



ROARING FORK VALLEY HORSE COUNCIL

P O Box 127

Snowmass, CO 81654

www.rfvhorsecouncil.org

March 23, 2018

To: The surrounding neighbors on Prince Creek Road:

The reason for this letter is to get input and support from neighbors on the Crown to protect the wildlife within their closed critical winter range. Currently the closure for wildlife critical winter range starts December 1st and ends April 15th annually. The mild winter, low snow pack has allowed access along Prince Creek Road during most of the closure days. Motorized and mechanized vehicles have given human recreation easy ingress to the closed area during this difficult time of herd survival.

FOR THE WILDLIFE

The Roaring Fork Valley Horse Council joins others that are concerned about the over use by human recreation on the Crown's 9,100 acres. The wildlife herds have declined by half their numbers from 1999 to 2016. The Colorado Parks and Wildlife (CPW) managers, formally the Division of Wildlife (DOW) relate this decline directly to the increase of human recreation.

We believe that if Prince Creek Road was closed from December 1st through May 15th to all vehicles, then the balance between wildlife and recreation may be better supported. Gates and signs indicating Seasonal Closure for wildlife and habitat protection would be placed after the last neighbor's driveways for their private access at the bottom of Prince Creek Road and below the Divide Parking Lot on West Sopris Creek Road. These gates would not prevent the public from hiking, x country skiing, snowshoeing, or fat tire biking on Prince Creek Road. These gates would prevent vehicles from accessing Prince Creek Road when early winter drought causes lack of snow pack.

This change would allow all neighbors to access their properties, and it was suggested that ranchers could open gates with lock codes to access their in-land holding properties.

WILDLIFE STATISTICS

Perry Will, Colorado Parks and Wildlife (CPW), Area Wildlife Manager recently reported elk and deer herd declines. From 1990 through 2016 elk herd numbers declined by 7,046; deer herd numbers declined by 5,672. According to Perry Will one of the biggest changes CPW has seen since the beginning of the 2000's is the increased demand for recreation on the landscape. New trails are being built at an alarming pace on winter range habitat, production areas, and summer solitude areas. Such increase in demand also seems to correlate to our observed decline in production rates for both species.

In the Pitkin OST Management Plan, they have stated "the Open Space program has set the highest standard for Biodiversity protections on our lands".

"The Crown: Some of the comments have similarly focused on the need for holistic management of impacts on the Crown. This BLM area encompasses over 9,000 acres, nearly twice the size of all lands managed by Open Space and Trails. We currently manage two portals onto the Crown, Nancy's Path and the new equestrian and biking trails included in the Glassier Open Space Management Plan. **The Open Space Department adopted a seasonal wildlife closure for the Glassier trails that is longer than that requested by CPW. (May 15th)** We note that other access points exist that are not managed by us and that are lacking in such regulations. **Consequently, we agree that a holistic seasonal closure is needed and we support that.** This potential action is not under our jurisdiction. However, this discussion suggest that our policy preamble should include a commitment to encourage other land managing agencies to similarly seek to protect biodiversity, especially where humans uses are occurring across adjacent Open Space and other public lands."

To Learn more about Pitkin County OST's "Policy on Biodiversity" go to:
<http://www.pitkincounty.com/DocumentCenter/View/10042>

WINTER CLOSURE

December 1st is the annual closure date for Wildlife Critical Winter Range. According to the experts who we have spoken to and those who have written letters, , May 15th is the recommended opening for cow and doe calving to be successful.

Currently, the BLM opens The Prince Creek side of the Crown on April 15th. According to the discussions with the BLM, the reason our current opening date of April 15th is because "that is the date when the oil and gas companies can enter onto our public lands for exploration and drilling" . This broad-brush policy does not consider altitude and alpine conditions, not to mention, there are no oil and gas companies entering onto the Crown.

Please read attached letters from our wildlife experts, then write, sign the attached petition and stand up for what is right. Protect our dwindling herds.

