

Minnesota's Elk Revival

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Introduction

Elk are a controversial topic in Minnesota. They are a relic of an older landscape in which they freely wandered unbothered by cars, agriculture, or large infrastructure that is present everywhere today. Elk represent an abundance of opportunities as well as several challenges, which make them so captivating, especially in the media. It is the mission of this project to build a foundation of knowledge pertaining to the past, present, and future direction of Minnesota's elk herd to better structure the conversation surrounding elk in Minnesota.



Minnesota's native elk (*Cervus elaphus*) herd dwindled over a century ago, and efforts to reestablish an elk herd in the State has been anything but easy. Nearly three quarters of the state of Minnesota provided suitable elk habitat in 1800.¹ Over the course of the century, the area to which Minnesota's elk herd could graze, roam, and reproduce was confined to just a few counties in the far northern reaches of the state with agricultural expansion in the central and southern portion of the state.

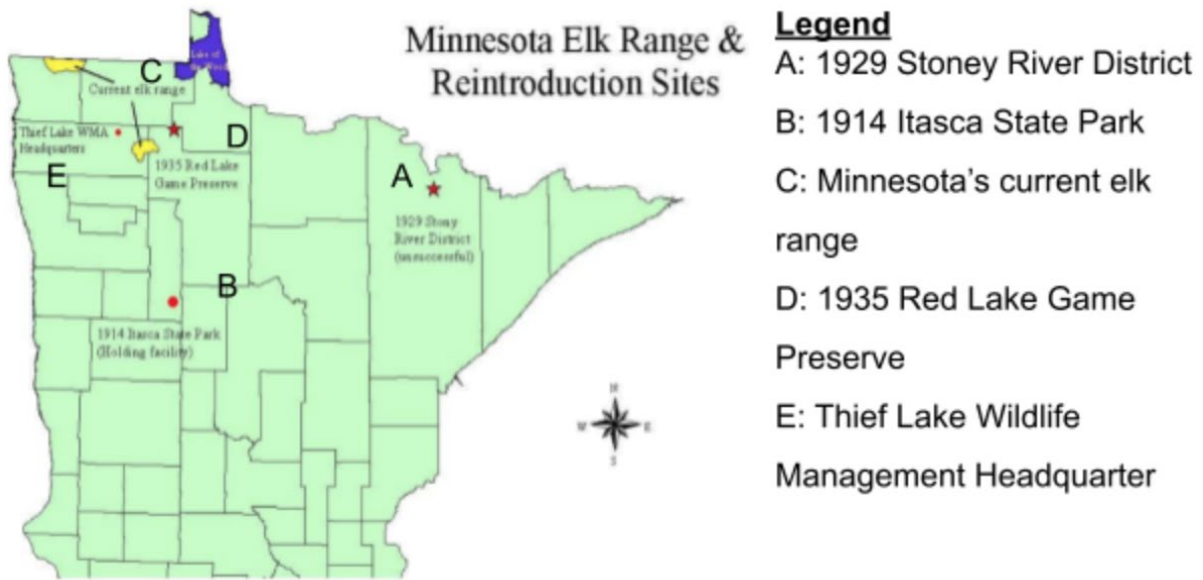
The near collapse of Minnesota's elk population persisted until reestablishment efforts (figure 1) in 1913 granted \$5,000 to relocate elk from the Western United States in Yellowstone Park; Jackson Hole, Wyoming; and a private elk farm in Ramsey County Minnesota to Itasca State Park.² In 1929, the transplant of elk from Itasca State Park to the Stoney River Ranger District (in St. Louis County, MN) commenced and lasted briefly as the herd failed. Fortunately, by 1935, Minnesota was able to relocate the remaining elk from Itasca State Park to the Red Lake Game Preserve in Northern Minnesota where they have since been able to get a foothold in the North Country.³

¹ Minnesota's long range elk plan: http://files.dnr.state.mn.us/recreation/hunting/elk/elk_mgt_plan.pdf

² Minnesota Elk Past and Present: <http://files.dnr.state.mn.us/recreation/hunting/elk/management.pdf>

³ Ibid

Figure 1. Minnesota elk range and reintroduction sites
 (source: <http://files.dnr.state.mn.us/recreation/hunting/elk/management>)



The conservation victory, which was the reestablishment of elk in Minnesota, persisted for over a half century when tensions between Minnesota's elk herd and the public arose. Like others in the *Cervidae* family, elk are browsers, however elk are also grazers which has proved to be costly for farmers and landowners alike.⁴ The clash between elk and people created new legislation in 1987 where hunts were authorized when herd size exceeded 20 animals. This legislation was the catalyst for future elk hunting opportunities in the State of Minnesota and has enabled hunting to be used as a conservation tool to the present day. The question of how and to what extent hunting as a conservation tool impacts Minnesota's elk herd is the focal question of this paper and instrumental in the broader understanding of hunting's role today.

