

Prairie Conservation Forum

Presentation by Gordon Cartwright

'OF FOOTHILLS FESCUE & GOLDEN EGGS'

D Ranch, Pekisko, Alberta

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Ladies and Gentlemen,

If we ponder the splendor and magnificence of this world, we might concede that Earth is more miraculous than any fabled provider of golden eggs. We are the beneficiaries of billions of years of process that provides all of the inspiration, sustenance, and wealth of our earthly existence. In all millennia, that mankind has taken for granted nature's strength and nurture, it seldom occurs to us that we are obliged to care for our planetary home. A home we sometimes refer to as 'Mother Earth'.

I have followed issues surrounding global warming with great interest. In past years I've heard two lectures from the skeptical Dr. Ball. In my mind, greenhouse gasses simply added a layer of amplification to regular temperature shifts. I was more concerned about the continued destruction of biotic and natural systems that buffer and regulate our environment. The destruction of rainforests, for instance, that rapidly cycle carbon and oxygen and provide gargantuan energy flows from latent energy exchanges as cloud vapor turns to rain, and the respired vapor in turn rains upward from the leaves of tropical forests. Another example is the vast replacement of grasslands by crops, which play roulette with drought, wind, frost, disease, and insect plagues.

The documentary film, 'An Inconvenient Truth' clearly demonstrates that greenhouse gas concentrations are climbing exponentially above the range of natural variation for the warmest ages of the last 650,000 years. If you doubt the seriousness of this issue, you need to see this documentary, and understand the discomfort that motivates a former U.S. Vice President to take this message to thinking people in all parts of the world. It is absolutely clear that man will have to rise above his normal busyness, above 'egg' driven agendas. We need to clearly identify areas of change, and move beyond the preoccupations of doing things right, to doing the right things.

Recently, a study from Dalhousie University forecast the collapse of our traditional fisheries by 2048. I thought of a TV documentary that contrasted Iceland's progress in maintaining cod stocks, while Canada's five hundred year old fishery languishes. The lifeblood of Iceland, and consequently Iceland's politicians, relies on a regenerative fishing economy. If any country in the world should have political will to manage resources within ecological boundaries, it should be Iceland.

On the website for Iceland's Ministry of Fisheries, is a link heading that reads "Iceland's Fishery Management System". The link brings up a presentation from the Permanent Secretary of Fisheries for an audience in Moscow. It is a summary of legislation

development and experience from 1901 to 2005. In a presentation of 38 PowerPoint slides, there was one bullet regarding the ecosystem. It read: “Ecosystem based approach underdeveloped”. In sixteen pages of text, one paragraph is dedicated to Ecosystem Management. It reads: “The ecosystem based approach to fisheries management is still underdeveloped. The general concept sounds good and everyone is now thinking about how the decision on the total catch of one species affects all the other species and in general how the intrusion of man into one part of the marine ecosystem affects all the other parts. Now we are witnessing efforts in many countries to base fisheries management on some kind of an ecosystem-based approach. The problem is that there is a lack of generally accepted basic definitions and criteria so everyone is going their own way. The meaning of an ecosystem-based approach to fisheries management will therefore be as diverse as the languages of the world unless something is done to bring people together and to try to establish some common ground.”

I was surprised to find that in the twenty first century, with declines in fisheries occurring everywhere, that the common interest in looking after the goose is not well developed. Fishery nations are burdened with the task of constructing resource allocations from an ocean commons. The evolution of Iceland’s fishery policy has been a laborious process of often emotional debate, and the central topic for several elections. Before Iceland could move to ecosystem management or the care of the Goose, it had to formulate policy for the protection and equitable distribution of the Egg. It has taken nearly fifty years for Iceland to develop a quota-based framework for long-term investment, stewardship, accountability, and transparency, which compares with the grazing lease system that had evolved in Alberta by the 1940’s. The tragedy of grazing commons, in Europe and the North American west, was the motivation to allocate from dominion lands rights and responsibilities to ensure the long-term preservation of natural capital. The ability to have tenure and equity in grazing leases allowed ranch units to evolve. Many of the big corporate ranches quickly broke apart, or invested in deeded land, while smaller operations evolved to a size and scale required for ecological integrity. It has been the ability to construct ranches of adequate scale from an amalgam of deeded and grazing lease land that ranches have been able to preserve regenerative capital by using a niche once occupied by buffalo.

