

**Rocky Mountain Restoration Initiative (RMRI)
 RMRI Workforce Capacity Subcommittee Meeting
 August 18, 2023, from 9:00 AM to 11:00 AM
 Zoom Meeting
 Meeting Summary – FINAL**

RMRI WORKFORCE CAPACITY SUBCOMMITTEE	
ATTENDANCE: Samantha Albert, Erin Burk, Han-Sup Han, Heather Houk, Audrey Miles-Cherney, Molly Pitts, Tim Reader, Scott Segerstrom, Matt Tuten	
ACTION ITEMS	
Samantha Albert	<ul style="list-style-type: none"> • Email information about the Opportunity Now grant program to Samuel Wallace to distribute to the Subcommittee. • Contact the Colorado Forest Health Council to inquire about their interest in Erin Burk’s presentation on Simulator versus Machine training for logging operators.
Heather Houk	Find and share contact information for a Colorado Workforce Development Council representative with Nathan Van Schaik.
Molly Pitts	Send the Wildfire Crisis Strategy Industry Report to Samuel Wallace to distribute to the Subcommittee.
Tim Reader	<ul style="list-style-type: none"> • Communicate with Tara Umphries regarding update on the hiring process for a new Region 2 Recreation Specialist. • Collaborate with Liz Dowling to provide the Subcommittee with updates from the upcoming Mass Timber Coalition meeting. • Find and share additional information about the Career Advance Colorado program with the subcommittee. • Contact the Wildfire Matters Review Committee to inquire about their interest in Erin’s presentation and potential funding of training simulators.
Samuel Wallace	<ul style="list-style-type: none"> • Forward the Wildfire Crisis Strategy Industry Report to members of the Subcommittee. • Forward the Opportunity Now grant information to members of the Subcommittee.
MEETING SUMMARY	
DISCUSSION TOPIC: Action Items from May 26, 2023	
Discussion Points: <ul style="list-style-type: none"> • Molly Pitts is transitioning to a new role at the National Wild Turkey Foundation (NWTF) and will be stepping away from RMRI in the near term. Tim Reader, Colorado State Forest Service (CSFS), will be taking over leadership duties for the Workforce Capacity Subcommittee • Megan Maxwell, Molly’s replacement at the Colorado Timber Industry Association (CTIA), will also be involved in RMRI moving forward. • Molly will send the Wildfire Crisis Strategy Industry Report, published in June, to Samuel Wallace, Peak Facilitation (Peak) to circulate to the Subcommittee. 	Decision/Action Items: <ul style="list-style-type: none"> • Molly Pitts: Send the Wildfire Crisis Strategy Industry Report to Samuel Wallace. • Samuel Wallace: Forward the Wildfire Crisis Strategy Industry Report to members of the Subcommittee. • Samuel Wallace: Forward the Opportunity Now grant information to members of the Subcommittee. • Tim Reader: Communicate with Tara Umphries regarding update on

