BEEF PRODUCTION — AN ECONOMIC PROFILE

Prepared for:

Economic Development Branch
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BUILDING BLOCKS FOR ECONOMIC DEVELOPMENT & ANALYSIS

PREFACE

PURPOSE

Building Blocks have been conceived and developed by the Economic Development Branch of the Ministry of Sustainable Resource Management, under the guidance of Nancy South, Manager Economic Analysis, as an analytical tool that supports British Columbia coastal and land and resource use planning and decision-making and economic development initiatives. The Blocks contain concise business and sector information for a broad range of resource-based business types in BC. At this point, there are more than 30 Blocks either complete or in draft form. Several more Blocks have been identified as high priority by planning tables and other client groups. Additional Building Blocks will be developed over time, and some Blocks may be updated. For the most current Building Blocks, please see the Ministry of Sustainable Resource Management website, at: http://srmwww.gov.bc.ca/rmd/ecdev/

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BENEFITS

Building Blocks are expected to provide the following general benefits:

- Increase efficiency and more informed decision-making by providing readily accessible, credible information to planning and economic development processes;
- Improve the consistency of economic information across planning areas;
- Support economic analysis and decision-making that occurs outside formal coastal and land use planning processes; and
- Provide linkages between economic analysis and other social and environmental analytical tools (through identifying resource requirements to support economic activities and general compatibilities with other sectors and values).

LIMITATIONS

Every effort has been made to ensure that the information contained in Building Blocks is accurate and consistent. Approved, credible data sources are the foundation for Building Blocks. All Blocks were reviewed by sponsoring agencies and other experts. However, users are cautioned that information is used at their own risk, and that the authors and sponsors are not liable for any damages. Any conclusions or interpretations by the authors are not intended to represent government policy. Also, note that Building Blocks do not provide site specific information nor do they consider requirements for sustainability (social, community, environmental).

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RECOMMENDED REFERENCE/CITATION

BC Ministry of Sustainable Resource Management, 2003, Building Blocks for Economic Development and Analysis, *[Title of Sector]*. http://srmwww.gov.bc.ca/rmd/ecdev/

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1.0 OVERVIEW OF BUSINESS OPPORTUNITY

1.1 Description

- Across BC, beef cattle operations are very diverse with unique financial and production characteristics. Investments, production expenses, land use and biophysical conditions can cause wide ranges in financial returns.
- BC cattle producers in the interior raise beef cattle on a combination of deeded and Crown land.
- Deeded cultivated cropland is used to produce forage to sustain the cowherd over the winter months, uncultivated private land is used to provide key spring and fall grazing.
- Beef cattle production in the Lower mainland and on Vancouver Island is carried out almost exclusively on private land with most operations being relatively small in cow numbers and revenue.
- Beef Cattle Production studies[1], undertaken by the Ministry of Agriculture have identified the key factors of success:
  - low cost land and good quality forage;
  - properly selected cattle (genetic characteristics) to suit market demand;
  - water in good supply on range and private land;
  - water for crop irrigation in some regions;
  - management talent in production, marketing and business management;
  - proximity to market outlets.

1.2 Planning Areas where Business May be Developed

- Analyses done by the Ministry of Agriculture, Food and Fisheries and LRMP tables have identified approximately 1,200,000 hectares of arable (Class 1-4) Crown land suitable for agriculture development in British Columbia. This is approximately 20% of the existing agricultural land reserve and is not *"marginal agricultural land"* (which is usually identified as Class 5-6), but rather land which can support a range of cultivated crops.
- The majority of this land is in the Central Interior, Peace River and Kootenay-Boundary regions with scattered parcels in the Fort Nelson-Liard, Thompson-Okanagan, Cariboo-Chilcotin, Skeena and Coastal regions.

[1] Source: British Columbia Beef Industry Review, SCI Sparks Companies, MAFF 1992.

2.0 OVERVIEW OF EXISTING BEEF INDUSTRY

2.1 Size and Location of Industry

- Beef cattle production in British Columbia has grown to become an important part of agriculture in the province. The beef cow herd has grown by 30% since 1986 to 279,927 head of breeding cows [2].
- Since 1986 most of the growth in the cow herd has occurred in the areas of relatively lower land values:
  - Cariboo, 20.5% of herd, 19% growth
  - Peace River, 21% of herd, 92% growth
  - Nechako, 15.2% of herd, 59% growth
  - Thompson-Okanagan, 29% of herd, 10.8% growth
  - Kootenay, 7.5% of herd, 5.6% growth
- Rate of growth has slowed in the last census period ('96 – '01).

