



Parks & Open Space

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PARKS & OPEN SPACE ADVISORY COMMITTEE MEETING

Time/Date of Meeting: 6:30 p.m., Thursday, Feb. 22, 2024

Location: Boulder County Courthouse
1325 Pearl Street, Third Floor, Boulder

TO:	Parks & Open Space Advisory Committee
FROM/PRESENTER:	Integrated Weed Management Team Staff
AGENDA ITEM:	Summary of Proposed Changes to DRAFT Integrated Weed Management Plan
ACTION REQUESTED:	Information Only

Introduction

The purpose of this memo and presentation is to provide POSAC with a summary of changes to the Draft Integrated Weed Management Plan (IWMP) that staff will bring to POSAC in March for deliberation and recommendation. We have also included staff bios in the Appendix as an FYI to give you a full picture of staff qualifications and experience.

Background

Public engagement for the IWMP kicked off last June. Staff hosted six weed tours between June and October. POSAC has had presentations on Behavior of Cheatgrass from Scott Nissen, CSU Emeritus Weed Sciences (July), Herbicide Labeling, Safety, and Approval Process, from Lisa Blecker, CSU Extension and formerly EPA (August), and goat grazing with Jordan and Toni Sarazen, Goat Bros (January). At tonight's meeting, in addition to this item, staff from three neighboring land management agencies will be sharing about their weed management plans and programs.

Staff presented the initial modifications to the Draft IWMP in response to results of the online survey on December 5, 2023. Most of the public comment on the Draft IWMP has been critical of herbicide use, with particular concerns about the use of aerial spraying. Based on community input and POSAC feedback, staff is proposing several changes to the IWMP, outlined below.

Staff acknowledges and respects concerns about herbicide use and is committed to minimizing their use while maintaining the ability to utilize them as a critical IWM tool under certain conditions. Herbicides are a critical tool because of the dire nature of threats posed by invasive weeds and the scale of natural lands the county manages.

Invasive species have recently been identified as one of the five main drivers of biodiversity loss globally by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services in the *Thematic Assessment Report on Invasive Alien Species and Their Control* (Sept. 2023, <https://www.ipbes.net/ias>). The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is an independent intergovernmental body established in 2012 by 94 Governments to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development. This globally identified threat of invasive species is also identified locally by the Colorado Department of Agriculture within their justification for listing noxious weed species. Boulder County Parks and Open Space monitoring data also confirms the decrease and loss of biodiversity due to noxious weed infestations on open space lands.

With the proposed changes to the Draft IWMP, Staff strives to address public concerns while continuing to implement an effective weed management strategy that fulfills our obligations under the Colorado Noxious Weed Act, meets the county's goals to protect biodiversity and ecosystem health, and to be a good neighbor to adjacent property owners and the broader community.

Summary of proposed changes to Draft IWMP

Changes to content:

1. **New Goal:** Reduce herbicide applications on open space natural lands by 50% by 2030. The implementation plan appendix will provide details.
2. **Revised aerial spray policy:** Remove aerial spraying by helicopter. Maintain option to use drone applications in limited circumstances, to be laid out in the implementation appendix.
3. **Remove glyphosate from list of approved herbicides with limited exceptions.** As described in the [Dec. 5 POSAC memo](#), staff proposes to evaluate herbicides utilizing the World Health Organization (WHO) Highly Hazardous Pesticides (HHP) tables for the least toxic herbicides and only utilize herbicides listed in Table 4 "Slightly Hazardous" and Table 5 "Unlikely to Present Acute Hazards" (this information was included as Attachment D the Dec. 5 POSAC memo). This is more restrictive than Colorado State Law and more comprehensive than the EPA approval process. This evaluation will remove four herbicides from use: dicamba, 2-4 D, triclopyr, and mecoprop.

Glyphosate is included on the WHO Table 4, thus by this criterion it would qualify as an approved herbicide. Staff shares the desire to limit use of glyphosate. However, staff recommends maintaining targeted use of glyphosate in three instances where it is the most effective tool for achieving management and biodiversity goals:

- a. Aquatic glyphosate for limited use in irrigation ditches. There is no approved alternative to glyphosate for use at these sites; the ability to control weeds in irrigation ditches helps fulfill the county's good neighbor goal since noxious weeds are readily spread through irrigation ditches.
 - b. Stump treatments for removal of invasive hardwood trees, such as Russian Olive (List B), and Siberian Elm (List C). The industry standard for cut stump treatment is glyphosate and triclopyr; we are proposing to eliminate triclopyr due to its location on Table 3 of the WHO HHP, so we still need glyphosate to treat the stumps. This is painted on, not sprayed in the air.
 - c. Reclamation and restoration projects. Glyphosate is the only product that has no soil residual activity and therefore is the best option in cases where the goal is to remove undesirable vegetation and establish new restoration plantings via seeding.
4. **Expand use of alternative tools,** such as steam weeding, goat grazing, and novel soil amendments (e.g., Nutrafix).