On the access road for the Crown Road #8320, and parking area, there is a closed gate stating, "Travel Protections to Protect Wintering Wildlife" and "Critical Winter Wildlife Habitat"



The BLM has not policed Prince Creek during this low snow pack period to keep winter fat-tire riders in check. In the 2017-18 season, there are confirmed reports of fat tire bikes entering the closed wildlife critical winter range. The tire tracks were evident to eyewitnesses from many entry points on the Crown along Prince Creek Road. The lack of oversight and enforcement is allowing this illegal mountain bike activity across the wildlife closure habitat area. How will Pitkin OST and the BLM enforce the overuse and infractions by the large numbers of summer mountain bike trail users? The RFVHC believes seasonal closure gates and signage, cameras, tickets and fines would help to curtail this intolerable situation on the crown.

THE FINAL SOLUTION - Bio-Diversity and Wildlife Importance

Human recreation is impacting our wildlife by people building new trails at an alarming pace on winter range habitat, production areas and summer solitude areas. The Pitkin OST Management Plan for Open Space Lands places bio-diversity and wildlife importance above human recreation. Our wildlife is supposed to be protected, but this is not the reality. Wildlife is systematically being removed from their precious habitat by human excess.

Global warming causing droughts and wildfires coupled with human recreation pressure may continue herd declines, and potentially decimation of our beautiful elk and deer herds. This has happened once before in the Roaring Fork Valley.

The early miners killed every creature that they could cook and eat. In the 1880s, when you went into downtown Aspen for a meal, steak on the menu could mean elk, deer, mountain lion, raccoon or beaver. In 1913, elk were brought from Wyoming by train car, and were held overnight at Holden-Marolt property. We think they were turned-out at the base of Hunter Creek to re-populate the Elk Mountains of Aspen. The elk we have here are not the original native herd.



1913 - reintroducing elk back into the Roaring Fork Valley

The RFVHC is asking all local neighbors, and concerned citizens throughout the Roaring Fork Valley to please consider winter closure for Prince Creek & West Sopris Creek Roads. Gates and signage, placed at the last resident's driveways on both sides of the Crown, starting December 1, 2018 through * May 15th, 2019.

Our hope is to protect wildlife on the Crown, one of the most critical winter wildlife ranges in the Roaring Fork Valley. These gates will also discourage trespasser's entry. This may not eliminate all human, winter intrusion, however gates will slow the ambitions of those, who put their own wishes above the needs of our wildlife. At the very least, they will have to work hard at their intent to ride fat tire bikes into the "protected winter refuge.

*Please read Addendum D - Perry Will's letter regarding wildlife seasonal closing and opening dates.

Please contact Holly McLain to discuss your ideas to help our declining wildlife herds.

Thank you for your consideration.
Holly McLain – Communication Chairman
970 948 2151 – rumbleridge@gmail.com
For the RFVHC Board of Directors

See more on following pages:

Addendum A –

Letter from Perry Wil - 2017

Addendum B -

Letter from Kevin Wright, retired DOW Unit 43, District Ranger - 2015

Addendum C

Kevin Wright continued – Letter to Pitkin OST about biodiversity - 2015

Addendum D -

Letter from Perry Will regarding Prince Creek Wildlife Opening date – 2016

Please read the letters from wildlife experts on the following pages:



COLORADO

Parks and Wildlife

Department of Natural Resources

Glenwood Springs Service Center
0088 Wildlife Way
Glenwood Springs, CO 81601
P 970.947.2920 | F 970.947.2936

March 28, 2017

Holly McLain
Citizens for Responsible Open Space
Carbondale, CO 81623

RE: Significance of the Crown to Local Wildlife

Dear Mrs. McLain,

Thank you for your continued interest and support of Colorado's wildlife species and their habitats. In follow up to our letter dated Jan 12, 2017 we are providing population trends for Elk DAU E-15 and Deer DAU D-13. It is impossible to break down the numbers for the Crown alone as we manage these populations at a much larger scale.