2.2 Value and Volume of Production[3]

- MAFF studies conclude that in all regions of the province technical conditions exist to support successful cow-calf operations.
- Gross value of marketed calves will be on average very similar in all regions average gross revenue per cow was near $700-750 in 2001.
- The single most important factor that differentiates profit by region is land cost and feed availability.
- Northern regions cheap land cost supports some of the lowest per tonne forage and lower provincial cow calf production cost.

2.3 Marketing

- The marketing of cattle in British Columbia is supported by regional livestock auction markets that sell cattle at public auction to the highest bidder.
- There is a growing number of livestock sold by computer auction and by contract directly from the farm.
- Advances in truck transportation and modernization of road infrastructure have made ranching possible in all regions of the province.

2.4 Associated Businesses Providing Direct Inputs into the Business

- Cattle ranches require and depend on input suppliers to provide the basic production inputs such as crop supplies, livestock feed supplements, machinery, veterinarian services, fuel and oil.
- All inputs required to build and operate ranches are readily available from B.C. farm supply and agri-businesses.

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[2] Ibid

[3] Source: Beef Sector Profile, Wayne Lohr, MSRM 2000, and Planning for Profit, Beef Cow Calf Enterprise Budgets, MAFF, http://www.agf.gov.bc.ca/busmgmt/index.htm

3.0 RESOURCE REQUIREMENTS AND SENSITIVITIES

3.1 Provincial Crown Resources Required to Support Business

Crown Range

- Crown range land – primarily non-arable lands for Crown range tenures, but also leased land for key spring and fall grazing activities.
- Livestock grazing is measured in *animal unit months* (AUMs), one animal unit refers to the amount of forage consumed by one cow and her calf grazing for one month.
- The Ministry of Forests administers Crown land grazing, requires that each ranch operation be *commensurate* – in other words, the deeded or leased land must have the capability to produce sufficient feed for the cow herd during that part of the year when the herd is not on Crown range.
- Livestock graze about 11 million hectares of BC's rangeland resource;
  - 1.0 million hectares is private, mostly grassland and rough cleared pasture;
  - 0.2 million hectares is *Land Act* grazing leases,
  - 8.8 million hectares is Crown range tenured by the Ministry of Forests:
    - 37% of AUMs are in the Kamloops Forest Region;
    - 34% in the Cariboo Forest Region;
    - 17% Prince George mostly Peace and Nechako districts;
    - 9% Nelson Forest Region;
    - 3% Prince Rupert Region; and,
    - Vancouver Forest Region accounts for the remaining 1%.

4.0 RELATIONSHIP WITH OTHER RESOURCE VALUES

4.1 Environmental Values

- Ranches provide valuable green space and open space on the rural urban fringe and provide marketable recreation and tourism values to many rural communities.
- There is potential for ranches to disturb fish habitat by watercourse riparian activity, and wildlife habitat, particularly predatory species through grazing competition.
- Grazing can modify and alter the composition of plant communities most effects are either considered of low to moderate severity, or able to be mitigated through sensitive and diligent range management.
- Ranches also have the potential to reduce fire hazards by reducing decadent growth.
- Ranches can increase and improve range condition and quality by forage seeding and weed control.
- Ranches provide productive habitat for wild ungulates, which in turn are important resources for tourism and hunting.

4.2 Other Values

- Ranching provides other social benefits, such as environmental quality, recreational opportunities, and public amenity, which may arise from the development of Agri-tourism ranch enterprises.

5.0 REGULATORY REGIME

5.1 Tenures, Licenses and Other Approvals Required for a Ranch

- Provincial legislation with the greatest impact on a ranch access to land include the following: The *Forest Act*; The *Forest and Range Practices Act*; The *Range Act*; The *Land Act*; and, The *Water Act* .
- Other legislation and guidebooks pertinent to a ranchers business include: The *Livestock Act*; *Trespass Act*; *Weed Control Act*; *Waste Management Act*.
- Crown rangeland is tenured for domestic livestock grazing by a tenure agreements under the *Range Act*.
- In 2001 there were 1,742 agreements authorizing approximately 940,000 AUMs of grazing of which 897,000 were used.
- A *Land Act* **grazing lease** provides exclusive, fee simple like, rights to ranchers and is of a 21 year term. There are 509 grazing lease agreements covering 163,000 hectares of Crown land. No new *Land Act* grazing leases have been issued by the Province since the current *Range Act* was developed in the mid 1970s.
- A *Water Act*, water licence provides water rights to ranchers for crop irrigation and domestic use, these licences are administered by Land and Water BC and are measured in gallons per day for domestic use and acre feet for irrigation purposes.
- Applications for new opportunities take longer to get than renewals or transfers. Fees are calculated and billed on animal unit months of grazing and are not directly tied to a land area.

