determined by the AZ Livestock Loss Board.	50/50 match. Includes cash, in-kind contributions, or 3rd party contributions.	Wolf/Livestock Council: http://www.coexistencecouncil.org/home.html AZ Livestock Loss Board: https://live-azlivestocklossboard.pantheonsite.io/
Idaho	Wolf Livestock Demonstration Grant Program (WLDGP).	No Confirmed and probable losses only.	APHIS WS	Cattlefax for cattle. American Sheep Industry market report for sheep.	WLDGP requires 50/50 match. Full value of livestock if rancher has met 50/50 match via in kind services.	https://species.idaho.gov/wp-content/uploads/sites/82/2020/06/Wolf-Depredation-Compensation Application_FINAL2020.pdf
Michigan	State general funds. Private sources.	Yes, if prior verified wolf depredation exists.	State DNR and/or APHIS WS	Michigan Department of Agriculture determines value of livestock.	Full value	Expenses for injured livestock or pets are not reimbursed.
Montana	Administered by Montana Livestock Loss Board. State general funds. Specialty license plate program.	No Not allowed by statute.	APHIS WS has sole authority per state statute.	USDA Market Report for Montana for cattle, goats and lambs. Annual Miles City Ram and Ewe sale is used for rams and ewe values.	100% for confirmed and probable kills.	Does not require loss prevention efforts to qualify for reimbursement.
Oregon	Oregon Department of Agriculture (ODA) Grant Program awards to counties.	Confirmed and probable losses. Compensate missing livestock if 4 requirements have been met.	Oregon Department of Fish and Wildlife biologists.	Based on fair market value and determined by county advisory committees.	Dependent on funding availability for each County advisory committees.	https://www.oregon.gov/oda/programs/AnimalHealthFeedsLivestockID/Pages/WolfDepredation.aspx
Washington	State funding Federal funding Private funding	Yes 2X multiplier if depredation occurs on acreage over 100 acres.	Washington Department of Fish and Wildlife (WDFW).	Fair market value Requires claimants enter into a damage prevention cooperative agreement with WDFW, the terms of which are negotiated.	100% for confirmed depredations. 50% for probable depredations.	https://wdfw.wa.gov/species-habitats/at-risk/species-recovery/gray-wolf/compensation
Wisconsin	State funded from the sale of wolf hunting license sales.	Yes Can claim up to 5 missing calves for each verified predation.	APHIS WS	Compensation is based on each individual producer's operation looking at historic livestock weights and marketing.	If the producer has a contract for feeder calve sales, the contracted price is honored.	https://dnr.wisconsin.gov/topic/WildlifeHabitat/damage
Wyoming	Some WLDGP funds. Mostly funded by hunting license revenue.	Yes Calves and sheep compensated up to 7 times the number of confirmed damaged head.	Mostly Wyoming state staff. An agreement exists with APHIS WS.	Fair market value at the time of loss must be substantiated by a livestock sales barn or other credible source provided by the claimant.	Full fair market (FMV) value plus applicable multipliers.	https://wgfd.wyo.gov/Wildlife-in-Wyoming/More-Wildlife/Large-Carnivore/Wolves-in-Wyoming Only pays for verified livestock losses in the "trophy game" area of northwestern Wyoming. The rest of the state does not compensate for damages.

Livestock Interactions

WOLF RESTORATION & MANAGEMENT PLAN; SUMMER 2021 PUBLIC ENGAGEMENT

Examples of Conflict Minimization Best Management Practices

Running livestock in wolf-range is challenging and while there is no silver bullet, there are techniques for reducing risk of wolf-livestock damage:

Management intensive grazing

- Higher stocking densities with frequent pasture changes.
- Periodic herd management increases human presence.
- Frequent pasture changes makes livestock locations less predictable for wolves.
- Benefits range health.

Livestock Guard Dogs

- Specially bred dogs that travel with livestock and discourage wolf depredation.
- Provide around the clock vigilance and alert herders/riders to threats to livestock.
- Not as effective with highly dispersed livestock.
- Dogs scent markings and barking can signal an occupied territory to wolves.

Livestock Guarding Donkeys

- Similar advantages to guard dogs except for no extra feeding necessary since they forage with livestock.

Carcass Management

- Removing or disposing of attractants that may lure wolves into livestock locations.
- Reduces potential conflicts by minimizing attractants.
- Burying or burning carcasses regularly.

Riders and Herders

- Live or spend long periods of time with livestock and manage herd health and herd distribution.
- Allows for increased protection of livestock and early detection of livestock depredation.
- Increased human presence and harassment can deter wolves.
- Allows producer to know when preventative efforts need to be increased.

Fladry

- Flagging hanging on strand of twine/wire that can trigger an avoidance in wolves.
- Ideal in smaller pastures (calving and horse pastures, sheep night pens and dead pits).
- Electrified version (turbo fladry) can be even more effective to reduce depredation if used correctly.
- Easily transported and installed and can be stored when not in use.
- Turbo fladry requires maintenance and can ground-out with taller vegetation.

Scare Devices

- Motion/radio activated sirens, strobe lights, and scarecrows can change wolf behavior.
- Can also alert herders/riders to threats to livestock.
- Simple and portable tools that are ideal when used in addition to other practices.

High Risk Landscape Management

- Understanding and adjusting practices during times and areas of high-risk.
- Avoiding grazing livestock in areas of high prey abundance or wolf activity areas.
- Lowers risk of livestock depredation by avoiding high risk landscapes.

Herd Composition

- Mixing different age classes and breeds of livestock can reduce vulnerability to predation.
- Stronger maternal instincts may reduce vulnerability of younger livestock.
- Experienced animals may avoid areas of predator presence and influence other stock to do the same.
- Experienced livestock are less likely to flee and more likely to stand their ground.

COLORADO PARKS & WILDLIFE

Engagement Process, Education and Outreach

WOLF RESTORATION & MANAGEMENT PLAN; SUMMER 2021 PUBLIC ENGAGEMENT

Proposition 114

Citizen-based initiative passed November 2020 requires:

- Colorado's Parks and Wildlife Commission to develop a plan to restore gray wolves to the state, using the best scientific data available.
- Statewide hearings to acquire information to be considered in developing the plan, including scientific, economic and social considerations.
- Taking the steps necessary to begin restoration of gray wolves no later than December 31, 2023 in Colorado west of the Continental Divide.

Public meetings

- Outreach events are underway to obtain public input as the restoration & management plan is being developed
  - public open house meetings
  - invitation-only focus group meetings
  - virtual town hall meetings
  - online input
- A draft Wolf Restoration and Management plan is not available at this point in time.
- After public input, CPW staff, with input from the Technical Working Group and Stakeholder Advisory Group, will prepare a Draft Plan for further public input.

Additional educational resources

- CPW Wolf webpage: https://cpw.state.co.us/learn/Pages/Wolves-Stay-Informed.aspx
- Three education sessions have been recorded and are available on the CPW Youtube Channel

What we want to know from you

- What suggestions do you have for **engagement, education and outreach** to make gray wolf restoration and management as successful as possible?
- What concerns or questions about **engagement, education and outreach** do you have?