Elk

1990	7046	2000	7953	2010	4694
1991	7310	2001	7840	2011	4593
1992	7105	2002	6963	2012	4448
1993	7154	2003	5872	2013	4134
1994	7495	2004	5971	2014	4288
1995	7517	2005	5313	2015	4194
1996	7806	2006	5546	2016	4170
1997	7770	2007	5385		
1998	8121	2008	4652		
1999	8217	2009	4857		

Without context, our elk population trends alone do show a steep decline since the year 1999. At that time the elk herd size was estimated to be at 8,200 animals, and today is estimated at 4100 animals. Part of that decline was intentional and wanted by CPW as our herd sizes were well above objective and thought to be over carrying capacity for the available winter range habitat.

A bigger factor that CPW is looking at is the continuing decline of young to adult females in elk populations. Calf:Cow ratios have steadily declined in DAU E-15. During the 80's ratios were 58 young per 100 cows. In the 90's those ratios dropped to

Bob D. Broschek, Director, Colorado Parks and Wildlife • Parks and Wildlife Commission: Robert W. Bray • Jeanne Horne
John Howard, Vice-Chair • Dale Pizel • James Prilly, Chair • James Vigil • Dean Wingfield • Michelle Zimmerman, Secretary • Alex Zipp



50:100. The 2000's dropped to 41.5:100. 2010-2016 those ratios declined to 34.1 with the current 3 year average at 31.7. For a stable to increasing population those ratios need to be in the range of 48-52:100.

Deer

1990	11412	2000	9704	2010	6227
1991	11521	2001	10379	2011	5681
1992	8881	2002	10962	2012	5930
1993	8119	2003	9932	2013	5880
1994	8490	2004	11092	2014	6168
1995	8380	2005	8980	2015	5740
1996	8874	2006	8325		
1997	7000	2007	7873		
1998	8198	2008	5996		
1999	9507	2009	6222		

Deer Populations in DAU D-13 have also dropped significantly since the mid 2000's. Since the winter of 2007/2008 population levels have not rebounded to levels seen before that. Even with a virtual elimination of doe hunting opportunity, which is the mechanism used to control population size, herd size has stayed stagnant which indicates something is askew in the system.

Deer fawn:doe ratios have also decreased during that time. Historical ratios showed upwards of 75 young per 100 does. Recent classifications have seen ratios in the mid 40's. This ratio should be closer to 70-75:100 for a healthy population.

It is impossible to determine all factors that may be related to these declines without a full comprehensive study. Factors can include loss of habitat from development, winter range degradation, predation, habitat fragmentation, etc. However, one of the biggest changes CPW has seen since the beginning of the 2000's is the increased demand for recreation on the landscape. Few new housing developments have been created, but the demand for trails and places to recreate has grown dramatically. While other factors seem to be relatively constant, new trails are being built at an alarming pace on winter range habitat, production areas and summer solitude areas. Such increase in demand also seems to correlate to our observed reduction in production rates for both species.

Due to these factors, CPW has recommended a motorized/mechanized closure of the Crown from Dec 1- May 1, and has consistently advocated for this throughout the BLM's RMP process. The Crown had previously been closed to winter motorized use from Dec 1-May 1 for close to 30 years before the recent travel management plan adoption. CPW still recommends an opening date of no earlier than May 1, but would appreciate

an opening date of May 15 to be consistent with the current opening of the Glassier Open Space, the access point for the north side of the Crown.

Thank you for your continued interest. If there are any questions or needs for additional information don't hesitate to contact Land Use Specialist, Taylor Elm, at (970) 947-2971 or District Wildlife Manager, John Groves, at (970) 947-2933.