5.2 Process of Securing Crown Land for Purchase

- The Agriculture Development Program of LWBC provides for purchases of Crown land by eligible farmers and ranchers.
- The Extensive Agriculture Program EAP was introduced in 1963 first to the Peace region to encourage farmers and ranchers to develop Crown land via a 10 year, lease-develop-purchase plan.
- In 1990 the current program policies were adopted regarding eligibility criteria and lease terms.
- Since 1986, the agricultural lease-develop-purchase program has been available only in 4 northern regions (Cariboo, Omenica, Peace and Skeena) with direct sale available to farmers and ranchers in the southern regions.

5.3 Approximate Time and Cost to Gain Approvals

- Crown land has traditionally taken 1-3 years to complete the application process, fees include an application fee, stumpage, annual rental and final land purchase.
- Crown water licenses, involve application fees, annual use fee based on water use with a 140 day application decision commitment by government.

5.4 Availability of New Crown Land for Industry Expansion

- Current beef sector production activity takes place on less than 2% of the provincial land base (private land) for intensive cultivation, and for active Crown tenured grazing on 9% of the provincial land base.
- Nearly all farms and ranches are located within the Agricultural Land Reserve, which covers approximately 5% of the provincial land base.
- While almost half of the ALR is Crown land, lack of Agriculture Development Area planning and Forestry use, severely constrains disposition of this land. Parts of BC have little Crown land suitable for agriculture/ranching use.
- MSRM and MAFF analysis of the Crown ALR suggest there is over 1.5 million hectares of arable land with agriculture capability ratings (Canadian Land Inventory) Class 1-5.

6.0 INVESTMENT AND BUSINESS REQUIREMENTS

6.1 Start-up and Ongoing

Analysis[4] of the BC beef cattle industry indicates ranges of gross revenues and contribution margins in relation to investment for the fixed assets of land, machinery and buildings, and cash operating expenditure. A comprehensive set of Ministry of Agriculture Food and Fisheries, Enterprise Budgets describe typical beef ranch operation and financial considerations. In general it is important to note the 2001 Agriculture Census indicates following trends:

- A large majority (87%) of BC beef producers generate less than $100,000 in annual gross farm receipts.
- The large operations with 200 or more cows generate most revenues per farm and the highest return to capital and gross margins.
- Larger operations (100 head and over) have per beef cow investment of $9000-$12,000
- Smaller operations (below 100 head) have per head investment of greater than $15,000.
- Development of a small-scale (100 cow) beef operation requires investments of $400,000 to $500,000 dollars while generating less than $75,000 of gross farm income.

[4] Source: Beef Sector Profile, Wayne Lohr, MSRM 2000, and Planning for Profit, Beef Cow Calf Enterprise Budgets, MAFF, http://www.agf.gov.bc.ca/busmgmt/index.htm

7.0 KEY INFRASTRUCTURE REQUIREMENTS

7.1 Access to Transportation Infrastructure

- The more isolated the farm site, the less flexibility an operator has in accessing farm inputs and shipping farm products, and the higher the per unit operating costs.
- Rural BC is reasonably serviced by both paved and gravel roads, inland ferries, railroads, electrical, telephone, internet, radio, and television services.
- Most required services including veterinarians, trucking for livestock, feed and freight, machinery sales and services, and farm supplies are available in all regions.

7.2 Access to Labour

- Access to seasonal labour is necessary in order to operate larger farms. In general, the more isolated a farm, i.e. lack of people living in the immediate area, the more expensive labour costs will be.

7.3 Access to Processing Facilities

- The 87% of BC produced cattle (beef and dairy culls) are finished and slaughtered outside of BC in Alberta and the US.

