Friends of Mount Evans and Lost Creek Wildernesses

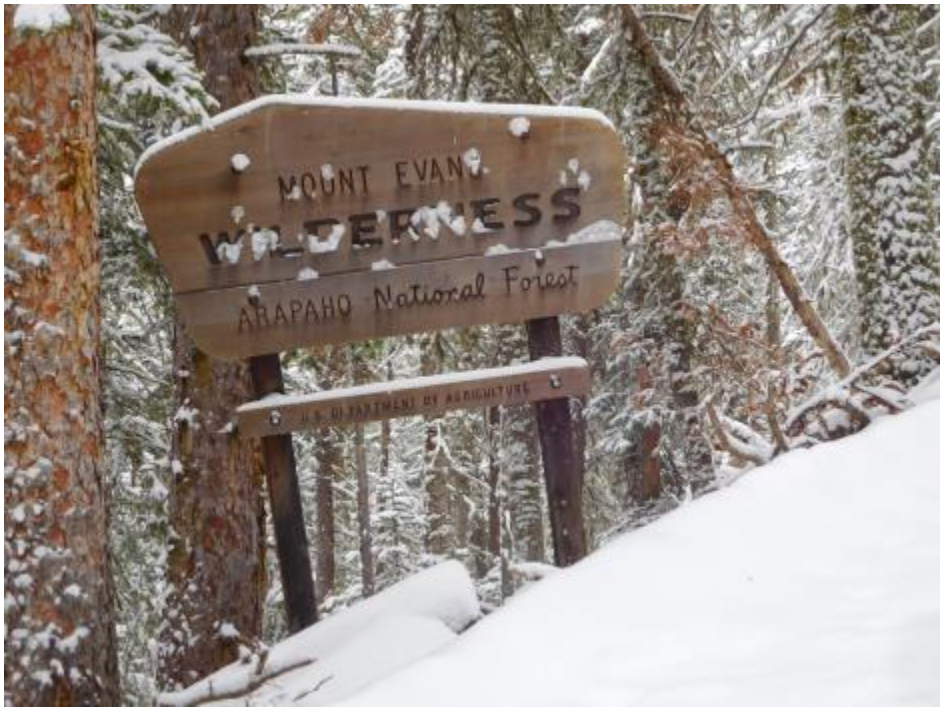


Photo Contest Winner (FEBRUARY) - Frank Burzynski

"Photo is from Resthouse Meadows Trail. I have visited here for many years and often feel a sense of freedom and relief as I venture into the unspoiled forest beyond."

February Newsletter 2021

What's In the News:

Photo Contest Runner Up (FEBRUARY) - Norman Hahn

"Resthouse trail in June 2011. I found the re-birth of this plant to be inspiring."

FOMELC Board Members

Chairman: *Peter Vrolijk*
peter@fomelc.org

Secretary: *John Kruse*
john@fomelc.org

Membership: *Kay Hoisington*
kay@fomelc.org

Web Information Tech Lead: *Deb Grass*
lildeb@fomelc.org

Newsletter/Annual Spring Training: *Dee Lyons*
dee@fomelc.org

Trail Projects Coordinator: Bill Klink
bill@fomelc.org

Treasurer: *Matt Komos*
matt@fomelc.org

Noxious Weed Projects Coordinator: *Alan Rockwood*
alan@fomelc.org

Marketing/Education Team Lead: *Gordon Brown*
gordon@fomelc.org

Forest Service Liaison: *Ralph Bradt*
ralph.bradt@usda.gov

COVID-19 PRECAUTIONS:

The safety of our community is our top priority, and we are committed to doing our part to limit the spread of COVID-19 (aka coronavirus). We are closely monitoring guidelines from the Center for Disease Control (CDC) and Colorado Department of Public Health and the Environment (CDPHE), and how these might effect our programs. We are also coordinating with our US Forest Service partners to remain in compliance with their COVID-19 response guidelines. Stay Safe and Healthy!