Sincerely,



Perry Wijk, Area Wildlife Manager

Cc. John Groves, District Wildlife Manager
Taylor Elm, Land Use Specialist
File

Addendum B - Letter from Kevin Wright - 2015

November 15, 2015

Pitkin County BOCC
Pitkin County OST
Dale Will
Gary Tennenbum

Dear All:

I have been contemplating writing you a letter for quite some time and decided I should do so. My name is Kevin Wright and I have lived in the Roaring Fork Valley for over 30 years. I worked for the Colorado Division of Wildlife (now CPW) as a District Wildlife Manager for 31 years serving the Carbondale and Aspen Districts my entire career before retiring in July 2015. I have witnessed a lot of changes over the years and have always strived to represent wildlife and our natural values and help minimize impacts to wildlife.

I have become very concerned the way our valley is progressing with respect to recreational pressures and its impact on our wildlife resources. It seems that it has become recreation at all costs with very little regard to the impacts it is having on our wildlife resources and their habitat. The dramatic increase in recreation and endless trail building is having significant negative impacts to wildlife. Impacts are often considered but are often dismissed as non-significant or believed they can be "mitigated".

Obviously, it is not just recreational pressures that are having an impact. Our human base population has grown significantly and with that comes loss of habitat to development. Combine that with the maturation or aging of our habitat and inability to significantly manipulate it to set back succession to provide better forage conditions is having its impact. Much of our winter range is over-mature and becoming decadent but it is difficult to manipulate it due to costs, funding,

and the encroachment of human development. We have made some strides with habitat work in places such as Light Hill, William's Hill, Arbaney-Kittle, Basalt Mountain to name just a few. But the most significant change in the last 5-10 years is the dramatic increase in recreational pressure.

As evidence of this observation are the declining trend of young to adult females in our mule deer and elk populations. Both populations have declined and mule deer are close to the lowest population level they have ever been in over 40 years. In the past, the DOW has always been able to recover the mule deer population after a hard winter but this is no longer the case. In addition, the elk population is at the bottom of the population objective. Please consider the following:

Mule Deer – current population is hovering around 6,050 with an objective of 7,500-8,500. This objective was lowered from the more historical objective in the 80's and 90's of 11,100, which is no longer achievable and unrealistic. Fawn:Doe ratios are 50.4 fawns:100 does. This ratio should be closer to 70-75:100 for healthy population.

Elk – current population estimate is 3,650 with an objective of 3,800-5,400. In order to stabilize the population the calf ratio should approach 47:100 and to increase the population it should approach 50:100. Calf:Cow ratios have steadily declined:

1980's – 58.5 calves:100 cows

1990's – 49.0

2000's – 41.5

2010 – 2014 – 35.1

last 3 yr average – 33.7

This is a very disturbing trend and is indicative that something is wrong or askew in the system. It is telling us that the populations are not healthy as some believe.

As stated earlier, one of the most significant changes has been the increase in recreational pressure. We are continually building more and more trails, placing these trails where there has never been trails and fragmenting the habitat, and placing more and more people where there were few before. We now ski, snowshoe, hike, bike (with and without dogs; with and without dogs on leash) throughout our important winter ranges, production areas, and summer solitude areas. We also are now using fat tire bikes to ride winter ranges. Wildlife has little places they can go to escape the pressures.

Impacts from trail building and resulting recreational pressure include the following:

1. habitat fragmentation – carving up the habitat blocks into smaller and smaller pieces and increasing the zone of influence.
2. changes in species diversity, density, and abundance. More parasitic bird species come in to the areas along new trails displacing native species.
3. Increase in stress, disturbance, harassment, and displacement. Many believe that as they recreate, especially in winter, if the elk or deer does not flee but just stands/remains in place there is no impact. But what really happens is the animals must make a decision whether to flee or stay. Which utilizes less energy - running through 2-3' of snow

or standing there with the disturbance. If they stand there, stress increases, metabolic rates increase, and more energy is utilized.