Elk and reintroduction interests in Minnesota

Elk are a native species in Minnesota and had been present in the state until they were eliminated from the landscape near the turn of the twentieth century. The historic range of elk and other native Ungulate species is shown in figure 2. The reintroduction of elk to the Minnesota landscape has been met with mixed reactions. Beginning as early as 1939 and becoming increasingly severe by 1949, elk grazing of farm fields created controversy over the species' place in Minnesota.⁵ Grazing damage to soybean, sunflower and other crops became so destructive that an annual fund of one hundred thousand dollars was established to provide landowners with compensation for the depredation caused by the elk herds.

⁴ Minnesota Elk Past and Present: <http://files.dnr.state.mn.us/recreation/hunting/elk/management.pdf>

⁵ Minnesota's long range elk plan: http://files.dnr.state.mn.us/recreation/hunting/elk/elk_mgt_plan.pdf

Figure 2. Historic Range of Elk and other Ungulate Species in Minnesota Pre-European Settlement (source: <https://www.twincities.com/2017/10/28/the-moose-the-slug-and-the-deadly-brainworm-mn-scientist-tries-to-solve-a-mystery/>)



Fortunately for the future of Minnesota elk, public opinion has shifted since then. In one survey conducted and funded by the University of Minnesota and funded and supported by the Fond Du Lac Resource Management Division, Environment and Natural Resource Trust Fund and the Rocky Mountain Elk Foundation, 8,500 Minnesota residents and landowners were asked to respond to several questions.⁶ The study found approximately 81% of local northeastern Minnesota survey respondents and 80% of northeastern Minnesota landowners supported restoring wild free ranging elk to northeast Minnesota.⁷ (figures 3 and 4). Additionally, hunters were more in favor of restoring wild Minnesota elk when compared with non-hunters for both landowners and residents. Farmers were less supportive than non-farmers. When asked to rank management objectives, landowners and residents identified minimizing impacts to existing wildlife populations and restoration of a native species as the most important objectives to achieve. In conjunction with these results, landowners and residents cited providing elk hunting opportunities and maximizing economic opportunities through elk tourism as some of the least important management objectives.

⁶ Walberg, E., Forester, J., & Schrage, M. (2019). Northeastern Minnesota Elk: A Study of Landowner and Public Attitudes toward Potential Elk Restoration in Minnesota. University of Minnesota, Minnesota Cooperative Fish and Wildlife Research Unit, Department of Fisheries, Wildlife, and Conservation Biology, University of Minnesota, St. Paul, MN. Available at: http://elk.umn.edu/sites/elk.dl.umn.edu/files/general/lccmr_elk_hd_report_1.pdf

⁷ "Minnesota Considers Elk Restoration." Rocky Mountain Elk Foundation, May 20, 2020. <https://www.rmeff.org/elk-network/minnesota-considers-elk-restoration/>.

Figure 3. Support for restoring wild, free-ranging elk to the study areas in Minnesota (source: http://elk.umn.edu/sites/elk.dl.umn.edu/files/general/lccmr_elk_hd_report_1.pdf)

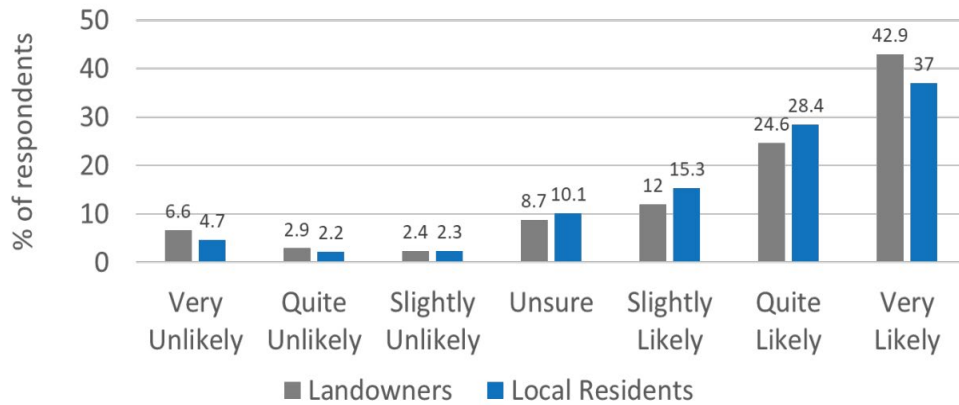
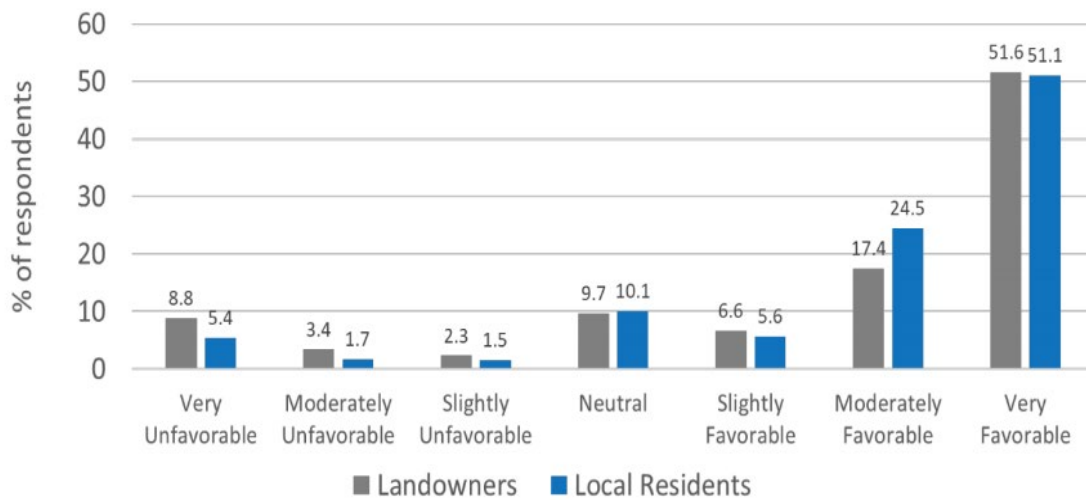


