

COSTS AND RETURNS OF SAMPLE RANCHING BUSINESSES IN VARIOUS AREAS OF BRITISH COLUMBIA - 2013



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Introduction

Outline of Project and Objectives

This study was conducted to update the 2007 study titled “*A Project to develop baseline data on typical costs and returns of ranching businesses in various areas of British Columbia*”. Using a focus group approach, information and feedback from groups of B.C. ranchers was collected to update cost and return data and production parameters outlined in the 2007 study. Focus group sessions were held in six locations in British Columbia: Cranbrook, Vernon, Kamloops, Williams Lake, Vanderhoof and Dawson Creek. The authors would like to thank the ranchers who contributed their valuable expertise and time to provide the information to complete the study. The authors would also like to thank the BC Cattlemen’s Association and staff from the BC Ministry of Agriculture who helped organize the focus group sessions and provided valuable input and support into the study.

The Program objectives were:

1. To develop base line data for a representative ranch business in various areas of B.C. which included:
 - An asset profile including deeded land base, crown land, machinery complement, size of cow herd etc.
 - A financial profile of the ranch including a Net Income Statement, Balance Sheet and Cost of Production of the cattle and forage operations.
 - A profile of production variables including calving percentage, weaning weights, prices, forage production etc.
2. To make the information available to participating agencies for program use.

Methodology of the Study

To determine the profitability of ranching businesses, two computer models were developed to process the information. In addition to the information provided by the ranchers, secondary sources were used to provide, supplement and verify data on input costs and revenues, production variables and the capital structure of typical ranches. The data was entered into computer models to compile the information and develop the financial statements for the representative sample ranches. The models produced a Balance Sheet, an Income and Expense Statement for the ranch business and the value of production for the cow calf enterprise. A forage cost model was developed which produced cost and return information for the forage enterprise on each sample ranch. This information was provided to the ranchers who

participated in the focus group sessions who were asked to review the draft and provide feedback. This feedback was incorporated into the final results of the study. The following outlines the focus group process.

The Focus Group Process to Determine Cost of Production Information

The process which was used to verify costs of forage production and cow calf profits utilized focus groups of ranchers to provide information to verify production and financial information for a sample ranch in the area. The following is an outline of the process.

- As this project was to update the data collected in 2007, the first step in the process was to review the parameters of the sample ranch developed at that time.
- In 2007 the group agreed on the physical size for the sample ranch in the area. The total acreage of the ranch was determined with number of deeded acres, number of cows, the number of acres in forage production and the number of Crown Range AUM's on the ranch. After reviewing the information developed in 2007 the focus groups updated the information for 2013.
- Producers provide information for the cow calf enterprise including prices, weaning weights calving percentage, etc. Forage cost information like yields and prices in both the establishment and full production year and detailed costs associated with cow calf production was verified.
- Input costs like forage seed, fertilizer, chemicals (if used), fuel costs etc. were verified and updated.
- A list of the machinery complement on the ranch was verified and updated.
- The group confirmed each activity to determine fuel costs, repair and maintenance costs, and labor costs for each operation.
- Interest costs, land costs, and other overhead costs were updated.
- The information was input into a computer model to calculate and produce a Net Worth Statement, an Income and Expense Statement and detailed costs related to hay production on the sample ranch.
- Preliminary financial information for the sample ranch was distributed to participating producers at the end of the meeting.
- The information was verified and the financial data was provided to the producers for comment and feedback.

The information was used to prepare a final report on baseline production costs in British Columbia.

Developing Sample Ranches for the Study

Sample ranches were developed in six areas of the province of British Columbia for the purposes of the study in 2007. These ranches were not meant to be average or typical ranches but rather ranches that one would regard as being a reasonable fit for the area in which they were designed. They need to be capable of accommodating the production parameters and economic data in a logical way and without confounding encumbrances. The selected production parameters and economic data provide for the average, normal or typical characteristics associated with the area or region.

Lengthy dialogue was held during the process of designing the sample ranch. Some components of the discussions included:

1. An important requirement for the sample ranch was that the operation would not stand out as being a gross abnormality or clearly a near impossibility for a ranch located in that particular region. The ranch being designed was described as a sample ranch, as opposed to an average ranch, or a typical ranch for the area.
2. The sample ranch needed to be structured so that discussion participants could confidently attach appropriate production and economic parameters that were logical and defensible for the sample ranch.
3. It was important that the scale of operation for the sample ranch be large enough to be a commercial entity as opposed to a hobby farm. It was recognized that some of ranch operations could require a significant component of off farm income or other sources of revenue or capital. There was not a specific target as to size of the operation, other than the desire to consider commercial sized operations, not hobby farms or a sideline.
4. Beyond the above three requirements, it was desirable to construct a sample ranch that encompassed some of the significant geographic and climatic features typical to the zone or region in which the example was located (such as open native grasslands in the Kamloops example vs. northern examples using native brush areas often mixed with openings of pastures seeded to domestic species).
5. It was desirable for the sample ranch to represent some of the cultural, economic, or historic features that may be somewhat special to the area, such as using primarily horses for livestock handling in Kamloops and Williams Lake, the lack of availability of private

pasture to rent in some locations, custom haying on smaller properties such as in the Vernon area, etc.

6. A range in the size of operations represented by the sample ranches was not a requirement; however, in the end, sample ranches ranged in size from 150 to 400 cows. This range of herd sizes could be contained within any of the regions in the study area. Although it was not part of the original plan, being able to compare the costs and returns over a range of cowherd sizes was useful. It was also helpful to have at least one of the examples with sufficient herd numbers to (at least theoretically) provide income to support one or two ranch families without significant off farm income being an essential component. When the data was used for comparative purposes, costs and returns were presented on a per cow basis.

The production and economic features represented by the sample ranches were excellent for the purpose of this study. The results of this study confirm the usefulness of the hypothetical sample ranch model technique.

This technique requires the careful selection and development of sample ranches and their respective production and economic parameters. The knowledge, experience and judgment of participants is key to the success of this process. The sample ranches represent the collective wisdom and experience of the participants who developed the scenarios.

The study provided the following information on each of the sample ranches.

- Ranch Description
- Ranch Basic Assumptions, Winter Feed and AUM Calculations
- Ranch Income and Expense Statement
- Ranch Net Worth Statement
- Costs of production of the forage enterprise

The financial situation of each sample ranch is outlined by the Ranch Income and Expense Statement and the Ranch Net Worth statement.

Ranch Income and Expense Statement

The Income and Expense Statement for each sample ranch during the period January 1 to December 31, 2013 speaks to the profitability of the sample ranch. The profitability of a business is shown on the Ranch Income and Expense Statement. Sometimes called a Profit and Loss (P & L) Statement, it summarizes the revenue and expenses of a business over a

period of time indicating net income or loss. It matches the revenue with the expenses incurred during the period. It is usually reported on an accrual basis with exception of agricultural businesses, which can report on the cash basis. Under the cash basis revenues and expenses are reported in the period in which the related cash is received.

Under the accrual basis revenues and expenses are reported in the period in which they have been earned or incurred regardless of when the cash is received or paid. Adjustments are made for change in inventory, accounts payable and receivable. The Income and Expense Statement for the sample ranch in B.C. was reported on the accrual basis.

The gross profit shows the revenue generated from the ranch less livestock and crop purchases and marketing costs, and is adjusted for changes in inventory of cattle and crop sales. The production coefficients like weaning weights, calf prices, calving percentage, etc. are outlined in the Sample Ranch Basic Assumptions, Winter Feed and AUM Calculations Table. Direct costs are those costs that are directly related to items produced by the ranch business. Examples include fertilizer, feed, fuel and vet supplies. Indirect expenses are those items that cannot be directly related to production. Examples include taxes, accounting, interest and utilities. Total return over expenses is the gross profit minus direct and indirect expenses. Depreciation is deducted from this number to determine the Net Farm Income of the business. No operator labour is included in the expenses section of these unincorporated businesses. Additional items which must be covered by the net farm income, include principal payments, operator labour, return to management, and equity.

Opportunity Costs

A number of ranchers at the focus group meetings indicated that opportunity cost of capital invested in the ranch operation should be addressed.

Opportunity cost can be defined as the cost of income foregone if the capital is invested in the next best alternative. For example, if the ranch is sold and the money received is invested in the next best alternative, the opportunity cost is the amount the investment would return. In most cases ranchers do not address opportunity costs until they plan to make major changes or they are realistically considering selling the ranch.

Any decision that involves two or more options involves opportunity costs. The main use of opportunity cost is to evaluate specific investment alternatives. In many instances opportunity cost is expressed in nonmonetary terms. Opportunity costs differ from the accounting costs that have been used in the cost and returns on the Income and Expense Statement. The accounting

costs include actual cost and do not include forgone opportunities.

In the process of calculating opportunity cost, the appreciation of ranch assets over time should be considered. A complete analysis should examine the historic rate of appreciation in the capital asset over time, the reasons for the appreciation, and the likelihood that the asset would continue to appreciate at the historic rate or even exceed the historic rate of return in the future. In many instances the increase in the value of the ranch assets over time may offset the opportunity cost. Opportunity cost was considered in the analysis of the forage enterprise but was not included on the total Ranch Income and Expense Statement.

Net Worth Statement

The Ranch Net Worth Statement is a statement summarizing the net worth of a business at a point in time. The statement date for each sample ranch in the study is December 31, 2013. Assets are valued at estimated fair market value and liabilities are subtracted from the asset values to estimate net worth of the business. Current Assets are those assets that can be converted to cash within one year or consumed in the production process within one year.

Examples of Current Assets include cash, feed, accounts receivable and market livestock. In most cases on the sample ranches this consists of the hay inventory at year-end. Intermediate Assets are those assets that have a useful life of greater than one year and not more than 10 years. Examples include equipment and breeding livestock. The value of the machinery is the fair market value for a compliment of machinery held by a typical ranch in the various areas of B.C. Fixed Assets are those assets that have a useful life of more than 10 years. Items include land, buildings and corrals and grazing leases. The values of the fixed asset were determined by the focus group participants, the authors and other secondary sources.

Current Liabilities are liabilities that must be paid within one year. Examples include accounts and notes payable, operating loans and the principal. Intermediate Liabilities are liabilities that must be paid within 10 years. Examples include loans for livestock and equipment. Term Liabilities are liabilities of more than 10 years. Examples include mortgages and equipment loans of more than 10 years. Total liabilities of the typical ranch were estimated at \$1,000 per cow. The liabilities of the typical ranch are the amount of debt the focus group believed a cow could support.

Forage Enterprise Cost and Returns

The hay cost of production table combines the costs and returns of the establishment year and

the full production year. It is summarized on a per acre and per ton basis in the categories of direct costs, indirect costs and opportunity costs. The revenues and costs are weighted averages which reflect the different acreages of the establishment and production.

Total Revenue of the hay enterprise consists of hay used for feed at market value and sales of hay not used for feed.

Direct Costs are those costs that are directly related to hay production. Examples include seed, fertilizer, repair and maintenance, fuel and hydro.

Indirect Costs are those costs that cannot be related directly to production. Items include depreciation on equipment and buildings and labour.

Gross Operating Profit is the total revenue less direct and indirect costs.

Opportunity Cost is the expected rate of return forgone by the bypassing of other potential investment activities for a given capital. This typical farm land ownership costs are accounted for by including the cost of renting land in the area.

Total Economic Costs includes direct costs, indirect costs and opportunity costs. The direct and indirect costs are incorporated into the ranch Income and Expense Statement.

Cranbrook Sample Ranch Description

The sample ranch is located near Cranbrook, in the East Kootenay region of British Columbia. The ranch markets cattle in southern Alberta. The following summarizes the production parameters of the ranch.

Cow Herd

The ranch has a herd of 200 cows. The cows commence calving on March 10th. Calves are sold in the fall (mid October). The sale weights in 2013 for steer calves was 570 pounds and for heifers, 515 pounds. The average selling prices for the fall of 2013 were \$1.64 per pound for steers and \$1.48 per pound for heifers. The cow to bull ratio is 25 to 1. The weaning percentage, expressed as the number of calves weaned as a percentage of cows overwintered, was 88%. The herd replacement rate is 15% with 85% of the heifer calves retained entering the herd. Therefore, 35 heifer calves are kept as replacements.

Winter Feeding

Winter feeding begins December 1st and the last day of feeding is May 25th for a total feeding period of 175 days. The total winter feed requirement for the herd is 660 tons of hay. On a per cow basis the winter feed requirement is 3.3 tons per cow.

Winter Feed Production

The ranch has 200 acres of hay land. Of this acreage 180 acres are in full production and 20 acres are in the establishment year. These hay stands are an alfalfa grass mix and the average yield is 3.5 tons per acre on the established stands and 2.5 tons on the new seeding. The total hay produced on the ranch is 680 tons. A total of 660 tons of hay are required for feeding the herd and the remaining 20 tons are sold. The hay land also provides aftermath grazing in the fall.

Grazing

The ranch uses Crown Range, rented pasture and the home ranch to provide the grazing requirements for the herd. The grazing period is 190 and the Animal Unit Months (AUM's) of grazing required for the ranch is 1518 AUM's.

Total Size of Ranch

The ranch has a total of 700 acres of deeded land. Hay is produced on 200 acres.