4. Decrease in reproductive success
5. Lower population levels

These impacts have been determined through various research activities such as Dr. Richard Knight, the Vail elk production study, and the various studies referenced/summarized in Montana Chapter of the Wildlife Society literature review on recreational impacts, and studies referenced in the elk-roads-logging symposium just to name a few. Yet, we still seem to ignore these impacts and information when it comes to recreational activity, its promotion, and resulting trail building.

We are always compromising wildlife values for peoples' benefit and then we compromise the compromise. Very seldom are we proactive and actually prevent these impacts. Wildlife and their habitat are always losing, piece by piece. We MUST start to look at the cumulative impacts, not just the impacts of one particular project.

Shouldn't it be time to take a step back and re-evaluate? The public does not need to have a trail built into every piece of public land. I propose there is already sufficient, adequate access and trails to our public lands without the need to build more and more.

It was once thought and even brought up at a meeting in Snowmass Village that if we encourage more trail building on ski areas where there is the infrastructure that it would help curtail other trail building and bandit trail building. Ski areas have become more or less sacrifice areas in terms of wildlife. But constructing more trails here has NOT stopped or reduced trail and bandit trail building in other areas important to wildlife.

Sometimes we justify new trail construction in important wildlife habitat by conducting habitat improvement projects to help mitigate impacts. These habitat improvement projects can be helpful to wildlife but does it really offset or "mitigate" the negative impacts of fragmentation, increased stress and disturbance, and displacement? Habitat improvement may not help that much if wildlife species are displaced from all of the new human activity. We also try to place certain restrictions on new trails such as seasonal closures. These measures are only as effective as they are **aggressively** enforced. People just do not always comply. As specific examples one only has to look at the trail closure violations in the East Village area of TOSV. There is a seasonal closure for elk production with signage, education, and physical gates. Yet, there is a fair amount of noncompliance with people going around gates, lifting bikes over gates, creating new trails around them. Almost every year in the winter there are either ski tracks or snowmobile tracks up on Sky Mountain Park as I have witnessed while conducting aerial game census.

A few of the questions that I have asked in the past:

1. When is enough enough? When will we have enough trails?
2. What trails are at or over capacity now, which should dictate if new trails are needed?
3. Where is the NEED versus the DESIRE? There may be the desire and expectation for new trails but is there really a NEED? Especially if one

considers the negative impacts to our natural resources, wildlife, and their habitat just so we can have another trail. Is it really worth it??

4. Where is the guarantee that there will **always be adequate** enforcement and funding for this enforcement into the future 10, 20, 50 years down the road? Once a trail is built it will most likely remain forever.

Throughout my career part of my job was to review projects and recommend mitigation to help minimize impacts. Pitkin County has one of the strongest land use codes for wildlife in the Colorado and has been very good at implementing the code for private development. It has been a leader for others to follow.

But, it appears that there is a different practice in place when the county purchases a property for open space and then builds a public trail encouraging use. If a private citizen wished to do the same and construct a trail through winter range, winter concentration area, severe winter range, production areas, or riparian areas and the DOW recommended against it, it most likely would not be approved to be built. It appears the same standards are not applied.

We should not be purchasing property and then building trails through or connecting to public land if this compromises winter range or other important wildlife values. This definitely should not be done when there is no formal public land trail where the county's trail would connect. This only encourages increased impacts, bandit trail building, and pressure to build new trails on public land when there are other access points and trails. There may be a public expectation that because the county purchased the property there has to be a trail and public use. There is tremendous value to having a parcel preserved for its wildlife and open space value. There does not always have to be a new trail or active public use.

I do not say these things lightly. I am very concerned with the direction this valley is going. There needs to be a **balance** but right now there is **no balance**. I hope what I have said makes you think, sit back, and evaluate. Do not just think of the benefits to active recreation and believe it is OK if we put a few restrictions in place or do a little habitat improvement. We need to strongly consider what these actions are doing to our wildlife resource and their habitat.