8.0 MARKET

8.1 Global Demand for Cattle Products[5]

- Global demand for beef is increasing. British Columbia imported 98.5% of it's red meat (including pork and lamb) in 2001, the value of beef imports was $231 million alone. In recent years the BC live cattle market price has been at record highs indicating increased consumer beef demand.
- The primary outlet for BC beef cattle is Alberta and Saskatchewan finishing feedlots that have a combined capacity of 1.6 million head and supply Alberta's now major North American beef slaughter industry.
- Approximately 60% of Canadian beef production is exported, 73% of these exports go to the US with the remainder going to South East Asia (particularly Japan, Korea, Hong Kong and Taiwan) and Mexico.

8.2 Factors Affecting Exports

- Most countries targeted for export sales are gradually reducing trade barriers for Canadian products. Maintaining and ensuring high quality products is essential to encourage on-going removal of trade barriers for Canadian products.

[5] Source: Red Meat Market Information web site, http://www.agr.gc.ca/misb/aisd/redmeat/ , Federal Department of Agriculture

- There is also an increasing trend in many markets to require the tracking of product safety and quality back to the original producer. Herd of Origin tags have been mandatory on all Canadian Beef and Dairy cattle since July of 2002.

9.0 LABOUR MARKET

9.1 Skill Requirements

- An operating farm typically requires a manager and one or more farm hands.
- All workers should be comfortable working outdoors, and be physically fit since the work is at times strenuous. They should be willing to work long hours on a range of tasks, often without supervision. They should also be good at working with their hands in order to handle livestock, as well as use, maintain, repair tools and equipment.
- The farm manager should also possess small business skills (i.e. planning, management, sales and administration), along with a technical understanding of domestic livestock, crop, and range husbandry.

9.2 Seasonality/Intensity of Work

- Much of the work is seasonal and takes place during periods of spring calving, fall roundup, marketing and crop harvesting. An ongoing presence is also required to ensure animal health and the smooth operation of the ranch.

9.3 Wage Rates

- Farm worker wage rates range between $8 and $20 per hour and depend on skill requirements and level of responsibility.

9.4 Employment Generated

- Farm labour requirements depend on the size of the operation and type of production used. Annual employment per ranch is estimated to be between 0.12 and 1.00 FTEs.
- During peak periods of stock handling and crop harvesting there could be 3 to 4 people working on a ranch.
- The employment multiplier for livestock is 2.7 i.e. a farm that had annual employment of 1.0 person would generate 1.7 person years of employment economy wide through purchase of goods and supplies from farm suppliers.

10.0 GOVERNMENT REVENUES

10.1 Key Sources of Government Revenue

- Government Revenue is derived from Federal, Provincial and Municipal taxes.
- Crown range, land and water tenure fees.
- Land sales and timber stumpage derived from EAP land dispositions.
- Capital gains, personal and business earnings.

11.0 SUMMARY

11.1 Description of the Existing Cattle Ranching Industry

The following table summarizes available information about the existing beef cattle ranching industry in B.C.

Indicator	Cow-Calf Beef Production
Number of Operations	5,023 census beef farms reporting, 3,040 beef farms >$10,000 in Total Gross Farm Receipts
Land Resource Requirements	2001 census reports 4,086,142 acres or 1.65 million ha. of private farmland
Crown Resource Accessed/Used	200,000 ha. Grazing Lease 8.8 million ha. Crown grazing 897,000 AUMs utilized in 2001
Product Created	707,756 total herd 279,927 beef cows 250,000 calves available for sale
Investment	**$4,546,329,967 for all Beef farms in the 2001 Census.**
Value of Production	$225 million (fall calf sales value)
Employment Direct	Over 7,500 assuming operators and 1 ranch hand per farm for 3,040 farms w/sales >10k.
Government Revenues	$2,000,000 Crown range fees $9,000,000 Land & Property Taxes

11.2 Expected Economic Effects From a New Cattle ranch

The economic inputs and outputs from a new cattle ranch will vary considerably from operation to operation. Key determining factors include: location, size of land base, availability and productivity of Crown range, production practices, business and husbandry skills of the rancher. The following table provides estimates based on historic levels of production, market values of cattle and timber.

11.3 New 150 Cow Cattle Ranch

Indicator	Beef Cattle Ranch	
	Private Land	Crown Land
Farm size	260 ha.	1000 hectares range
Initial Investment	$2,230/hectare	$ hectare
Annual Calf Sales	$75,000-100,000	
Federal taxes Provincial taxes Municipal taxes	$3,367 $3,865 $1,746	
Direct Employment	1.5 person year	
Rent on Crown Tenure or disposition of Crown land	$5000/ha timber market volume (200 m3 /ha) $615/ha in land sale	$1072/yr. in range fees