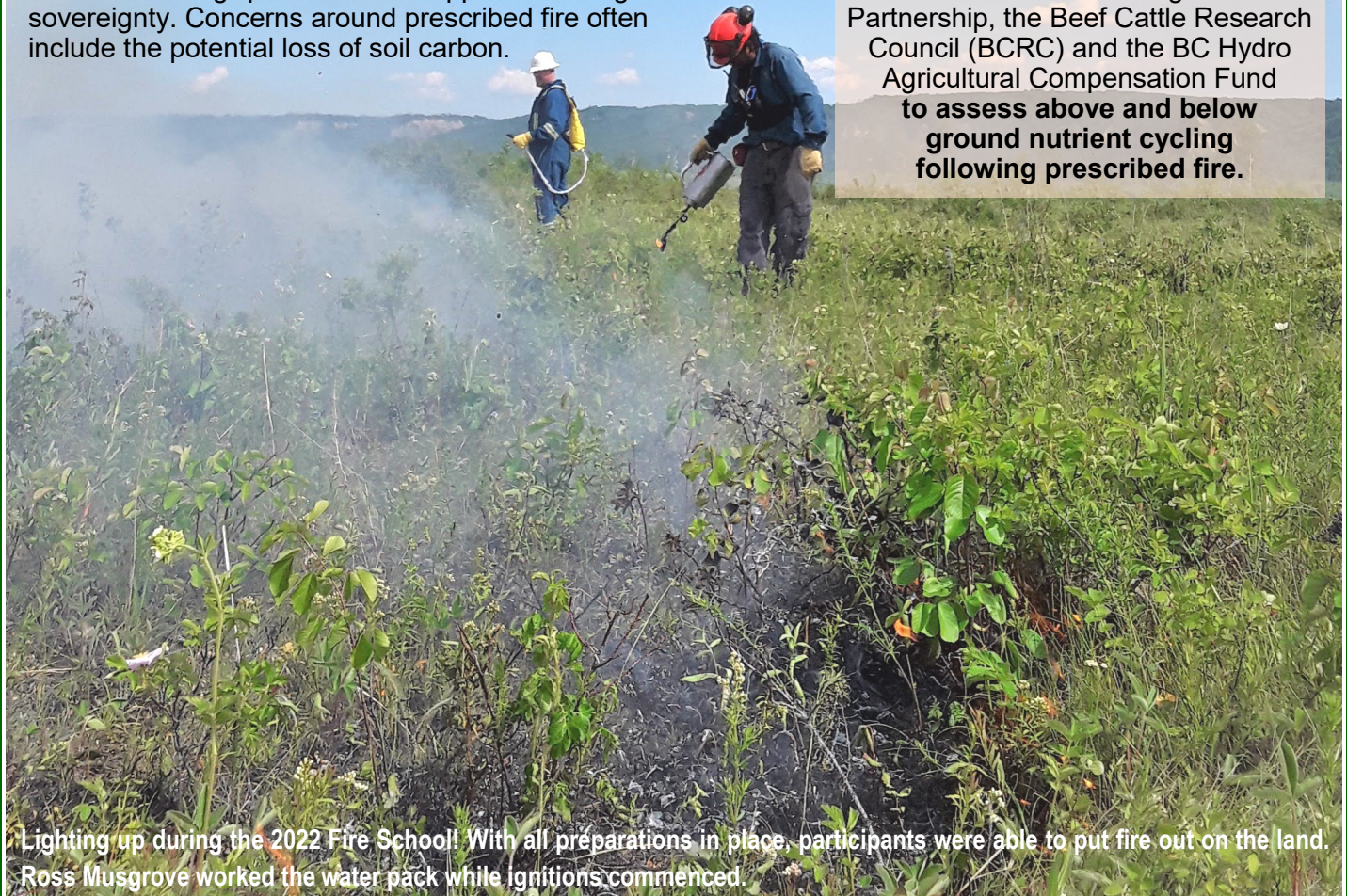


New funding to Evaluate Use of Prescribed Fire to Rejuvenate Degraded Forage Pastures and its Impact on Soils

By Nadia Mori, PAg

Prescribed fire can be an important tool to increase pasture and forage productivity in areas with unhealthy brush encroachment, to remove hazardous fuel buildup as a preventative measure to severe wildfires, and to reignite cultural burning practices in support of Indigenous food sovereignty. Concerns around prescribed fire often include the potential loss of soil carbon.

The Peace River Forage Association (PRFA) of BC has received funding from Agriculture & Agri-Food Canada's AgriScience Program under the Sustainable Canadian Agricultural Partnership, the Beef Cattle Research Council (BCRC) and the BC Hydro Agricultural Compensation Fund to assess above and below ground nutrient cycling following prescribed fire.



Lighting up during the 2022 Fire School! With all preparations in place, participants were able to put fire out on the land. Ross Musgrove worked the water pack while ignitions commenced.

The loss of managed fire on the landscape has been detrimental to pasture/rangeland health due to brush encroachment and the lack of natural disturbance, leading to underutilized grazing lands.

At the same time, wildfire risk has increased due to climate change (particularly increased temperature and drought).

Prescribed fire is a management tool that has the potential to:

- remove hazardous fuel build-up and
- reduce wildfire risk, as well as
- improve the health & functioning of degraded pastures.



Aerial view of a prescribed fire conducted during the 2022 Fire School (article in the [2022 Fall Newsletter - issue #92](#)).

Evaluating Use of Prescribed Fire to Rejuvenate Degraded Forage Pastures and its Impact on Soils continued....

In this newly funded project, the PRFA will implement a prescribed fire plan on four pastures in the Peace Region of British Columbia.

- We will evaluate how forage production and nutrition responds to prescribed fire and grazing practices, along with soil chemical and microbial properties.
- We will pay particular attention to the soil carbon and what happens to carbon stocks and cycling following a prescribed fire.

Each project site will implement a pre-approved prescribed fire plan to follow all steps for safe and lawful burning. Treatments will include burning and grazing, resulting in four comparisons:

1. unburned/ungrazed,
2. unburned/grazed,
3. burned/ungrazed, and
4. burned/grazed.

Data will be collected

- pre-fire,
- immediately post-fire, and
- over subsequent years.

Not only will this research provide important information to producers seeking pasture rejuvenation through prescribed fire, but it will also generate data to understand the impact of prescribed fire on soil carbon.

This information will be essential for ranchers to make informed decisions and potentially improve the adoption and approval process when it comes to prescribed fire.



Water on black: using hoses to extinguish prescribed fire during the 2022 Fire School.

Through this research, we hope to support ranchers and land-owners who wish to include prescribed fire as part of their pasture management tool kit. As soil carbon becomes more entwined in any decision-making process, we need to have the necessary information relevant to our region to support both producers and legislators in informed actions.

Overall, the project seeks to improve forage and grassland productivity, by using prescribed fire to improve the management and productivity of pastures, optimize pasture utilization, and reduce wildfire risks.

The PRFA is excited to embark on this 3-year project and we look forward to sharing updates as the project moves forward.

Strategic use of prescribed fire

can achieve many critical landscape objectives such as:

- 1) reducing hazardous fuel buildup,
- 2) improving wildlife habitat,
- 3) reducing wildfire risk, and
- 4) improving pasture productivity.

Fire has historically been part of the natural disturbance regime within the Peace Region landscape and has been applied to the land in northeast BC by Indigenous Communities for millennia.

Nadia (PAG, MSc) obtained her Master of Science along with her acting degree from the University of Saskatchewan. She has worked as an extension agrologist for over 10 years before becoming an independent contractor. As a voice actor she has voiced a number of audiobooks available on Audible.

