

## Stephen Hughes Chinook Ranch

Longview, Alberta, Canada

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My motivation is constant and from within. I love finding better ways of doing things more efficiently and logically. And I am highly motivated to make it all work financially. The older I get the more I appreciate and care about the environment I work and live in.

Stephen Hughes



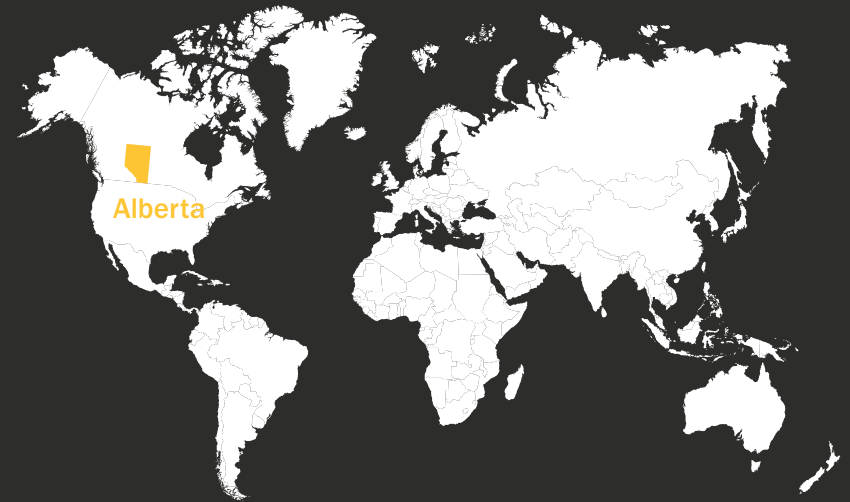
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# Introduction

Canada is the world's second largest country spanning 3.85 million square miles (9.99 million km<sup>2</sup>) and with a population in excess of 37 million people. Canada occupies much of the continent of North America, stretching from the USA in the south to the Arctic Circle in the north.

Approximately 85,000 ranchers and farmers maintain Canada's 60,000 beef cattle herds. A 2016 census identified that these farms and ranches derive more than half their income from beef production. The 2017 census found that there were 12.07 million cattle and calves, of which 1.4 million were dairy cattle and 3.83 million were beef cows. Beef production contributed \$16 billion to Canada's GDP (2012-16 average). In 2016, Canada exported 622,490 tonnes of beef to 56 different countries — making it the world's 12th largest global exporter of the product.

The Western province of Alberta is the country's primary beef producer, accounting for almost 60% of the national beef herd, and is also the 2nd largest in terms of land dedicated to agriculture.



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## 2nd

Canada is the world's second largest country at 3.85 million square miles (9.99 million km<sup>2</sup>)

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## Top 10

Canada is the third largest supplier of beef into McDonald's globally



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# Stephen Hughes Chinook Ranch

Alberta is a province in Western Canada and is bordered by the provinces of British Columbia to the west and Saskatchewan to the east, the Northwest Territories to the north, and the U.S. state of Montana to the south. It extends to an area of 660,000 square kilometers (250,000 square miles), with a landscape which includes mountains, prairies, large coniferous forests and over 600 lakes.

Alberta has a predominantly humid continental climate with warm summers and cold winters. Cold arctic weather systems from the north can produce extremely cold conditions in winter with temperatures as low as  $-50^{\circ}\text{C}$  ( $-58^{\circ}\text{F}$ ). Air masses shifting north and south across Alberta during winter means temperatures can change rapidly and also be influenced by occasional warming Chinook Winds. The Chinook in Alberta is a dry, warm, down-slope wind created by the Rockies, the Blackfoot people called these winds 'Snow Eater', due to its ability to melt as much as one foot (30cm) of snow in 24 hours. Chinook winds have been observed to raise winter temperature from  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) to  $10-20^{\circ}\text{C}$  ( $50-68^{\circ}\text{F}$ ) for a few hours or days, with the temperature quickly returning to their normal winter levels.