<ul style="list-style-type: none"> • Molly will be attending a national forestry industry roundtable in Washington D.C. in December. She will connect with Tim after the event to update Subcommittee members with any important takeaways. • No updates have been provided about the hiring of a new United States Forest Service (USFS) Region 2 Recreation Specialist. Tim will follow up on that topic with Tara Umphries, USFS, at the next Subcommittee meeting. • Molly and Nathan Van Schaick, USFS, published an update providing summaries of State Bill 23-005 and State Bill 23-139 the RMRI website. • Nathan and Heather Houk, Pueblo Community College (PCC), interviewed a representative from the Southwest Colorado Education Collaborative, an organization that focuses on providing opportunities to rural students to learn about and pursue forestry jobs. Nathan connected the Collaborative with representatives from the RMRI Southwest Steering Committee to foster collaboration in the future. Publishing of the story that resulted from the interview will be deferred until further communication between the two entities takes place. • Samantha Albert, Deputy Director of Outdoor Industry at Colorado Office of Economic Development and International Trade (OEDIT), provided updates on the Opportunity Now Grant Program, which is responsible for rewarding \$80 million in grant funding to outdoor recreation programs. There will likely be opportunities for RMRI partners to apply for funding through this program in the future. Samantha will provide further updates after the OEDIT staff call next week. • The newly formed Mass Timber Coalition and the USFS Region 9 Office could be potential recipients of an Opportunity Now Grant. Tim and Liz Dowling, NWTF, will be attending the upcoming Mass Timber Coalition meeting and will provide the Subcommittee with updates after. • Heather has created a curriculum for a forestry certificate at PCC Pueblo, using the Front Range Community College (FRCC) certification as a guideline. She is sending it to the advisory committee for voting on Monday, after which it will be submitted to the Curriculum Committee in September. Heather will start writing the grant 	<p>the hiring process for a new Region 2 Recreation Specialist.</p> <ul style="list-style-type: none"> • Nathan Van Schaik: Continue to develop messaging on SB23-005 and SB23-139 as they relate to workforce capacity. • Samantha Albert: Email information about the Opportunity Now grant program to Samuel Wallace. • Tim Reader: Collaborate with Liz Dowling to provide the Subcommittee with updates from the upcoming Mass Timber Coalition meeting.
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<p>application to fund a training simulator for the program soon.</p>	
<p>DISCUSSION TOPIC: Colorado State Legislation Updates</p>	
<p>Discussion Points:</p> <ul style="list-style-type: none"> • CSFS is in the process of formulating a framework for the forest mitigation internship program funded by SB23-005 and plans to have the application process finalized by the end of the year. • SB023-005 tasked CSFS with creating educational materials related to careers in the timber industry. Tim will meet with a representative from CSFS's Communications Division to discuss the development and circulation of the materials. • Heather has been working with Tim to develop a proposal for curriculum development, including a timber industry simulator, for PCC. Tim will follow up with Heather on her progress on the project. • CSFS is providing an advisory role in the new program focused on using biochar for oil and gas capping. Carbon accounting frameworks related to this project will likely be drafted by November. • The Colorado Department of Public Safety (DPS) is moving forward with their Resilient Homes Grant Program. • CSFS is working on strategic planning with tree nurseries across the state related to restoration, large scale disturbances, and genetic storage. • CSFS's Legislative Policy Specialist will be sending out regular updates about legislative news regarding the timber industry. • The Colorado Community College System has launched the Career Advance Colorado program, which provides free training to students for in-demand career paths, including forestry. Tim will find more information on this program and share it with the Subcommittee. • Forest Restoration and Wildfire Risk Mitigation (FRWRM) grants, with around \$8 million in total, will open on Wednesday, August 23. Wood Innovations grants will likely be opening in the coming months. 	<p>Decision/Action Items:</p> <ul style="list-style-type: none"> • Tim Reader: Find and share additional information about the Career Advance Colorado program with the subcommittee.
<p>PRESENTATION: Simulator Study Presentation – Han-Sup Han and Erin Burk (NAU)</p>	
<p>Presentation Overview:</p> <ul style="list-style-type: none"> • Erin Burk, Northern Arizona University (NAU), presented on her master's thesis project, which compared the effectiveness of simulator training to machine training for forestry operators. She was assisted by her former professor and director of Forest Operations at NAU, Han-Sup Han. 	

- Erin graduated with her master’s degree in December, and her research was published several years ago.
- Han-Sup started by presenting updates on NAU’s forestry program.
- NAU conducted a survey of logging contractors in Colorado, New Mexico, and Arizona, which found that the average age for contractors in these states is 55.
- To combat the aging demographic of the logging industry, NAU has been working on developing a forest operations and training center. Han has applied for \$10 million in grant funding from the Economic Development Administration (EDA). If grant money is awarded, NAU plans to begin offering related classes as early as the Fall 2024 semester.
- Forestry simulators have been used to train foresters for the last decade, but there is little in the way of literature that analyzes their effectiveness or cost comparison to traditional, in-the-field machine training. This study sought to compare the effectiveness and cost of simulation-based training to traditional training for forestry.
- The study compared simulated and machine-based training for skidder and forwarder operation, with four students in each group, consisting of 16 subjects in total. Students were connected with the project through various partners and were required to have less than five hours of experience operating the machinery in question.
- The forwarder simulator used in the study was sourced from Corvallis, Oregon, and the skidder simulator was sourced from Hines Community College in Mississippi.
- Students were assigned a preliminary safety reading prior to the first day of training. Following a safety and controls lesson, students were split into simulation and machine-based groups for training. Timed testing of skills was performed on machines in a field setting.
- Throughout the course, trainees decreased the amount of time it took to complete the tested skills in all four categories. A decrease in the amount of time it took to complete the test is related to an improvement in operations skill.
- Trainees using the skidder showed no significant difference in improvement between the simulated and machine training regimes. In the forwarder course, machine-trained students tended to improve their times faster than simulator-trained students.
- Forwarders are harder to operate than skidders. Trainees in the skidder simulation improving more quickly relative to those in the forwarder simulation is encouraging because most contractors start newer operators in skidders before moving up to forwarders. This information could encourage contractors to train new staff in simulators for skidder operation and machine training for forwarder operations.
- The cost analysis portion of the study found that contractors could save 36 to 40% by sending students to external simulated training facilities, not including housing or travel costs.
- The study included a breakeven analysis, evaluating the yearly hour total at which purchasing a simulator would save a contractor money on training costs. For the forwarder, companies who expected to spend over 104 hours per year training could expect to save money by purchasing a simulator. For the skidder, this value was 154 hours.
- Three conclusions from the study were:
 - Simulators are an effective training tool for new operators learning basic operating tasks
 - Machine-trained students could be expected to improve their skills faster than simulation-trained students, especially on more complex equipment
 - Contractors and companies can expect significant cost saving using simulated training regimes.

