



Parks & Open Space

5201 St. Vrain Road • Longmont, CO 80503
303-678-6200 • POSinfo@bouldercounty.gov
www.BoulderCountyOpenSpace.gov

2025 Small Grants Program

The Boulder County Parks & Open Space (BCPOS) department is offering small grants for research and biological inventories on open space lands. These research projects and inventories provide valuable data to monitor management practices and improve resources and park visitor experiences. Grants awarded up to \$12,500. **The deadline for proposals is Thursday, January 9, 2025.**

Priority Research Topics

Boulder County Parks & Open Space staff have identified the following research topics as priority needs for natural resource and visitor management. This list is not exhaustive, and we encourage you to submit research topics that are not listed. Please note for this request, the terms “grant” and “proposal” are only used in an informal context. We strongly encourage you to contact appropriate staff members (see list on last page) to discuss research topics in advance of the deadline.

We are seeking research proposals for the following topics:

Plant Ecology

- Investigate impacts of reed canarygrass (*Phalaris arundinacea*) on riparian plant establishment and stream geomorphology, and efficacy of various measures to control its spread and establishment.
- A literature review or field study comparing pollinator richness, or a larger comparative invertebrate survey, of native grasslands with and without the presence of prairie dogs.
- Analyze historical changes in native and non-native tree establishment and distribution relative to stream channel morphology, utilizing a combination of aerial imagery, LiDAR, tree dendrochronology, or other applicable methods.
- Investigate the efficacy of aerial wood mulching on soil loss and vegetation establishment on the Cal-Wood Fire, four years post fire.
- Does I-Naturalist or other citizen science spatial mapping platforms enable or increase plant poaching of at-risk species in the wild?
- Demonstrate the feasibility of UAS flights with appropriate sensors and seasonality to map spatial distribution of *Physaria bellii*, a rare and endemic species.
- Demonstrate the ability, technology and methods to use UAS, Object Based Image Analysis (OBIA), and ground truthing or other methods to classify grassland vegetative associations for land managers to apply across a broader area.
- Assess wetland plant diversity and functional groups in grazed and ungrazed wetlands.
- How does phosphorous deposition from fire retardant use affect plant species and communities?

Wildlife

- Develop or utilize an open-source, highly accurate artificial intelligence software system to identify terrestrial wildlife species within BCPOS-provided game camera photos.
- Investigate utilization of downed woody substrate by small mammals in lower montane and/or upper montane forests. Conduct a literature review and develop guidelines for management to retain woody substrate.
- Conduct comparative inventories of willow carr condition using historical data. In the absence of historical data, conduct baseline assessments of current conditions, related to increased grazing ungulate pressure. Based on assessments, provide recommendations for maintaining or improving site conditions.
- Assess long-term study data of bird diversity and abundance in high elevation areas in Boulder County to determine analysis potentials, based on collection methodologies, consistency of annual effort levels and other factors.
- Develop a contemporary habitat suitability model for greater short-horned lizard (*Phrynosoma hernandesi*) within Boulder County, and optionally, conduct targeted field surveys to confirm presence.
- Produce a baseline status report of white nose syndrome in bats using existing data from Boulder County Parks & Open Space properties and provide a review of recommended methodology to determine disease prevalence.
- Produce a multi-species habitat connectivity model for Boulder County, based on existing modelling, that is scalable to address regional and site-specific fragmentation.

Forestry and Fire

- Demonstration study for utilizing U.A.S. to remotely identify limber pine. We would be targeting one or two properties to determine the feasibility using the multi/hyper-spectral camera owned by BCPOS.
- Terrestrial Laser Scanners (TLS) are beginning to be utilized in forestry research and to a limited extent in forest management. However, understanding the various applications of ground based lidar can be difficult for land managers without a strong lidar background. We would like to see a literature review of practicality, capabilities, and short comings of TLS for land managers. Our interests include a review of accuracy, ease of use, time efficiency, models best suited to forestry, sampling methodologies, third party analysis software, and data storage solutions.
- Direct seeding of limber pine often results in high levels of seed predation. Deterring predation would substantially increase the quantity of seeds available for germination and possible success. A study determining the most effective seed protection methods would allow us to implement a process that increases germination from direct seeding. Possible methods could include physical deterrents (mesh, cages, etc.) or chemical deterrents (charcoal, hot sauce, etc.)