The Rocky Mountains obstruct rainclouds coming in from British Columbia and the Pacific Ocean meaning Alberta remains relatively dry, due to sitting in the shadow of the major mountain range. Summer months on the prairie are heralded by the arrival of the prairie crocus anemone, a flower which is followed into bloom by golden bean and wild rose. Although the once extensive herds of bison no longer roam as they once did — bears, bobcats, elk, bighorn sheep and deer still form an essential part the region's ecosystem.



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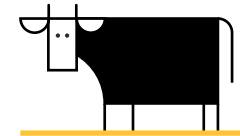
The Hughes family arrived in Canada in 1928 from England, and by 1950 had established the ranching operation which still exists today. The ranch is now co-owned by Stephen Hughes and his father, Jim. Stephen is the third generation to take on the management of the ranch and is assisted and supported by his three daughters.

The 5,440 acres (2,200 hectares) that constitute Chinook Ranch are situated in Longview, south of Calgary — the province's largest city. The rolling hills are framed by the dramatic mountains of Banff National Park, with uninterrupted views stretching for hundreds of miles.

Over the past 25 years there has been a significant shift in management; focusing on year-round grazing and phasing out cropping, reducing machinery requirements, and a reduction in reliance on stored feed for winter feeding. The shift to year-round grazing has both created, and allowed, a greater focus on range management, which has led the Hughes family to have a deeper appreciation for the environment which they both work and live in.



**5,440**  
Acres Managed



**500**  
Hereford Cross  
Angus Cows

**400**  
Yearlings

**80**  
Heifers



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# Stephen Hughes Chinook Ranch

Stephen's vision is to improve ranch profitability, while protecting and enhancing the unique habitats that support the beef herd, which in turn helps to shape and enhance the farm's ecosystem.



Chinook Ranch is one of Alberta's leading advocates of year-round grazing, a method which mimics the winter grazing habits of bison and follows an age old process perfected over millennia.

In the fall of 1996, with support from his father, Stephen introduced year-round grazing. This practice incorporated a lifetime of experience and knowledge from selecting the best animals and genetics suited to the system, to ensuring the nutritional needs of the cattle were met through the advice of nutritionists. This practice was refined and improved over the subsequent 10 years and is now a cornerstone of the business, a ranch which is truly in-tune with its ecosystem, re-establishing the symbiotic relationship between grassland and ruminant.

**"My objective is to be more profitable, whilst working smarter not harder. By focusing on year-round grazing I've been able to reduce costs, with my work being more enjoyable and logical. If animals don't have easy access to water all the grazing management in the world is irrelevant. Cutting out so much farming and developing our water systems has allowed us to really improve our grazing practices".**

Stephen Hughes

## Core Values and Goals:

- Continue to focus on optimizing efficiency and improving income
- Develop the beef enterprise to protect and enhance the ranch's natural habitats and resources
- Grow and develop a sustainable business for the next and future generations
- Be transparent and incorporate best practice to maintain social licence with consumer

## Stephen Hughes — Chinook Ranch Sustainability Objectives

### Environment

- Stephen has made a commitment to help protect the ecologically significant areas of the ranch by having been granted an easement through the **Natural Areas Conservation Program** (NACP) which is administered by the Nature Conservation of Canada (NCC). This easement protects the native grasslands from any type of development.
- Land that was previously ploughed and cropped has been seeded back to permanent cover as grassland. This helps improve soil health, carbon sequestration, while supporting the rotational and year-round grazing.
- Optimize pasture productivity and animal growth through implementing a rotational grazing system.
- Maintain a holistic (whole ranch) approach to help conserve and improve the unique ranch habitats, while supporting a beef ranching operation.
- Continue with re-focusing on pasture management and production to improve carbon sequestration and reduce reliance on fossil fuels.

### Ethics

- An Environmental Farm Plan (EFP) has been developed and implemented to ensure management practices protect the environment and natural habitats.
- Protect and improve animal health and welfare by implementing best practices, such as the use of analgesia for pain relief and low-stress cattle handling techniques.
- Continue with local community engagement and outreach programs through a variety of projects, such as fund raising for a local maternity unit and leading the local 4-H club.
- Share best practice, learning and knowledge through ranch tours, local discussion groups and industry meetings.
- Focus on livestock genetics that are specifically selected to perform and thrive in the local environment and ranch management system.
- Participate in consumer engagement to help inform, educate and support the social licence to continue producing beef.

