



#### STAFF

##### **Mac Kobza**

Senior Wildlife  
Biologist

##### **Jon DeCoste**

Wildlife Technician-  
Hunt Coordinator

##### **Michelle Durant**

Wildlife Biologist  
& Volunteer  
Programs  
Coordinator

##### **Dave Hoerath**

Wildlife Biologist

##### **Susan Spaulding**

ERE Coordinator



# Wildlife

Boulder County

2022 Annual Report

## Our Mission

County wildlife biologists work toward the preservation and restoration of wildlife species and habitat on Boulder County open space. We rise to the challenge of managing public lands increasingly affected by development, fragmentation, resource extraction, climate change and recreation. We strive to utilize the best available research to inform our management recommendations in a consistent, science-based manner.

## Strategic Planning

### Desired Future Condition Statement:

Diverse and representative habitats and landscape connectivity are preserved, conserved, and enhanced to ensure biological diversity and ecological health at a regional scale. Natural processes, including disturbance regimes, are embraced to ensure complete ecosystem function.

### Overarching Goals for our Program

1. Preserve wildlife habitat to ensure protection from anthropogenic impacts in order to maintain regional native biodiversity.
2. Conserve wildlife habitat to ensure native biodiversity is maintained in a multiple-use focused landscape while allowing for sustainable use of natural resources.
3. Restore degraded wildlife habitats to bolster ecosystem function, connectivity, and resilience.
4. Promote and manage for functional wildlife movement corridors to facilitate migration and dispersal at multiple scales.
5. Allow or re-create natural disturbance processes to ensure ecosystem function and resilience.

## Rocky Mountain Capshell (RMC) Mitigation Project at Eldora Ski Resort

The small, flat, and elusive Rocky Mountain capshell snail, a member of the river limpets, was once thought to be nearly extinct, **and so it was listed as a Boulder County species of special concern**. As the only representative of its family in North America, it joins other freshwater snails in a critically imperiled faunal group with more than three-quarters of its species at risk. The RMC species from Peterson Lake was first described in 1920 by Professor Junius



*Rocky Mountain capshell snail*

Henderson, of the University of Colorado, and this lake near Nederland is known as the “type locality” for the species. Capshell were considered isolated but abundant in Peterson Lake up until 1970 when the ski resort began operations and capshell numbers plummeted. In 1992, the U.S. Fish and Wildlife Service was petitioned to list the capshell for protection under the Endangered Species Act. However, listing was withheld pending further evaluation. The species was described simply as a species of special concern; however, it was later described as an extremely rare species that warranted protection by management agencies.

REDISCOVERY OF THE LIMPET, *ACROLOXUS COLORADENSIS* (BASOMMATOPHORA: ACROLOXIDAE), IN COLORADO<sup>1</sup>  
By GEORGE W. BRYCE, JR.  
Department of Biology, University of Colorado, Boulder, Colorado

Professor Junius Henderson of the University of Colorado on two different occasions in the 1920's collected specimens of *Acroloxus coloradensis* (Henderson), a small limpet, from a mountain lake in Boulder County, Colorado. Since that time the species has

Peterson Lake is the waterbody you see today when driving into the entrance of Eldora Ski Resort along Shelf Road. Beginning around 2014, a group of **Boulder County staff from Land Use and Parks & Open Space** were asked to review the environmental impacts from proposed development improvements at the Resort, including additional ski lifts and expanded skiable terrain. Staff successfully lobbied for several mitigation measures for terrestrial wildlife, such as elk, and protected important riparian and wetland corridors. Although the capshell was considered

during this review, it was not included for any mitigation actions. However, in 2018, the Resort expressed interest in a significant parking lot expansion project. As part of the land use review, Community Planning and Permitting (CPP) and Boulder County Parks & Open Space (BCPOS) were able to work with the Resort to develop significant new water quality and habitat improvements, which will serve to restore habitat and possibly recover the capshell population in Peterson Lake.