I hope what I have tried to express is taken seriously and not just dismissed. If I have made a few of you hesitate and think, then that is a very good thing. Change is hard for us all, even harder for wildlife who cannot speak for themselves. Wildlife is an important resource and enhances the quality of life for us all.

Thank you for listening.

Respectively,

Kevin Wright

Draft Policy: Protection of Natural Biodiversity and Compatible Human Use

I appreciate OST drafting a policy trying to address this issue. The issue definitely needs to be looked at as we continue to place more and more recreational pressures on wildlife and their habitat.

The policy statement is generally vague which may be OK if it is followed up with a set of specific guidelines and standards, otherwise I am not sure there will be much change to achieve a balance between wildlife and human recreational use.

The policy identifies sensitive habitats as those used by T &E species, those identified by Colorado Natural heritage Program and those habitat types used by more common species that have special needs such as critical winter range/summer range, breeding/nesting habitat, and migration corridors. I would suggest that OST use the sensitive wildlife habitat as is defined under 7-20-70 of the Pitkin County Land Use Code (LUC) so there is consistency within the county and with what the county has already adopted. The LUC identifies sensitive habitats as “constrained areas”: wetland, riparian, critical wildlife habitat, severe winter range, winter concentration area, migration corridors/habitat, birthing/calving areas, significant mountain sage, aspen, and mountain shrub habitat.

The policy states that it will use the best available science for property specific study of natural habitat conditions. Using the best available science is good but I feel that this property specific approach is not a good or best approach to use. While studying the specific property is very important, I strongly believe that OST needs to look beyond that boundary and look at the cumulative impacts of several properties and other uses. Impacts from one specific property may not be that great, but when I combined with others the impact may be more significant. We must start looking at the cumulative impact. Wildlife and their habitat is always being compromised as soon as another use or trail is developed. We must start to look at the broader picture.

Habitat fragmentation is not addressed. Studies have shown what happens to species diversity, density, and abundance when new trails are constructed. There are also countless studies that show the effect of human recreation on wildlife. Whenever another new trail is constructed it is beginning to fragment the habitat, especially when multiple trails are constructed in a given area. We can't continue to look at one property in isolation but need to look at the properties and area as a whole.

I suggest that OST needs to follow 7-20-70 LUC (b) General Principles - “principles shall be evaluated not only on a site specific basis but should also be used to consider the location and role of the property in context of larger habitat and wildlife patterns. Implementation of these principles may also include consideration of connectivity between other parcels and the cumulative effect of the proposed activity in light of other activity in the area affecting related habitat areas.”

#(1) maintain large intact areas of native vegetation and habitat by preventing

fragmentation of those patches by development.

#(5) minimize the combined and cumulative impacts of activities and development on wildlife species, wildlife habitat, wildlife movement, and unique landscape elements.

The policy states that human uses will be planned and managed to minimize intrusion in breeding/nesting areas and migration corridors.....minimize intrusion into time periods/places of special habitat concern. I assume that you are referring to the sensitive habitats identified - again these should be consistent with the LUC. The policy states that OST will employ spatial and temporal closures or other specific mitigation to protect sensitive habitat from recreational and agricultural impacts. While this may be one form of mitigation, there is a major and significant assumption being made that has not been considered. I have brought this issue up before but it has never been addressed. There is an assumption that into the future there will always be funding to enforce these closures and there will always be rangers to enforce them.

How can OST guarantee that into the future 10, 20, 50 years from now, this will be the case. Once trail is constructed into sensitive habitat such as winter range it will always be there. Will there be funding to increase the number of rangers to enforce these closures 7 days/week? While many people may respect these closures, many do not and the closure violations are numerous.

A person who works for the Wildlife Federation stated to me that people she knows think that these closures are only recommendations so they ignore them and go where they wish. It does not take much disturbance to have significant negative impacts to production areas or critical winter range. The best mitigation may be no more new trails for certain areas, not just a closure.