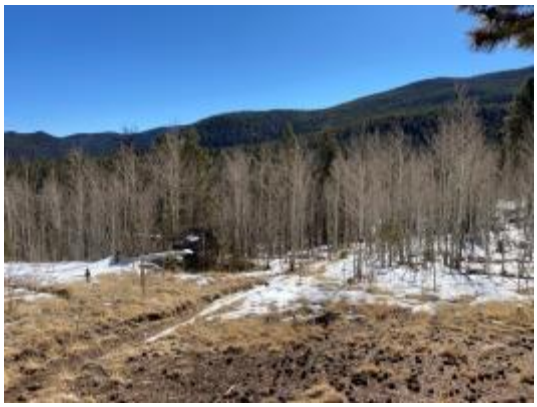
FOMELC Mission Statement:

The Mount Evans and Lost Creek Wildernesses encompass 194,400 acres with over 170 miles of trails in Colorado's Pike and Arapaho National Forests.

We work in partnership with the US Forest Service, engaging in education, outreach and stewardship activities to preserve the wilderness character of these lands for current and future generations.

Friends of Mt Evans & Lost Creek Wildernesses
PO Box 3431
Evergreen, CO 80439

https://fomelc.org/



Note from the Chair – Winter Wilderness

Peter Vrolijk

While the winter weather and the recent frigid temperatures tend to keep us indoors, there are still plenty of opportunities to hike on trails around the edges of wilderness, to enjoy views and vistas that appear different from what we see in the summer – the trees are bare, and the depth of blue in the sky reflects the cold dryness. In addition, if you bring a saw along, there is always a chance to find and clear a small tree from the trail.

Brookside-McCurdy Trail near Bailey, Lost Creek Wilderness

The FOMELC Board is busy trying to plan a productive summer season, in spite of the uncertainty around the restrictions that may be placed on our activities. For the second year in a row, we are certain that in-person spring training will be impossible, and the public venues where we meet and attract new volunteers are being postponed to dates too late to help us find volunteers for our summer projects. In the coming months, you will hear appeals to help us overcome these obstacles. Please consider these requests carefully and think how you can help us help more people learn the joys of working in our wilderness areas.

In the meantime, I hope that you can enjoy the special character of winter wilderness and expand your appreciation by seeing familiar areas in a different light. *–Peter*

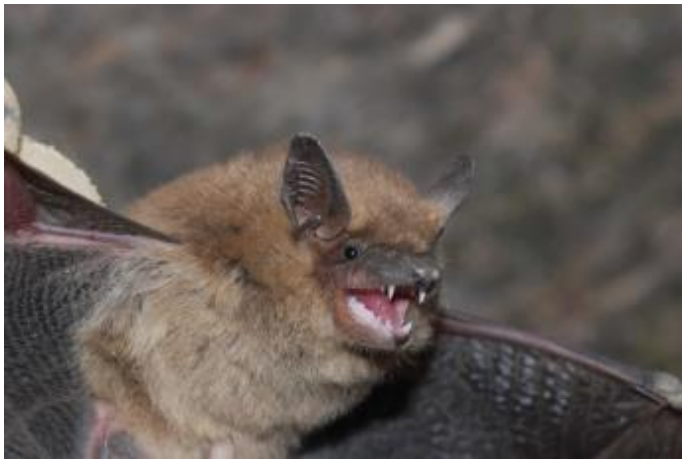
We Want to Hear from You!

Help us make this newsletter educational as well as informative. Send us your suggestions for articles or subjects that will educate us on the way to our mission. Examples of educational pieces that we've included in past issues are "What is Wilderness" and history articles on the Colorado Trail, Charles Parry, Ben Tyler Trail, Mt. Evans, and Abyss Lake Trail. We've had informative articles regarding areas of forest closure due to COVID-19 and input from the South Platte and Clear Creek Ranger District on how these two districts are coping with the pandemic and forest overuse. In addition, we have had a number of success stories of weed eradication by the Noxious Weed Program managed by Alan Rockwood.

Please let us know what else you would like to see in the Newsletter and whether the articles we've been publishing have been helpful. dee@fomelc.org

PLEASE JOIN US FOR OUR MARCH ZOOM MEETING!