- The study recommends that simulators be used more often for training purposes, as they are highly cost-effective and produce good training results.
- The presentation of Erin’s study can be found [here](#), and the published article can be found [here](#).

DISCUSSION TOPIC: Simulator Study Presentation

- Discussion Points:**
- One reason industry professionals may prefer simulators is due to a decreased rate of damage to vehicles. Information showing that simulator training will be more cost effective than machine training will likely encourage more contractors to send trainees to external facilities with simulators.
 - Trainees with experience in operating heavy machinery could also likely benefit from use of simulators to adjust to the specifics of logging equipment.
 - Erin’s research would be beneficial to present to other forestry associations in Colorado, including the Wildfire Matters Review Committee and the Forest Health Council. Subcommittee members will work on contacting organizations to initiate the process.
 - Data on how simulator training can reduce the number of collisions and accidents in machines would be useful. The study accounted for machine damage using a general wear-and-tear equation, but this could be a potential area of study in the future.
 - Although the project was not able to mimic the full training process, it serves as a preliminary study that can be used to advocate for further studies.
 - Another benefit of simulator training is reduced insurance cost when compared to training using machines.
 - Heather inquired about the possibility of Erin being involved in forestry instruction at PCC. Heather and Erin will follow up about this opportunity.
 - Overall, Erin’s work presents an objective study that supports the viability of simulator training for use of foresting machines.

- Decisions/Action Items:**
- **Tim Reader:** Contact the Wildfire Matters Review Committee to inquire about their interest in Erin’s presentation and potential funding of training simulators.
 - **Samantha Albert:** Contact the Forest Health Council to inquire about their interest in Erin’s presentation.

DISCUSSION TOPIC: 2023 Work Plan

- Discussion Points:**
- Nathan shared the [2023 Workforce Capacity Work Plan](#) document with the Subcommittee to review.
 - RMRI will continue to engage with the Colorado Workforce Development Council to advance forestry career opportunities within the state. Even though there is not a specific project to

- Decision/Action Items:**
- **Heather Houk:** Find and share contact information for a Colorado Workforce Development Council representative with Nathan Van Schaik.

<p>coordinate with the Workforce Development Council at this time, it is helpful to maintain contact when opportunities do arise. Heather will find contact information for a representative from the Council located in Durango and share it with Nathan Van Schaik</p> <ul style="list-style-type: none"> • Heather is on the Steering Committee for the Southwestern Colorado Education Collaborative and can assist with future collaboration between the group and RMRI. Advancing communication between the two organizations will be put back on the Work Plan. • There may be an opportunity for the Woodland Park CSFS office to host a field trip for high school students in the upcoming school year, but there are no active plans to do so. Audrey Miles-Cherney, Upper South Platte Partnership (USPP) will stay in contact with the office and update the Subcommittee when necessary. • It may be beneficial for RMRI representatives to work with Power Technical Early College (PTEC) in Colorado Springs to advance forestry career paths through the college. This will be added to the Work Plan as an opportunity. • Heather has been in contact with a representative from the forestry program at Front Range Community College (FRCC), who has been supportive of the forestry curriculum in development for PCC Durango. • The newly proposed Community Forestry Hub at the Colorado State University (CSU) Spur Campus could present opportunities for young adults to find jobs in forestry in the Denver area. • Heather shared a link to the Climate Democracy Initiative website, which will hold a summit at the CSU Spur Center in Denver from September 6 to 7. 	
<p>NEXT STEPS</p>	
<ul style="list-style-type: none"> • Molly will hand over her leadership role on the Subcommittee to Tim. • Samuel will send out a Doodle poll regarding scheduling of the next Workforce Capacity Subcommittee meeting. 	
<p>LINKS SHARED DURING MEETING</p>	
<ul style="list-style-type: none"> • Career Advance Colorado Website • Presentation on Effectiveness of Simulator Training Compared to Machine Training for Logging Operators • Published Article on Effectiveness of Simulator Training Compared to Machine Training for Logging Operators • 2023 Workforce Capacity Subcommittee Work Plan • Climate Democracy Initiative 	