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Analyzing Economic and Social Opportunities and Challenges Related to Bison Conservation in Northeast Montana

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Analyzing Economic and Social Opportunities and Challenges Related to Bison Conservation in Northeast Montana

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Abstract

This report provides a review of the current socioeconomic trends in northeast Montana in comparison to the state as a whole, followed by an economic analysis of the potential impacts of an expanded recreation amenity. The amenity is characterized by a large, intact grassland prairie ecosystem replete with a large bison herd. Results suggest significant latent demand for nonresident visitation to the region. To begin to capture this demand and ensure continued vitality of other economic sectors will require collaborative efforts between conservation proponents, tourism professionals, and the community at large.

Executive Summary

Many rural regions throughout the nation, including those in northeast Montana, find themselves in the midst of a decade's long decline in population (Figure ES- I). A major facet contributing to population concerns stems from

constrained employment opportunities to attract and keep younger generations within the community. As community after community evaluates its path forward, they seek opportunities to

engage in an evolving marketplace. While there is no single cure-all, counties that frequently buck the trend of declining rural populations in the west are those with high natural resource amenities, often in the form of public lands such as National Parks. The disparities generated between amenity rich counties and those without, create motivation for those without to identify opportunities to enhance the amenities they do have to create an attractive force of both visitors and potential in-migrants.

These disparities are at the forefront when considering the regions of Montana. In 2015, nonresident visitors to the state spent more than \$3.7 billion dollars. This spending is highly concentrated in the regions of the state with highly attractive natural amenities, namely Yellowstone and Glacier National Park. Such attraction often leaves out much of northeast Montana from the benefits generated from visitor travel and spending (Figure ES-II)

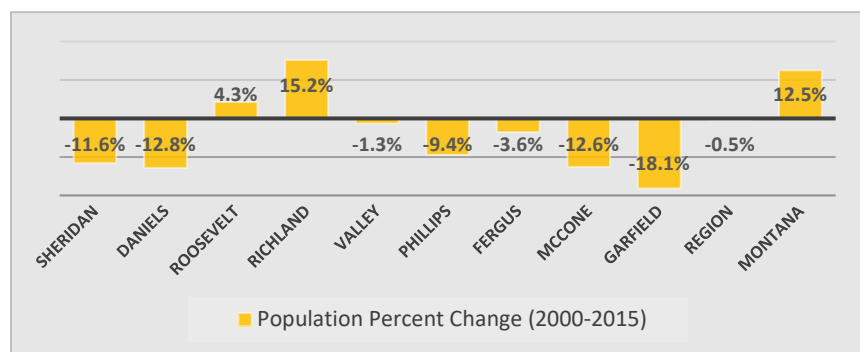


Figure ES- I. Northeast Montana Population Change, 2000-2015.

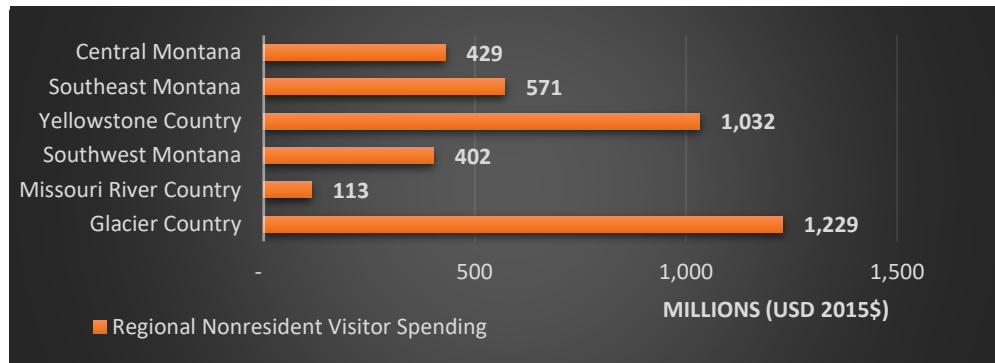


Figure ES- II. Regional Nonresident Visitor Spending.

Proponents of the American Prairie Reserve (APR) believe that their effort to restore a large intact prairie ecosystem serves as an opportunity to enhance the natural amenity of the region and thus the potential to capture a larger portion of visitor time and spending. This report summarizes the potential demand response of Montana visitors to these efforts. We surveyed both Montanans and potential nonresident visitors to the state to gauge their desires to travel to the region given the goals of the APR, complete with a large bison herd. Results suggest a significant latent demand for the region's amenities. Figure ES- III depicts the modeled demand increases above those observed in 2015 from nonresident visitors to the region. The current scenario provided respondents with information about the current conditions in and around the APR and Charles M. Russell Wildlife Refuge, while the future scenario provided the respondents with a view of the long term goals of proponents of the reserve. Both scenarios are compared against planned travel activities to the region in the next year.

	Industry Output	Employment	Percent Change
Measured 2015 Economic Impact	\$84,010,000	1,020	-
'Current' Scenario Impact			
Pessimistic Response	\$12,601,500	153	15%
Optimistic Response	\$38,644,600	469	46%
'Future' Scenario Impact			
Pessimistic Response	\$13,441,600	163	16%
Optimistic Response	\$56,286,700	683	67%

Figure ES- III. Nonresident Visitor Spending Impacts Resulting from Increased Recreation Demand.