Table 1 – Assumptions and Price Data – Cranbrook Sample Ranch

2013 Cranbrook Ranch: Basic Assumptions

Cow Herd Assumptions		200	Cow-Calf Ranch		
Assumptions	Number of Cows	200	Herd Replacement	15.0%	
	Weaning Percentage	88.0%	Heifer retention Rate	85.0%	
	Start Calving Date	Mar 10,13	Cow Death Loss	2.00%	
	Weaning Date	Oct 20,13	Cow Bull Ratio	25	
	First Day of Feeding	Dec 01,12	Total Cow Breeding Herd	235 head	
	Last day of Feeding	May 25,13	Total Bull Breeding Herd	9 head	
	First day grazing	May 25,13			
	Last Day grazing	Dec 01,13			
	Days on grass	190 Days	Marketing & Trucking Cost		
	Winter Feeding Period	175 Days		Commission	Fees
	Replacement Heifers Retained	35 head	Calves	\$0.00	\$5.00
			Culls	\$18.00	\$5.00
			Yearlings	\$15.00	\$5.00
					Trucking
					\$15.00

Revenue	Head	Average Weight	Price Per Unit	Total	Summary Total	Total Per Cow
Steers	88 head	570 lbs	\$1.64	\$82,262		\$411.31
Heifers	53 head	515 lbs	\$1.48	\$40,397		\$201.98
Cull Yearling Heif.	5 head	950 lbs	\$1.20	\$5,700		\$28.50
Cull Cows	26 head	1200 lbs	\$0.70	\$21,840		\$109.20
Cull Bulls	3 head	1800 lbs	\$0.85	\$4,590		\$22.95
Total Herd Revenue	175 head				\$154,789	\$773.95
Less Bull Purchase	3 head	1	\$4,000.00	(\$12,000)	\$142,789	(\$60.00)
Less Marketing Costs:	Commission (597)	Fees (875)	Trucking (3,815)	(\$5,287)	(\$5,287)	(\$26.44)
Total Herd Revenue (net of marketing costs)					\$137,502	\$687.51

Wintering Herd Feed Requirements (bred cows , replacement heifers , bulls)

Category	Number of head	Hay: lbs/head/day	Days fed	Hay lbs total	Hay Ton	Hay Tons per cow
Bred cows	200 head	33	175 days	1,155,000 lbs	578 ton	
Replacem'ts	35 head	20	175 days	122,500 lbs	61 ton	
Wintered Bulls	6 head	40	175 days	42,000 lbs	21 ton	
			Total:	1,319,500 lbs	660 ton	3.30 ton/cow

Total Herd Grazing Requirements

Category	Numbers	days	AUM equiv.	total AUM	Cranbrook AUM
Cows	200 head	190 days	1	1267 AUM	1518 AUM Total 200 AUM @ \$25 1111 AUM @ \$2.62 207 AUM on ranch Total: \$7,911
Replacement Heifers	35 head	190 days	0.75	166 AUM	
Bulls	9 head	190 days	1.5	86 AUM	
			Total:	1518 AUM	

Weaning Weight Calculator

Average Calf Age at weaning	200 days	% Calves Born Per 21-Day Cycle				
Calculated Steer Weaning Weight	570 lbs	1st cycle	2nd cycle	3rd cycle	4th cycle	
Heifer Weight (% steer)	90%	513 lbs	60%	20%	15%	5%
			*Estimatd Daily Gain Birth to Weaning		2.50 lbs/day	
			*Estimated Calf Birth Weight		70 lbs	

Table 2 – Income and Expenses Statement – Cranbrook Sample Ranch

Income and Expense Statement Cranbrook					200 Cows	
January 1 to December 31, 2013						
Revenue					Total Ranch	Per Cow
	Cow Calf				154,789	774
	Feeder				0	0
	Crops				2,620	13
	Other Income				0	0
Less:	Bull Purchase				(12,000)	(60)
	Feed Purchase				0	0
	Marketing and Trucking				(5,287)	(26)
Inventory	Cow Calf	Feeder	Crops			0
Change	0	0	0			0
Gross Profit					140,122	701
Direct Expenses						
	Seed				1,472	7
	Fertilizer				14,722	74
	Chemicals				250	1
	Twine				449	2
	Crop Insurance				0	0
	Custom Work				2,000	10
	Irrigation				7,000	35
	Feed Supplement				0	0
	Mineral and Salt				2,400	12
	Grazing Fees				2,910	15
	Private Pasture Fees				5,000	25
	Trucking hay and to Pasture				0	0
	Supplies				1,500	8
	Vet and Medicine				4,000	20
	Equip. Fuel and Lube				19,532	98
	Equip. Repair				10,967	55
	Other Enterprise Expense				0	0
	Supplies Inventory Change				0	0
Total Direct Expenses					72,202	361
Contribution Margin					67,920	340
Indirect Expenses						
	Building and Fence Repair				3,500	18
	Land Taxes				2,000	10
	Shop supplies/Small tools				1,500	8
	Labour				12,000	60
	Legal and Accounting				1,500	8
	Insurance & Licences				5,500	28
	Utilities				3,500	18
	Misc. (Office, fees, subscription)				2,400	12
	Operating Interest				1,237	6
	Term Loan Interest				10,000	50
Total Indirect Expense					43,137	216
TOTAL EXPENSES					115,339	577
NET RETURN OVER EXPENSE					24,783	124
Adjustments						
	Depreciation - Buildings and Equipment				(18,490)	(92)
NET FARM INCOME					6,293	31

Table 3 – Net Worth Statement – Cranbrook Sample Ranch

Net Worth - Cranbrook- Sample Ranch
December 31, 2013

Current Assets		Current Liabilities	
Cash		Operating Loan	
Account Receivable		Accounts Payable	
Supplies		Feeder Loan	
Hay	\$78,600		
Feeders			
Total Current Assets	\$78,600	Total Current Liabilities	\$0
Intermediate Assets		Intermediate Liabilities	
Cow Herd	\$191,200	Intermediate Loans	
Equipment	\$151,470		
Car			
Horses	\$3,000		
Total Intermediate Assets	\$345,670	Total Intermediate Liabilities	\$0
Fixed Assets		Long Term Liabilities	
Buildings and Corrals	\$33,250	Land mortgage	\$200,000
House	\$150,000		
Other			
Land	\$1,400,000		
Total Fixed Assets	\$1,583,250	Total Long Term Liabilities	\$200,000
Total Assets	\$2,007,520	Total Liabilities	\$200,000
		Total Equity	\$1,985,700

Table 4 – Forage Costs and Returns – Cranbrook Sample Ranch

Forage Costs and Returns Cranbrook - 2013
Average of Establishment and Production Years

Revenue	Yield (Tons/Ac)	Per Acre	Per Ton
Oat hay	2.50	\$250.00	\$100.00
Alfalfa 1st Cut	2.00	\$250.00	\$125.00
Alfalfa 2nd cut	1.50	\$210.00	\$140.00
Total	3.4	\$439.00	\$129.00
 Direct Costs			
Seed		\$7.36	\$2.16
Fertilizer		\$83.59	\$24.59
Twine		\$2.23	\$0.66
Irrigation		\$35.00	\$10.29
Total Supplies and Materials		\$130.00	\$38.00
Fuel and Lube Costs		\$50.66	\$14.90
Machine Repairs		\$38.84	\$11.42
Total Direct Costs		\$219.00	\$64.00
Contribution Margin		\$220.00	\$65.00
 Indirect Costs			
Dep. (Bldgs & Equip.) plus taxes		\$80.79	\$23.76
Labour		\$57.55	\$16.93
Total Indirect Costs		\$138.00	\$40.69
Total Direct and Indirect Costs		\$357.00	\$105.00
Gross Operating Profit		\$82.00	\$24.00
 Opportunity Costs			
Interest on Direct Costs		\$5.48	\$1.61
Land Rental Cost		\$55.00	\$16.18
Interest on Bldgs. & Equip.		\$49.48	\$14.55
Total Opportunity Costs		\$110.00	\$32.00
Total Economic Costs		\$467.00	\$137.00
 Total Acres Hayland	 Acres	 200	
Total Tons Produced	Tons	680	

Table 5 – Summary of Hay Production Costs and Returns – Cranbrook Sample Ranch

Page 1 SUMMARY OF COSTS AND RETURNS Cranbrook															
Revenue	Est. Year 1 20 Acres					Est. Year 2 Acres					Full Pdn. 180 Acres				
	Yield	Price	Units	Acres	\$/Ton	Yield	Price	Units	Acres	n	Yield	Price	Units	Acres	\$/Ton
Oat hay	2.5	100.00	Ton	250.00		50.00		Ton					Ton		
Alfalfa 1st Cut			Ton					Ton			2.0	125.00	Ton	250.00	
Alfalfa 2nd cut			Ton					Ton			1.5	140.00	Ton	210.00	
Total Revenue	2.5			250	100						3.5			460	131
DIRECT COSTS			Units					Units					Units		
Supplies and Materials	Quant.	\$/ Unit	Used	\$/Ac		Quant.	\$/ Unit	Used	\$/Ac		Quant.	\$/ Unit	Used	\$/Ac	
Seed: Alfalfa	10.0	4.50	Lbs.	45.00		4.50		Lbs.					Lbs.		
: Brome grass	2.0	3.30	Lbs.	6.60		3.30		Lbs.					Lbs.		
: Orchard Grass	4.0	3.00	Lbs.	12.00		3.00		Lbs.					Lbs.		
:Barley	50.0	0.20	Lbs.	10.00		0.20		Lbs.					Lbs.		
Fertilizer: 46-0-0	100.0	0.34	Lbs.	34.03		0.34		Lbs.		100.0	0.34	Lbs.	34.03		
: 0-0-60		0.29	Lbs.			0.29		Lbs.		100.0	0.29	Lbs.	29.49		
: 11-52-0	50.0	0.32	Lbs.	15.88		0.32		Lbs.		40.0	0.32	Lbs.	12.70		
Custom fertilizer appl	1.0	10.00	acres	10.00		10.00		acres		1.0	10.00	acres	10.00		
Twine	2.5	0.66	T.of hay	1.64		0.66		T.of hay		3.5	0.66	.of hay	2.30		
Irrigation Power	1.0	35.00	\$/acre	35.00		35.00		\$/acre		1.0	35.00	\$/acre	35.00		
Tarp	2.5	0.39	\$/ton	0.98		0.39		\$/ton		3.5	0.39	\$/ton	1.37		
Total Supplies and Materials				171									125		
Fuel & Lube Costs				80.45									47.35		
Machine Repairs				46.51									37.98		
TOTAL DIRECT COSTS				298	119								210	60	
Contribution Margin				-48	-19								250	71	
Indirect Costs															
Dep. (Bldgs & Eq.) + taxes				80.79	32.32								80.79	23.08	
Labour				74.83	29.93								55.63	15.89	
Total Indirect Costs				156	62								136	38.98	
Total Direct and Indirect Costs				454	181								347	99	
Gross Operating Profit				-204	-81								113	32	
Opportunity Costs															
Interest on Direct Costs				7.45	2.98								5.26	1.50	
Land Rental Cost				55.00	22.00								55.00	15.71	
Interest on Bldgs & Equip.				49.48	19.79								49.48	14.14	
Total Opportunity Costs				112	45								110	31	
Total Economic Costs				566	226								456	130	

Vernon Sample Ranch Description

The sample ranch is located near Vernon, British Columbia in the Southern Interior. The ranch sells cattle at the local auction market. The following summarizes the production parameters of the ranch.

Cow Herd

The ranch has a herd of 150 cows. The cows commence calving on March 25th. Calves are sold in the fall (mid October). The sale weight in 2013 for steers calves was 650 pounds and for heifers, 600 pounds. The average selling prices for the fall of 2013 were \$1.50 per pound for steers and \$1.39 per pound for heifers. The cow to bull ratio is 25 to 1. The weaning percentage, expressed as the number of calves weaned as a percentage of cows overwintered, was 90%. The herd replacement rate is 15% with 80% of the heifer calves retained entering the herd. Therefore, 29 heifer calves are kept as replacements.

Winter Feeding

Winter feeding begins November 15th and the last day of feeding is May 14th for a total feeding period of 180 days. The total winter feeding requirement for the herd is 525 tons of hay. On a per cow basis the winter feed requirement is 3.5 tons per cow.

Winter Feed Production

The ranch has 150 acres of hay land. Of this acreage 120 acres are in full production and 30 acres are in the establishment year. These hay stands are an alfalfa grass mix and the average yield is 4.2 tons per acre on the established stands and 2.0 tons on the new seeding. The total hay produced on the ranch is 600 tons. A total of 525 tons of hay are required for feeding the herd and the remaining 75 tons are sold. The hay land also provides aftermath grazing in the fall.

Grazing

The ranch uses Crown Range for summer grazing. The grazing period is 185 days and the total Animal Unit Months (AUMs) of grazing required for the ranch is 1124 AUMs. Some grazing is also provided on deeded land.

Total Size of Ranch

The ranch has a total of 300 deeded acres. Hay is produced on 150 acres.