*Peterson Lake showing snail ramp location*

The mitigation plan addresses the many changes which have occurred to the capshell habitat, with the most significant being profound amounts of fine sediment released into the lake from the dirt parking

lot and the damming and draining of the lake for snowmaking. In summary, the mitigation will filter sediment from all runoff coming from the old and new parking lots, and this will be accompanied by several seasons of monitoring to ensure the improvement. Additionally, the resort will install a “snail ladder” (yes, I said that!) to rebuild some of the rocky, granitic shoreline the snail needs to feed, breed, and survive the harsh winters and snowmaking withdrawals. These features have been lost because of sediment deposition and habitat changes. The rapid water-level changes associated with snowmaking require an escape ladder for snails to avoid becoming high and dry.



*Researcher searching for capshell*

The water quality filters have been installed, and the snail ramp will go under construction this spring! Researchers from CU Boulder Museum of Natural History and Colorado Natural History Program have worked with BCPOS wildlife staff to survey the lake prior to

construction, and we will continue monitoring (we have not found capshell but suspect they are present in low numbers). Thanks go to our dedicated staff in CPP and BCPOS who have helped or encouraged this mitigation project to move forward. I also gratefully acknowledge the current owners of the Eldora Ski Resort, who have allowed, for the first time, the possibility to conserve and restore this elusive and imperiled river limpet to its home in Boulder County where it was first described to the world more than 100 years ago.

## The Bats of Blue Jay Mine

The Blue Jay Mine, located just outside of Jamestown, Colorado, is one of the most well-preserved and historically interesting mining complexes on Open Space. It also provides critical habitat values for at least two species of bats that are using the hoist house structure for rearing young.

Wildlife staff first noticed evidence of these bat maternity colonies within the hoist house structure several years ago, because of piles of guano on the floor below the internal rafters. We then requested that our local (and global) bat expert and researcher, Dr. Rick Adams, conduct acoustic surveys to determine specific species and relative abundance.

Dr. Adams' survey results showed that there are several bat species present in the area, and the activity levels denote a potential nearby hibernacula site. Also, there appear to be two species of bats using the hoist house to rear young: little brown bats (*myotis lucifugus*) and long-legged bats (*myotis volans*).

Both the little brown bat and the long-legged bat are Boulder County Species of Special Concern. Additionally, we prioritized the long-legged bat for development of a Species Conservation and Recovery Plan (SCRP). Conservation measures for this species include protection of habitat within the mid-to-high elevation range, as suitable habitat within this range is limited for bats (rock outcrops/palisades and large standing snags). Also, as climate change continues, the importance of higher elevation habitat will increase. Bats will experience an increasing need for habitat features at higher elevations (natural or man-made) for successful breeding/hibernating/roosting.

Therefore, once the importance of the Blue Jay structures for wildlife was confirmed, we submitted an internal project charter to purchase materials to secure the hoist house in 2022. In its original state, it was open and insecure. As such, the public was entering the hoist house and damaging the structure with graffiti and even building fires. This represented a safety risk to the public and to the bats. We also decided to formalize the dilapidated fencing on site to make it more attractive and representative of the value that Open Space assigns to this important historical site.

Currently, the site has been secured thanks to a collaborative effort among many work groups in the department (Grounds, Buildings and Historic Preservation, Resource Protection, Education and Outreach). Interpretive signage has been installed to let the public know why we closed off the structures, as well as to provide education on the Blue Jay Mine's importance to mining history in Boulder County.