Only one hundred thirty two years ago, on the morning of September 23, 1874, E. H. Maunsel camped on the Milk River ridge, nearing the end of a long march as the North West Mounted Police first came to Alberta. As the snowstorm broke in the morning, Assistant Commissioner Macleod and Captain James Walker estimated that a million buffalo were grazing within their sight.

The Rough Fescue grasslands of Alberta evolved in conjunction with a complex of fire, grazing, severe weather, parasitism, two-legged and four-legged predators. Rough fescue became the dominant plant species in these landscapes because of superb adaptation – a deep root system, tightly rolled leaves that could resist transpiration losses, and a thatch layer adapted to protect soil from fire. With the stature of bunch grass, and the Chinook winds to bare winter range, buffalo would migrate from the plains to winter in the Porcupine Hills and foothills. Areas would be harshly grazed, and well covered with

buffalo dung, then rested. These processes built the fertile chernozemic soils that were so inviting to the plow. Today, about five percent of the original plains fescue and about 15% of the foothills fescue remains. The largest sanctuary of foothills fescue and foothills parkland lies between the Highwood and Oldman Rivers, from the east edge of the Porcupine hills to the Rockies.

Undergirding every landscape on this planet are four blocks of ecological process – water cycles, mineral cycles, energy flow, and succession, which is the ebb and flow of living populations. Fescue grasslands have particular value to ranching and to wildlife because they provide energy flow in winter and times of drought. As a carbon sink, a high quality grassland will have more carbon underfoot than all the above ground portions of a temperate forest. Urine and dung from grazing animals returns minerals and plant material to soil that otherwise would slowly oxidize in dry environments. When a plant's leaves are removed by a grazing animal, the roots must provide energy to rebuild leaves. As energy is drawn, root material is sacrificed. The cycles of stress and recovery, induced by grazing, place organic matter deep in the soil.

The lands between the B.C. border and the Porcupine Hills are an especially important watershed for the South Saskatchewan River system. This area is the high precipitation region for southern Alberta, ranging from 680mm on the upper foothills to 500mm on the Porcupine Hills. Managed grazing promotes water infiltration by increasing plant diversity and soil coverage, as compared with heavily grazed or over-rested land. Increased infiltration means more water to replenish aquifers, and slower releases to creeks and rivers. Timely grazing periods increase energy flows by extending the periods of vegetative growth, removing senescent material, and by increasing diversity of plants which grow and mature in different time frames. Well managed grazing, therefore, increases carrying capacities for other species, and increases the total capture of solar energy from the landscape.

Surface disturbance from oil and gas exploration not only hinders grazing management and landscape aesthetics, but threatens plant communities well beyond the edge of development. People think of well-sites as small areas, but the pipelines and roads that connect them cross a variety of soils and microclimates, offering opportunity for new or existing invasive species to get a foothold. To date, there are no pipeline corridors or well-sites on native fescue grassland that have been restored to pre-disturbance condition.

Imagine that you are standing in knee deep grass, which extends as far as the eye can see. In your imagination, light it on fire. Think of the energy released from a million acres of burning grass, and now you can grasp the significance of the energy that grasslands annually harvest from the sun. A portion of this energy is diverted to beef production, but a larger portion remains to sink carbon and support a diverse range of plants and creatures – everything from microbes to cutthroat trout, from thirteen-lined ground squirrels and sharp-tailed grouse to grizzly bears. These are assets that money and engineers can't replace – even in Alberta. Fossil fuel development liquidates energy assets, releases carbon, and in this setting threatens diversity. Healthy rangeland creates energy assets, stores carbon, and helps to maintain diversity.

In May of 2003, on behalf of the Pekisko Group, I wrote to Premier Klein to request a halt on hydrocarbon development between the Highwood and Oldman Rivers, until an area plan was constructed to uphold the long term values of this landscape and community. As cordial as the Premier was, it was telling that he referred the matter to then Energy minister Murray Smith, who entrusted our 'sentiments' to the Alberta Energy Utilities Board. The Alberta government has abdicated the leadership role to a regulatory agency.