Figure 4. Feelings expressed toward restoring wild, free-ranging elk to the study areas in Minnesota (source: http://elk.umn.edu/sites/elk.dl.umn.edu/files/general/lccmr_elk_hd_report_1.pdf)



The Fond du Lac Band of Lake Superior Chippewa in northeastern Minnesota is one of the largest proponents of reestablishing Minnesota’s elk herd. The Band is motivated to reestablish the herd as elk are culturally significant and treaty rights allow the Band to exercise their tribal rights to bring an elk population back to the region. The backing of the Fond du Lac Tribe is instrumental to elk reestablishment efforts and provides another avenue to manage Minnesota elk. In an interview with Mike Schrage, a wildlife biologist for the Fond Du Lac Resource Management Division, several points of interest pertaining to Minnesota’s elk herd were addressed. Mr. Schrage provided useful insight to the discussion around reestablishing Minnesota’s elk herd by answering several questions detailed below.

Mr. Mike Schrage – Wildlife Biologist, Fond du Lac Resource Management Division

How are you involved in Minnesota elk management?

I am the wildlife biologist for the Fond Du Lac of Lake Superior Chippewa. In 2019, I assisted in a project centered on determining habitat suitability and levels of public support for elk in northeast Minnesota.

What is the importance of elk to the Fond Du Lac Band and Minnesotans?

Historically, elk provided a source of food, and clothing for Fond Du Lac people and for over a century, this avenue of food security has been absent for them. Elk are a native wildlife species to Minnesota and have not received the same attention as other species like moose and wolves. There has been increasing support for reestablishing elk from Fond Du Lac as they are seen as a species that should have the same standing as moose and wolves but are not given the same amount of attention. This has led to an increase in elk supporters for both the tribe and Minnesota residents.

What do you think the goal of Minnesota's elk herd should be?

In my opinion, I would love to see a statewide herd total of 10,000 animals. Unfortunately, I don't believe that this will be able to happen in my lifetime. Chronic Wasting Disease makes it difficult to transport animals across state lines so bringing in a large number of animals into the state like Kentucky did with 1,500 elk about 20 years ago is just not feasible. However, after seeing how suitable the Northern third of Minnesota is for elk habitat, I believe expanding the herd to the Northeast portion of the state is a very practical and feasible way to increase the population of Minnesota's elk herd.

How substantial is the economic impact from Minnesota's elk population?

In Minnesota, the economic benefits of elk are miniscule compared to states like Colorado who enjoy huge amounts of economic benefits from having such a large elk population. Minnesota just has too few animals for there to be a sizable economic benefit at the moment. That is not to say that this will persist forever. If a herd can be established in the North East portion of the state, the economic impact could be huge. Duluth is one of the Midwest's largest tourism areas and if a herd is in close proximity to the city, there could be many businesses that benefit from having the herd close to the city.

Is hunting an important factor in Minnesota's elk management plan?

Absolutely! It is an integral part in any process reestablishing elk. Hunting is a driving force behind reestablishing elk in the first place since the Fond Du Lac Band and Rocky Mountain Elk Foundation are two organizations to have invested a tremendous amount of time and resources in elk reestablishment. Both of these organizations have deep hunting cultures and view hunting as an important part of elk management.

What do you believe future elk management should focus on?