I hope that as OST moves forward that there will be a balance between recreation and wildlife. Right now, in my opinion, there is no balance and the valley has become recreation at all costs. I am not alone in that thought. The decline in deer and elk numbers and reproductive success is very well documented. As I have asked in the past:

1. When is enough enough? When will there be enough trails?
2. What trails are at capacity now, which should dictate if new trails are needed?
3. Need versus desire?
4. What public lands currently do not have any access? We do not need a new trail into every piece of public land, every canyon or mesa. There is already sufficient access to these areas of BLM and USFS lands. The Crown is one of the most important winter ranges we have in this valley but is being developed as a major recreation area at the expense of wildlife. This is a travesty, all in the name of recreation.

Thank you for the opportunity to comment.
Kevin Wright

Addendum D -

Letter from Perry Will regarding Prince Creek Wildlife Opening date – 2016

March 12, 2016

Holly McLain
Citizens for Responsible Open Space
Carbondale, CO 81623

RE: Significance of the Crown to Local Wildlife

Dear Mrs. McLain,

Thank you for your continued interest and support of Colorado's wildlife species and their habitats. Colorado Parks and Wildlife (CPW) has a statutory responsibility to manage all wildlife species in Colorado; this responsibility is embraced and fulfilled through CPW's mission to protect, preserve, enhance, and manage the wildlife of Colorado for the use, benefit, and enjoyment of the people of the State and its visitors. One way CPW fulfills this mission is to review and participate in local land use processes and provide recommendations to avoid, minimize, and compensate for impacts to wildlife.

Big-game species, including deer, elk, bear, moose, etc., are very important economically for the state of Colorado and local communities. A 2008 Report by BBC Research & Consulting estimated that in 2007 there were roughly 12.7 million hunting and fishing days enjoyed by hunters and anglers in Colorado. These activities generated a total direct expenditure of approximately \$1.1 billion. Garfield and Pitkin County experienced direct expenditures of \$54.42 million and \$24.85 million respectively (BBC Final Report, 2008).

Locally, the area referred to as the Crown is located south of Carbondale and encompasses approximately 9,100 acres of land managed by the Bureau of Land Management (Figure 1). It's long been considered the most important winter range habitat for mule deer and elk in the Roaring Fork and Crystal River Valleys. Other remaining islands of critical winter range include William's Hill and Light Hill farther to the south. With the ever-increasing development (i.e. residential, commercial, recreational, etc.) occurring within big-game winter range habitats, these large relatively undeveloped blocks of land are becoming more and more crucial to support our local big-game populations.

Importance of Winter Range Habitat

The availability of high quality winter range is often considered a limiting factor for big-game species. Heavy snowpack and frigid temperatures throughout the winter months force animals to conserve energy and maximize their thermal efficiency. High quality winter range habitat generally contains slopes with southern exposures, accessible browse species during periods of high snowpack, and sufficient topographic and vegetative features to provide thermal, security, and escape cover.

Several studies have documented the relationship between winter range quality and animals' body condition. Animals within more productive winter range habitats tend to have better overall late-winter body conditions and higher rates of survival (Bishop et al. 2009, Bergman et al. 2014). Additionally, Thorne et al. found that female elk

experiencing high levels of winter weight loss may be more susceptible to prenatal calf loss, low calf birth weights, and lower survival of newborns.

Current Population Trends and Recreational Impacts

Recruitment rates measure the number of juvenile animals that survive to adulthood and become part of the overall population. CPW estimates recruitment for a population by using yearly classification flight data to calculate fawn:doe ratios for mule deer, and calf:cow ratios for elk. Currently, in Data Analysis Unit (DAU) D-13, the latest three-year average for deer shows fawn:doe ratios at 46.1 fawns per 100 does. Models that take into account local doe and fawn survival rates show this number must be at least 50 fawns per 100 does to maintain a stable population (Unsworth et al. 1999). In DAU E-15, the latest three-year average for elk shows ratios at 31.2 calves per 100 cows. Models estimate this ratio should also be around 50 calves per 100 cows for a stable to increasing population.