### Economics

- Focus on understanding the costs of production which has led to the introduction of year-round grazing, a process which has reduced the requirements and costs of machinery and labour.
- Optimize livestock production and ranching operations to develop and grow a sustainable business to support the next generation into succession.

## Integrated Ranch Management

Viewing the ranch as a whole system — in terms of planning and management — ensures that the ranch can thrive while working within the environmental boundaries of the land and the seasons which are unique to this region.

Decisions such as late spring calving have been introduced to take advantage of the warming spring temperatures and avoiding the colder earlier months where temperatures can get low enough to kill calves. Cow nutritional requirements are also matched to pasture peak nutrition which is mid-July, this benefits cow fertility and breeding, which helps cows get back in calf and be productive for multiple years.

Another important aspect has been the selection of cattle genetics that suit the system. Using bulls and selecting cows for easy calving traits, with good maternal instincts along with the ability to forage and graze within this system are all critical elements to its success. The aim is to mimic a system perfected over millennia, which is what the prairie would have experienced when grazed by the bison.



## Key Outcomes & Actions

- Operate the ranch within the seasonal changes of Alberta
- Mimic dormant grazing season of bison
- Working with the environment and natural system which has evolved over several millennium





## Year-Round Grazing

In 1992, Stephen started the process of reducing the amount of hay being made during the summer for use as substitute feeding through the winter period. The aim being to skim graze through the native pastures during summer to create a winter grazing wedge for dormant season grazing. By 1996 the ranch had successfully transitioned to grazing pregnant cows through the winter period with minimal supplementation.

This shift in grazing management has seen a reduction in the amount of hay being made from 3000 bales (weighing 1,300 lbs per bale) to around 400 - 500. This has provided a significant reduction in machinery and fuel costs, along with the ability to refocus resource and time to managing the farm with an broader, integrated approach. The cows are able to exhibit their natural behavior and ability to forage and graze throughout the winter period on the highly palatable dormant grasses.

Stephen provides the necessary protein and mineral supplementation to ensure the cows' nutritional needs are met during key periods, such as gestation.



## Key Outcomes & Actions

- Circa \$100K of costs removed from the business in terms of machinery, fuel and labour
- Daily winter-feeding costs of twenty cents per cow
- Increased stock holding capacity during the summer period to help consume pastures not cut for hay



## Rotational Grazing

The system operated on the ranch involves moving the cattle every 3-7 days during the growing season and is managed on an assessment of pasture availability and quality. The aim is to optimize cattle intakes, avoid over-grazing and provide time for pastures to recover and regrow after a grazing episode.

There is also a focus on the quality and nutritional value of a pasture, with the aim of selecting the best class of stock (cows and calves, yearlings, heifers etc.) which will graze an area. The decision making process is to match the nutritional needs and performance of the animals to the best pasture to provide optimum results.



## Key Outcomes & Actions

- Optimise livestock forage intakes and improved nutrition
- Pastures can be rested and allowed to recover without being over-grazed
- Breaks parasite lifecycles reducing number of treatments needed
- Improves number of grass species in the sward and reduces selective grazing
- Improves carbon sequestration and storage





## Nature Conservancy

Chinook Ranch was granted a conservation easement under a program run by the [Natural Areas Conservation Program](#) (NACP), administered by the Nature Conservation of Canada (NCC). This program aims to ensure that ecologically significant lands — including forests, grasslands and wetlands in private ownership are protected from loss and development in communities across southern Canada.

With land on the ranch now part of this program, it means that the native grasslands are protected and no development can occur on this land now, or for future generations.



## Key Outcomes & Actions

- 50% of the ranch is now deeded and is protected under the Nature Conservancy of Canada in perpetuity
- Ecologically important habitats are now protected
- Environmental stewardship is a key consideration for every management decision made on the ranch





## Water Provision

The ability for the ranch to manage and optimize a successful rotational grazing system is reliant on a water infrastructure and system which provides easy access to clean drinking water for the cattle.