In 10 to 20 years, I would love to see a few more elk that would eventually number several hundred in North Eastern Minnesota. I believe that this would work fine with other animal populations. In Kentucky they reintroduced Elk and still observe healthy whitetail deer populations that consistently reach Boone and Crocket level size (animals that are large enough to be scored based on the Boone and Crocket scale). Whitetail deer are most similar to elk and if these two species can seemingly coexist, I believe the North Eastern Minnesota herd is a very real goal for the State to reach.

Elk herd reintroduction and management in the eastern United States

How wildlife ought to be managed and preserved is a controversial topic with the answer largely dependent on the species and population status. Management for one species in one area can look quite different than the management strategy for the same species in another area. In the context of elk herd management, strategies vary widely and depend on a variety of factors. These factors are outlined in the U.S. Forest Service's *Elk Management in the Northern Region: Considerations in Forest Plan Updates or Revisions*⁸ which provides four key components of elk management (see textbox). In conjunction with these four components, there are habitat considerations that ought to be taken into account when examining elk management strategies. Such considerations include habitat effectiveness, winter range, and elk vulnerability.⁹

Habitat effectiveness encompasses roads, cover, spatial relationships, livestock areas, and special features that provide sufficient habitat for elk. Winter range is the biggest factor when it comes to elk management considerations. The most prominent factors influencing elk winter range are forage quantity and quality as well as thermal cover, roads, and disturbances and livestock locations. Lastly, the consideration that pertains most closely to this project is elk vulnerability. Elk vulnerability takes into account roads, security areas which are areas with accessible resources that are distanced from hunting pressure, cover management, and mortality models.¹⁰

Mortality models link hunter density, habitat, and elk mortality together to determine how elk populations need to be managed. Creating mortality models is instrumental in elk management as road construction, forestry practices, and hunting applications should all be informed from this information. In one study done in Washington State's Blue Mountain Range, a mortality model was used with two goals in mind. The first was to end a poaching ring in the range and the second was to analyze the current effectiveness of general season elk hunting opportunities across elk age groups while taking into account other elk mortality factors such as tribal harvest and illegal harvest.¹¹ The Blue Mountain Range study findings are consistent with literature from the U.S. Department of Agriculture in that "the probability of elk surviving hunting seasons is related to

Key Components of Elk Management (source: <https://www.fs.usda.gov/treesearch/pubs/35132>)⁹

The relationship between National Forest lands and elk needs to be recognized for the following key components:

- ✓ Habitat in which elk grow, reproduce, and exist are elements of biological diversity.
- ✓ The basis upon which State management programs depend. While hunting mortality accounts for upward of 90 percent of elk mortality, the States depend on habitat availability and condition for their programs to exist.
- ✓ Sites for the public to have the opportunity to hunt and view elk. Recreation is an important product of National Forest lands. In most areas, use of forests peaks during fall hunting seasons, but in other areas wildlife viewing is a year-around product. The setting needs to be considered along with other habitat issues.
- ✓ Maintenance of elk as a part of the natural community and recognition of elk habitat in a landscape context and in response to natural processes.

⁸ Elk Management in the Northern Region: Considerations in Forest Plan Updates or Revisions (USFS). 1993. Available at: <https://www.fs.usda.gov/treesearch/pubs/35132>