Education and Outreach

- Estimate seasonal and annual visitation to Boulder County's regional trails (Coal Creek, Rock Creek, and LoBo Trails.)

Invasive Plants

- Does soil microbe density, diversity and function change depending on soil moisture patterns in Indaziflam Cheatgrass controlled Treated sites vs. untreated sites? Conduct Soil Microbe analysis looking at microbe diversity, density and function in comparison to soil moisture patterns in Indaziflam treated sites vs untreated sites. Conduct companion lab experiments that look at shorter- term Indaziflam treatment effects under controlled conditions to identify soil microbe impacts.
- How does cheatgrass impact wildfire or prescribed fire behavior? Study would conduct field trial of cheatgrass fire behavior in a controlled setting. Study would consider fuel compositions (cheatgrass, vs. perennial vegetation), overall fuel biomass in the system, and identify differences in fire speed/mobility across the surface of various vegetation compositions, evaluate fire temperatures and flame length, to help identify what role cheatgrass plays in wildfire or prescribed fire.
- Does shrub forage quality improve in native wildlife shrub browse and native forb species in Indaziflam treated vs. untreated sites? Study will conduct a comparison of Indaziflam treated and untreated critical winter range browse and forbs for mule deer looking at forage quality found on the two sites.

Important Dates to Keep in Mind

- Proposals must be received by **Thursday, January 9, 2025**.
- Applicants will be notified by **Thursday, February 20, 2025**.
- Grantees will need to submit the first draft report by **Friday, October 31, 2025**, unless other arrangements are made in advance.
- The final draft report (see requirements below) is due no later than **Monday, December 8, 2025**, to receive final payment.

Proposal Requirements

- All proposals must be submitted electronically from the [Research on Open Space webpage](#). **No hard copies will be accepted.**
- Late and/or proposals that do not meet the requirements will not be considered. Researchers are encouraged to submit early. If a proposal is submitted early and it is determined that it does not meet the requirements, the researcher will be given a chance to re-submit their proposal one additional time by the deadline.
- The proposal must be typed, double-spaced, and not exceed six pages. The only pages not included as part of the six-page limit are the cover page, maps and Section 5 (Qualifications of Researchers).
- Other sources of funding supporting the project should be identified.

- Anyone may apply. Students must submit a signed letter from an academic advisor to confirm that the proposal has been reviewed, approved, and is supported.
- Research must take place on Boulder County Parks & Open Space properties.
- Researchers may use Boulder County conservation easement lands with the condition that the researcher secures prior written permission from the private landowner.
- Researchers must adhere to all applicable policies and regulations set forth by the department. The researcher is responsible for knowing the appropriate rules.
- Grant proposals over \$12,500 will not be considered.

Proposals must include the following five sections. Proposals that do not follow the required format listed below will not be considered.

SECTION 1, Abstract

- Provide a summary (abstract) of the proposal that describes the objectives, general methods, and anticipated value of the research.

SECTION 2, Introduction

Objectives, Hypotheses, Anticipated Value, Literature Review

- The proposal report cover page should specify the proposal report title, author name(s), contact information, and proposal report date.
- Describe the overall objective(s) to be addressed by the research.
- State the hypotheses and alternative hypotheses or purpose of research related to the objective.
- State how the research will contribute to the natural resource and/or visitor management needs of Boulder County Parks & Open Space.
- Describe the anticipated value of the research to furthering of scientific knowledge and public education.
- Provide a summary of pertinent published literature.

SECTION 3, Methods

Description of research

- A detailed explanation of sampling or survey methods.
- A discussion of data analysis techniques.
- Project requirements, including logistics and permits.
- A detailed project schedule.
- A map showing location of research activities.
- Describe in detail any potential negative impacts to the natural resources.