Table 6 – Assumptions and Price Data – Vernon Sample Ranch

2013 Vernon Ranch: Basic Assumptions

Cow Herd Assumptions		150	Cow-Calf Ranch			
Assumptions	Number of Cows	150	Herd Replacement	15.0%		
	Weaning Percentage	90.0%	Heifer retention Rate	80.0%		
	Start Calving Date	Feb 15,13	Cow Death Loss	3.00%		
	Weaning Date	Oct 15,13	Cow Bull Ratio	25		
	First Day of Feeding	Nov 15,12	Total Cow Breeding Herd	179 head		
	Last day of Feeding	May 14,13	Total Bull Breeding Herd	7 head		
	First day grazing	May 14,13				
	Last Day grazing	Nov 15,13				
	Days on Lease	185 Days	Marketing & Trucking Cost			
	Winter Feeding Period	180 Days				
	Replacement Heifers Retained	29 head				
				Commission	Fees	Trucking
			Calves	2.00%	\$5.00	\$5.00
			Culls	2.00%	\$5.00	\$25.00
			Yearlings	2.00%	\$5.00	\$15.00
Revenue		Average	Price		Summary	Total
	Head	Weight	Per Unit	Total	Total	Per Cow
Steers	68 head	650 lbs	\$1.50	\$66,300		\$442.00
Heifers	39 head	600 lbs	\$1.39	\$32,526		\$216.84
Cull Yearling Heif.	5 head	950 lbs	\$1.15	\$5,463		\$36.42
Cull Cows	18 head	1400 lbs	\$0.60	\$15,120		\$100.80
Cull Bulls	2 head	2000 lbs	\$0.70	\$2,800		\$18.67
Total Herd Revenue	132 head				\$122,209	\$814.72
Less Bull Purchase	2 head	1	\$4,000.00	(\$8,000)	\$114,209	(\$53.33)
Less Marketing Costs:	Commission	Fees	Trucking			
	(2,444)	(660)	(1,110)	(\$4,214)	(\$4,214)	(\$28.09)
Total Revenue (net of marketing costs)					\$109,994	\$733.30

Wintering Herd Feed Requirements (bred cows , replacement heifers , bulls)

Category	head	Hay: lbs/head/day	Days fed	Hay lbs total	Hay Ton	cow
Bred Cows	150 head	33	180 days	891,000 lbs	446 ton	
Replacem'ts	29 head	25	180 days	130,500 lbs	65 ton	
Wintered Bulls	5 head	40	180 days	36,000 lbs	18 ton	
			Total:	1,057,500 lbs	529 ton	3.53 ton/cow

Total Herd Grazing Requirements

Category	Numbers	days	AUM equiv.	total AUM	Vernon AUM's
Cows	150 head	185 days	1	925 AUM	1124 AUM Total
Replacement					
Heifers	29 head	185 days	0.75	134 AUM	
Bulls	7 head	185 days	1.5	65 AUM	837 AUM x \$2.75
			Total:	1124 AUM	287 AUM on ranch
					Total: \$2,358

Weaning Weight Calculator

Average Calf Age at weaning	218 days	% Calves Born Per 21-Day Cycle			
Calculated Steer Weaning Weight	647 lbs	1st cycle	2nd cycle	3rd cycle	4th cycle
Heifer Weight (% steer)	90%	60%	20%	15%	5%
		*Estimated Daily Gain Birth to Weaning 2.65 lbs/day			
		*Estimated Calf Birth Weight 70 lbs			

Table 7 – Income and Expenses Statement – Vernon Sample Ranch

Income and Expense Statement Vernon				150 Cows	
January 1 to December 31, 2013					
Revenue				Total Ranch	Per Cow
	Cow Calf			122,209	815
	Feeder			0	0
	Crops			11,025	74
	Other Income			0	0
Less:	Bull Purchase			(8,000)	(53)
	Feed Purchase			0	0
	Marketing and Trucking			(4,214)	(28)
Inventory	Cow Calf	Feeder	Crops		
Change	0	0	0	0	0
	Gross Profit			121,020	807
Direct Expenses					
	Seed			1,890	13
	Fertilizer			0,719	71
	Chemicals			00	3
	Twine			\$630	4
	Crop Insurance			0	0
	Custom Work			1,200	8
	Irrigation			3,750	25
	Feed Supplement			0	0
	Mineral and Salt			1,500	10
	Grazing Fees			2,302	15
	Private Pasture Fees			0	0
	Trucking hay and to pasture			4,500	30
	Supplies			1,350	9
	Vet and Medicine			4,050	27
	Equip. Fuel and Lube			15,230	102
	Equip. Repair			9,323	62
	Other Enterprise Expense			0	0
	Supplies Inventory Change			0	0
	Total Direct Expenses			56,944	380
	Contribution Margin			64,076	427
Indirect Expenses					
	Building and Fence Repair			2,500	17
	Land Taxes			1,200	8
	Shop supplies/Small tools			900	6
	Labour			6,500	43
	Legal and Accounting			3,000	20
	Insurance and Licences			5,000	33
	Utilities			1,500	10
	Misc. (Office, fees, subscriptions)			1,900	13
	Operating Interest			1,181	8
	Term Loan Interest			7,500	50
	Total Indirect Expense			31,181	208
	TOTAL EXPENSES			88,125	587
	NET RETURN OVER EXPENSE			32,895	219
Adjustments					
	Depreciation - Buildings and Equipment			20,279	135
	NET FARM INCOME			12,616	84

Table 8 – Net Worth Statement – Vernon Sample Ranch

Net Worth - Vernon Sample Ranch
December 31, 2013

Current Assets		Current Liabilities	
Cash		Operating Loan	
Account Receivable		Accounts Payable	
Supplies		Feeder Loan	
Hay	\$88,200		
Feeders			
Total Current Assets	\$88,200	Total Current Liabilities	\$0
Intermediate Assets		Intermediate Liabilities	
Cow Herd	\$267,440	Intermediate Loans	
Equipment	\$232,830		
Car			
Horses	\$ 3,000		
Total Intermediate Assets	\$503,270	Total Intermediate Liabilities	\$0
Fixed Assets		Long Term Liabilities	
Buildings and Corrals	\$28,000	Land mortgage	\$150,000
House	\$250,000		
Other			
Land	\$2,100,000		
Total Fixed Assets	\$2,378,000	Total Long Term Liabilities	\$150,000
Total Assets	\$2,969,470	Total Liabilities	\$150,000
		Total Equity	\$2,819,470

Table 9 – Forage Costs and Returns – Vernon Sample Ranch

Forage Costs and Returns Vernon - 2013

Average of Establishment and Production Years

Revenue			
	Yield (Tons/Ac)	Per Acre	Per Ton
Hay	2.00	\$160.00	\$80.00
Alfalfa 1st Cut	2.50	\$300.00	\$120.00
Alfalfa 2nd cut	2.00	\$360.00	\$180.00
Total	4.0	\$560.00	\$140.00
Direct Costs			
Seed		\$12.60	\$3.15
Fertilizer		\$79.17	\$19.79
Twine		\$4.20	\$1.05
Irrigation		\$25.00	\$6.25
Total Supplies and Materials		\$120.97	\$30.24
Fuel and Lube Costs		\$56.68	\$14.17
Machine Repairs		\$45.94	\$11.48
Total Direct Costs		\$223.59	\$55.90
Contribution Margin		\$336.41	\$84.10
Indirect Costs			
Dep. (Bldgs & Equip.) plus taxes		\$141.19	\$35.30
Labour		\$75.13	\$18.78
Total Indirect Costs		\$216.32	\$54.08
Total Direct and Indirect Costs		\$439.91	\$109.98
Gross Operating Profit		\$120.09	\$30.02
Opportunity Costs			
Interest on Direct Costs		\$5.59	\$1.40
Land Rental Cost		\$150.00	\$37.50
Interest on Bldgs. & Equip.		\$86.42	\$21.60
Total Opportunity Costs		\$242.01	\$60.50
Total Economic Costs		\$681.91	\$170.48
Total Acres Hayland	Acres	150	
Total Tons Produced	Tons	600	

Table 10 – Summary of Hay Production Costs and Returns – Vernon Sample Ranch

Page 1.	SUMMARY OF HAY PRODUCTION COSTS AND RETURNS										Vernon				
Revenue	Est. Year 1				Est. Year 2				Full Pdn.						
	30 Acres		\$Per		30 Acres		\$Per		120 Acres		\$Per				
	Yield	Price	Units	Acres	\$/Ton	Yield	Price	Units	Acres	\$/Ton	Yield	Price	Units	Acres	\$/Ton
Oat hay	2.0	80.00	Ton	160.00		50.00		Ton					Ton		
Alfalfa 1st Cut			Ton					Ton			2.5	120.00	Ton	300.00	
Alfalfa 2nd cut			Ton					Ton			2.0	180.00	Ton	360.00	
Total Revenue	2.0			160	80						4.5			660	147
DIRECT COSTS			Units					Units					Units		
Supplies and Materials	Quant.	\$/ Unit	Used	\$/Ac		Quant.	\$/ Unit	Used	\$/Ac		Quant.	\$/ Unit	Used	\$/Ac	
Seed: Alfalfa	12.0	4.50	Lbs.	54.00		4.50		Lbs.					Lbs.		
: Brome grass		3.30	Lbs.			3.30		Lbs.					Lbs.		
: Orchard Grass	4.0	2.25	Lbs.	9.00		2.25		Lbs.					Lbs.		
: Oats		0.10	Lbs.			0.10		Lbs.					Lbs.		
Fertilizer: 46-0-0	60.0	0.34	Lbs.	20.42		0.34		Lbs.			150.0	0.34	Lbs.	51.04	
: Boron	0.5	3.50	Lbs.	1.75		3.50		Lbs.			0.5	3.50	Lbs.	1.75	
: 11-52-0	160.0	0.34	Lbs.	54.45		0.34		Lbs.			50.0	0.34	Lbs.	17.01	
Custom fertilizer appln	1.0	8.00	acres	8.00		8.00		acres			1.0	8.00	acres	8.00	
Twine	2.0	1.05	T.of hay	2.10		1.05		T.of hay			4.5	1.05	T.of hay	4.73	
Irrigation Power	1.0	25.00	\$/acre	25.00		25.00		\$/acre			1.0	25.00	\$/acre	25.00	
Tarp	2.0		\$/ton					\$/ton			4.5		\$/ton		
Total Supplies and Materials				175										108	
Fuel & Lube Costs				87.52										48.97	
Machine Repairs				59.74										42.49	
TOTAL DIRECT COSTS				322	161									199	44
Contribution Margin				-162	-81									461	102
Indirect Costs															
Dep. (Bldgs & Eq.) + taxes				141.19	70.60									141.19	31.38
Labour				105.13	52.57									67.63	15.03
Total Indirect Costs				246	123									209	46.40
Total Direct and Indirect Costs				568	284									408	91
Gross Operating Profit				-408	-204									252	56
Opportunity Costs															
Interest on Direct Costs				8.05	4.02									4.97	1.11
Land Rental Cost				150.00	75.00									150.00	33.33
Interest on Bldgs & Equip.				86.42	43.21									86.42	19.20
Total Opportunity Costs				244	122									241	54
Total Economic Costs				813	406									649	144

Kamloops Ranch Description

The sample ranch is located near Kamloops, British Columbia in the Southern Interior. The ranch sells through the local auction market. The following summarizes the production parameters of the ranch.

Cow Herd

The ranch has a herd of 400 cows. The cows commence calving on March 25th. Calves are sold in the fall (mid October). The sale weight in 2013 for steers calves was 580 pounds and for heifers, 500 pounds. The average selling prices for the fall of 2013 were \$1.64 per pound for steers and \$1.51 per pound for heifers. The cow to bull ratio is 20 to 1. The weaning percentage, expressed as the number of calves weaned as a percentage of cows overwintered, was 92%. The herd replacement rate is 15% with 85% of the heifer calves retained entering the herd. Therefore, 71 heifer calves are kept as replacements.

Winter Feeding

Winter feeding begins December 18th and the last day of feeding is May 1st for a total feeding period of 134 days. The total winter feed requirement for the herd is 1022 tons of hay. On a per cow basis the winter feed requirement is 2.6 tons per cow.

Winter Feed Production

The ranch has 300 acres of hay land. Of this acreage, 240 acres are in full production and 60 acres are in the establishment year. These hay stands are an alfalfa grass mix and the average yield is 4.0 tons per acre on the established stands and 3.0 tons per acre on the new seeding. The total hay produced on the ranch is 1140 tons. A total of 1022 tons of hay are required for feeding the herd and the remaining 118 tons are sold. The hay land also provides aftermath grazing in the fall.

Grazing

The ranch uses Crown Range for summer grazing. Some grazing is also provided on deeded land. The grazing period is 231 days and the Annual Unit Months (AUM's) of grazing required is 3767 AUM's.

Total Size of Ranch

The ranch has a total of 2000 acres of deeded land. Hay is produced on 300 acres.

