

Can YOU Make Money in the Elk Business? Elk Operation Business Forecasting

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Can you make money in the elk business? What is the best model? These are common questions we hear asked by perspective and current elk owners across the continent. The elk industry, like other business markets, is subject to supply and demand; income and expenditures that ultimately work toward a bottom line of profit. But how much can be made? Is elk a good investment? These answers all depend on you, but yes, elk are a very promising investment if the operation model works for you.

To obtain an answer to the questions posed in the first paragraph, a group of NAEBA members worked together to develop a series of forecasting models for various herd and investment sizes. Specifically, the group developed models for a potential elk owner that wants to start with a small herd. Other models assume the person is a crossover ranch wanting to diversify into elk that may already have high fence, such as a whitetail or exotic hoof stock ranch. The models also examine different markets- for example, most of the models assume the sale of trophy bulls but other models utilize only product sales with no reliance on trophy markets. The conclusions are interesting to say the least. In fact, the realizations may surprise many to completely rethink their current or future operation practice. But the answer is clear- there is definitely money to be made in the elk industry.

We must first discuss a few disclaimers. These models are designed so that it can be used by an elk operation, whether you are in the United States or Canada. Obviously, exact expense costs may vary but we attempted to use an overall average or at least common practice. For example, hay and grain costs will vary, but we gave a best effort to use an average or common price for expenses. On the same token, our models are intended to be conservative on income projections and do not chase best case scenarios of high dollar sales. The models are even conservative on aspects such as weaning and death loss. The models assume a weaning rate of 85% and an annual death loss of 2%. Though the majority of existing operations would say these figures may be overly conservative, we feel it is better to prepare this way instead of an “everything goes right, every time” operation.

The markets used in these models are based on the current supply and demand markets in 2018. The elk industry has historically been promoted for its multiple markets, however, most elk ranchers in this decade truly base their operation on one- the trophy market. Elk market reports showed the most common elk trophy bull size harvested in trophy ranches ranged between 300”-380”. Common prices paid for these bulls, from breeder operations, are \$2,500 to \$6,000 USD respectively. Trophy market prices in these models fall within this range. To compound the complexity, most existing elk ranchers aim to produce trophy bulls in excess of 400”. There is demand for bulls of this size, but not to the degree of bulls that score less than 380”. Thusly, elk breeding operations are working to produce a steady supply of a bull’s antler size of which is in the least demand. This is even more true for the production of trophy bulls larger than 450”. NAEBA has repeatedly warned its breeder operation members against the “race to 500” business model.

We felt it was important to also develop models that do not rely on trophy markets at all. As



we just noted, most existing operations are producing trophy animals beyond the need of demand. Back to the advantage of elk's multiple markets, there is a soaring demand for harvested antler, both in velvet and hard antler form, along with elk meat. The shortage of velvet, hard antler (for dog chew markets) and meat is so real, it is hard for vendors to engage in long term contracts because of lack of ensured supply.

From the outside looking in, why are elk operations working to produce supply for the least demand product but not supplying the most demand products? To give a real-life example of this scenario, this summer, an elk rancher in Iowa can pick up the phone, call a major meat animal buyer and say they have three animals to sell for meat or thirty animals to sell. They will be sold. They can then call a velvet antler buyer and say they have fifty pounds of velvet or 500 pounds of velvet antler... It will be sold. However, if they call a trophy bull buyer or a trophy ranch and say they have four 400" bulls or forty 400" bulls for sale... that is a completely different story.

To help prove the industry can change the direction of the goal of building supply for the least demand product but not working to produce supply for the most demand products, models were developed assuming that elk operations keep bulls until they are the age of eight while harvesting their antlers every year. Eventually, the older bulls are harvested in the meat market for ground meat (too old for harvesting premium meat cuts). This operation works to build supply for the products most in demand. Also, depending on your state or province, this greatly reduces your regulations. If you are an elk rancher that does not rely on the trophy bull market, you now do not need to sell animals out of state. Nearby states could close their borders for interstate commerce and you are still in business harvesting velvet and meat. In the United States, you now no longer have to be in a voluntary TB or Brucellosis program. Most participants of this program are only enrolled because they want to move animals interstate or have the status for breeding stock sales. Clearly, there are many advantages for this type of operation.

Upon review of the models, there are many conclusions we can draw. Almost all of them are very interesting and some prove the most common business models do not make sense compared to other models.

Common Assumptions Used

Again, the models used basic assumptions common across our membership base. The models were created in Microsoft Excel so users have the ability to change cell data. If you review the models and feel they are too high or low for your local area of niche, by all means, adjust it. Make this your world.

