

Not Your Average Retirement Path:

Studying the Natural Systems of Southern Alberta

By Reg Ernst



“We must be clear-sighted in beginnings, for, as in their budding we discern not the danger, so in their full growth we perceive not the remedy.”

Montaigne, Essays

In 1988, after working in the public service for more than 20 years, I decided to take advantage of an early retirement program the government introduced. The program offered up to two years of retraining at an educational institute so I enrolled in an agricultural program at Olds College. At the time I owned a small hobby farm of 70 hectares near Leduc. There I grew hay and raised some horses, in part because I enjoyed trail riding in the mountains.

At the time studying agriculture seemed like a good fit for my retirement plans but it soon became apparent that my biggest interest was in environmental science, not agriculture. Studying the relationship between plants, animals, soils, and climate (i.e. ecology) became my primary interest at Olds College. What I learned at Olds just whet my appetite for further studies, so I transferred to the Range Resources Program at Montana State University (MSU) in Bozeman Montana.

I enrolled in all of the ecology courses offered at MSU; my favourite was alpine ecology with wildlife ecology a close second. We did the alpine ecology course at an elevation of about 3,000 metres on the Beartooth Plateau near Yellowstone National Park. I always treasured being in the high mountain passes whether I was on foot, on skis, or on horseback, but the alpine ecology course really cemented, maybe intensified, my love for the alpine. I love studying alpine vegetation because non-native plants

are still absent from high elevation habitats. I say still, because unfortunately, that could change given climate change and the ability of plants to adapt.

While at MSU I did an independent study in the Spanish Peaks Wilderness Area southwest of Bozeman. I collected data to analyze what impact camping was having on plant and soil features at high elevation campsites of approximately 3,000 metres. During this study, I developed a special interest in white-bark pine. My interest in this pine, like its endangered status, continues today. Some study sites I accessed by traveling across Ted Turner's bison ranch southwest of Bozeman. I admired Ted's management policies because he believed that what is good for fish is good for the watershed. Improving fish habitat was central to his management philosophy. At that time, his distaste for cattle and his love of bison was well known. Riding across his ranch and seeing a large herd of bison silhouetted on a distant ridge was a thrilling sight. Easements on his ranches were a great step forward for conservation both in Montana and New Mexico.

With some knowledge brings the realization of how little we know. Near the end of my undergraduate program at MSU, I accepted an offer to do a graduate program at New Mexico State University in Las Cruces, New Mexico. After two years, I graduated with an MSc in Range Ecology (minor in Wildlife Management). My thesis work on woodland ecology taught me about research

methods. As part of my graduate work, I supervised a wildlife project on Ted Turner's ranch near Truth and Consequences, New Mexico. It so happened that the Turners and Carters visited the ranch during our study, but they failed to invite us to the ranch house for coffee...

When my wife and I moved to Lethbridge in 1995, I hoped to find a meaningful job, but work for an old guy with a young degree was in short supply at that time. Volunteer work was a good option because I wanted to contribute, and I also wanted to put into practice some of the research methods I studied at university. I learned of the Castle Crown Wilderness Coalition's (CCWC) efforts to protect the Castle area so I volunteered with them.

My first visit to the South Castle valley with Dave Shepard was disillusioning. Observing the negative impacts from the various users in the area made me think of Garret Hardin's essay "Tragedy of the Commons." The area was being used and abused with no apparent regard for conservation. As in the commons, there was no incentive for users to practice restraint or conservation. It seemed that the provincial government had abdicated its responsibilities and was prepared to ignore or accept the obvious damage the area was suffering from. If government officials thought users would self-regulate their behaviour to maintain ecological integrity they were mistaken badly. One obvious problem was the surface damage caused by various high

impact activities. A second problem was the lack of native grass communities along the South Castle river. Under decades of heavy grazing, native species had been replaced by weeds and introduced species such as Timothy (*Phleum pratense*) and Kentucky bluegrass (*Poa pratensis*).