Table 11 – Assumptions and Price Data – Kamloops Sample Ranch

2013 Kamloops Ranch: Basic Assumptions

Cow Herd Assumptions		400	Cow-Calf Ranch	
Assumptions	Number of Cows	400	Herd Replacement	15.0%
	Weaning Percentage	92.0%	Heifer retention Rate	85.0%
	Start Calving Date	Mar 25,13	Cow Death Loss	1.50%
	Weaning Date	Oct 15,13	Cow Bull Ratio	20
	First Day of Feeding	Dec 18,12	Total Cow Breeding Herd	471 head
	Last day of Feeding	May 01,13	Total Bull Breeding Herd	24 head
	First day grazing	May 01,13		
	Last Day grazing	Dec 18,13		
	Days on Pasture	231 Days	Marketing & Trucking Cost	
	Winter Feeding Period	134 Days		
	Replacement Heifers Retained	71 head		
			Commission	Fees
			Calves	\$18.00
			Culls	\$25.00
			Yearlings	\$18.00
				\$5.00
				\$5.00
				\$10.00

Revenue	Head	Average Weight	Price Per Unit	Total	Summary Total	Total Per Cow
Steers	184 head	580 lbs	\$1.64	\$175,021		\$437.55
Heifers	113 head	500 lbs	\$1.51	\$85,315		\$213.29
Cull Yearling Heif.	11 head	950 lbs	\$1.20	\$12,540		\$31.35
Cull Cows	54 head	1300 lbs	\$0.75	\$52,650		\$131.63
Cull Bulls	8 head	1800 lbs	\$0.85	\$12,240		\$30.60
Total Herd Revenue	370 head				\$337,766	\$844.41
Less Bull Purchase	8 head	1	\$4,000.00	(\$32,000)	\$305,766	(\$80.00)
Less Marketing Costs:	Commission	Fees	Trucking			
	(7,094)	(1,850)	(2,525)	(\$11,469)	(\$11,469)	(\$28.67)
Total Revenue (net of marketing costs)					\$294,297	\$735.74

Wintering Herd Feed Requirements (bred cows , replacement heifers , bulls)

Category	Number of head	Hay: lbs/head/day	Days fed	Hay lbs total	Hay Ton	Hay Tons per cow
Bred Cows	400 head	33	134 days	1,768,800 lbs	884 ton	
Replacem'ts	71 head	20	134 days	190,280 lbs	95 ton	
Wintered Bulls	16 head	40	134 days	85,760 lbs	43 ton	
			Total:	2,044,840 lbs	1022 ton	2.56 ton/cow

Total Herd Grazing Requirements

Category	Numbers	days	AUM equiv.	total AUM	Kamloops AUM's
Cows	400 head	231 days	1	3080 AUM	3767 AUM Total 2500 AUM @ \$2.62 467 AUM @ \$28 800 AUM on ranch Total: \$19,626
Replacement					
Heifers	71 head	231 days	0.75	410 AUM	
Bulls	24 head	231 days	1.5	277 AUM	
			Total:	3767 AUM	

Weaning Weight Calculator

Average Calf Age at weaning	180 days	% Calves Born Per 21-Day Cycle			
Calculated Steer Weaning Weight	583 lbs	1st cycle	2nd cycle	3rd cycle	4th cycle
Heifer Weight (% steer)	85%	60%	20%	15%	5%
		*Estimated Daily Gain Birth to Weaning			2.85 lbs/day
		*Estimated Calf Birth Weight			70 lbs

Table 12 – Income and Expenses Statement – Kamloops Sample Ranch

Income and Expense Statement Kamloops					400 Cows	
January 1 to December 31, 2013					Total Ranch	Per Cow
Revenue						
Cow Calf					337766	844
Feeder					0	0
Crops					15,544	39
Other Income					0	0
Less:						
	Bull Purchase				(32,000)	(80)
	Feed Purchase				0	0
	Marketing and Trucking				(11,469)	(29)
Inventory	Cow Calf	Feeder	Crops			0
Change	0	0	0		0	0
Gross Profit					309,841	775
Direct Expenses						
Seed					3,972	10
Fertilizer					18,675	47
Chemicals					0	0
Twine					1,193	3
Crop Insurance					450	1
Custom Work					2,400	6
Irrigation					12,000	30
Feed Supplement					0	0
Mineral and Salt					3,000	8
Grazing Lease Fees					6,550	16
Private Pasture Fees					13,076	33
Trucking hay and to Pasture					3,000	8
Supplies					4,000	10
Vet and Medicine					12,000	30
Equip. Fuel and Lube					30,055	75
Equip. Repair					21,306	53
Other Enterprise Expense					0	0
Supplies Inventory Change					0	0
Total Direct Expenses					131,677	329
Contribution Margin					178,164	445
Indirect Expenses						
Building and Fence Repair					4,000	10
Land Taxes					1,600	4
Shop supplies/Small tools					1,350	3
Labour					50,000	125
Legal and Accounting					3,500	9
Insurance and Licences					6,000	15
Utilities					1,000	3
Misc. (Office, fees, subscriptions)					3,500	9
Operating Interest					2,760	7
Term Loan Interest					20,000	50
Total Indirect Expense					93,710	234
TOTAL EXPENSES					225,387	563
NET RETURN OVER EXPENSE					84,454	211
Adjustments						
Depreciation - Buildings and Equipment					(19,020)	(48)
NET FARM INCOME					65,434	164

Table 13 – Net Worth Statement – Kamloops Sample Ranch

Net Worth - Kamloops Sample Ranch
December 31, 2013

Current Assets		Current Liabilities	
Cash		Operating Loan	
Account Receivable		Accounts Payable	
Supplies		Feeder Loan	
Hay	\$80,400		
Feeders			
Total Current Assets	\$80,400	Total Current Liabilities	\$0
Intermediate Assets		Intermediate Liabilities	
Cow Herd	\$667,375	Intermediate Loans	
Equipment	\$270,000		
Car			
Horses	\$3,000		
Total Intermediate Assets	\$940,375	Total Intermediate Liabilities	\$0
Fixed Assets		Long Term Liabilities	
Buildings and Corrals	\$30,000	Land mortgage	\$400,000
House	\$250,000		
Other			
Land	\$4,000,000		
Total Fixed Assets	\$4,280,000	Total Long Term Liabilities	\$400,000
Total Assets	\$5,300,775	Total Liabilities	\$400,000
		Total Equity	\$4,900,775

Table 14 – Forage Costs and Returns – Kamloops Sample Ranch

Forage Costs and Returns Kamloops 2013

Average of Establishment and Production Years

Revenue	Yield (Tons/Ac)	Per Acre	Per Ton
Oat hay	3.00	\$330.00	\$110.00
Alfalfa 1st Cut	2.50	\$325.00	\$130.00
Alfalfa 2nd cut	1.50	\$210.00	\$140.00
Total	3.8	\$494.00	\$130.00
 Direct Costs			
Seed		\$13.24	\$3.48
Fertilizer		\$70.48	\$18.55
Twine		\$8.36	\$2.20
Irrigation		\$20.00	\$5.26
Total Supplies and Materials		\$132.00	\$35.00
Fuel and Lube Costs		\$54.85	\$14.43
Machine Repairs		\$45.09	\$11.86
Total Direct Costs		\$232.00	\$61.00
Contribution Margin		\$262.00	\$69.00
 Indirect Costs			
Dep. (Bldgs. & Equip.) plus taxes		\$69.40	\$18.26
Labour		\$47.29	\$15.86
Total Indirect Costs		\$130.00	\$34.13
Total Direct and Indirect Costs		\$362.00	\$95.00
Gross Operating Profit		\$132.00	\$35.00
 Opportunity Costs			
Interest on Direct Costs		\$5.81	\$1.53
Land Rental Cost		\$75.00	\$19.74
Interest on Bldgs. & Equip.		\$40.55	\$10.67
Total Opportunity Costs		\$121.00	\$32.00
Total Economic Costs		\$483.00	\$127.00
Total Acres Hayland	Acres	300	
Total Tons Produced	Tons	1140	

Table 15 – Summary of Hay Production Costs and Returns – Kamloops Sample Ranch

Page 1	SUMMARY OF HAY PRODUCTION COSTS AND RETURNS										Kamloops				
Revenue	Est. Year 1					Est. Year 2					Full Pdn.				
	60 Acres					Acres					240 Acres				
	Yield	Price	Units	Acres	\$/Ton	Yield	Price	Units	Acres	\$/Ton	Yield	Price	Units	Acres	\$/Ton
Barley hay	3.0	110.00	Ton	330.00				Ton					Ton		
Alfalfa 1st Cut			Ton					Ton			2.5	130.00	Ton	325.00	
Alfalfa 2nd cut			Ton					Ton			1.5	140.00	Ton	210.00	
Total Revenue	3.0			330	110						4.0			535	134
DIRECT COSTS			Units					Units					Units		
Supplies and Materials	Quant.	\$/Unit	Used	\$/Ac		Quant.	\$/Unit	Used	\$/Ac		Quant.	\$/Unit	Used	\$/Ac	
Seed: Alfalfa	10.0	4.50	Lbs.	45.00				4.50	Lbs.				Lbs.		
: Brome grass		3.30	Lbs.					3.30	Lbs.				Lbs.		
: Orchard Grass	4.0	3.30	Lbs.	13.20				3.30	Lbs.				Lbs.		
: Barley	50.0	0.16	Lbs.	8.00				0.16	Lbs.				Lbs.		
Fertilizer: 46-0-0	100.0	0.34	Lbs.	34.03				0.34	Lbs.		###	0.34	Lbs.	34.03	
: 0-0-60		0.29	Lbs.					0.29	Lbs.		60.0	0.29	Lbs.	17.70	
: 11-52-0	50.0	0.34	Lbs.	17.01				0.34	Lbs.		40.0	0.34	Lbs.	13.61	
Custom fertilizer appln	1.0	8.00	acres	8.00				8.00	acres		1.0	8.00	acres	8.00	
Twine	3.0	2.20	T.of hay	6.60				2.20	of hay		4.0	2.20	of hay	8.80	
Irrigation Power	1.0	40.00	\$/acre	40.00				40.00	/acre		1.0	40.00	\$/acre	40.00	
Tarp	0.8	0.39	\$/ton	0.29				0.39	\$/ton		1.0	0.39	\$/ton	0.39	
Total Supplies and Materials				172										123	
Fuel & Lube Costs				95.77										44.62	
Machine Repairs				65.39										40.01	
TOTAL DIRECT COSTS				333	111									207	52
Contribution Margin				-3	-1									328	82
Indirect Costs															
Dep. (Bldgs & Eq.) + taxes				69.40	23.13									69.40	17.35
Labour				93.50	31.17									51.97	12.99
Total Indirect Costs				163	54									121	30.34
Total Direct and Indirect Costs				496	165									329	82
Gross Operating Profit				-166	-55									206	52
Opportunity Costs															
Interest on Direct Costs				8.33	2.78									5.18	1.29
Land Rental Cost				75.00	25.00									75.00	18.75
Interest on Bldgs & Equip.				40.55	13.52									40.55	10.14
Total Opportunity Costs				124	41									121	30
Total Economic Costs				620	207									449	112

Williams Lake Ranch Description

The sample ranch is located one hour from Williams Lake in central British Columbia. The ranch markets cattle at the sale yard in Williams Lake. The following summarizes the production parameters of the ranch.

Cow Herd

The ranch has a herd of 200 cows. The cows commence calving on April 1st. Calves are sold in the fall (mid October). The sale weight in 2013 for steers calves was 550 pounds and for heifers, 525 pounds. The average selling prices for the fall of 2013 were \$1.60 per pound for steers and \$1.45 per pound for heifers. The cow to bull ratio is 20 to one. The weaning percentage, expressed as the number of calves weaned as a percentage of cows overwintered, was 85 %. The herd replacement rate is 15% with 80% of the heifer calves retained entering the herd. Therefore, 38 heifer calves are kept as replacements.

Winter Feeding

Winter feeding begins December 1st and the last day of feeding is May 16th for a total feeding period of 166 days. The total winter feed requirement for the herd is 641 tons of hay. On a per cow basis the winter feed requirement is 3.2 tons per cow.

Winter Feed Production

The ranch has 250 acres of hay land. Of this acreage 100 acres is irrigated alfalfa and the remainder a dry land grass mix. The average yield is 4.0 tons per acre on the established irrigated stands and 2.0 tons per acre on the established dry land stands. Ten acres of the dry land hay and 15 acres of the irrigated hay are re-established each year. The total hay produced on the ranch is 650 tons. A total of 641 tons of hay are required for feeding the herd and the remaining 9 tons are sold. The hay land also provides aftermath grazing in the fall.

Grazing

The ranch uses Crown Range for summer grazing. Some grazing is also provided on deeded land. The grazing period is 199 days and the ranch requires 1635 Animal Unit Months (AUM's) of grazing

Total Size of Ranch

The ranch has a total of 1200 acres of deeded land. Hay is produced on 250 acres.

Table 16 – Assumptions and Price Data – Williams Lake Sample Ranch

2013 Williams Lake Ranch: Basic Assumptions

Cow Herd Assumptions		200	Cow-Calf Ranch				
Assumptions	Number of Cows	200	Herd Replacement	15.0%			
	Weaning Percentage	85.0%	Heifer retention Rate	80.0%			
	Start Calving Date	Apr 01,13	Cow Death Loss	4.00%			
	Weaning Date	Oct 12,13	Cow Bull Ratio	20			
	First Day of Feeding	Dec 01,12	Total Cow Breeding Herd	238 head			
	Last day of Feeding	May 16,13	Total Bull Breeding Herd	12 head			
	First day grazing	May 16,13					
	Last Day grazing	Dec 01,13					
	Days on Pasture	199 Days	Marketing & Trucking Cost				
	Winter Feeding Period	166 Days		Commission	Fees	Trucking	
	Replacement Heifers Retained	38 head	Calves	\$17.00	\$6.00	\$5.00	
			Culls	\$20.00	\$6.00	\$20.00	
			Yearlings	\$19.00	\$6.00	\$20.00	
Revenue		Head	Average Weight	Price Per Unit	Total	Summary Total	Total Per Cow
Steers		85 head	550 lbs	\$1.60	\$74,800		\$374.00
Heifers		47 head	525 lbs	\$1.45	\$35,779		\$178.89
Cull Yearling Heif.		8 head	900 lbs	\$0.95	\$6,840		\$34.20
Cull Cows		22 head	1350 lbs	\$0.65	\$19,305		\$96.53
Cull Bulls		4 head	1800 lbs	\$0.80	\$5,760		\$28.80
Total Herd Revenue		166 head				\$142,484	\$712.42
Less Bull Purchase		4 head	1	\$3,000.00	(\$12,000)	\$130,484	(\$60.00)
Less Marketing Costs:		Commission	Fees	Trucking			
		(2,916)	(996)	(1,340)	(\$5,252)	(\$5,252)	(\$26.26)
Total Revenue (net of marketing costs)						\$125,232	\$626.16

Wintering Herd Feed Requirements (bred cows , replacement heifers , bulls)