Changes to format:

1. Simplify the Draft IWMP. The new format will:
 - summarize the county's duties under Colorado's statutory requirements
 - outline the county's process for carrying out those duties on county lands, both county owned and unincorporated private lands

- outline the decision process for weed management tactics and tools on county open space natural lands
2. An Appendix will lay out the proposed three-year implementation on county natural lands, including maps of treatment areas and proposed methods.

Discussion Questions

Staff is working to update the Draft IWMP and is interested in POSAC feedback tonight before we bring the updated draft back for review in March.

1. Do POSAC members have questions about the updated goal and revised aerial spray policy?
2. Do POSAC members have any questions about the WHO Highly Hazardous Pesticides Tables, and how and why POS is proposing to use them?
3. Do POSAC members support maintaining the use of glyphosate in the three limited cases cited above, but discontinuing its use in all other cases?
4. Other questions or comments?

Next Steps

- March 12, Science Panel Discussion (zoom webinar, 6:30-8:30 p.m.). Details TBA.
- March 28, POSAC hearing: Staff presentation of Updated Draft IWMP, public comment, and POSAC recommendation.
- April 16, BOCC hearing: Staff presentation and public comment.
- May 21, BOCC decision.

Attachment:

- A. Weed Management Team Staff Bios



Stefan Reinold

Resource Management Division Manager

As Resource Management Division Manager for Boulder County Parks & Open Space (BCPOS), Stefan Reinold leads a division made up of six disciplines/work groups: Education & Outreach, Resource Protection, Wildlife, Forestry, Plant Ecology, and Invasive Weeds.

The Resource Management Division uses an interdisciplinary approach to protect and conserve the natural resources on the 66,619 acres owned in fee by BCPOS through advocacy and active management.

Before taking this role in early 2022, Stefan headed the Forestry and Fire work group at BCPOS for seven years.

This work involved planning, preparation, and implementation of forest management activities such

as forest thinning, fuels reduction, forest restoration, and prescribed fire. Prior to joining the County in 2014, Stefan ran his own forestry consulting firm for twelve years and was a research associate at CSU for two years. Stefan has a Bachelor of Science in Biology (Ecology Concentration) from University of Scranton, a Master's degree in Forest Management from Colorado State University, and is a Certified Forester through the Society of American Foresters. Stefan is an avid skier, hiker, and mountain biker, and always up for an adventure.



Joe Swanson
Sr. Resource Specialist, Invasive Weed Supervisor

Joe Swanson is the Supervising Weed Specialist/County Weed Coordinator for Boulder County Parks & Open Space. Joe has served 11 years with Boulder County having worked different roles within the county weed management program overseeing invasive plant and noxious weed management on over 50,000 acres of open space property and approximately 700 miles of county roadway.

Joe started his noxious weed career around the age of 8, hoeing weeds out of row crops in north central Kansas for \$2.00/hour. At that time, he had no idea that his life and career would end up being centered around the control of invasive plants. Joe spent many years managing agriculture and rangeland weeds for area farmers and ranchers prior to attending Kansas State University, Manhattan, KS to study natural resources management.

While at Kansas State University Joe worked on a Dept of Defense rangeland research program on Fort Riley Military Reservation, Junction City, KS. The research program spanned 115,000 acres of tallgrass prairie ecosystem helping to identify and understand the impacts of mechanized military training on the environment and ecology of the tallgrass prairie.

This experience helped Joe establish himself in a land management career working for the natural resource office at Fort Riley as a range research technician. Following Fort Riley, Joe worked as a Natural Resources Manager managing three Dept of Defense ammunition manufacturing facilities. While in this role Joe managed all aspects of natural resources: forestry, rangeland, wildlife, threatened and endangered species, and agriculture leases, on approx. 25,000 acres in three different states that maintained diverse ecosystems.