Common assumptions we used for the animals are an 85% weaning rate, meaning 15% of calves die at birth or before weaning, for whatever reason. 2% death annual loss is assumed, for whatever reason. Elk have a very low mortality, but things can happen. If you feel this assumption is too high, change it. If you feel this assumption is too low, by all means, change it. The models assume a 50%-50%

split between bull and heifer calves. Every ranch may have different trends, but overall, the elk industry sees an even split. No twins are ever assumed, either.

Other common assumptions used velvet antler sold for \$35USD per pound. This number has fluctuated slightly in the last few years. Bulls harvested for meat would bring \$1,500 and cows harvested for meat would bring \$1,000.

Returns on investments (ROI) were tabulated based on initial investment. As most investments, one may wonder at the rate of return. For this, we used the common equation: The return on investment formula used in these models:

$$\text{ROI} = \frac{\text{Gain from Investment} - \text{Cost of Investment}}{\text{Cost of Investment}}$$

Start Up Operations

Starting With 10 Bred Cows and a Breeding Bull

Most start up elk operations begin with the purchase of a group of bred cows and a breeding bull. After all, this makes sense to a lot of people. This model gives you a group of females with calves on the way and a breeding bull to take care of business in the fall.

Examining a scenario where a person purchases ten bred cows and a breeding bull, after calving season eight weaned calves will bring the herd total to 20. There are pros and cons to this model. On one hand, this herd is in a position to start growing an animal population at a fast rate. The disadvantage is there is not really any product to produce that can immediately enter commerce. Hence, this operation model does not produce income for a long while. In fact, this operation model will not bring an annual net profit (annual income greater than expenditures) until year five. This is a long time to pump money into in an investment without net profit. Many operations simply do not have the resources to sustain the time it takes to produce a net profit.

However, the end reward could be worthwhile to those than have the resources to wait and support the five years of negative income. By utilizing, meat, velvet and trophy markets, this operation model is expected to net income in year five and every year after. In fact, this operation model produces an ROI of 12% for year five and six and up to 20% for years seven and after. The key is having the animals to sell, which unfortunately takes five years to produce the first round of major sales. There is a market for breeding stock-bred cows and offspring but this fluctuates by demand, location and genetic power.

Starting With Same Number of Cows and Bulls

Another model for startup elk operations is to purchase an even number of bred females and bulls. This can still be one breeding bull but other bulls work to generate income sooner than year five. If one operation, for example, buys ten bred cows and ten bulls (majority yearling bulls), the operation will produce a net income in year two. How is this possible? In year two, the operation is harvesting velvet. This is cash flow and the animals are still alive. The bulls are

getting bigger each year, and thereby, producing more velvet. Buying more bulls instead of additional cows takes longer for the operation to increase herd size, but it is paying for itself, which is a big advantage. The ROI for this model is almost 4% for year three and four and close to 10% for year five and six and on to over 16% in year seven (*see sample worksheet on following page*). So there is a tradeoff in the second model of a less aggressive ROI after year five compared to the first model. However, this operation is easier for most people to sustain in the early years. Also, it is easier than one may think to buy young bulls. Many herds downsize or liquidate at any given time. Slick elk bulls (bulls sold without antler currently on their head) are commonly sold. These bulls are out there if one wants to look.

Conclusion for startup operations- if you want to produce a steady net income faster, purchase several bulls at startup instead of an operation with all cows and a single breeder bull.

Operation Without Reliance on Trophy Bulls

Owning an operation that appropriately produces supply for the growing demand, could be a model that makes you feel safe and sustainable. We mentioned how this operation makes you less or completely not reliant on interstate movement and the regulations that come with it. So what can you expect with an operation that does not plan for the sale of any trophy bulls?

For this operation, starting with an even number of bulls and bred cows is the way to go. Without any sales of trophy bulls, the operation will produce net annual income in year three. (This is a year later than the startup operation discussed earlier, because that model assumed the sale of the original breeding bull sold as a trophy bull in year three.) This “meat and velvet antler only” model produces a net income with a steady ROI of over 4% at year five and up to 16% in year ten. By year seven, the operation with 25 bulls is producing 700 pounds of velvet, which brings around \$35,000 per year of velvet income, alone. This number results with an average of 28 pounds per bull, which could seem hard to obtain. However, in a model like this, producers could breed with super velvet genetics (sires that harvest greater than 50 pounds of velvet), which should produce good averages if bred to quality cows. Comparing to the same operation that sells trophy bulls, only 105 pounds of velvet would be produced the same year. This “meat and velvet antler only” model generates income from the most demand and sustainable

market. If velvet prices per pound sold wholesale for \$40, or by direct sales, the ROI would be 15% by year eight.