Category	head	lbs/head/day	Days fed	Hay lbs total	Hay Ton	cow
Bred Cows	200 head	34	166 days	1,128,800 lbs	564 ton	
Replacem'ts	38 head	20	166 days	126,160 lbs	63 ton	
Wintered Bulls	8 head	40	166 days	53,120 lbs	27 ton	
			Total:	1,308,080 lbs	654 ton	3.27 ton/cow

Total Herd Grazing Requirements

Category	Numbers	days	AUM equiv.	total AUM	Williams Lake AUM's	
Cows	200 head	199 days	1	1327 AUM	1635 AUM Total	
Replacement Heifers	38 head	199 days	0.75	189 AUM		900 AUM @ \$2.62
Bulls	12 head	199 days	1.5	119 AUM		795 AUM on ranch
			Total:	1635 AUM	Total: \$2,358	

Weaning Weight Calculator

Average Calf Age at weaning	170 days	% Calves Born Per 21-Day Cycle			
Calculated Steer Weaning Weight	554 lbs	1st cycle	2nd cycle	3rd cycle	4th cycle
Heifer Weight (%)	90%	60%	20%	15%	5%
		*Estimatd Daily Gain Birth to Weaning 2.85 lbs/day			
		*Estimated Calf Birth Weight 70 lbs			

Table 17 – Income and Expenses Statement – Williams Lake Sample Ranch

Income and Expense Statement Williams Lake				200 Cows		
January 1 to December 31, 2013						
Revenue				Total Ranch	Per Cow	
Cow Calf				142,484	712	
Feeder				0	0	
Crops				0	0	
Other Income				0	0	
Less: Bull Purchase				(12,000)	(60)	
Feed Purchase				0	0	
Marketing and Trucking				(5,252)	(26)	
Inventory Change						
	Cow Calf	Feeder	Crops			
	0	0	0			
Gross Profit				125,232	626	
Direct Expenses						
Seed				5,010	25	
Fertilizer				20,478	102	
Chemicals				0	0	
Twine				1,495	7	
Crop Insurance				200	1	
Custom Work				2,000	10	
Irrigation				4,000	20	
Feed Supplement				0	0	
Mineral and Salt				1,400	7	
Grazing Fees				2,358	12	
Private Pasture Fees				0	0	
Trucking hay and to Pasture				0	0	
Supplies				1,400	7	
Vet and Medicine				4,000	20	
Equip. Fuel and Lube				19,003	95	
Equip. Repair				10,249	51	
Other Enterprise Expense				0	0	
Supplies Inventory Change				0	0	
Total Direct Expenses				73,511	368	
Contribution Margin				51,721	259	
Indirect Expenses						
Building and Fence Repair				3,500	18	
Land Taxes				800	4	
Shop supplies/Small tools				1,500	8	
Labour				3,500	18	
Legal and Accounting				2,000	10	
Insurance and Licences				5,200	26	
Utilities				3,600	18	
Misc. (Office, fees, subscriptions)				3,000	15	
Operating Interest				1,626	8	
Term Loan Interest				10,000	50	
Total Indirect Expense				34,726	174	
TOTAL EXPENSES				108,237	541	
NET RETURN OVER EXPENSE				16,995	85	
Adjustments						
Depreciation - Buildings and Equipment				(22,249)	(111)	
NET FARM INCOME				(5,255)	(26)	

Table 18 – Net Worth Statement – Williams Lake Sample Ranch

Net Worth - Williams Lake Sample Ranch

December 31, 2013

Current Assets		Current Liabilities	
Cash		Operating Loan	
Account Receivable			
Supplies		Accounts Payable	
Hay	\$64,800	Feeder Loan	
Feeders			
Total Current Assets	\$64,800	Total Current Liabilities	\$0
Intermediate Assets		Intermediate Liabilities	
Cow Herd	\$296,300	Intermediate Loans	
Equipment	\$274,200		
Car			
Horses	\$3,000		
Total Intermediate Assets	\$573,500	Total Intermediate Liabilities	\$0
Fixed Assets		Long Term Liabilities	
Buildings and Corrals	\$100,000		
House	\$200,000	Land mortgage	\$200,000
Other			
Land	\$1,400,000		
Total Fixed Assets	\$1,600,000	Total Long Term Liabilities	\$200,000
Total Assets	\$2,238,300	Total Liabilities	\$200,000
		Total Equity	\$2,038,300

Table 19 – Forage Costs and Returns Dryland – Williams Lake Sample Ranch

Forage Costs and Returns Dryland Williams Lake - 2013

Average of Establishment and Production Years

Revenue	Yield (Tons/Ac)	Per Acre	Per Ton
Oat hay	1.75	\$140.00	\$80.00
Alfalfa 1st Cut	2.00	\$230.00	\$115.00
Alfalfa 2nd cut	0.00	\$0.00	\$0.00
Total	1.97	\$218.00	\$111.00
 Direct Costs			
Seed		\$6.50	\$3.31
Fertilizer		\$82.05	\$41.72
Twine		\$4.52	\$2.30
Irrigation		\$0.00	\$0.00
Total Supplies and Materials		\$93.00	\$47.00
Fuel and Lube Costs		\$34.65	\$17.62
Machine Repairs		\$18.12	\$9.21
Total Direct Costs		\$146.00	\$74.00
Contribution Margin		\$72.00	\$37.00
 Indirect Costs			
Dep. (Bldgs & Equip.) plus taxes		\$89.35	\$45.43
Labour		\$16.61	\$8.45
Total Indirect Costs		\$106.00	\$53.88
Total Direct and Indirect Costs		\$252.00	\$128.00
Gross Operating Profit		(\$34.00)	(\$17.00)
 Opportunity Costs			
Interest on Direct Costs		\$3.65	\$1.85
Land Rental Cost		\$38.00	\$19.32
Interest on Bldgs. & Equip.		\$54.64	\$27.78
Total Opportunity Costs		\$96.00	\$49.00
Total Economic Costs		\$348.00	\$177.00
 Total Acres Hayland	 Acres	 150	
Total Tons Produced	Tons	295	

Table 20 – Summary of Hay Production Costs and Returns Dryland – Williams Lake Sample Ranch

Page 3	SUMMARY OF HAY PRODUCTION COSTS AND RETURNS										Williams Lake Dryland				
Revenue	Est. Year 1					Est. Year 2					Full Pdn.				
			10 Acres					10 Acres					130 Acres		
	Yield	Price	Units	\$Per		Yield	Price	Units	\$Per		Yield	Price	Units	\$Per	
				Acres	\$/Ton				Acres	\$/Ton				Acres	\$/Ton
Oat hay	2.0	80.00	Ton	160.00		1.5	80.00	Ton	120.00				Ton		
Alfalfa 1st Cut											2.0	115.00	Ton	230.00	
Alfalfa 2nd cut												115.00	Ton		
Total Revenue	2.0			160	80	1.5			120	80	2.0			230	115
DIRECT COSTS			Units					Units					Units		
Supplies and Materials	Quant.	\$/ Unit	Used	\$/Ac		Quant.	\$/ Unit	Used	\$/Ac		Quant.	\$/ Unit	Used	\$/Ac	
Seed: Grass mix		4.50	Lbs.			15.0	3.50	Lbs.	52.50				Lbs.		
: Brome grass		3.30	Lbs.				3.30	Lbs.					Lbs.		
: Orchard Grass		2.00	Lbs.				2.50	Lbs.					Lbs.		
: Oats	100.0	0.30	Lbs.	30.00		50.0	0.30	Lbs.	15.00				Lbs.		
Fertilizer: 46-0-0	100.0	0.34	Lbs.	34.03		50.0	0.34	Lbs.	17.01		150.0	0.34	Lbs.	51.04	
: 0-0-60	20.0	0.29	Lbs.	5.90		30.0	0.29	Lbs.	8.85		40.0	0.29	Lbs.	11.80	
: 11-52-0		0.34	Lbs.			20.0	0.34	Lbs.	6.81		50.0	0.34	Lbs.	17.01	
Custom fertilizer appln	1.0	8.00	acres	8.00		1.0	8.00	acres	8.00		1.0	8.00	acres	8.00	
Twine	2.0	2.30	T.of hay	4.60		1.5	2.30	T.of hay	3.45		2.0	2.30	T.of hay	4.60	
Irrigation Power		40.00	\$/acre				40.00	\$/acre				40.00	\$/acre		
Boron		3.50	\$/ton				3.50	\$/ton				3.50	\$/ton		
Total Supplies and Materials				83					112					92	
Fuel & Lube Costs				65.15					48.15					31.27	
Machine Repairs				34.74					21.88					16.55	
TOTAL DIRECT COSTS				182	91				182	121				140	70
Contribution Margin				-22	-11				-62	-41				90	45
Indirect Costs															
Dep. (Bldgs & Eq.) + taxes				89.35	44.67				89.35	59.56				89.35	44.67
Labour				39.77	19.89				31.69	21.13				13.67	6.84
Total Indirect Costs				129	65				121	80.69				103	51.51
Total Direct and Indirect Costs				312	156				303	201.79				243	122
Gross Operating Profit				-152	-76				-183	-122				-13	-7
Opportunity Costs															
Interest on Direct Costs				4.56	2.28				4.54	3.03				3.51	1.75
Land Rental Cost				38.00	19.00									38.00	19.00
Interest on Bldgs & Equip.				54.64	27.32				54.64	36.43				54.64	27.32
Total Opportunity Costs				97	49				59	39				96	48
Total Economic Costs				409	204				362	241				339	170

Table 21 – Forage Costs and Returns Irrigated – Williams Lake Sample Ranch

Forage Costs and Returns Irrigated Williams Lake 2013

Average of Establishment and Production Years

Revenue	Yield (Tons/Ac)	Per Acre	Per Ton
Oat hay	2.50	\$210.00	\$84.00
Alfalfa 1st Cut	2.50	\$287.50	\$115.00
Alfalfa 2nd cut	1.50	\$172.50	\$115.00
Total	3.6	\$385.00	\$108.00
Direct Costs			
Seed		\$14.10	\$3.97
Fertilizer		\$76.45	\$21.53
Twine		\$8.17	\$2.30
Irrigation		\$40.00	\$11.27
Total Supplies and Materials		\$144.00	\$41.00
Fuel and Lube Costs		\$58.05	\$16.35
Machine Repairs		\$43.31	\$12.20
Total Direct Costs		\$245.00	\$69.00
Contribution Margin		\$140.00	\$39.00
Indirect Costs			
Irrigation			
Dep. (Bldgs & Equip.) plus taxes		\$90.00	\$25.35
Labour		\$50.75	\$14.30
Total Indirect Costs		\$141.00	\$39.65
Total Direct and Indirect Costs		\$386.00	\$109.00
Gross Operating Profit		(\$1)	\$0.00
Opportunity Costs			
Interest on Direct Costs		\$6.13	\$1.73
Land Rental Cost		\$80.00	\$22.54
Interest on Bldgs. & Equip.		\$54.84	15.45
Total Opportunity Costs		\$141.00	\$40.00
Total Economic Costs		\$527.00	\$148.00
Total Acres Hayland	Acres	100	
Total Tons Produced	Tons	355	

Table 22 – Summary of Hay Production Costs and Returns Irrigated – Williams Lake Sample Ranch

Page 1	SUMMARY OF HAY PRODUCTION COSTS AND RETURNS										Williams Lake Irrigation				
Revenue	Est. Year 1					Est. Year 2					Full Pdn.				
	15 Acres					15 Acres					70 Acres				
	Yield	Price	Units	\$Per		Yield	Price	Units	\$Per		Yield	Price	Units	\$Per	
				Acre	\$/Ton				Acre	\$/Ton				Acre	\$/Ton
Oat hay	3.0	80.00	Ton	240.00		2.0	90.00	Ton	180.00						
Alfalfa 1st Cut			Ton					Ton			2.5	115.00	Ton	287.50	
Alfalfa 2nd cut			Ton					Ton			1.5	115.00	Ton	172.50	
Total Revenue	3.0			240	80	2.0			180	90	4.0			460	115
DIRECT COSTS			Units					Units					Units		
Supplies and Materials	Quant.	\$/Unit	Used	\$/Ac		Quant.	\$/Unit	Used	\$/Ac		Quant.	\$/Unit	Used	\$/Ac	
Seed: Alfalfa		4.50	Lbs.			12.0	3.25	Lbs.	39.00				Lbs.		
: Brome grass		3.30	Lbs.				3.30	Lbs.					Lbs.		
: Orchard Grass		2.00	Lbs.			4.0	2.50	Lbs.	10.00				Lbs.		
: Oats	100.0	0.30	Lbs.	30.00		50.0	0.30	Lbs.	15.00				Lbs.		
Fertilizer: 46-0-0	100.0	0.34	Lbs.	34.03		50.0	0.34	Lbs.	17.01		150.0	0.34	Lbs.	51.04	
: 0.0.60	40.0	0.29	Lbs.	11.80		40.0	0.29	Lbs.	11.80		40.0	0.29	Lbs.	11.80	
: 11-52-0		0.34	Lbs.			50.0	0.34	Lbs.	17.01		50.0	0.34	Lbs.	17.01	
Custom fertilizer appln	1.0	8.00	acres	8.00			8.00	acres			1.0	8.00	acres	8.00	
Twine	3.0	2.30	T.of hay	6.90		2.0	2.30	T.of hay	4.60		4.0	2.30	T.of hay	9.20	
Irrigation Power	1.0	40.00	\$/acre	40.00		1.0	40.00	\$/acre	40.00		1.0	40.00	\$/acre	40.00	
Boron		3.50	\$/ton				3.50	\$/ton			1.0	3.50	\$/ton	3.50	
Total Supplies and Materials				149					154					141	
Fuel & Lube Costs				73.68					56.12					55.11	
Machine Repairs				49.28					38.93					42.97	
TOTAL DIRECT COSTS				272	91				249	125				239	60
Contribution Margin				-32	-11				-69	-35				221	55
Indirect Costs															
Dep. (Bldgs & Eq.) + taxes				90.00	30.00				90.00	45.00				90.00	22.50
Labour				61.65	20.55				53.99	27.00				47.72	11.93
Total Indirect Costs				152	51				144	71.99				138	34.43
Total Direct and Indirect Costs				423	141				393	196.73				376	94
Gross Operating Profit				-183	-61				-213	-107				84	21
Opportunity Costs															
Interest on Direct Costs				6.79	2.26				6.24	3.12				5.97	1.49
Land Rental Cost				80.00	26.67									80.00	20.00
Interest on Bldgs & Equip.				54.84	18.28				54.84	27.42				54.84	13.71
Total Opportunity Costs				142	47				61	31				141	35
Total Economic Costs				565	188				455	227				517	129

Vanderhoof Ranch Description

The sample ranch is located near Vanderhoof in central British Columbia. The ranch is an hour from Vanderhoof and sells cattle through the sales yard in Vanderhoof. The following summarizes the production parameters of the ranch.