*Long legged myotis*



### The Bats of Blue Jay Mine (continued)

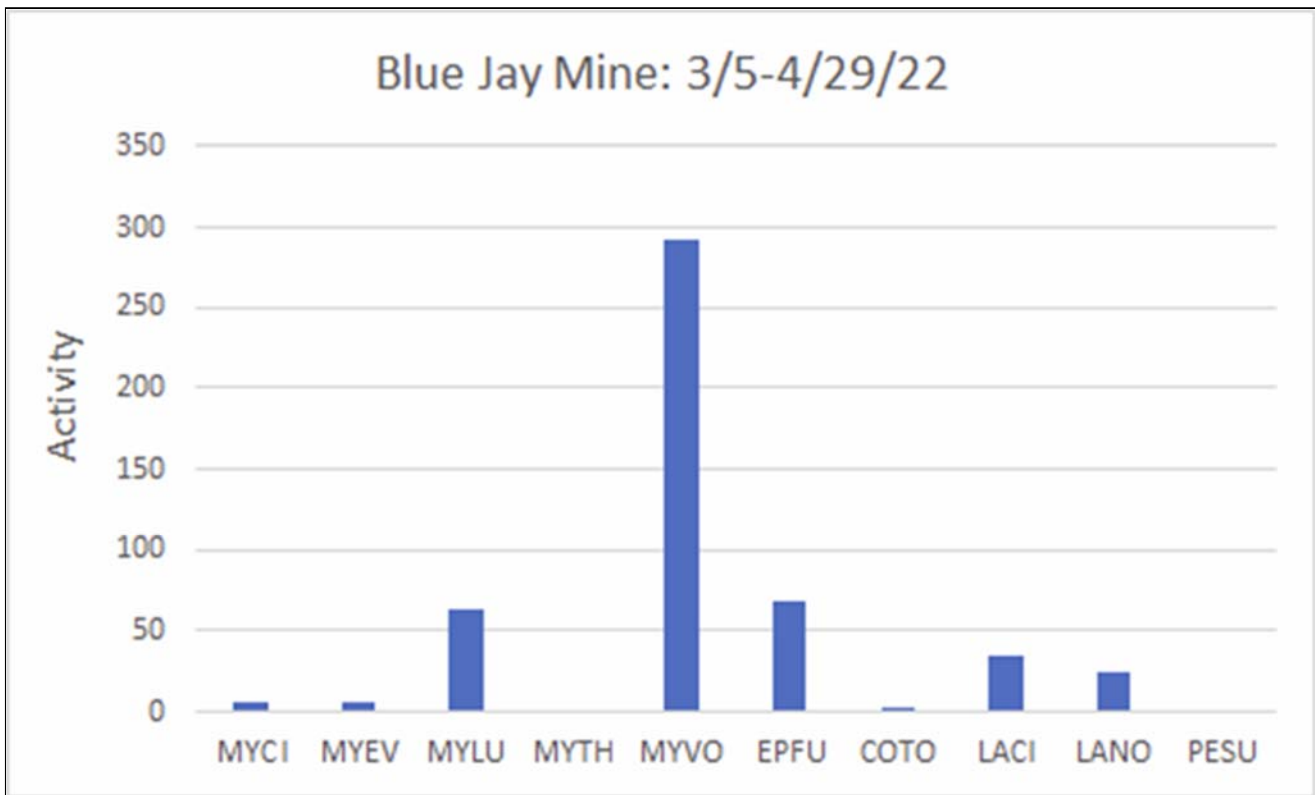
Dr. Rick Adams started looking at the Blue Jay Mine for bats in 2020.

Based on his findings, we proposed formalization of the site. We closed the buildings to the public and built an attractive fence. Interpretive signage is coming.

- 2020 - The acoustic monitoring detector likely failed but was the first year the Blue Jay was surveyed for bat activity specifically. We knew the bats were using it but hadn't asked our researcher to include it in his study.
- 2021 - We documented high activity via acoustic monitoring. Maternity colony of likely long-legged (MYVO) and little brown myotis (MYLU). With passes by other species including Silver Haired, Big brown, Hoary bat, long eared. Rick suspected hibernaculum in the shaft itself, which we know is 500-feet deep.
- 2022– Detectors were set up in late March to determine if the shaft itself was being used as a hibernaculum. And trail camera to see emergence- no detections. But the house is being used- long-legged and little brown bats.



Blue Jay Mine new fence



Bat activity at the Blue Jay Mine. MYCI = Western Small-footed Myotis, MYEV = Long-eared Myotis, MYLU = Little Brown Myotis, MYVO = Long-legged Myotis, EPFU = Big Brown Bat, COTO = Townsend's Big-eared Bat, LACI = Hoary Bat, LANO = Silver-haired Bat

We built the fence in fall of 2021 (using Wildlife Group staff and Grounds staff). We secured the building during late Fall of 2021 (Buildings and Historic Preservation staff). We also worked with our sign specialist on the bat signage, which is a first for bats in our department.