Crossover Operations

If an operation is a “crossover”, meaning a ranch wants to diversify to an elk operation that already has high fence, such as a whitetail or exotic hoof stock ranch, the initial investment is much less. Sure, a new elk chute and handling facility is needed, but the fence is already constructed. This makes the operational startup costs much less. If one starts the herd with an even number of bred cows and bulls, utilizing trophy markets, a net profit can be made in the second year with ROI's over 5% in year three. The ROI jumps to over 13% in year five. If the cross over operation ignores trophy markets to focus on products only, net profit begins at year three but with an 8% ROI.

Moving Forward

As we mentioned, many people call the NAEBA office or existing operation owners to inquire on the best startup model. Hopefully these examples give you awareness of possible methods to take. We know every new opportunity will be different. By all means, change the numbers to meet your exact investment type. We encourage it.

But can you make money in the elk industry? We say yes- but this depends on you. Are you a good business owner that will crunch the numbers before you start? Evaluate progress along the way? Will you do the research and make the decision to ensure cash flow and net profit? This is a major difference between business operations and hobby operations.

When planned and practiced correctly, elk investment can be a good use of your money. Most investors want their money to work for them. Many investors claim money that does not grow at the rate of inflation is dead money. The 2017 rate of inflation was 2.1%. The example operations contend the ROI proves money can be made in this industry.