Overall mule deer numbers in D-13 are well below their population objective set within the DAU plan, and elk in E-15 are at the very bottom range of their population objective. Typically, wildlife managers would expect to see higher levels of recruitment (more fawns and calves) during periods when overall population numbers are down, due to fewer animals competing for available resources. This is not occurring within our local mule deer and elk populations and could be a sign that something is askew.

While many factors can influence a species at the population level, one noticeable change within the Roaring Fork Valley during the past 30 years has been the dramatic increase in recreational activity and infrastructure. Mountain biking, hiking, OHV use, horseback riding, cross-country skiing, etc. have all increased across the landscape. Technological advances in mountain biking, including new “fat-tire” bikes, have increased overall disturbance by lengthening the season of use (year-round) and the distance that users can cover in a day. An incessant desire for more trails, including separate trails for individual user groups and varying experience levels, is causing increased habitat fragmentation and greater overall disturbance within wildlife habitats.

The Crown has been no exception to these increases in recreational pressures. The BLM’s Approved 2015 Resource Management Plan (RMP) designated the Crown as a Special Recreation Management Area (SRMA) placing a high priority on mountain biking. Additionally, Pitkin County Open Space and Trails (along with Eagle County) has recently acquired properties along the base of the Crown (Glassier Open Space and Red Ridge Ranch Open Space) and has pushed for new trails to increase recreational access to the Crown. While seasonal closures have been implemented as a means to eliminate impacts to wildlife, they’re only as useful as their compliance and enforcement aspects. CPW wildlife officers observed numerous winter closure violations occurring on the Crown this past winter.

Recreational activities have both direct and indirect impacts on wildlife and their habitats. Direct impacts are easiest to quantify and include the direct loss of habitat that results from constructing a new trail. Indirect impacts are more difficult to measure, but are most likely having the greatest effect on wildlife. Studies have shown the area of influence (within which wildlife may be displaced from otherwise suitable habitat due to human activities) for mountain biking may be as great as 1,000 meters for elk and 390 meters for mule deer (Wisdom et al. 2005, Taylor & Knight 2003). The application of these buffer distances around existing trails in the Crown eliminates nearly all available habitat for mule deer and elk (Figure 2).

Recommendations from CPW and Proposed Mitigation Measures

CPW staff reviewed and submitted comments throughout the BLM's Colorado River Valley Field Office Resource Management Plan Revision process. CPW has also been involved with Pitkin County OS&T's management plans for nearby Open Space properties and their new policy on protecting biodiversity. These processes have been somewhat successful in implementing seasonal closures and other restrictions; however, there is still much work to be done to protect wildlife in this area. For the Crown, CPW would like to see the following recommendations implemented to reduce impacts to wildlife moving forward:

- **Extend winter recreation closures to May 15th** for the Prince Creek side of the Crown to be consistent with opening dates at Glassier Open Space. This will help facilitate movements from winter range to fawning and calving areas further south.
- Adopt a “no net gain” policy when it comes to new trail construction. Any new trails should require an equal or greater amount of old trails be decommissioned and reclaimed.
- Increase awareness and compliance of seasonal closures among users.
- Increase enforcement of seasonal closures to ensure violators are being penalized.

Colorado Parks and Wildlife appreciates your support and interest in the wellbeing of our local wildlife populations. By further understanding these issues, we can hopefully move forward with effective measures to protect these animals during the most critical times of their lifecycles and conserve the habitats they depend on for survival. If there are any questions or needs for additional information don't hesitate to contact Land Use Specialist, Taylor Elm, at (970) 947-2971 or District Wildlife Manager, John Groves, at (970) 947-2933.

Sincerely,

Perry Will, Area Wildlife Manager

Cc. John Groves, District Wildlife Manager
Taylor Elm, Land Use Specialist
File

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