Our once prominent department of Lands and Forests has morphed into the department of Sustainable Resource Development. Today, mining companies talk of sustainability – that is an oxymoron. The language has become politicized, in the same way that cultivated land is called 'improved' land, or prioritizing land use is called 'sterilization'.

When the Turner Valley Oilfield was discovered in 1914, optimism prompted people to call Longview 'Little New York', and Royalties 'Little Chicago'. Now the same giddiness permeates an administration that prides itself on record sales of drilling leases. For all the billions of dollars removed from the Longview area, there is no evidence in the community of the great wealth underground. Public capital was privatized and vanished to shareholders around the globe. The legacy for Longview and Turner Valley from the bonanza is a boomtown history, the lingering bills of cleanup, and anxiety about health. The emerging attraction of these towns centers on the small town life, the Cowboy Trail, and the beauty of surrounding landscapes.

The privatization of wealth and the socializing of liabilities is a pattern repeated around the globe. The perilous state of the world has arrived because individuals, cities, and industries from all nations, treat our common air and water as sewers. People rely on governments to regulate and legislate, but regulation and coercion are poor substitutes for enlightened action, motivated from within. Stewardship cannot be legislated, any more than you can be forced to love your children.

Alberta prides itself on being a market driven economy. Dr. Nicholas Stern, a former World Bank chief economist has said that global warming is "the greatest market failure the world has seen." But why would we expect the market to protect our interests? The market is simply a willing seller and a willing buyer. Markets do not distinguish the virtue of goods and services. The only intrinsic requirement of the market's integrity is that both buyer and seller enter the transaction willingly, and that they receive the value they agree upon. Illegal trade in drugs or weapons for instance, does not reflect upon the market process, but upon the human condition and values. People that have intellectual, physical, emotional, and spiritual health, do not serve terrorism, use crack cocaine, or pedal child pornography. Likewise, the market does not discriminate between wise use of land or abject plunder. How and where the marketplace takes our economy and quality of life is dependant on choices.

Consider our beef industry. Alberta yielded to short-term opportunity for a grain feeding industry, hugely dependant on cheap energy, water, and the U.S. market. The industry is

concentrated in the water scarce portion of the province, even as diminishing aquifers are loading with phosphorus from intensive agriculture. The fossil fuel requirement for cattle raised from cultivated land likely requires six barrels of oil for each 1250 lb steer. Clearly the industry is unsustainable. The short-term advantage for expansion in the grain-feeding industry has impoverished the natural capital of land, people, and the genetics and health of our herds. Alternatively, the province could have invested in a forage-based industry, with smaller packing plants, diversified markets, and smaller infrastructure. It appears no one thought about the larger balance sheet.

The province continues to allow the destruction of prime farm lands and range. Indeed, the rangelands we are trying to safeguard produce cattle without the need for herbicides, pesticides, fertilizer, or heavy agricultural equipment. Cattle on these ranges are even handled using a quiet solar-powered conveyance, called a horse.

A Ministry of Regenerative Resources should become a senior department. We should be prioritizing which non-renewable assets to liquidate, in which time frames, so that their sale provides the most benefit and least harm. We should be planning for an economy in which we will have fossil fuels available in two hundred years, without making the province a maze of roads, open-pit mines and drilling pads. There are no magic bullets on the energy front, no panaceas. But there are many answers and opportunities. We have to be particularly vigilant for partial budgets, regarding energy investment, that fail to examine a larger balance sheet of net energy returns, and their impact on ecological and social integrity. An example is the range of choice for biofuels.

The well-being and peacefulness of this planet's people depends on our ability to ration and optimize non-renewable expenditures, while nurturing and optimizing our regenerative systems. For quality of life, we need to maintain ecological landscapes. If we are to accomplish this we need to look at whole balance sheets, whole systems, and we need to support all communities and landscapes in this mission. As a ranching community, we have been swimming uphill to do the right things. This area represents the spirit of living within ecological bounds, and promotes ecological goods and services, including carbon sequestration, watersheds, sustainable economic endeavors, and quality of life. It is time we had vocal support, because if we preserve this landscape and community, the victory will not only be ours, but humanity's.

Gordon Cartwright