⁹ Ibid

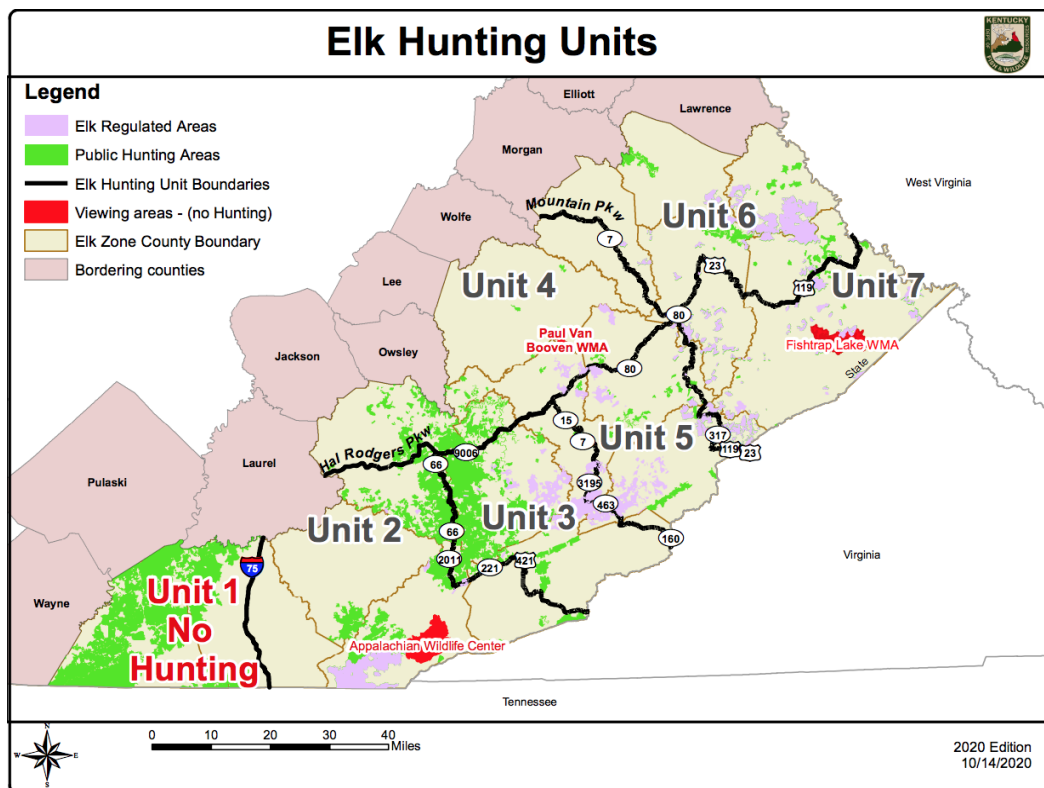
¹⁰ Ibid

¹¹ Elk Survival and Mortality Factors in the Blue Mountains of Washington (Washington Department of Fish & Wildlife. 2010. Available at : <https://wdfw.wa.gov/sites/default/files/publications/01179/wdfw01179.pdf>

the density of open roads and availability of security areas distant from roads.” Understanding the relationship between elk population and factors such as hunting and road density is imperative to accurately manage elk herds and ensure the right precautions are taken to inform hunting and road construction decisions.

Careful management of elk herds can bring with it a plethora of economic benefits. One of the most successful states in reestablishing elk is Kentucky, which has grown its elk herd to 13,000 animals in just over 20 years (see figure 5).¹² Kentucky’s robust economy has reaped the economic benefits of having elk on its landscape. It is reported that elk in Kentucky contribute \$5 million dollars annually to local communities from elk viewing, hunting licenses, elk hunting guides, elk hunting paraphernalia, as well as restaurants and hotels.¹³ In Kentucky, the revenue from elk related activities is vital for the wellbeing of the communities in this area of Appalachia specifically. The average annual income in this region is slightly less than \$25,000 a year, which makes it among the poorest areas of the United States.¹⁴ The area was not always subjected to low incomes as it once was the location of large profitable coal mines which spanned the eastern quarter of the state.

Figure 5. Elk hunting units in Kentucky (source: https://fw.ky.gov/More/Documents/Elk_Hunting_Units.pdf)



Mine closures have left several billion dollars absent from the region's economy and vacant landscapes where the mines once speckled the landscape. Fortunately, the abandoned mining sites presented a prime opportunity for Kentucky. An area void of industry with leveled mountain tops from coal mining lent itself to be utilized as elk habitat which had several benefits. First, the elk could roam the region and graze freely (40

¹² Elk Return to Kentucky, Bringing Economic Life (New York Times).2020. Available at: <https://www.nytimes.com/2020/06/30/science/kentucky-elk-wildlife-coal.html>

¹³ Ibid

¹⁴ Ibid

lbs of grass daily) without coming into contact with agricultural fields, avoiding farmer-elk conflict.¹⁵ Secondly, the land in which Kentucky elk were reintroduced already had suitable elk habitat. The steep mountains and thick forests were transformed into sloping plateaus, which enabled the elk to take advantage of environmental features that are instrumental to the health of the herd. Kentucky is a prime example of how elk can revitalize a region and demonstrates the importance of capitalizing on opportunities where elk populations can be responsibly established.

Pennsylvania has also experienced the benefits of a rebounding elk herd. Pennsylvania's elk population has grown from roughly 100 animals in 1982 to nearly 1,000 animals today. With this growth in elk also comes an expansion in human interest and economic opportunities. In the last 3 years, elk tourism has grown from approximately 80,000 visitors a year to over 200,000 visitors a year and these numbers only reflect the visitor numbers from Pennsylvania's Department of Conservation and Natural Resources (DCNR) visitor center atop Winslow.¹⁶ This growth in elk tourism does not fully reflect the economic impact of elk in the area. New hotels, restaurants, bars, gift shops, and other tourist attractions have also sprung up around the visitor center, allowing visitors a complete and unique tourism experience without having to travel west. Kentucky and Pennsylvania are prime examples of the economic opportunities an elk herd can provide and gives perspective as to how Minnesota could manage its own elk herd to reap economic benefits.