When cows are consuming high dry matter grass or have calves at foot their requirement for water are increased and if water is difficult to access or animals have to walk long distances to drink, this can have a negative impact on production. The farm has drilled water wells, fitted solar pumps and water troughs across the ranch so cattle have easy access to clean water when they are grazing pastures which was seen as an important investment.

Another consideration is the fact that when livestock drink, they choose to do this at the same time, therefore ensuring there is adequate water volume, pressure and space for the cattle to consume the required volume of water was critical.



## Key Outcomes & Actions

- Stock have easy access to good quality water
- Improved stock health & productivity
- Full utilisation of rotational grazing system has been enabled



## Animal Welfare

The Hughes' have focused their management practices to promote and protect animal welfare. Only using polled animals avoids the need to disbud calves and using analgesia (pain relief) for pain management when castrating calves is routine practice.

The Hughes' have focused on low-stress handling techniques, such as understanding cattle flight zones and points of balance. This was instilled in them by Stephen's father who always worked calmly and quietly around cattle. This has made working with the cattle easier and reduced the stress for animals and people.

Stephen actively selects for docility in his heifers and cows, and with the combination of moving cattle regularly in the rotational grazing system, along with low stress handling techniques has meant the cattle are calmer and quieter, improving animal/people interactions. This makes handling easier, reducing the potential for injuries and accidents to both cattle and people.

## Key Outcomes & Actions

- Polled genetics removes the need to disbud all the calves, reducing labor as well as stress on the calves
- Improved animal welfare makes handling safer and easier
- Metacam and other pain relief regularly used
- Leads to low stress and 'quiet cows'
- Provided training for the local 4H club on low stress cattle handling





# Partnerships, Knowledge Exchange & Shared Values

The Chinook Ranch participated in the Verified Sustainable Beef pilot project conducted by **McDonald's Canada**. The robust assessment and on-ranch audit gave the ranch the opportunity to be verified as a sustainable operation.

The ranch is also engaged in **Verified Beef Production Plus**, the mechanism to verify sustainable practices for the Canadian Roundtable for Sustainable Beef. Moreover, the mechanism aims to maintain and promote the quality and safety of the beef being produced in Canada.

Stephen works closely with his local veterinary practice, High View Animal Clinic, as well as Dr Eugene Janzen on specific animal health management initiatives. Any death losses on the ranch are sent to the **veterinary school at the University of Calgary** (UCVM) for a full post-mortem. This relationship benefits both parties, as the students have access

to carcasses for dissection and Stephen receives a comprehensive post-mortem report in return. This ensures that if there are any underlying health issues they can be discovered quickly, and preventative health planning can be undertaken.

Stephen has also been part of a panel at a UCVM summit discussing pain management. Having previously undertaken a trial on-ranch in pain management during the castration of calves.







# Partnerships, Knowledge Exchange & Shared Values

Stephen is also actively engaged in **4-H**, which is a non-profit organisation that works with young people from the ages of 9 to 21 years old. Aiming to develop leaders within communities by bringing together members and volunteers to learn about selected topics through activities and mentorship. Stephen is the Longview 4-H Beef Club leader and uses the role to discuss and promote sustainability throughout the area —this is often in the form of workshops or panel debates.

Stephen believes that it's hugely important to get the next generation talking about sustainability as a normalised and accepted concept, as opposed to being radical. Stephen's work in doing so is something he's incredibly proud of.

**“It’s important for us to do the right thing, we have to maintain social license to continue to do what we love.”**

Stephen Hughes



Stephen's three daughters

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# Actions



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## 1

In 2003 the Chinook Ranch won an Environmental Stewardship Award — awarded by Alberta Beef Producers.

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## 2

Achieving 94% conception rates and a 15% replacement rate, bulls service periods are 30 days for heifers and 65 days for cows.

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## 3

Grazing yearlings over the summer months has provided flexibility to better manage pastures, vary the stock holding capacity of the ranch, and provide additional marketing options.





## Contact

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Trust yourself and don't be afraid to implement changes, challenge all that say; but we've always done it this way.

Stephen Hughes