Mikele Painter, U.S. Forest Service, *will be giving a presentation on*
Native Bats of Colorado.



Mark your calendar for ***March 18th at 7pm***

Mikele Painter has been a Wildlife Biologist for South Platte Ranger District on the Pike National Forest since 2009. She grew up in Colorado and went to Colorado State University for a Bachelor's degree in Wildlife Biology. She earned a Master's degree in Forestry at Northern Arizona University, where she studied the foraging ecology of spotted bats on the Kaibab Plateau. In addition to the USDA Forest Service, Mikele has worked for several universities, non-profit conservation groups, and state agencies, all in the western U.S. Conservation and understanding of native species is a central tenet of Mikele's career. She is glad to be part of an agency like the Forest Service that helps to perpetuate those values for all members of our society.

Please RSVP kay@fomelc.org you wish to attend the session.

Looking forward to continuing our monthly meetings with you!

PHOTO CONTEST

By Deb Grass (FOMELC Volunteer)

Show off your Mount Evans & Lost Creek Wilderness Photos.

We thought a photo "contest" would be a fun way to engage FOMELC volunteers and our newsletter readers a way to promote the pristine beauty of Mount Evans and Lost Creek Wildernesses.

Each month the Board committee will review submitted photos to determine that month's winner and runner-up. The winning photo will be displayed on our newsletter. Both the winner and runner-up photos will be displayed on our website.

Submission Guidelines:

- You must be signed up for our newsletter to submit photos.
- Each individual may submit no more than 2 photos (in .jpg format) per month. Photos should be submitted to photos@fomelc.org and should include photo location and any personal thoughts you may have about the photo or area.
- Photos may not include people or dogs (wildlife, landscape and flora/fauna only).
- The submission deadline is the **20th of each month.**
- Winners will be determined based upon the review of judges of how well the photos represent the wilderness characteristics of the Mount Evans or Lost Creek Wilderness areas.

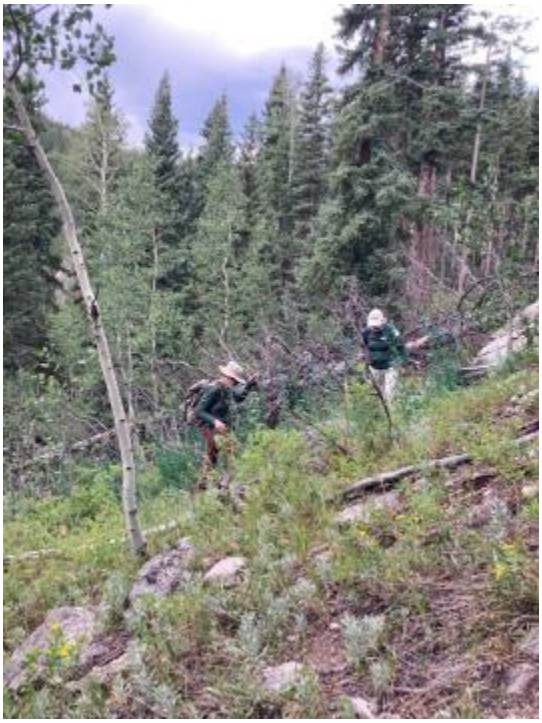
There will be no payments made to individuals submitting their photos.

By submitting your photos, you allow FOMELC to use them as the Board deems appropriate. Submissions do not have any copyright protection. Your name and comments will be displayed with the photo on the FOMELC Newsletter and website.

Thanks in advance for your submissions and Happy Photographing!

Artificial Intelligence Methods In The Search For Invasive Plants

Peter Vrolijk



Wilderness was set aside to preserve natural habitats untrammeled by human activities. Invasive species disrupt natural ecosystems by thriving in the absence of natural limits and crowding out native species. The insidious incursion of native plants occurs bit by bit, and without careful monitoring becomes overwhelming.

FOMELC volunteers, led by Alan Rockwood, have established a tremendous record of seeking out and treating invasive plants in the Mount Evans and Lost Creek Wildernesses. Few other volunteer organizations have achieved such a high level of success. Each summer volunteers are out scouring the wilderness for invasive plants and helping to treat the infestations identified.