We (the CCWC) worked with Sustainable Resource Development (SRD) to make some positive grazing changes to the area, but challenging the combined forces of government, industry, and special interest groups over other issues was like us taking a knife to a gunfight. I suspect the special interests had strong political support from Premier Klein and Environmental Protection Minister Lund although at the local level (SRD in Blairmore) I think support for conservation was quite strong.

Riding out of the South Castle valley one day, I saw a group of ungulates high up on the slopes of Whistler Mountain. Damn! I thought, those look like cattle. Then I pondered: what the heck would cattle be doing way up there? Dave Shepard and I returned a few days later and confirmed that some yearlings were using the area. Subsequent stocking of the area was with cows and calves because they are less inclined to go exploring. Call me a conservationist – I had a problem accepting the fact that cattle were allowed to graze on public lands in alpine.

Later surveys in the Front Range Canyons revealed conditions similar to those in the South Castle (i.e. overgrazed stream corridors). There is good news and bad news in the canyons, however. The bad news is that the valley bottoms are trashed; the good news is that the upper slopes still contain relatively pristine rough fescue communities. The reason these fescue communities are still relatively pristine is that the cattle prefer to hang out along the creek rather than go upslope. With respect to grazing then SRD calculated the Animal Unit Months (AUMS) available in an area; an AUM is the amount of forage a cow/calf pair will consume in a month. While SRD's calculations included all the available or potential grazing area the cattle don't always oblige when it comes to their grazing. They prefer the areas adja-

cent to the stream corridors. Consequently, stream corridors are severely overgrazed while upland sites are relatively untouched.

I observed similar conditions along the stream corridors in the Cypress Hills during a rare plant survey conducted in 1999. Most of the stream drainages were severely overgrazed while the cattle avoided upland sites. The Range Management Specialist of that time told me that he didn't control the grazing schedule, the ranching community did. Ironically, poorly managed grazing has conserved some relatively pristine rough fescue communities in southern Alberta, but in the process, stream corridors have been sacrificed.

As stated previously, cattle are normally reluctant to travel upslope but in some Front Range Canyons they follow the stream corridors up into the alpine. Perhaps they do that to escape insects or to find more succulent forage. Again, we worked with the SRD and the ranching community to address the alpine issue. Some ranchers were quick to cooperate while others were not. Preventative barriers were installed in two of the canyons (Yarrow and South Drywood), but maintaining the fencing was an ongoing problem. Seeing cattle in the alpine seems like a sacrilege to me; it's a sight we should neither get used to or accept. I hope Minister Phillips will come to that view. Surely she can't think it's ecologically responsible to let Bessie and

Molly roam the Castle alpine as shown on the June cover of *Wild Lands Advocate*.

For several years, I was the Alberta Native Plant Council (ANPC) steward for the candidate Big Sagebrush Natural Area (BSNA). Our annual hike in June always revealed a multitude of wildflowers and upslope plant communities. Both rare plants and rare plant communities are common on the BSNA. I dubbed the hike "the good, the bad, and the ugly." The good was the beautiful and relatively intact native plant communities on the slopes of the BSNA; the bad was the overgrazed valley bottoms; and the ugly was the eroded scars left by dirt bikes and quads on the slopes of Whistler Mountain and elsewhere.

The roots of all management and development evils are externalities. They are so bad because failing to internalize all costs results in significant future costs whether they be environmental, social, or economic. For example, activities such as clear cut logging, overgrazing, high impact recreation, and improperly regulated heavy industry would not occur if the costs of these activities were included in proper cost/benefit analyses. The analyses would recognize the costs and would restrict or prevent the activities from taking place. Multiple use management (what more frustrated conservationists might call "rape, pillage, and burn") has high



Providing the location of cushion townsendia (*Townsendia condensate*) during a rare plant survey in the Castle
PHOTO: © C. OLSON



Photographing cushion buckwheat (*Eriogonum ovalifolium*) PHOTO: © N. DOUGLAS

external costs because the attempt is made to extract every unit of resource possible from the natural system. People might argue this is an efficient use of natural resources but they fail to recognize or deliberately ignore how destructive (and costly) it can be. Much of the damage caused by multiple use is permanent, trying to undo that damage is like trying to unfry an egg.