While Kentucky's elk herd is quite substantial when compared to other elk reintroduction states like Wisconsin, Minnesota, and Pennsylvania, Kentucky's herd is relatively small when compared to Wyoming's elk population which boasts over 110,000 animals.¹⁷ In a 2001 survey, elk hunters received a survey in the mail and were asked several questions pertaining to their spending habits on their hunting trip to the Jackson Hole area and more broadly Wyoming. The results showed that nonresident hunters and resident hunters not from Jackson Hole specifically, generated \$4.9 million dollars to personal income.¹⁸ Furthermore, elk hunting created nearly 270 jobs in Teton County alone. Additionally, nonresident hunters who travel to Jackson Hole specifically for elk hunting opportunities contributed \$4.1 million dollars to personal income and created nearly 260 jobs in the state of Wyoming.¹⁹ In Colorado, a state that has an

¹⁵ Elk Return to Kentucky, Bringing Economic Life (New York Times).2020. Available at: <https://www.nytimes.com/2020/06/30/science/kentucky-elk-wildlife-coal.html>

¹⁶ Growing elk herd's impact on Pennsylvania's economy. 2013. Available at: <https://www.endeavornews.com/articles/growing-elk-herds-impact-on-economy/>

¹⁷ Elk populations 'above objective' as hunting season heats up. 2019. Available at: https://trib.com/news/state-and-regional/elk-populations-above-objective-as-hunting-season-heats-up/article_87cdf59e-1a53-54e5-8988-f9bdec8f588d.html#:~:text=All%20told%2C%20the%20agency%20estimated,which%20there%20are%20populatio n%20estimates

¹⁸ Personal income defined as the amount of money collectively received by inhabitants of a given region earned by employment, investments, dividends, profit sharing from businesses, and rents derived from property ownership

¹⁹ USGS. 2005. Economic Importance of Elk Hunting in Jackson Hole, Wyoming. Available at: <https://pubs.usgs.gov/of/2005/1183/report.pdf>

even greater draw than Wyoming for its elk hunting opportunities, more than \$96 million dollars were generated from elk hunting related expenses in 2020²⁰. Elk hunting opportunities demonstrate how great of an impact a large and healthy elk herd can have on a State’s economy and reflects the importance of investing into elk reestablishment.

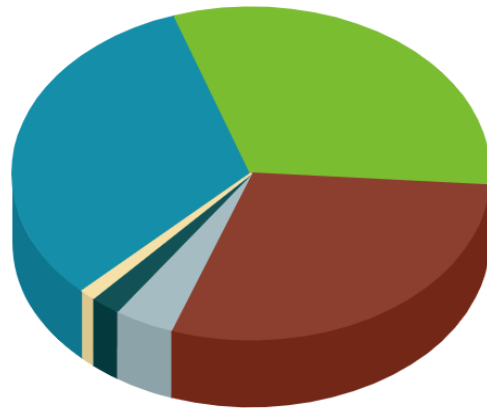
While Minnesota’s elk herd is not as prominent and established as many Western elk herds, the potential for significant economic impacts is substantial. Just last year in 2019, Minnesota’s Department of Natural Resources (MDNR) generated \$22,130 from applications and \$12,672 from elk licenses. This money is exclusively for MDNR and does not reflect the full extent of revenue generated by Minnesota’s elk herd which numbers approximately 125 resident animals.²¹ License fees distributions are demonstrated by the chart in figure 6.²²

Just like Pennsylvania, Kentucky and the prolific herds of Western states, lodging, restaurants, gas stations, visitor centers and gift shops all benefit from the presence of wild free-ranging elk. The economic repercussions from elk in Minnesota are large and unexploited and once the state is successful in establishing a herd of several hundred to several thousand animals, Minnesota’s rural North could acquire a facelift from a new income stream.

Mr. John Williams, the Northwest Minnesota DNR wildlife manager has worked diligently on establishing elk in Minnesota. Few people have had more exposure and have invested as much time as him in understanding the intricacies of Minnesota’s elk herd and its effect on Northern Minnesota. In an interview, Mr. Williams provided insight on what having elk in Northern Minnesota means and the discussion that is currently taking place.

Figure 6. Minnesota DNR distribution of fees collected through hunting licenses²²

How DNR spends a license dollar



Activities funded

- Fisheries
- Wildlife
- Conservation officers
- Clean water
- Boat ramps and accesses
- Sustainable forests

²⁰ Colorado’s Hunting And Fishing License Revenue Took A Big Leap Last Year. 2020. Available at: <https://www.cpr.org/2020/01/07/colorados-hunting-and-fishing-license-revenue-took-a-big-leap-last-year/>

²¹ Elk Management (Minnesota DNR).2020. Available at: <https://www.dnr.state.mn.us/elk/index.html>

²² License dollars at work (Minnesota DNR). 2020. Available at: <https://www.dnr.state.mn.us/licensedollarsatwork/index.html#:~:text=Hunting%20and%20fishing%20license%20dollars,and%20certain%20other%20related%20activities>

Mr. John Williams – Region #1 Minnesota DNR Wildlife Manager

What are the economic consequences and benefits of Minnesota's elk herd?