Interpretive signage will be installed soon. Language for signs was vetted through the Education and Outreach staff.



### Cline Social Trail Restoration

The Wildlife Group looks to maintain the characteristics of valuable wildlife habitat by reducing threats, such as fragmentation and disturbance to wildlife in areas of quality habitat. In the Nugget Hill area, Boulder County purchased parcels that comprised habitat features that support a diverse array of wildlife. These features include mixed forests that provide nesting, cover, and food for wildlife on variable aspects of steep terrain, open grassy meadows with good native plant composition, aspen stands that support a myriad of species, and access to water sources like springs, seeps, and creeks in a dry landscape. The parcels are surrounded by U.S. Forest Service land that receives low-level human presence and impacts, which helps maintain a quieter and more natural landscape necessary for wildlife.



*Social trail closure at Cline open space*

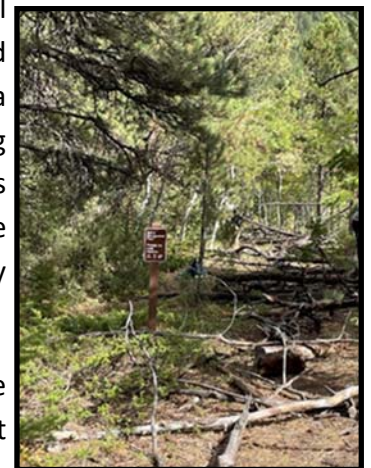


*Social trail rutting at Cline*

Working alongside complementary disciplines of forestry, plant ecology and invasive plant management, wildlife staff coordinated the restoration of nearly a mile of illegal trail increasingly utilized by motorcycle and mountain bike recreation. The trail bisected the property, resulting in damage to wetlands, and introduced disturbance to some of the best habitat in the area for bear, moose, elk, and sensitive nesting birds. In addition to reseeding and closing this social trail, interior fencing was removed to reduce tangling risk to wildlife, a short section of boundary fencing was replaced, and signage was

installed to identify land management entities and educate visitors. Prior to the project, invasive plant specialists began treating the area’s expanding weedy areas, improving native plant composition.

The goal of this project was to create a place of refuge for wildlife from the increasing habitat degradation and anthropogenic disturbance from adjacent recreation. If this area is allowed to rest and be restored, it will continue to support the diverse wildlife that call this place home.