SECTION 4, Budget

- Provide a detailed and itemized annual budget, including funding requirements for salaries, equipment, travel, office supplies, report preparation, and required overhead.

- Provide information on any sources of cooperative funding or assistance-in-kind and include appropriate documentation.

SECTION 5, Qualification of Researchers

- Provide a resume or curriculum vitae of the investigator(s), including the faculty advisor for student projects.
- For student projects, attach a signed statement from a faculty advisor (as the first page) supporting and approving the proposal and describing the degree of faculty involvement and supervision. Faculty sponsors are responsible for providing the final report should the student fail to submit one. Future requests by students of a faculty advisor who has not provided required reports may not be processed.

Small Grant Policy

- Research projects must be completed the year funding is allocated.
- Research preference is given to projects conducted on Parks & Open Space properties.
- Universities, local government agencies, private organizations, and individuals are all eligible for funding from this program.
- There is no requirement for matching funds.
- Overhead from any applicant must not exceed 15%.
- Parks & Open Space staff constitutes the review panel.
- Parks & Open Space staff reserve the right to re-negotiate the scope of work and budget depending on available funding.
- Projects are funded in two categories: up to \$5,000 and up to \$12,500.
- Maximum project funding will not exceed \$12,500 per project, per year.
- Research projects funded one year in no way ensures continued funding in subsequent years.
- Final Reports must be submitted to Parks & Open Space before final payment is issued.
- Final Reports become property of Boulder County and will be available electronically to the public through the county website.

Interagency Research

Did you know that [City of Boulder Open Space and Mountain Parks \(OSMP\)](#) and [Longmont Public Works & Natural Resources](#) also fund research? To discuss the possibilities of a shared research project, please contact [Raquel Robles \(BCPOS\)](#), [Mathew Holzwarth \(City of Longmont Parks & Natural Resources\)](#) or [Ann Lezberg \(OSMP\)](#) to discuss custom application procedures.

Research Proposal Contacts

You are welcome to contact us to discuss your proposal ahead of time!

Raquel Robles, Small Grants Coordinator

rrobles@bouldercounty.gov

303-678-6222

Nick Stremel, Forestry

nstremel@bouldercounty.gov

303-678-6290

David Hirt, Plant Ecology

dhirt@bouldercounty.gov

303-678-6218

Joe Swanson, Invasive Plants

jswanson@bouldercounty.gov

303-678-6110

Michelle Marotti, Park Visitor Issues

mmarotti@bouldercounty.gov

303-678-6219

Mac Kobza, Wildlife

mkobza@bouldercounty.gov

303-678-6203

Evaluation Criteria

The proposals will be reviewed by a selection committee. The committee may request additional information from applicants. Final evaluation and selection may be based on, but not limited to, any or all of the following:

A scoring matrix with the order and priority of criteria to be used by the county in its evaluation and selection process is shown below:

Description	Points
Information presented in proposal.	35
Relevance to Open Space management.	30
Budget is detailed and demonstrates judicious use of funds.	15
Qualifications and experience of researcher and capacity to complete the research within given timeline.	10
Research addresses a Priority Topic or presents a critical opportunity that may not be available another time.	10
Total Possible	100

Report Format Guidelines

General Format

These guidelines are loosely modeled upon the [preparation instructions for Ecology manuscripts](#), with some differences, including an executive summary. All reports must adhere to these guidelines. Reports that do not adhere to these guidelines will be returned to the researcher. Submitting reports that do not follow this format may jeopardize receipt of BCPOS funding in the future.

- The target length is 20-30 manuscript pages (double spaced, 12-point Times New Roman, 1-inch margins), including everything from the Executive Summary through the last figure.
- Figures and tables come after the literature cited (i.e., figure and tables are not embedded in the main text) and occupy one page each. Do not include a table/list of figure legends.
- Avoid double reporting. For example, if data is presented in a figure, do not represent it as a table or in the text.
- Page numbers should begin with the Abstract and be placed in the upper right-hand corner.
- All pages should have line numbers, and line number should be continuous (i.e., do not restart line numbers on each page).