FOMELC volunteers treat a newly discovered Canada thistle infestation on a steep slope above Upper Bear Creek, Mount Evans Wilderness (summer 2020)

The Mount Evans and Lost Creek Wildernesses are vast, however. How do we know that we have looked in all of the right places? Each year we find new infestations, more by luck than design. Is there a way to identify areas where invasive plants might take hold? Can we devise an approach that allows us to have high confidence that all infestations have been identified with only a limited number of observations? Is it possible to claim with a high degree of confidence that no invasive plants will be found in a location if no one has visited that spot?

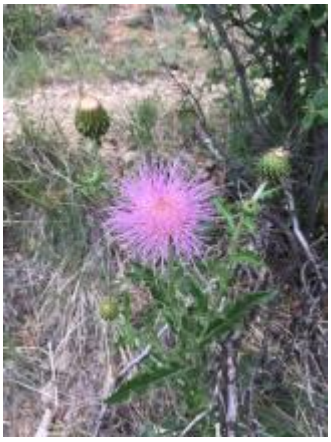
To address these questions, FOMELC has partnered with the Priscilla King Gray Social Impact program at MIT to apply advanced analytical and artificial intelligence methods in the search for invasive plants. The approach starts in a similar way to the US Forest Service (USFS) analysis of the most favorable camping sites in wilderness. This is done by combining a series of natural attributes that collectively define areas where invasive plants are most likely to take hold – access to seeds from existing infestations, including human and wildlife transport processes, soil disturbance to offer a seed the opportunity to germinate (hiking trails, well-used campsites, and downed trees), adequate soil moisture to help the plant grow, and access to enough sunlight to allow invasive plant growth.

Extensive USFS and US Department of Agriculture (USDA) databases offer detailed information that help define these parameters, but often the information is indirect. There are no maps of soil moisture, for example, but maps of soil type help distinguish soils that will likely be bone dry from those that might be moist. In addition to our annual volunteer survey observations, we have detailed invasive plant inventories from 2018 (Mount Evans) and 2019 (Lost Creek) that identify where invasive plants existed in those years, and equally importantly where they were absent.

While combining the factors that promote the establishment of invasive plant infestations limits the wilderness areas to search, the number of sites to visit remains large, and there is no formal way to learn from each observation made. This is where modern artificial intelligence methods can help – by constantly adjusting and updating the picture of where invasive plants take hold with each new observation. We want the model to tell us all the places where we might find invasive plants, but we also want the model to tell us all the places where no invasive plants will be found ***at a high degree of confidence***.

A team has been working throughout the fall and winter to establish an initial model of where to look for invasive plants this coming summer. We are focusing on Canada thistle because of its abundance. In the fall a group of experts in the USFS and other government agencies were interviewed to help define the natural components necessary for a Canada thistle infestation – access to seeds, ground disturbance, sufficient soil moisture, and sufficient sunlight. We are compiling and analyzing maps of information that allow us to estimate these factors and develop relationships that transform the maps into Canada thistle parameters to help build the initial model.

This is an ongoing project, and further updates and opportunities to contribute to this work will appear in future newsletter articles.



The Team

Emily Huang: Emily is an MIT Social Impact intern and is undertaking much of the analysis. Emily is a junior and is pursuing a degree in Brain & Cognitive Science. Emily became interested in invasive species in a high school Science Olympics competition.

Benjamin Ayton: Ben is a PhD student in the MIT Aeronautics and Astronautics Department and developed the algorithms used in this project. Ben first applied these programs to the search for cold seeps in the deep ocean, which are rare oases of life sustained by gases seeping out of the seafloor.

Lori Summa: Lori is helping transfer data from ArcGIS maps to grid formats required by the program. Lori is retired and is active in the Nature Conservancy in New Hampshire.

Ralph Bradt: Ralph is contributing by seeking out and compiling data from vast USFS and USDA databases. We would be lost without his help.

Alan Rockwood: As local weed guru, Alan contributes his expertise on the subject to this project.