Watershed damage is a major problem in multiple use systems because non-native plants, roads, trails, clear cut areas, and eroded scars allow for rapid runoff which damages the fishery, spreads weeds, causes downstream flooding, and reduces late season water flow. A healthy native plant cover reduces surface runoff allowing the water to infiltrate, to be released gradually over time. This improves both water quality and late season flows. Would the massive flooding of 1995 have been mitigated with better management in the Castle area? One would think so.

Long term planning without external costs would minimize environmental problems. But alas, our society doesn't think or function that way. Too many plans maximize short term benefits without giving serious consideration to the future. What will the Castle look like in the future? Will the roads and wellsites be decommissioned and be adequately reclaimed? Will Shell and other industries provide the funding for proper

reclamation or will many of the roads and trails be left intact for continued use? Will natural disturbance (like fire) be allowed to occur? Will the taxpayers get stuck with the bill? They usually do. Is restoring rather than reclaiming possible in some areas? Maybe: narrow corridors such as roads and trails will revegetate naturally in the absence of disturbance; invasive species, however, are always a problem.

I view functioning natural systems with joy, but impaired ones with dismay. Even the backcountry areas of the national parks are damaged. Overgrazed meadows, eroded trails, and weedy corrals were problems I observed during years of horse packing in the mountains. These problems are avoidable with proper management. Shortly after graduating from New Mexico State, I submitted a proposal to do a PhD on backcountry grazing management. Although the proposal was well received at the local level, Ottawa declined to support it.

Perhaps the most interesting project I did in the Castle was surveying high elevation sites for whitebark pine. I had excellent help from Peter McDermott, a university student from England. He did his undergraduate thesis on our summer's work. We used methods developed by the Whitebark Pine Ecosystem Foundation to collect data on whitebark pine stands including: tree size and density, blister rust infection, and site information such as location, elevation, slope, and aspect. More than 80 percent of the trees we surveyed were infected. Peter often commented that had his university known of some of the precipitous off-trail hiking we did, it would have recalled him to England immediately. But he also said that his time in the Castle was absolutely the best part of his university program. I'm sure he'll always remember the special character of that place.

In subsequent years, I continued to work with both whitebark and limber pine trying to determine their potential as reclamation species. Results were limited in my early work. But a few years ago, Randy Moody (an ecologist from Kimberley, BC) and I established both whitebark and limber pine plots

on Prairie Bluff using seedlings and applying various treatments. In 2016, we need to collect and analyse the data from those plots. I am hopeful and optimistic that our results will show that both whitebark and limber pine can be viable reclamation species on some sites.

Being a member of AWA has been a positive experience for me. Through Christyann's initiative, AWA supported and administered several of the projects I did in the Castle area. And for several seasons, AWA members joined me on high elevation hikes to some of the more remote areas of the Castle. Relaxing in camp one evening in the upper South Drywood Canyon, we saw two beautiful blonde quadrupeds within a few hundred metres of camp. It was a thrilling sight, particularly for those seeing a grizzly for the first time; for me, it was the first time I had seen grizzlies with such light coloring.

The adage: "Find a job you love and you will never have to work another day in your life" seems so true at times. Deciding to take early retirement and go to university was so right for me. I consider my time at university and then working as an ecologist one of the best parts of my life. I was so lucky to have had that opportunity. It allowed me to be part of the environmental community, particularly AWA, and it also opened the door for much of the volunteering I have been doing since I graduated from university.

Over the years, I did quite a lot of horse packing. My horse and I had a relationship that lasted longer than most marriages, but after nearly 30 years together, health issues (hers not mine) made it necessary to have her euthanized. Going to the mountains just wasn't the same after that. Now I live in Camrose and although I miss having the mountains nearby, I do enjoy hiking the wooded trails on the slopes of the small valley which bisects the city. I've learned to ignore the smooth brome (an invasive forage grass) so I can enjoy the abundance of native plant communities in the valley. 🍄