Joe has 17 years of experience in rangeland and natural areas management collectively overseeing 140,000 acres of Dept. of Defense property in his career. Joe has been on the forefront of Boulder County Parks & Open Space natural areas invasive weed management program helping to restore the ecology and ecosystem function in the incredibly diverse open space lands. Joe is a 1991 Graduate of Kansas State University and has a B.S. in Natural Resource Management.

Certification:

Qualified Supervisor (QS) Applicator's License

Education:

Kansas State University

B.S., Park Resource Management 1991.

- Activities and societies: Forestry Club President and Vice President, served as Student Representative on Accreditation Board Activities and societies: Forestry Club President and Vice President, served as Student Representative on Accreditation Board

Colorado State University

Weed Science 2019-2020

- Graduate Coursework Completed in Ecological Restoration, Spring 2019, and Herbicide Modes of Action, Spring 2020

Presentations

Western Society of Weed Science, 2021

Western Society of Weed Science, 2022

Western Society of Weed Science, 2023

Colorado Open Space Alliance, 2021 and 2023

Colorado Weed Management Assoc. 2020

Participation in the CSU/Colorado Weed Network Field Tour: 2016-2020

Society of Range Management, 2020

Society of Ecological Restoration, 2021

CSU Extension, Small Acreage Management Series, 2021

Society of Range Management, 2021

Colorado Native Plant Society, 2023

Agribusiness Conference, Broomfield Colorado, Jan. 2024

Professional Memberships:

Colorado Weed Management Association

- Board Member 2020 to present.
- Legislative Committee Chair and Co-Chair

North American Invasive Plant Management Association, (NAISMA)

Society of Ecological Restoration

Society of Range Management

Western Science Society of America

Awards

Colorado Open Space Alliance (COSA) Blue Gram Award - Outstanding Achievement in Ecosystem Resilience, 2023

Founding Organizations

Founding Member, "Upper South Platte Watershed Cooperative Weed Management Area"



Jim Sebastian
Resource Specialist, Invasive Weeds Group

As a lifelong professional in invasive plant management, I also have a lifelong love for the outdoors. My love for fishing, hunting, wildlife photography, and hiking all things that help drive my desire to sustain our incredibly diverse wildlife and native plant biodiversity on Boulder County Open Space. I graduated from the University of Wyoming in 1994 with a BS in Range Management. My work experience in the natural resources field started by working 2 summers for the BLM as a Range Technician in Buffalo, Wyoming and one summer as a reclamation crew leader at Trapper Coal Mine in Craig, Colorado. During that time, I attended the University of Wyoming in the summers. After graduating from the University of Wyoming I worked two years for the BLM on nine-month term positions as a Range Technician for the Bureau of Land Management in Buffalo, Wyoming. In 1987, I was fortunate to begin a full-time position as a Weed Research Technician at Colorado State University (CSU) where I stayed for over 28 years. During that time, I conducted approximately 50 to 75 research studies each year reaching all corners of Colorado. My specialty was invasive weed management field research, where I conducted detailed monitoring of invasive weed impacts to native species densities and biodiversity. Our projects included biological, mechanical, chemical, and cultural research. Many studies encompassed using a combination of several of these approaches. I worked in cooperation with federal, state, county agencies, and private industry. I also worked with ranchers, farmers, and land managers on numerous different invasive problem weeds. In addition, my department collaborated with other universities, professors, and graduate students across the Western United States and other departments within CSU. Working with Dr. George Beck and Dr. Scott Nissen at CSU, we published numerous Colorado State Extension documents, bulletins, handbooks, progress reports, and refereed journal publications on the management of invasive plants and noxious weeds.

I have been fortunate to be honored by my professional peers with three honors in my career. Colorado State University Extension (30 Year Service Honors), Western Society of Weed Science (Outstanding Staff Achievement Award, 2021), and the Colorado Weed Management Association (Lifetime Service Award, 2023) for my work in the field of invasive plant management.

Since 2015, I've been a part of Boulder County Parks & Open Space Weed Management workgroup. It has been both exciting and rewarding to apply the knowledge and experiences I have gained over the years at CSU to a practical scale benefitting native plant and wildlife species on Boulder County open space properties. These are all things that are enjoyed by Boulder County residents and visitors to Boulder County open space properties. The most gratifying part of my job is conducting work that positively benefits biodiverse-rich native plant and wildlife habitats and communities, of which Boulder County Open Space has many. It is both rewarding and amazing to see the positive responses of native remnant, rare, and species of concern vegetation, along with wildlife species that have increased in the past few years. This has all been accomplished with the appropriate long-term best management practices.