Elk Financials 10 Year Plan Trophy Ranch Operation

Financial Projections for ----- Farm

\$ USD

	INVESTMENT (TOTAL)	FACILITIES:	FENCES:	ELK:										
	\$ 111,400.00	\$ 40,000.00	\$ 26,400.00	\$ 45,000.00										
					1	2	3	4	5	6	7	8	9	10
INVENTORY	Year													
Cows	10	10	10	10	10	10	10	10	10	10	10	10	10	10
First calf heifers	0	0	4	4	4	4	4	4	4	4	4	4	4	4
Yearling heifers	0	4	4	4	4	4	4	4	4	4	4	4	4	4
Weaned calves	8	8	10	10	10	10	10	10	10	10	11	11	11	11
Weaning %	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Bulls	7	9	10	10	10	12	12	12	12	13	13	13	13	12
Yearling bulls	3	4	4	4	4	4	4	4	4	4	4	4	4	4
Total farm population	29	35	42	44	47	47	47	47	47	50	50	50	50	50
Value of livestock	\$ 44,450.00	\$ 60,888.75	\$ 72,075.49	\$ 80,139.81	\$ 92,255.42	\$ 99,061.88	\$ 109,184.16	\$ 112,934.07	\$ 118,374.10	\$ 124,222.27				
SALES														
Calves	0	0	0	0	0	0	0	0	0	0	0	0	0	0
\$ /calf	\$ 650.00	\$ 1,000.00	\$ 1,050.00	\$ 1,102.50	\$ 1,157.63	\$ 1,215.51	\$ 1,276.28	\$ 1,340.10	\$ 1,407.10	\$ 1,477.46				
Cull Bulls	0	0	0	0	0	0	0	0	0	0	0	0	0	0
\$ / Bull	\$ 1,500.00	\$ 1,575.00	\$ 1,653.75	\$ 1,736.44	\$ 1,823.26	\$ 1,914.42	\$ 2,010.14	\$ 2,110.65	\$ 2,216.18	\$ 2,326.99				
Sell cows	0	0	4	4	4	4	4	4	4	4	4	4	4	4
\$ / cow	\$ 1,000.00	\$ 1,040.00	\$ 1,081.60	\$ 1,135.68	\$ 1,192.46	\$ 1,252.09	\$ 1,314.69	\$ 1,380.43	\$ 1,449.45	\$ 1,521.92				
Deaths (2% / yr)	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Trophy Bulls	1	3	3	3	4	4	4	4	4	4	4	4	4	4
\$ / bull	\$ 4,500.00	\$ 4,725.00	\$ 4,961.25	\$ 5,209.31	\$ 5,469.78	\$ 5,743.27	\$ 6,030.43	\$ 6,331.95	\$ 6,648.55	\$ 6,980.98				
Antler (lbs)	78	78	86	96	103	109	105	102	101	100				
\$ / lb	\$ 35.00	\$ 35.00	\$ 35.00	\$ 35.00	\$ 35.00	\$ 35.00	\$ 35.00	\$ 35.00	\$ 35.00	\$ 35.00				
INCOME														
\$ / adult	\$ 7,230.00	\$ 16,891.00	\$ 22,214.27	\$ 23,523.00	\$ 31,434.50	\$ 31,807.14	\$ 40,415.97	\$ 42,116.00	\$ 44,026.16	\$ 46,022.96				
Income (\$/adult)	\$ 425.29	\$ 897.50	\$ 1,138.84	\$ 1,172.73	\$ 1,460.77	\$ 1,454.79	\$ 1,732.41	\$ 1,838.85	\$ 1,935.90	\$ 2,010.63				
EXPENSES														
Breeder Bulls	\$ 2,000.00	\$ 2,776.00	\$ 3,552.00	\$ 3,716.18	\$ 3,871.05	\$ 3,862.24	\$ 4,037.27	\$ 4,081.20	\$ 4,117.79	\$ 4,161.41				
Fence repair (%/yr)	0.02	554	582	611	642	674	708	743	780	819				
Facilities repair (%/yr)	0.02	800.00	824	849	874	900	927	955	984	1013				
Hay (\$/T)	120	\$ 4,356.00	\$ 5,567.76	\$ 6,484.18	\$ 6,958.70	\$ 7,442.52	\$ 7,575.73	\$ 7,900.49	\$ 7,922.57	\$ 7,941.59	\$ 7,980.32			
Grain (\$/T)	120	1037	1350	1555	1677	1792	1827	1903	1910	1913	1922	cows: 3lb/hd/day	bulls: 5lb/hd/day	
Supplement (\$/T)	400	\$ 826.00	\$ 1,066.17	\$ 1,114.49	\$ 1,343.80	\$ 1,398.22	\$ 1,456.40	\$ 1,510.82	\$ 1,526.14	\$ 1,515.49	\$ 1,537.91	1/2lb/hd/day		
Veterinary (\$/elk)	15	\$ 420.00	\$ 518.70	\$ 616.29	\$ 651.36	\$ 691.61	\$ 699.03	\$ 731.97	\$ 723.57	\$ 736.30	\$ 741.38			
Utilities (\$/elk)	10	\$ 280.00	\$ 345.80	\$ 410.86	\$ 434.24	\$ 461.07	\$ 466.02	\$ 487.98	\$ 489.04	\$ 490.86	\$ 494.25			
Fuel & Machinery (\$/elk)	40	\$ 1,120.00	\$ 1,383.20	\$ 1,643.44	\$ 1,736.96	\$ 1,844.29	\$ 1,864.08	\$ 1,951.91	\$ 1,956.18	\$ 1,963.46	\$ 1,977.01			
Labor\$/elk)	30	\$ 840.00	\$ 1,037.40	\$ 1,232.58	\$ 1,302.72	\$ 1,383.22	\$ 1,398.06	\$ 1,463.93	\$ 1,467.13	\$ 1,472.59	\$ 1,482.76			
COSTS														
\$ / adult	\$ 12,206.80	\$ 15,423.65	\$ 18,039.55	\$ 19,306.05	\$ 20,426.37	\$ 20,750.07	\$ 21,650.19	\$ 21,812.87	\$ 21,944.94	\$ 22,160.16				
Cost/animal	\$ 488.27	\$ 502.40	\$ 541.31	\$ 556.00	\$ 559.44	\$ 562.77	\$ 555.61	\$ 562.05	\$ 567.29	\$ 567.86				
NET MARGIN														
\$ / adult	\$ (4,976.80)	\$ 1,467.35	\$ 4,174.72	\$ 4,216.95	\$ 11,008.13	\$ 11,057.07	\$ 18,765.78	\$ 20,303.13	\$ 22,081.22	\$ 23,862.80				
Net / adult	\$ (292.75)	\$ 77.97	\$ 214.02	\$ 210.23	\$ 511.55	\$ 505.73	\$ 804.39	\$ 886.47	\$ 970.94	\$ 1,042.51				
% RETURN	-5.92	1.19	4.60	4.03	9.22	8.55	13.30	13.71	14.21	14.61				7.75
ROI														
	-4.47	1.32	3.75	3.79	9.88	9.93	16.85	18.23	19.82	21.42				10.05
Still have:														
Value of animals	\$ 124,222.27													
Value of Fence and Facilities	\$ 33,200.00	50%												
Total:	\$ 157,422.27													

Operator's Assumptions:

Year 1 purchase 10 bred cows- \$2,000, 10 bulls- \$2,500
 10 Bulls= (3) spikes, (3) 2 yr, (3) 3 yr, (1) 4 yr
 Velvet= 2yr-10#, 3yr-14#
 Assuming vegetation 180 days @ no cost
 Fencing 40 acres @ \$5/ft
 Mature cows wean 85%
 Heifers wean 50%

To download the entire Elk Business Plan Financial spreadsheet file, visit the NAEBA website's Elk Ranching tab at www.naelk.org.