Cow Herd

The ranch has a herd of 250 cows. The cows commence calving on April 8th. Calves are sold in the fall (mid October) and the sale weight in 2013 for steers calves was 540 pounds and for heifers, 490 pounds. The average selling prices for the fall of 2013 were \$1.66 per pound for steers and \$1.45 per pound for heifers. The cow to bull ratio is 25 to one. The weaning percentage, expressed as the number of calves weaned as a percentage of cows overwintered, was 92%. The herd replacement rate is 15% with 75% of the heifer calves retained entering the herd. Therefore, 50 heifer calves are kept as replacements.

Winter Feeding

Winter feeding begins November 16th and the last day of feeding is May 27th for a total feeding period of 192 days. The total winter feed requirement for the herd is 919 tons of hay. On a per cow basis the winter feed requirement is 3.7 tons per cow.

Winter Feed Production

The ranch has 600 acres of hay land. Of this acreage 490 acres are established alfalfa grass mixed stands with an average yield of 2.6 tons per acre. Reestablishment is a two year process. Oats for green feed are seeded in the first year and yield 1.8 tons per acre. In the second year an alfalfa grass mix is seeded but not harvested. The total hay produced on the ranch is 1370 tons. A total of 919 tons of hay are required for feeding the herd and the remaining 451 tons are sold. The hay land also provides aftermath grazing in the fall.

Grazing

Grazing is provided on Community Pasture, private rented land and on the home ranch. The grazing season is 173 days and 1762 Animal Unit Months (AUM's) of grazing are required.

Total Size of Ranch

The ranch has a total of 1200 acres of deeded land. Hay is produced on 600 acres.

Table 23 – Assumptions and Price Data – Vanderhoof Sample Ranch

2013 Vanderhoof Ranch: Basic Assumptions

Cow Herd Assumptions		250	Cow-Calf Ranch				
Assumptions	Number of Cows	250	Herd Replacement	15.0%			
	Weaning Percentage	92.0%	Heifer retention Rate	75.0%			
	Start Calving Date	Apr 08,13	Cow Death Loss	2.00%			
	Weaning Date	Oct 20,13	Cow Bull Ratio	25			
	First Day of Feeding	Nov 16,12	Total Cow Breeding Herd	300 head			
	Last day of Feeding	May 27,13	Total Bull Breeding Herd	12 head			
	First day grazing	May 27,13					
	Last Day grazing	Nov 16,13					
	Days on Grass	173 Days	Marketing & Trucking Cost				
	Winter feed	192 Days		Commission	Fees	Trucking	
	Replacement Heifers Retained	50 head	Calves	\$18.00	\$5.00	\$6.00	
			Culls	\$25.00	\$5.00	\$15.00	
			Yearlings	\$18.00	\$5.00	\$15.00	
Revenue		Head	Average Weight	Price Per Unit	Total	Summary Total	Total Per Cow
Steers		115 head	540 lbs	\$1.66	\$103,086		\$412.34
Heifers		65 head	490 lbs	\$1.45	\$46,183		\$184.73
Cull Yearling Heif.		12 head	900 lbs	\$1.18	\$12,744		\$50.98
Cull Cows		33 head	1400 lbs	\$0.70	\$32,340		\$129.36
Cull Bulls		4 head	1800 lbs	\$0.82	\$5,904		\$23.62
Total Herd Revenue		229 head				\$200,257	\$801.03
Less Bull Purchase		4 head	1	\$4,000.00	(\$16,000)	\$184,257	(\$64.00)
Less Marketing Costs:		Commission	Fees	Trucking			
		(4,381)	(1,145)	(1,815)	(\$7,341)	(\$7,341)	(\$29.36)
Total Revenue (net of marketing costs)						\$176,916	\$707.66

Wintering Herd Feed Requirements (bred cows , replacement heifers , bulls)

Category	head	lbs/head/day	Days fed	Hay lbs total	Hay Ton	cow
Bred Cows	250 head	33	192 days	1,584,000 lbs	792 ton	
Replacem'ts	50 head	20	192 days	192,000 lbs	96 ton	
Wintered Bulls	8 head	40	192 days	61,440 lbs	31 ton	
			Total:	1,837,440 lbs	919 ton	3.67 ton/cow

Total Herd Grazing Requirements

Category	Numbers	days	AUM equiv.	total AUM	Vanderhoof AUM's
Cows	250 head	173 days	1	1442 AUM	1762 AUM Total 250 AUM @ \$22 1000 AUM @ \$25 512 AUM on ranch Total: \$30,500
Replacement					
Heifers	50 head	173 days	0.75	216 AUM	
Bulls	12 head	173 days	1.5	104 AUM	
			Total:	1762 AUM	

Weaning Weight Calculator

Average Calf Age at weaning	174 days	% Calves Born Per 21-Day Cycle			
Calculated Steer Weaning Weight	531 lbs	1st cycle	2nd cycle	3rd cycle	4th cycle
Heifer Weight (% steer)	90%	65%	20%	15%	
		*Estimated Daily Gain Birth to Weaning 2.65 lbs/day			
		*Estimated Calf Birth Weight 70 lbs			

Table 24 – Income and Expenses Statement – Vanderhoof Sample Ranch

Income and Expense Statement Vanderhoof					250 Cows	
January 1 to December 31, 2013						
Revenue					Total Ranch	Per Cow
	Cow Calf				200,257	801
	Feeder				0	0
	Crops				40,770	163
	Other Income				0	0
Less:	Bull Purchase				(16,000)	(64)
	Feed Purchase				0	0
	Marketing and Trucking				(7,341)	(29)
Inventory	Cow Calf	Feeder	Crops			0
Change	0	0	0			0
Gross Profit					217,686	871
Direct Expenses						
	Seed				4,928	20
	Fertilizer				27,862	111
	Chemicals				275	1
	Twine				1,002	4
	Wrapping				963	4
	Custom work				4,440	18
	Bedding and cleaning				4,000	16
	Tarp				2,255	9
	Mineral and Salt				3,000	12
	Grazing Fees				5,500	22
	Private Pasture Fees				25,000	100
	Trucking hay and to pasture				2,500	10
	Supplies				2,700	11
	Vet and Medicine				4,500	18
	Equip. Fuel and Lube				26,842	107
	Equip. Repair				13,603	54
	Other Enterprise Expense				0	0
	Supplies Inventory Change				0	0
Total Direct Expenses					129,370	517
Contribution Margin					88,316	353
Indirect Expenses						
	Building and Fence Repair				4,500	18
	Land Taxes				1,300	5
	Shop supplies/Small tools				3,000	12
	Labour				12,000	48
	Legal and Accounting				2,000	8
	Insurance and Licences				6,800	27
	Utilities				3,600	14
	Misc. (Office, fees, subscriptions)				2,800	11
	Operating Interest				1,602	6
	Term Loan Interest				7,500	30
Total Indirect Expense					45,102	180
TOTAL EXPENSES					174,472	698
NET RETURN OVER EXPENSE					43,214	173
Adjustments						
	Depreciation - Buildings and Equipment				(15,234)	(61)
NET FARM INCOME					27,980	112

Table 25 – Net Worth Statement – Vanderhoof Sample Ranch

Net Worth - Vanderhoof Sample Ranch
December 31, 2013

Current Assets		Current Liabilities	
Cash		Operating Loan	
Account Receivable		Accounts Payable	
Supplies		Feeder Loan	
Hay	\$45,000		
Feeders			
Total Current Assets	\$45,000	Total Current Liabilities	\$0
Intermediate Assets		Intermediate Liabilities	
Cow Herd	\$380,300	Intermediate Loans	
Equipment	\$168,200		
Car			
Horses	\$3,000		
Total Intermediate Assets	\$551,500	Total Intermediate Liabilities	\$0
Fixed Assets		Long Term Liabilities	
Buildings and Corrals	\$45,000	Land mortgage	\$250,000
House	\$200,000		
Other			
Land	\$1,200,000		
Total Fixed Assets	\$1,445,000	Total Long Term Liabilities	\$250,000
Total Assets	\$2,041,500	Total Liabilities	\$250,000
		Total Equity	\$1,791,500

Table 26 – Forage Costs and Returns – Vanderhoof Sample Ranch

Forage Costs and Returns Vanderhoof 2013

Average of Establishment and Production Years

Revenue	Yield (Tons/Ac)	Per Acre	Per Ton
Oat hay	1.75	\$157.50	\$90.00
Alfalfa 1st Cut	2.60	\$234.00	\$90.00
Alfalfa 2nd cut	0.00	\$0.00	\$0.00
Total	2.3	\$206.00	\$90.00
 Direct Costs			
Seed		\$8.21	\$3.60
Fertilizer		\$54.44	\$23.84
Twine		\$1.67	\$0.73
Irrigation		\$0.00	\$0.00
Total Supplies and Materials		\$66.00	\$29.00
Fuel and Lube Costs		\$25.99	\$11.38
Machine Repairs		\$14.92	\$6.53
Total Direct Costs		\$107.00	\$47.00
Contribution Margin		\$99.00	\$43.00
 Indirect Costs			
Dep. (Bldgs & Equip.)plus taxes		\$26.14	\$11.45
Labour		\$19.15	\$8.39
Total Indirect Costs		\$45.00	\$19.83
Total Direct and Indirect Costs		\$152.00	\$67.00
Gross Operating Profit		\$4.00	\$23.00
 Opportunity Costs			
Interest on Direct Costs		\$2.30	\$1.01
Land Rental Cost		\$35.00	\$15.33
Interest on Bldgs. & Equip.		\$13.68	\$5.99
Total Opportunity Costs		\$51.00	\$22.00
Total Economic Costs		\$203.00	\$89.00
Total Acres Hayland	Acres	600	
Total Tons Produced	Tons	1370	

Table 27 – Summary of Hay Production Costs and Returns – Vanderhoof Sample Ranch

Page. 3

SUMMARY OF HAY COSTS AND RETURNS Vanderhoof

Revenue	Est. Year 1				Est. Year 2				Full Pdn.			
	55 Acres				55 Acres				490 Acres			
	Yield	Price	Units	\$Per	Yield	Price	Units	\$Per	Yield	Price	Units	\$Per
			Acres	\$/Ton			Acres	\$/Ton			Acres	\$/Ton
Oat hay	1.8	90.00	Ton	157.50								
Alfalfa 1st Cut			Ton						2.6	90.00	Ton	234.00
Alfalfa 2nd cut			Ton								Ton	
Total Revenue	1.8			158 90					2.6			234 90
DIRECT COSTS			Units				Units				Units	
Supplies and Materials	Quant.	\$/Unit	Used	\$/Ac	Quant.	\$/Unit	Used	\$/Ac	Quant.	\$/Unit	Used	\$/Ac
Seed: Alfalfa		4.25	Lbs.		12.0	4.25	Lbs.	51.00			Lbs.	
: Brome grass		3.25	Lbs.		4.0	3.25	Lbs.	13.00			Lbs.	
: Timothy		1.00	Lbs.			1.00	Lbs.				Lbs.	
: Oats	4.0	6.40	Bu	25.60		6.40	Bu				Bu	
Fertilizer: 26-9-9-8	150.0	0.32	Lbs.	47.64	150.0	0.32	Lbs.	47.64		0.32	Lbs.	
: 17-20-0		0.33	Lbs.		50.0	0.33	Lbs.	16.33	125.0	0.33	Lbs.	40.83
: Boron		0.00	Lbs.			0.00	Lbs.		3.5	1.00	Lbs.	3.50
Custom fertilizer appln	1.0	8.00	acres	8.00	1.0	8.00	acres	8.00	1.0	8.00	acres	8.00
Twine	1.8	0.73	T.of hay	1.28		0.73	T.of hay		2.6	0.73	T.of hay	1.90
Tarp		2.63	\$/ton			2.63	\$/ton			2.63	\$/ton	
Wrapping	1.0	17.50	\$/ton	17.50	10.00	\$/ton			17.50	\$/ton		
Total Supplies and Materials				100				136				54
Fuel & Lube Costs				40.11				17.54				25.35
Machine Repairs				20.48				9.61				14.89
TOTAL DIRECT COSTS				161 92				163				94 36
Contribution Margin				-3 -2				-163				140 54
Indirect Costs												
Dep. (Bldgs & Eq.) + taxes				26.14 14.94								26.14 10.05
Labour				25.89 14.80								19.45 7.48
Total Indirect Costs				52 30								46 17.53
Total Direct and Indirect Costs				213 122				163				140 54
Gross Operating Profit				-55 -32				-163				94 36
Opportunity Costs												
Interest on Direct Costs				4.02 2.29								2.36 0.91
Land Rental Cost				35.00 20.00								35.00 13.46
Interest on Bldgs & Equip.				13.68 7.82								13.68 5.26
Total Opportunity Costs				53 30								51 20
Total Economic Costs				265 152				163				191 74

Dawson Creek Ranch Description

The sample ranch is located near Dawson Creek, British Columbia in the Peace River region. The ranch markets cattle at the sales yard in Dawson Creek. The following summarizes the production parameters of the ranch.