For Minnesota, crop depredation from elk is largely the biggest concern for Minnesota in reestablishing elk. There is a financial impact to Minnesota farmers that may experience a substantial loss in their crop yield from elk grazing in their fields or on stored forage. Elk damage to crops, fences, and stored forage can be reported to the Minnesota Dept. of Agriculture for a compensation claim to cover losses up to \$20,000 per year. On the other hand, there is great economic potential for elk in Minnesota, particularly in the form of Tourism. Other states in the eastern US where elk have been reestablished have experienced public interest in viewing elk that have been a financial bonus to local communities.

What does the future of elk in Minnesota look like?

There will most likely never be a large elk herd in North West Minnesota where there are currently elk. However, I see that there is potential in other areas of Minnesota where the habitat appears suitable for elk and there are less opportunities for there to be elk-farmer issues. Additionally, there is public support for elk in the state that could be conducive to expanding Minnesota's elk population.

The case for herd growth and management in Minnesota

What becomes apparent when analyzing the relationship between wild free-ranging elk and economic welfare of a region is that the more elk a region has, the more prosperous and more robust the industry surrounding the herd is. With several hundred thousand to several million dollars generated annually from the presence of elk in an area, and with states with larger herd sizes experiencing the largest economic benefits, one can conclude that larger elk populations are synonymous with more fiscal growth. With this proposed relationship in mind, it is in Minnesota's best interest to increase its elk herd in order to experience the same economic benefits that states with larger herds have.

Several studies have been done measuring the total estimated economic impact of elk across several states from hearty native populations to expanding reintroduced herds. These studies have provided the foundation for further research between elk and the economy. According to the Rocky Mountain Elk Foundation, the average elk hunter spends \$1,201 in their pursuit to harvest an elk. Cumulatively, elk hunters spending fuels a \$1 billion industry and hunting only reflects one piece of the much larger pie that is elk driven tourism. To maximize the amount of money generated by elk, it is imperative to break down the monetary value that is associated with the benefits of one animal . Doing this would allow wildlife management bodies such as the Fond du Lac Band and Minnesota Department of Natural Resources to manage elk herds with an economic lense.

To better understand the intricacies of the economic impact of Minnesota's elk herd, an interview with Mr. Blane Klemek of the Minnesota Department of Natural Resources was conducted.

Mr. Blane Klemek – Assistant northwest area wildlife manager (Karlstad County), Minnesota DNR

How have you been involved with Minnesota's elk herd?

As a regional Manager, one of my primary responsibilities is budgeting. We have struggled to come up with funds as a division of DNR to manage the herd. Prescribed burns, planting food plots, etc. I work directly with Jason Wollin to budget for all the elk related activities in NW Minnesota. Elk management is an expensive activity. Additionally, I am highly interested in hunting and have a dream to grow and enhance elk herds in the state. I am motivated and excited at the possibility to introduce elk to North East Minnesota. I am also involved in improving landowner relationships with elk so that a herd in North East Minnesota will one day be possible since there are people who want lots of elk and people who want less than is already here. To improve relationships between landowners and elk, I have been a part of two citizen elk work groups in Grygla and Kittson County. These citizen groups are composed of both ranchers and farmers and citizens that have interest in elk and cooperate with DNR in elk management decisions.

What poses the greatest challenge to establishing Minnesota's wild free-ranging elk herd in other parts of Minnesota (elk are already established in NW MN)?

Politics, public acceptance, funding, chronic wasting disease concerns, and other issues, pose challenges to elk management in Minnesota. Reintroducing elk into other areas of Minnesota where elk are not established already will need to be addressed along with other concerns in order to be successful.

What are the economic benefits and economic consequences of having elk in NE Minnesota?

If Minnesota's elk population were allowed to grow, I believe the economic ramifications would be huge. I've reached out to other places out East like Kentucky and Pennsylvania who have introduced elk and they have found substantial economic impacts. Pennsylvania has recognized the impact of elk and has an elk visitor center catering to elk tourists. Tapping into ecotourism could provide both recreational and economic opportunities for Minnesota residents to see elk and spend money and eventually, Minnesota's elk tourism could become popular on a national level with out of state visitors spending money to observe Minnesota elk. I believe this ecotourism is already starting to catch on in Lancaster Minnesota. An individual by the name of Roland Larter manages a great deal of his land for elk and, working with Lancaster citizens, established an elk monument and billboard to raise awareness and begin marketing northwest Minnesota's elk herd.

How does hunting factor into elk as a resource?