- Do not include a hard break between sections (e.g., the methods should not start on a new page).
- Additional content that will not fit in the manuscript can be included as an appendix.
- **First Draft: Single manuscript file, in word document format. Appendices (if any) should be combined and submitted as a second word document.**
- **Final Draft: Single manuscript file, in PDF document format. Appendices (if any) should be combined and submitted as a second PDF document.**
- **Final Draft: RAW data should be in a spreadsheet format. Mapping data should be compressed into a single folder.**

Executive Summary (one page)

The executive summary is written to aid in decision-making by managers and policy makers. As such, it should provide a high-level summary of the work, allowing the reader to become acquainted with the material without having to read it all. Please also include a list of 3-5 bullets with potential management implications at the bottom of the summary. Do not include tables or figures. Include the report title and names of and affiliation of each author and their emails; also, identify the lead principal investigator and his/her contact information. Identify the staff sponsor(s). Include the date of the draft report.

The executive summary may be read in place of the longer document, while the abstract is read to decide whether to read the main document.

Abstract (300 words maximum) and keywords

Explain the relevance of and need for the proposed work. Provide a summary of the research, including the methods, results, and major conclusions. Describe how results will contribute to natural resource management and/or conservation or human dimensions goals on BCPOS lands. Do not include literature citations in the Abstract. Following the Abstract, list up to 12 keywords.

Introduction

Briefly describe the problem to be addressed and its origin(s). Explain how information from this work will benefit natural resource management and conservation, or recreation management, on BCPOS lands. Provide a brief literature review covering relevant prior work related to the project. Include one or more clearly stated objective(s), questions, or hypotheses.

Methods

Methods should be brief but provide enough information to allow for the work to be repeated. Key topics to include are the experimental design, sampling procedures, statistical procedures, dates, duration, and location of the work.

Results

Concisely state the results of the research, without interpretation.

Discussion

Synthesize your results about your hypotheses and relate your work to other research. Discuss the significance of the results, including their relevancy to local and regional issues. Also, summarize all deliverables.

Literature Cited

Provide full citations for all scientific and technical documents that are referenced in the report. Ensure that all references listed in the Literature Cited section are included in the text and vice-versa. The list should conform in sequencing and punctuation to that in recent issues of Ecology. The references should be in alphabetical order with the journal name unabbreviated. Authors should be listed surname first, followed by a comma and initials of given names. If there are multiple authors, the last author is listed initials first and surname second. e.g. Keane, R. M., and M. J. Crawley. The publisher and city of publication are required for books cited.

Tables (one page each)

Tables should supplement, not duplicate, the text. The format should conform that in recent issues of Ecology. Tables should be numbered in the order of their citation in the text. Start each table on a separate page. Provide a short descriptive title at the top of each table; rather than simply repeating the labels on columns and rows of the table, the title should reveal the point of grouping certain data in the table. Statistical and other details should be provided as footnotes rather than appearing in the title. Never repeat the same material in figures and tables; when either is equally clear, a figure is preferable. Do not include any class of information in tables that is not discussed in the text of the manuscript. Tables cannot contain colors, shading or graphics. If such enhancements are needed, the information should be formatted as a figure.

Figures (one page each)

Number figures in the order in which they are discussed in the text. Use symbology that most clearly communicates differences among symbols and will work in grey scale if possible. Below each figure, include a figure legend on the same page. The figure title (i.e., Figure 1) should be given as the first two words of the legend. Do not group the figure legends on one page.

Appendices (combine all appendices into one document)

Appendices should contain supplemental material. This may include methodological details that did not fit in the main body, original and derived datasets, source code, details of and software for unusual statistical analyses, etc.

RAW Data and Mapping Products

Combine raw data into a single spreadsheet workbook and separate data types into worksheets. Mapping products (i.e. ArcMap) should be put into a single folder and compressed.