Cow Herd

The ranch has a herd of 200 cows. The cows commence calving on March 15th. Calves are sold in the fall (mid October). The sale weights in 2013 were 600 pounds for steer calves and 500 pounds for heifers. The average selling prices for the fall of 2013 were \$1.51 per pound for steers and \$1.40 per pound for heifers. The cow to bull ratio is 30 to one. The weaning percentage, expressed as the number of calves weaned as a percentage of cows overwintered, was 90%. The herd replacement rate is 18% with 85% of the heifer calves retained entered the herd. Therefore, 42 heifer calves are kept as replacements.

Winter Feeding

Winter feeding begins November 1st and the last day of feeding is May 31st for a total feeding period of 211 days. The total winter feed requirement for the herd is 979 tons of hay. On a per cow basis the winter feed requirement is 4.9 tons per cow.

Winter Feed Production

The ranch has 600 acres of hay land. Of this acreage, 450 acres are in full production. Reestablishment is a two year process with barley green feed produced for one year prior to replanting the alfalfa grass mix the second year. The green feed yields are 2.75 tons per acre. The average yield is 1.5 tons per acre on the established stands. The total hay produced on the ranch is 1088 tons. A total of 979 tons of hay are required for feeding the herd and the remaining hay is sold.

Grazing

The ranch uses Community Pasture and rented private pasture for summer grazing. The grazing season is 154 days and the ranch requires 1250 Animal Unit Months (AUM's) of grazing.

Total Size of Ranch

The ranch has a total of 1200 acres of deeded land. Hay is produced on 600 acres.

Table 28 – Assumptions and Price Data – Dawson Creek Sample Ranch

2013 Dawson Creek Ranch: Basic Assumptions

Cow Herd Assumptions		200	Cow-Calf Ranch			
Assumptions	Number of Cows	200	Herd Replacement	18.0%		
	Weaning Percentage	90.0%	Heifer retention Rate	85.0%		
	Start Calving Date	Mar 15,13	Cow Death Loss	1.25%		
	Weaning Date	Oct 15,13	Cow Bull Ratio	30		
	First Day of Feeding	Nov 01,12	Total Cow Breeding Herd	242 head		
	Last day of Feeding	May 31,13	Total Bull Breeding Herd	8 head		
	First day grazing	May 31,13				
	Last Day grazing	Nov 01,13				
	Days on Pasture	154 Days	Marketing & Trucking Cost			
	Winter Feeding Period	211 Days				
	Replacement Heifers Retained	42 head				
			Commission	Fees	Trucking	
			Calves	\$18.00	\$5.00	\$5.00
			Culls	\$18.00	\$5.00	\$20.00
			Yearlings	\$18.00	\$5.00	\$25.00

Revenue	Head	Average Weight	Price Per Unit	Total	Summary Total	Total Per Cow
Steers	90 head	600 lbs	\$1.51	\$81,540		\$407.70
Heifers	48 head	500 lbs	\$1.40	\$33,600		\$168.00
Cull Yearling Heif.	6 head	950 lbs	\$1.20	\$6,840		\$34.20
Cull Cows	33 head	1400 lbs	\$0.75	\$34,650		\$173.25
Cull Bulls	3 head	1800 lbs	\$0.85	\$4,590		\$22.95
Total Herd Revenue	180 head				\$161,220	\$806.10
Less Bull Purchase	3 head	1	\$3,000.00	(\$9,000)	\$152,220	(\$45.00)
Less Marketing Costs:	Commission	Fees	Trucking			
	(3,240)	(900)	(1,560)	(\$5,700)	(\$5,700)	(\$28.50)
Total Revenue (net of marketing costs)					\$146,520	\$732.60

Wintering Herd Feed Requirements (bred cows , replacement heifers , bulls)

Category	head	Hay: lbs/head/day	Days fed	Hay lbs total	Hay Ton	cow
Bred Cows	200 head	40	211 days	1,688,000 lbs	844 ton	
Replacem'ts	42 head	25	211 days	221,550 lbs	111 ton	
Wintered Bulls	5 head	45	211 days	47,475 lbs	24 ton	
			Total:	1,957,025 lbs	979 ton	4.89 ton/cow

Total Herd Grazing Requirements

Category	Numbers	days	AUM equiv.	total AUM	Dawson Creek AUM's	
Cows	200 head	154 days	1	1027 AUM	1250 AUM Total	
Replacement						
Heifers	42 head	154 days	0.75	162 AUM		
Bulls	8 head	154 days	1.5	62 AUM	3 AUM @ \$10	750 AUM @ \$10
			Total:	1250 AUM	Total:	\$15,000

Weaning Weight Calculator

Average Calf Age at weaning	190 days	% Calves Born Per 21-Day Cycle				
Calculated Steer Weaning Weight	611 lbs	1st cycle	2nd cycle	3rd cycle	4th cycle	
Heifer Weight (% steer)	90%	550 lbs	60%	20%	15%	5%
			*Estimated Daily Gain Birth to Weaning 2.85 lbs/day			
			*Estimated Calf Birth Weight 70 lbs			

Table 29 – Income and Expenses Statement – Dawson Creek Sample Ranch

Income and Expense Statement Dawson Creek				200 Cows	
January 1 to December 31, 2013					
Revenue				Total Ranch	Per Cow
	Cow Calf			161220	806
	Feeder			0	0
	Crops			6,450	32
	Other Income			0	0
Less:	Bull Purchase			(9,000)	(45)
	Feed Purchase			0	0
	Marketing and Trucking			(5,700)	(29)
Inventory	Cow Calf	Feeder	Crops		0
Change	0	0	0		0
Gross Profit				152,970	765
Direct Expenses					
	Seed			4,350	22
	Fertilizer			3,618	18
	Chemicals			0	0
	Twine			653	3
	Crop Insurance			0	0
	Custom Work			1,200	6
	Irrigation			0	0
	Feed Supplement			0	0
	Mineral and Salt			2,500	13
	Grazing Fees			7,500	38
	Private Pasture Fees			7,500	38
	Trucking hay and to Pasture			2,000	10
	Supplies			2,000	10
	Vet and Medicine			4,800	24
	Equip. Fuel and Lube			23,728	119
	Equip. Repair			12,374	62
	Other Enterprise Expense			0	0
	Supplies Inventory Change			0	0
Total Direct Expenses				72,223	361
Contribution Margin				80,747	404
Indirect Expenses					
	Building and Fence Repair			4,500	23
	Land Taxes			1,000	5
	Shop supplies/Small tools			700	4
	Labour			12,000	60
	Legal and Accounting			1,800	9
	Insurance and Licences			4,500	23
	Utilities			4,000	20
	Misc. (Office, fees, subscriptions)			2,500	13
	Operating Interest			1,936	10
	Term Loan Interest			10,000	50
Total Indirect Expense				41,531	208
TOTAL EXPENSES				113,754	569
NET RETURN OVER EXPENSE				39,216	196
Adjustments					0
	Depreciation - Buildings and Equipment			(20,827)	(104)
NET FARM INCOME				18,389	92

Table 30 – Net Worth Statement – Dawson Creek Sample Ranch

Net Worth - Dawson Creek Sample Ranch
December 31, 2013

Current Assets		Current Liabilities	
Cash		Operating Loan	
Account Receivable			
Supplies		Accounts Payable	
Hay	\$36,000	Feeder Loan	
Feeders			
Total Current Assets	\$36,000	Total Current Liabilities	\$0
 Intermediate Assets		 Intermediate Liabilities	
Cow Herd	\$333,500	Intermediate Loans	
Equipment	\$227,700		
Car			
Horses	\$10,000		
Total Intermediate Assets	\$571,200	Total Intermediate Liabilities	\$0
 Fixed Assets		 Long Term Liabilities	
Buildings and Corrals	\$50,000		
House	\$200,000	Land mortgage	\$200,000
Other			
Land	\$1,200,000		
Total Fixed Assets	\$1,450,000	Total Long Term Liabilities	\$200,000
Total Assets	\$2,057,200	Total Liabilities	\$200,000
		Total Equity	\$1,857,200

Table 31 – Forage Costs and Returns – Dawson Creek Sample Ranch

Forage Costs and Returns Dawson Creek - 2013

Average of Establishment and Production Years

Revenue	Yield (Tons/Ac)	Per Acre	Per Ton
Barley hay	2.75	\$137.50	\$50.00
Alfalfa 1st Cut	1.50	\$90.00	\$60.00
Alfalfa 2nd cut	0.00	\$0.00	\$0.00
Total	1.8	\$102.00	\$56.00
Direct Costs			
Seed		\$7.25	\$4.00
Fertilizer		\$10.12	\$5.59
Twine		\$1.09	\$0.60
Irrigation		\$0.00	\$0.00
Total Supplies and Materials		\$18.00	\$10.00
Fuel and Lube Costs		\$24.88	\$13.73
Machine Repairs		\$15.62	\$8.62
Total Direct Costs		\$59.00	\$33.00
Contribution Margin		\$43.00	\$24.00
Indirect Costs			
Dep. (Bldgs. & Equip.) plus taxes		\$27.94	\$15.42
Labour		\$15.10	\$8.33
Total Indirect Costs		\$43.00	\$23.74
Total Direct and Indirect Costs		\$102.00	\$56.00
Gross Operating Profit		\$0.00	\$0.00
Opportunity Costs			
Interest on Direct Costs		\$1.47	\$0.81
Land Rental Cost		\$20.00	\$11.03
Interest on Bldgs. & Equip.		\$15.49	\$8.55
Total Opportunity Costs		\$37.00	\$20.00
Total Economic Costs		\$139.00	\$77.00
Total Acres Hayland	Acres	600	
Total Tons Produced	Tons	1088	

Table 32 – Summary of Hay Production Costs and Returns – Dawson Creek Sample Ranch

Page 1	SUMMARY OF HAY PRODUCTION COSTS AND RETURNS										Dawson Creek																	
Revenue	Est. Year 1					75 Acres					Est. Year 2					75 Acres					Full Pdn.				450 Acres			
	Yield	Price	Units	Acres	\$/Ton	Yield	Price	Units	Acres	\$/Ton	Yield	Price	Units	Acres	\$/Ton	Yield	Price	Units	Acres	\$/Ton	Yield	Price	Units	Acres	\$/Ton			
Oat hay	3.0	50.00	Ton	150.00		2.5	50.00	Ton	125.00							1.5	60.00	Ton	90.00									
Alfalfa 1st cut			Ton					Ton										Ton										
Alfalfa 2nd cut			Ton					Ton										Ton										
Total Revenue	3.0			150	50	2.5			125	50	1.5							90	60									
DIRECT COSTS																												
Supplies and Materials	Quant.	\$/Unit	Units	\$/Ac		Quant.	\$/Unit	Units	\$/Ac		Quant.	\$/Unit	Units	\$/Ac		Quant.	\$/Unit	Units	\$/Ac									
Seed: Alfalfa		3.80	Lbs.			6.0	3.80	Lbs.	22.80									Lbs.										
: Brome grass		2.80	Lbs.			3.0	2.80	Lbs.	8.40									Lbs.										
: Orchard Grass		1.80	Lbs.			1.0	1.80	Lbs.	1.80									Lbs.										
: Oats	3.0	5.00	Lbs.	15.00		2.0	5.00	Lbs.	10.00									Lbs.										
Fertilizer: 46-0-0	100.0	0.34	Lbs.	34.03		30.0	0.34	Lbs.	10.21			0.34	Lbs.					Lbs.										
: 21-0-0		0.25	Lbs.			15.0	0.25	Lbs.	3.74			0.25	Lbs.					Lbs.										
: 11-52-0		0.34	Lbs.			50.0	0.34	Lbs.	17.01			0.34	Lbs.					Lbs.										
Custom fertilizer appln	1.0	8.00	acres	8.00		1.0	8.00	acres	8.00			8.00	acres					acres										
Twine	3.0	0.60	T.of hay	1.80		2.5	0.60	T.of hay	1.50		1.5	0.60	T.of hay	0.90				T.of hay										
Irrigation Power			\$/acre					\$/acre					\$/acre					\$/acre										
Tarp	3.0		\$/ton			2.5		\$/ton			1.5		\$/ton					\$/ton										
Total Supplies and Materials				59					83					1														
Fuel & Lube Costs				58.02					33.56					17.91														
Machine Repairs				38.73					19.12					11.19														
TOTAL DIRECT COSTS				156	52				136	54				30	20													
Contribution Margin				-6	-2				-11	-4				60	40													
Indirect Costs																												
Dep. (Bldgs & Eq.) + taxes				27.94	9.31				27.94	11.18				27.94	18.63													
Labour				33.70	11.23				21.18	8.47				10.98	7.32													
Total Indirect Costs				62	21				49	19.65				39	25.95													
Total Direct and Indirect Costs				217	72				185	74.11				69	46													
Gross Operating Profit				-67	-22				-60	-24				21	14													
Opportunity Costs																												
Interest on Direct Costs				3.89	1.30				3.40	1.36				0.75	0.50													
Land Rental Cost				20.00	6.67									20.00	13.33													
Interest on Bldgs & Equip.				15.49	5.16				15.49	6.20				15.49	10.33													
Total Opportunity Costs				39	13				19	8				36	24													
Total Economic Costs				257	86				204	82				105	70													