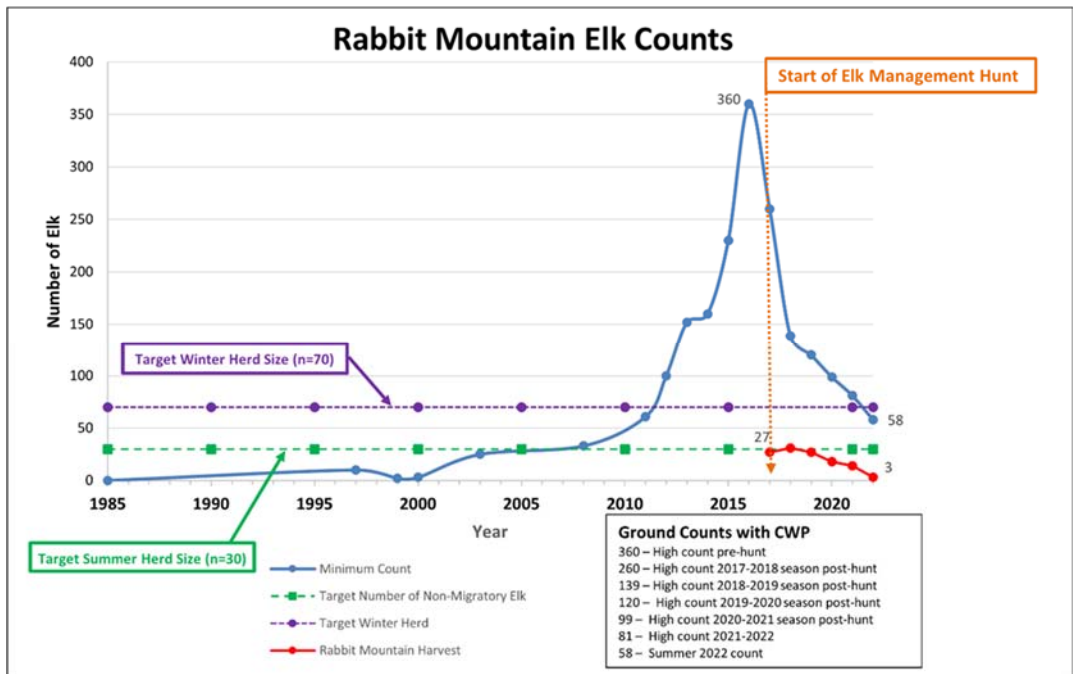
*Restored social trail*



## Elk Management

The picture of elk on the landscape was somewhat different in 2022. It was the second year of the E-38 radio-collaring study for elk that frequent the southern parts of the county. That study continued to show movements to and from the high country to places like Walker Ranch and down the Sugarloaf Road. It will begin to show impacts from the Eldora ski area expansion, the new Toll Trail, and the expansion of Gross Reservoir.

The Elk Management Plan area in the northern part of the county completed its sixth year of limited hunting as a management tool in the Ron Stewart Preserve area; and its third year in the Red Hill area along US36. The Colorado Parks and Wildlife subunit hunt has been successful at reducing the herd size and impacts from the herd around Rabbit Mountain. There have been weeks at a time when Ron Stewart Preserve had no elk, which has allowed some portions heavily damaged by elk to begin healing. The success rate of hunters in that program was the lowest in the six years as opportunities dwindled. Only three of our 49 hunters were successful on open space (September through January), resulting in a harvest rate of just 6.1%, down from 28.1% in 2021. Overall, subunit harvest has dropped as well. It is likely that the success of the subunit will allow us to restore some of the recreational opportunities at Ron Stewart Preserve in the fall of 2023.



The ability of open space hunters to effect change on the Red Hill herd continues to be limited because of the paucity of open space opportunities by elk use choices and the short-range restrictions placed on the hunters. Three of 29 hunters were successful on open space in this August through October hunting, although we also sustained some wounding losses. This 10.3% harvest success rate is a substantial drop from last season's 32.3% rate. Our summer counts were somewhat lower than in years past, which might mean that a few elk have switched back to being migratory. We were able to complete the construction of a fenced stackyard (in April) on the Imel property, where elk were eating stored winter hay. We were also able to direct several hunters to this property to move the elk away from the stored hay and provide additional opportunities at control. The level of hunting for the Red Hill portion will likely remain the same for the fall of 2023. All those hunt areas remain closed to the public, as they were before the program.



### Preble's Meadow Jumping Mouse- Site Conservation Team

As part of the Preble's Meadow Jumping Mouse (PMJM) federal recovery plan, a multi-partner team of stakeholders has been established with the objective of ensuring the long-term presence of this species on our landscape. The goals of the PMJM Site Conservation Team are to nominate a stretch of occupied stream habitat within Boulder County where multiple interested partners can work together to achieve habitat maintenance and enhancement to sustain populations of this federally threatened species. This operation is a high-level effort with partners including City of Boulder OSMP, USFWS, USFS, ST Vrain Left Hand Water Conservancy District, The Watershed Center, City of Longmont, and others.



*Preble's mouse at Gage open space*

Upon successful nomination and acceptance of a focus area for conservation within Boulder County, the process to assure long-term viability will include establishing management plans and agreements among partners. It will also require monitoring population numbers to ensure stability over time. BCPOS has been a consistent advocate for this species, and its continued presence on our open space properties has always been a program priority.

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## WILDLIFE ANNUAL REPORT



For a copy of this report, contact:

**Mac Kobza**  
Senior Wildlife Biologist  
mkobza@bouldercounty.org