

## Managing to Make a Difference

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All my life I've lived with my family on our commercial cow calf ranch in southern British Columbia, Canada. We are located a half and hours drive from Canada's only desert, Osoyoos, and are surrounded by mountains and valleys. Our home ranch is located on a south facing slope. Our ranch utilizes 2300 acres of deeded land and 75,000 acres of government rangeland which sustains our 360 head of cattle. We heavily rely on our rangeland to provide for our cows in the summer, making rangeland management a priority. Today I am going to explain a few of the things we do on our ranch to improve our rangeland productivity.

On our ranch we have a lot of bunch grass, which thrives when well managed. Bunch grass is fragile because it grows with spaces of soil between each plant. This growth habit makes it very susceptible to weed ingrowth. When this soil fills in with weeds which compete with the bunch grass, the plants are set back. Our ranch uses Biological control and Herbicides to control invasive species which improves our rangeland productivity. The terrain of our ranch and the large size of the area we manage, makes weed management very important. Herbicides are a great tool that ranchers can use. They are very helpful in controlling noxious weeds giving the native plants time to re-establish. Saying that, herbicides can be abused by thinking that more is better. The goal on our ranch is to not need them, and we will keep working towards that goal with good grass management. Biological control has worked well for us on houndstongue, Dalmatian toadflax and diffuse knapweed. Biological control is when a natural enemy or predator is introduced to control a pest. This method is an economical solution for our area because of the mountainous terrain. Invasive species are not native, so they can flourish without threat of predators. This is why we have to introduce their predators to get them back under control. A lot of study and research has to be done before a biological control agent can be released into Canada. Our local cattlemen's association helped fund and find a site to help establish the Crusicer bug. These bugs have

helped get rid of houndstongue which is considered noxious under the BC *Weed Control Act*.<sup>1</sup> This weed is found primarily in the southern interior of BC. The Crusicer bug has almost entirely eliminated houndstongue on our ranch and range, without having to use herbicides.

Management of rangeland is much harder than private land because we have no control over the major impacts of new roads and weeds brought in by them. We spray the land along the road to keep weeds out of the traffic but leave some area up higher for the biological control to have an area to multiply and hopefully control the knapweed. On our ranch we take advantage of the "rancher spray program". This allows a rancher who has a pesticide license and a service licence, both of which my Dad has, to control weeds on government land within their range area and recover some of the costs from the local regional district. The weed coordinator gives us priority areas that they want treated on our range and the remaining budget can be used up on areas that we think need our attention.

The most detrimental thing you can do to rangeland is overgraze it. Overgrazing of the vegetation reduces the overall production of the plant while exposing the soil to erosion.<sup>2</sup> Overgrazing is not always caused by too many cows in one area, it is possible to over graze with one cow. The Beef Magazine said it well; 'The most important aspect to understand is that when grass is grazed, the leaf area will regrow; utilizing energy reserves stored in the crown and roots. After regrowth, it takes three to six weeks for most species to replenish those reserves. If regrazed prior to replenishment, the plant will die. That's overgrazing.'<sup>3</sup> By leaving a layer of litter on top of the soil, you can prevent the loss of moisture to wind and sunshine. This means leaving plenty of old trampled grass mixed with manure. Soil litter reduces the impact of rain on the ground reducing runoff. One of our

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<sup>1</sup> <https://bcinvasives.ca/invasive-species/identify/invasive-plants/hounds-tongue>

<sup>2</sup> <https://www.britannica.com/science/rangeland#ref32964>

<sup>3</sup> [https://www.beefmagazine.com/mag/beef\\_overgrazing](https://www.beefmagazine.com/mag/beef_overgrazing)

ranges is very dry, making it even more important that we do not over graze. A place near ours has been overgrazed for years and is covered in little cacti called prickly pear. It was quite the struggle to ride through there with our horses, and I can't imagine what it would take to recover it back to healthy grassland. This is why we rotate the way we graze our range in order to rest areas so they can be more productive and healthier the next year. To make sure our cows are in the right area, we ride our horses to check on them. Well-kept fencing is also helpful, so we can control where our cows are grazing. With good fencing, we can keep our cows in and out of certain areas, giving them rest, so they have time to recover.

On our ranch 85% of our range is forested. This means we have to not only be thinking about how to make our open grasslands productive but also how we can increase grass growth in the forested areas. Selective logging is a great way to make a forest healthier while improving grass growth between the trees. We try to do this every 20-25 years to give the forest time to regrow. We like to log in the winter so there is little disturbance to the soil. The frozen ground and snow cover protects the soil from disturbance and compaction by machines moving through the woods. We have also done controlled burns to clean up logging debris. Low-intensity burns are a great way to get rid of dead material low in nutrient value, and kill out encroaching seedlings, while increasing the quality and quantity of grasses and forbs.<sup>4</sup>

We rely on our rangeland to provide grass for our cattle for over half of the year. Because of this, it is integral for our ranch to keep our grasslands thriving. My family puts a lot of time into controlling weeds, managing our grass and improving the usability of our forested rangelands. By using a combination of these tools, we are continuing to improve our rangeland productivity for years to come.

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<sup>4</sup><https://www.bugwood.org/pfire/reasons.html>