Summary Comments

- The focus group method worked well to develop and update the Sample Ranches and to determine specific costs and returns and ranch profitability. At all meetings producers were very knowledgeable and had a good understanding of the production variables and financial components of the cow calf business. Workshop participants were always open and instructive in their comments and observations.
- Ranchers seemed to agree with the process and were in agreement that it was important to have a production and financial description of the ranch to determine the ranch revenues and operating costs.
- Participants universally enjoyed the workshop, and appreciated the opportunity to be involved. They appreciated the opportunity to participate in a meeting where they felt they learned something. They found it a positive educational experience
- The rancher participants were interested and most cooperative. They had an excellent grasp of the revenue and expenses on the ranch in general and the specifics of the costs of operating a grazing lease.
- At most of the meetings some participants mentioned that they were appreciative of the fact focus group leaders valued their information and that we were willing to listen.
- There was considerable variability in the size of the ranches developed and the costs involved. The size varied from 150 cows in Vernon to 400 cows in Kamloops. Although not planned it is worthwhile to have a variety in the size of sample ranches.
- There was also a large variability in the per cow net income generated by the sample ranches. In all cases income was low relative to investment in the operation. We feel this points out that although calf prices have strengthened in recent years costs have increased as well resulting in net incomes that are still relatively low.
- The prices received for calves on a per pound basis did not vary much between areas. However, due to significant differences in marketing weights the income per calf varied significantly. The main cause of this difference was age of calves at sale.
- There was a significant range in winter feed requirements between the sample ranches.
- Although the ranches were spread throughout British Columbia, with the exception of Cranbrook marketing costs were very similar.
- The Financial Statements of Sample Ranches provide ranchers and those not familiar with the ranching sector valuable insights into the cost, expense and net income structure of the industry. The example cow calf enterprises are not encumbered by extraneous factors. Per cow revenue and expenses can serve as useful benchmarks for ranches with characteristics similar to the assumptions used in the sample ranch.

Table 33 – 2013 Total Ranch Income and Expense Statement

	Cranbrook	Vernon	Kamloops	Williams Lk.	Vanderhoof	Dawson Cr.
Revenue	200 Cows	150 Cows	400 Cows	200 Cows	250 Cows	200 Cows
Cow Calf	154,789	122,209	337,766	142,484	200,257	161,220
Feeder	0	0	0	0	0	0
Crops	2,620	11,025	15,544	0	40,770	6,450
Other Income	0	0	0	0	0	0
Less						
Bull Purchase	(12,000)	(8,000)	(32,000)	(12,000)	(16,000)	(9,000)
Feed Purchase	0	0	0	0	0	0
Marketing Costs	(5,287)	(4,214)	(11,469)	(5,252)	(7,341)	(5,700)
Inventory Change	0	0	0	0	0	0
Gross Profit	140,122	121,020	309,841	125,232	217,686	152,970
Direct Expenses						
Seed	1,472	1,890	3,972	5,010	4,928	4,350
Fertilizer	14,722	10,719	18,675	20,478	27,862	3,618
Chemicals	250	500	0	0	275	0
Twine	449	630	1,193	1,495	1,002	653
Crop Insurance	0	0	450	200	963	0
Custom Work	2,000	1,200	2,400	2,000	4,440	1,200
Irrigation	7,000	3,750	12,000	4,000	0	0
Feed Supplement		0	0	0	2,255	0
Mineral and Salt	2,400	1,500	3,000	1,400	3,000	2,500
Grazing Fees	2,910	2,302	6,550	2,358	5,500	7,500
Private Pasture Fees	5,000	0	13,076	0	25,000	7,500
Trucking hay & to Pasture	0	4,500	3,000	0	2,500	2,000
Supplies (ear tags, etc.)	1,500	1,350	4,000	1,400	2,700	2,000
Vet & Medicine	4,000	4,050	12,000	4,000	4,500	4,800
Equip. Fuel & Lube	19,532	15,230	30,055	19,003	26,842	23,728
Equip. Repair	10,967	9,323	21,306	10,249	13,603	12,374
Bedding and Cleaning	0	0	0	0	4000	0
Supplies Inventory Change	0	0	0	0	0	0
Total Direct Expenses	72,202	56,944	131,677	73,511	129,370	72,223
Contribution Margin	67,920	64,076	178,164	51,721	88,316	80,747
Indirect Expenses						
Building & Fence Repair	3,500	2,500	4,000	3,500	4,500	4,500
Land Taxes	2,000	1,200	1,600	800	1,300	1,000
Shop supplies/Small tools	1,500	900	1,350	1,500	3,000	700
Hired Labour	12,000	6,500	50,000	3,500	12,000	12,000
Legal & Accounting	1,500	3,000	3,500	2,000	2,000	1,800
Insurance & Licences	5,500	5,000	6,000	5,200	6,800	4,500
Utilities (heat, bldg. hydro, et.)	3,500	1,500	1,000	3,600	3,600	4,000
Misc. (Office, fees, Tele.)	2,400	1,900	3,500	3,000	2,800	2,500
Operating Interest	1,237	1,181	2,760	1,626	1,602	1,936
Term Loan Interest	10,000	7,500	20,000	10,000	7,500	10,000
Total Indirect Expense	43,137	31,181	93,710	34,726	45,102	41,531
Total Expenses	115,339	88,125	225,387	108,237	174,472	113,754
Net Return Over Exps.	24,783	32,895	84,454	16,995	43,214	39,216
Adjustments						
Depreciation	(18,490)	20,279	(19,020)	(22,249)	(15,234)	(20,827)
Net Farm Income	6,293	12,616	65,434	(5,255)	27,980	18,389

Table 34 – 2013 Per Cow Income and Expense Statement

	Cranbrook	Vernon	Kamloops	Williams Lk.	Vanderhoof	Dawson Cr.
Revenue	200 Cows	150 Cows	400 Cows	200 Cows	250 Cows	200 Cows
Cow Calf	774	815	844	712	801	806
Feeder	0	0	0	0	0	0
Crops	13	74	39	0	163	32
Other Income	0	0	0	0	0	0
Less Bull Purchase	(60)	(53)	(80)	(60)	(64)	(45)
Feed Purchase	0	0	0	0	0	0
Marketing & Trucking	(26)	(28)	(29)	(26)	(29)	(29)
Inventory Change	0	0	0	0	0	0
Gross Profit	701	807	775	626	871	765
Direct Expenses						
Seed	7	13	10	25	20	22
Fertilizer	74	71	47	102	111	18
Chemicals	1	3	0	0	1	0
Twine	2	4	3	7	4	3
Crop Insurance	0	0	1	1	4	0
Custom Work	10	8	6	10	18	6
Irrigation	35	25	30	20	0	0
Feed Supplement	0	0	0	0	9	0
Mineral and Salt	12	10	8	7	12	13
Grazing Fees	15	15	16	12	22	38
Private Pasture Fees	25	0	33	0	100	38
Trucking hay & to Pasture	0	30	8	0	10	10
Supplies (ear tags, etc.)	8	9	10	7	11	10
Vet & Medicine	20	27	30	20	18	24
Equip. Fuel & Lube	98	102	75	95	107	119
Equip. Repair	55	62	53	51	54	62
Bedding and Cleaning	0	0	0	0	16	0
Supplies Inventory Change	0	0	0	0	0	0
Total Direct Expenses	361	380	329	368	517	361
Contribution Margin	340	427	445	259	353	404
Indirect Expenses					0	0
Building & Fence Repair	18	17	10	18	18	23
Land Taxes	10	8	4	4	5	5
Shop supplies/Small tools	8	6	3	8	12	4
Hired Labour	60	43	125	18	48	60
Legal & Accounting	8	20	9	10	8	9
Insurance & Licences	28	33	15	26	27	23
Utilities (heat, bldg. hydro, etc.)	18	10	3	18	14	20
Misc. (Office, fees, phone)	12	13	9	15	11	13
Operating Interest	6	8	7	8	6	10
Term Loan Interest	50	50	50	50	30	50
Total Indirect Expenses	216	208	234	174	180	208
Total Expenses	577	587	563	541	698	569
Net Return Over Exps.	124	219	211	85	173	196
Adjustments						
Depreciation	(92)	(135)	(48)	(111)	(61)	(104)
Net Farm Income	31	84	164	(26)	112	92

Table 35 – Assumptions, Production and Financial Factors

	Cranbrook	Vernon	Kamloops	Williams Lake	Vanderhoof	Dawson Creek
Number of cow overwintered	200	150	400	200	250	200
Total deeded Acres	700	300	2000	1200	1200	1200
Total forage acres	200	150	300	250	600	600
Acres in establishment	20	30	60	50	110	150
Hay yields(Tons/Acre)	3.4	4	3.8	2.6	2.28	1.81
Direct hay cost/ton	\$64	\$56	\$61	\$71	\$47	\$33
Direct & indirect hay costs/ton	\$105	\$110	\$95	\$117	\$67	\$56
Weaning percentage	88%	90%	92%	85%	92%	90%
Sale weight :Steer calves	570	650	580	550	540	600
: Heifer calves	515	600	500	525	490	500
Sale Price :Steer calves	\$1.64	\$1.50	\$1.64	\$1.60	\$1.66	\$1.51
: Heifer calves	\$1.48	\$1.39	\$1.51	\$1.45	\$1.45	\$1.40
Pounds of calf weaned per cow	477	562	497	457	474	495
Gross Profit per Cow	\$701	\$807	\$775	\$626	\$871	\$765
Gross profit for the ranch	\$140,122	\$121,020	\$309,841	\$125,232	\$217,686	\$152,970
Total direct expenses	\$72,202	\$56,944	\$131,677	\$73,511	\$129,370	\$72,223
Contribution Margin	\$67,920	\$64,076	\$178,164	\$51,721	\$88,316	\$80,747
Total indirect expenses	\$43,137	\$31,181	\$93,710	\$34,726	\$45,102	\$41,531
Total Expenses	\$115,339	\$88,125	\$225,387	\$108,237	\$174,472	\$113,754
Net Farm Income	\$6,293	\$12,616	\$65,434	(\$5,255)	\$27,980	\$18,389
Total ranch assets	\$2,007,520	\$2,969,470	\$5,300,775	\$2,238,300	\$2,041,500	\$2,057,200
Total ranch liabilities	\$200,000	\$150,000	\$400,000	\$200,000	\$250,000	\$200,000
Total ranch equity	\$1,985,700	\$2,819,470	\$4,900,775	\$2,038,300	\$1,791,500	\$1,857,200

Questions and Feedback

The participants were asked to list some of the decisions they felt ranchers were presently trying to make. The following is list of responses. These include all the responses and no attempt was made to delete duplications:

1. Should I buy or produce my hay requirements?
2. Can I manage my grazing to reduce the length of the winter feeding period?
3. Are there ways to reduce the fertilizer costs including alternative nutrient sources?
4. What are the comparative costs of operating different irrigations systems (e.g. pivots versus wheel lines).
5. Can I make money custom grazing other producer's cattle?
6. What are the 'real' costs of running cattle on Crown Range?
7. How often should I renovate hayfields?
8. Should I graze all my forage land and purchase my winter feed requirements?
9. Should I sell the cow herd and move to a program where I purchase calves in the fall and intensively graze my fields the following summer.
10. Should I buy calves in the spring and graze them on my land over summer and sell as yearlings in the fall?
11. Should I put up hay and custom feed other producer's cattle?
12. Should I use my forage land to custom graze other producer's cattle?
13. Should I convert my hay fields to irrigated pastures and purchase my winter feed requirements?
14. Is swath grazing a viable option to consider to reduce feeding costs?
15. Should I only produce hay and sell to other producers?
16. Should I rent the land I need rather than owning it?
17. Should I rent my land to other producers?
18. Can I minimize the number of acres of forage I need to renovate by improved harvesting and nutrient management?
19. Should I buy hay or put up my own?
20. Can I manage my grazing so that I can reduce the hay I have to feed?
21. Is it cost effective to spread stockpiled manure?
22. How much can I afford to pay for cows?
23. Is expanding the cow herd a good idea at this time?

24. If I decide to expand my herd should I be buying cows or retaining more of my heifer calves?
25. What are the costs of keeping a bull?
26. Many producers in this area are looking at hay production for the export market so analyzing the costs of producing hay is very important.

(The following six observations were not presented as questions but in each case an analysis would likely be useful when making the change.)

1. Make the ranch operate as a profitable business. Make decisions based on good business practices.
2. Operate ranch with separate business units for cattle and haying. Do not have one business unit subsidizing the other.
3. From a business model look at purchasing hay and reducing equipment requirements (do not ignore the real costs of putting up hay).
4. Work with Mother Nature, calve in late May and June, bale graze, and use intensive cell grazing.
5. Use cattle size that fit your area and climate.
6. Move away from performance on calves and focus on number of live calves sold.
7. Look at what the market wants and provide it e.g. consistent size, appropriate breed crosses etc.

We also asked producers what they felt might be the best way to work with producers attempting to make management decisions.

1. I think a computer sheet listing the various expense categories that individual producers could input their own numbers and come up with costs for their own operation would be useful.
2. I think workshops are probably the best for getting the decision making tools out there.
3. Most producers are not all that familiar with using computer programs so that has to be taken into consideration.
4. Interactive workshops are the best way to get producers to explore decisions.
5. I feel that workshops are probably the best for getting the decision making tools out there. The group discussion is the best way to explore all the pros and cons of each scenario.