As mentioned before, elk management is a very political matter. The DNR's goal per the elk management plan is to one day have a herd that is more broadly distributed and sizable. Politics and the public have limited numbers of elk on the landscape and established smaller population goals in northwest Minnesota. Hunting is a part of managing the current herd. For example, the Kittson Central herd located near Lancaster, has a population goal-range of 50-60 animals and has to be managed to fit that population goal range. With a herd that is larger, hunting is still a part of it. Taking out animals may seem counterintuitive, but managing elk through hunting is crucial to herd health. Hunting also creates opportunities for hunters, limits crop depredation, and makes animals more wary so they don't become too comfortable around people which could lead to other human-elk issues. A healthy herd managed through hunting has the potential to create more opportunities for elk viewing and elk hunting so that both residents and nonresidents alike can enjoy Minnesota elk.

Funding an elk management program is expensive. MN DNR could someday consider, for example, supplementing limited funding with a raffle system like Tennessee has done, which has generated millions of dollars for elk management.

Mr. Blane Klemek interview continued...

What is the cost of an elk to the state and what is the value of that animal to hunters & value of that animal to tourists or ecological services?

Biologists often don't think of what the monetary value is per animal. The closest thing we have as a measurement to placing a dollar amount per elk would be the fines issued to poachers who poach elk and other game and nongame species of wildlife, especially trophy animals and because it is often the trophy animals that are the ones poached (big antlered bull elk), the value is not reflective of the value of cow elk which should be worth more because of their reproduction potential.

What is the direction Minnesota elk management will take?

When you think of elk herds expanding, you can think of revenue and money and all of that (\$200-\$300 for a license), but for me I ask what is the right thing to do? It is a native animal and it's the right thing to have these animals and introduce them to places they once were. The Fond du Lac Band of Lake Superior Chippewa are in agreement and would love to have elk back on the landscape and their commitment to reestablishing elk has increased Leech Lake Band's interest in elk, too. I can also think of several other places in northern MN where suitable habitat, abundance of public land, little agriculture, and public support would be optimal for future elk herds to be established in the state.

Is there a future for elk in Minnesota?

I believe there is a bright future for elk in the State of Minnesota. Elk are beginning to show up in other parts of the state all on their own. It is only a matter of time before a few elk, bulls and cows, end up in an area with great habitat and social acceptance. If this happens, these small herds could be managed and allowed to flourish.

Conclusion

Elk in Minnesota have been a controversial topic for decades but appear to have a majority of support from residents of northeast and northwest Minnesota. There are several issues facing Minnesota elk as the battle between farmers and elk wages on, management objectives are still needing to be set, and the full economic benefits and consequences of elk in Minnesota have yet to be estimated. With that being said, there is also much room to be optimistic about elk in Minnesota as public support for elk has only improved over the years, and many key individuals are adamant about increasing herd size and expanding the region over which elk occupy.

In summary, the future of elk is largely unknown and the economic ramifications from elk have yet to be quantified. If Minnesota is successful in elk reestablishment, they can one day be fortunate enough to reap the same benefits as other elk states to the south and east like Kentucky and Pennsylvania, and maybe even one day be able to attract enough attention that the benefits from elk are comparable to the much larger western herds of Wyoming and Colorado. If there is one thing that can be taken from all of the unknowns that lie ahead for elk's future in Minnesota, it is that the next several years are critical in determining the trajectory of elk in the state. A native species wiped from the landscape over a century ago, *Cervus elaphus* has returned in scores to Minnesota and reweaved itself back into the ecological fabric of the state's northwoods. With suitable habitat in other reaches of the state and increasing public support among Minnesota residents, The Rocky Mountain Elk Foundation, and the Fond du Lac of Superior Chippewa, there is great potential for an elk herd spanning the upper third of Minnesota that is several thousand animals

strong. A herd of this stature could provide copious economic benefits to Minnesota's rural north and limit elk-farmer conflict as fewer farms are located in the potential elk expansion range. Minnesota's elk herd could one day be as lucrative and valuable as Kentucky's elk herd. However, all of the advantages of having a substantive elk herd in Minnesota could be lost if cooperation between the several organizations engaged in managing Minnesota elk flounders or if action is delayed which will in itself impede progress and derail the momentum that the Minnesota herd currently has. It is my hope that one day, elk will abound across the northeastern third of Minnesota and that this work motivates those in positions of influence to allow a native species to flourish once more.

Additional Resources:

Koontz, Lynne and Loomis, John B. 2005. *Economic Importance of Elk Hunting in Jackson Hole, Wyoming*.
<https://pubs.usgs.gov/of/2005/1183/report.pdf>

Minnesota Elk: Past and Present. Minnesota Department of Natural Resources.
<http://files.dnr.state.mn.us/recreation/hunting/elk/management.pdf>

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