Shursteen Sharpe
Resource Specialist, Invasive Weeds Group

Shursteen has always had a passion for enjoying, preserving, and restoring natural areas. Given this fact, she went to college pursuing a Bachelor of Science in Biology with minors in Chemistry and Water Studies, lots of science! Along the way she participated in as many field courses as she could, including two in Ecuador and California. It was in these two field experience courses where she came to realize she could turn her two passions into a career. After graduating with her degree Shursteen applied and got into her dream program, Master of Science in Conservation Biology at the University of Queensland, Australia. After a summer as a park ranger for Westminster City Parks she packed her bags and headed down under. This comprehensive and diverse program helped guide the direction of her career path while giving her valuable skills to carry forward. With the conclusion of her program, she returned home seeking a job where she could use her skills and knowledge to help protect and restore the biodiversity of Colorado. This is when she found the job posting for Seasonal Noxious Weed Technician at Boulder County. She returned to this position for two more seasons and then took on a full-time role in November 2021 as a Resource Specialist in the Noxious Weed workgroup where she now focuses on the Early Detection and Rapid Response program and suppression of noxious weeds along trails.

Education:

Bachelor of Science, Metropolitan State University of Denver, 2016, Biology with minors in Chemistry and Water Studies

Master of Science – Conservation of Biology University of Queensland, 2019,

Experience:

Field Courses at Metro State University and University of Queensland

Seasonal Park Ranger – City of Westminster

Seasonal Noxious Weed Technician – Boulder County

Resource Specialist – Boulder County

Certifications:

Colorado Department of Agriculture, Qualified Supervisor



**Malcolm Wiley, Resource Specialist,
Roadside Vegetation Manager, Invasive Weds Group**

Malcolm Wiley is the Roadside Vegetation Specialist for Boulder County Parks and Open Space. Malcolm is originally from Monmouth, Maine where he graduated from Monmouth Academy in 2004. After a few years of doing factory work in Maine, Malcolm joined the AmeriCorps National Civilian Community Corps in 2007. Assigned to the AmeriCorps campus in Denver, CO he joined the Disaster Response Team which had him traveling to southern Missouri to assist with a devastating ice storm and later to Pascagoula, MS to help with cleanup related to Hurricane Katrina. Upon returning to the AmeriCorps campus in Denver, Malcolm was accepted onto the Wildland Fire Team. In collaboration with the US Forest Service Boulder Ranger District, he received all the training and certifications necessary to serve as a Type II Wildland Firefighter. That summer turned out to be a busy year for wildfires in the US and the AmeriCorps team responded to many fires locally in Colorado and on national dispatches throughout the country. It was during that summer that Malcolm realized a career in natural resource management was something he wanted to pursue.

In the spring of 2008 Malcolm was hired by the Boulder County Sheriff's Office Fire Crew as a Type II Wildland Firefighter. During his time with the Sheriff's Office Fire Crew, Malcolm gained many wildland fire qualifications including "Type B Faller" certification for advanced tree felling during wildfires and "Squad Boss" qualifications to lead a group of up to ten firefighters on the fire line. Malcolm left the Sheriff's Office in 2012 to begin taking classes at Front Range Community College. While taking classes he worked as a bartender and for a local solar company as an installer. Malcolm completed his Certification for Geographic Information Systems from FRCC in 2013. It was also in the spring of 2013 that Malcolm was hired by Boulder County Parks & Open Space as a Seasonal Invasive Plants Technician. Malcolm worked as a seasonal on the invasive plants crew until 2016 spending his winters working as a bartender at the Sundance Café in Nederland, CO and snowboarding. In 2017 Malcolm was hired full time with Boulder County Parks & Open Space as the Roadside Vegetation Specialist. Malcolm has continued to keep his wildland fire qualifications up to date in order to assist with prescribed fire operations in Boulder County. Recently he received all the training necessary to serve as a UAS pilot for Boulder County drone operations.

Certifications:

Qualified Supervisor (QS) Applicators License
UAS pilot for Boulder County (Drone Operation)
Type B Faller (Firefighting)
Squad Boss (Firefighting)

Education:

Front Range Community College, Geographic Information Systems from FRCC in 2013 (Certificate)
AmeriCorps National Civilian Community Corps, 2007