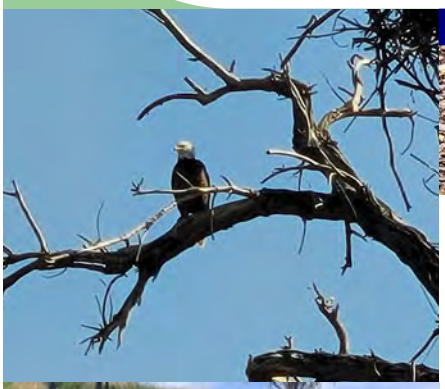
BOULDER COUNTY PARKS AND OPEN SPACE

2023 INVASIVE PLANTS ANNUAL REPORT



The Boulder County invasive plant crew's mission is to minimize the occurrence and spread of invasive plants associated with negative impacts on wildlife, native plants, agricultural communities, and public corridors. Using an integrated pest management approach, our goal is to prevent the introduction of new invasive plant species, eradicate isolated or limited populations, and contain species that are well established within the county.

Boulder County

LIST A WORK

2023 HIGHLIGHTS

- All known list A sites were visited
- Weekly scouting of agricultural sites were implemented
- A large infestation of Japanese knotweed was discovered and treated on Boulder Canyon trail
- A new infestation of meadow hawkweed was discovered and treated
- Mediterranean sage was treated early in the season by the invasive weeds crew and multiple volunteer events
- Total number of rush skeletonweed plants treated dropped 87% in the last two years because of weekly visits to sites of infestation

TRAIL WORK AND LARGE PROJECTS

2023 HIGHLIGHTS

- 93 total manual, mechanical, and/or chemical trail treatments completed on 28 Boulder County trails.
- 4 days spent at Caribou Ranch resulted in more than 34 acres of property being treated with chemical and/or manual control.
- 2 weeks spent at Rock Creek Drainage and Buffalo Gulch at Rock Creek Farm resulted in nearly 52 acres of riparian area being treated mechanically and chemically.

OPEN SPACE MANAGEMENT

2023 SUMMARY

- Started several projects in Fall/Winter to evaluate cheatgrass and fire impacts to native species and plant communities, which include in-depth monitoring of imperiled antelope bitterbrush/needle-and-thread community, hackberry community, and lichen and moss response to cheatgrass and fire
- Continued long-term restoration projects at Keyes, Monarch Park, Kenosha, and Walden Ponds
- Successfully established an additional 14 acres of drilled native grass on the Keyes Property and 23 acres on the Monarch Park property

  -Herbicide treatments were sprayed on approximately 50 total acres to preserve and protect native drilled grass on the Keyes property as young and seedling grass is establishing.

  -Native grass drilled at Monarch established well.

  -Native grass at Walden Ponds has started to establish thanks to spot spraying, hand pulling, and weed-whacking.
- Collaborated with CSU, Colorado Parks and Wildlife, and Boise State University on several collaborative studies, including a small grant project with CSU to evaluate microbe and vegetative data to assess indaziflam herbicide impacts on non-target organisms
- An additional study in collaboration with CSU was conducted on three BCOS properties to monitor and evaluate soil moisture differences at adjacent paired cheatgrass sprayed vs non-sprayed sites
- Set up paired cheatgrass sprayed vs adjacent non-sprayed sites to monitor carbon levels with BSU in 2024

Mayhouffer Before Treatment

Mayhouffer After Treatment

OPEN SPACE MANAGEMENT

2023 SUMMARY

- Completed yearly biodiversity and geo-referencing cheatgrass field work at 16 BCOS sites
- Data shows density and diversity of rare, concern, and desirable pollinator species continues to increase each year after application in locations of long-term cheatgrass control
- 2020 - 2022 game camera data at Hall Ranch was completed and is in the process of publication in collaboration with CSU
- Camera monitoring is still in progress on the 1,000-acre 2021 cheatgrass aerial application on Rabbit Mountain, with an additional three game cameras introduced to monitor these same wildlife species on several different BCOS properties that were sprayed for cheatgrass control from three to seven years ago to determine long-term wildlife impacts
- Saw a 39% increase in browse leader length, 2x increase in number of leaders/shrub plant, and 4x increase in available browse/shrub plant in Rejuvra vs cheatgrass-infested areas
- Monitored replicated quadrat canopy cover of cheatgrass vs native species on four different Rabbit Mountain habitat types
- Several BCOS properties with larger acres that were sprayed for invasive weed control in fall 2022 - 2023 include Brubaker, Western Mobile, Ruth Roberts, Heil, Beech, and Mayhouffer
- Marsh and showy milkweed densities were monitored in 2023 to determine response to several herbicides and the release from competition with Canada thistle and teasel

Hall Ranch Before Treatment

Hall Ranch After Treatment