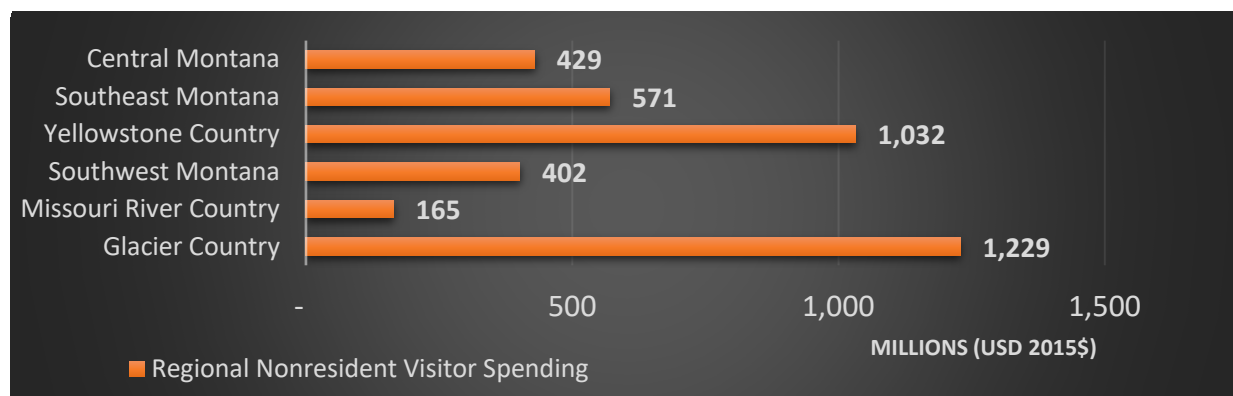


Figure ES- IV. Regional Nonresident Visitor Spending - Assuming 46% Increase in MRC.

With the most optimistic outcome under the current scenario in mind, the increased spending suggested to occur is large for the region, yet leaves northeast Montana well behind the rest of the state. Had that spending occurred in 2015, and assuming it did not detract from visits to other regions, Missouri River Country would still be less than half of the next smallest spending region (Figure ES- IV).

We reveal that there exists a substantial deficiency in knowledge of the region by not only nonresidents, but also by Montanan's themselves. Subsequently, informing potential visitors of the amenities available and being sought creates a significant bump in demand for visitation to the region. It appears as though what many people know of Montana is based on amenities available in western regions of the state. As such, exploration is warranted as to the degree to which northeast Montana is well represented in statewide efforts. When asked if they had ever heard of the APR prior to this survey, only 13 percent of nonresidents responded yes. Of those 13 percent who had heard of the APR, 40 percent have visited. These numbers suggest an overall lack of awareness, but once aware, demand is relatively solid. Montanans responding to the resident survey were more aware of the APR; however, this awareness level is still quite low at 32 percent. Of those Montanan's that were aware of the APR, one third have ever visited.

With an increase in the positive perception of potential visitors comes the necessity to back up those perceptions once visitors are onsite. Several key attributes arise in consideration of maintaining perception and ensuring expectations and experiences are well matched. Among these attributes are experiences with wildlife and opportunities for viewing wildlife. Perception of the region tended to decline among those who have been to the area versus those who have not, indicating expectations were not met. In addition to wildlife, the built environment possesses a strong potential to influence the

desirability of the region to future travelers. Montana residents and visitors to the state both indicated significant desires for improved lodging and dining facilities and opportunities within the region. If the goals are met by the proponents of the APR and the expected increase in tourism and recreation follows suit, the built infrastructure must be able to adequately accommodate the expanded use, otherwise it creates an unnecessary constraint to realization of the visitor potential.

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Introduction

A large expanse of mostly public land in and around north-central Montana's Charles M. Russell National Wildlife Refuge is the focus of one of North America's most ambitious large-landscape conservation initiatives. The non-profit, *American Prairie Reserve* has steadily sought to establish a multi-million-acre grassland reserve with abundant native wildlife. Their aim, and that of proponents of the endeavor is to provide an array of public-recreation, research, tourism and other positive economic impact generating opportunities. A key element of fulfilling this vision is restoring a significant herd of wild bison to the landscape.

Proponents of the reserve initiative and bison restoration expect significant increases in recreation and tourism based expenditures in the region. Expectations are based on the perceived attractiveness of the prairie and bison as a natural amenity. Such visitor expenditure increases, if brought to fruition, may serve to support the struggling economy of northeastern Montana. However, the expected magnitude of future new spending is uncertain. Additional uncertainty may be found in any negative economic impacts generated if active range lands are removed from production or reduced in their productivity. These and other potential uncertainties necessitate a careful exploration of the social and economic impacts of the amenity enhancement.

This report provides a beginning to such an exploration. Through a quantified, scenario based, economic analysis of restoring the prairie system and bison to the landscape, we assess the expected tourism and recreation response of visitors to the area. The analysis is placed within the broader economic system that is northeast Montana such that both proponents and opponents of such an effort may possess a common understanding of the conditions found in the region. The remainder of this paper first introduces the information known about tourism in the region, followed by a detailed look at the demographic and socioeconomic setting of northeast Montana, including population trends, employment base, agricultural production, and the influence of public lands. Next, a brief review of the potential economic impacts of nature reserves, protected areas, and wildlife preservation activities is summarized. With all these components understood, we then summarize the findings of a pair of surveys that were conducted in the fall of 2016 with both Montana residents, as well as nonresidents who are potential visitors to the region. The surveys sought to gauge current perceptions of northeast Montana and likely willingness to visit in the future given a variety of conditions in the region. The

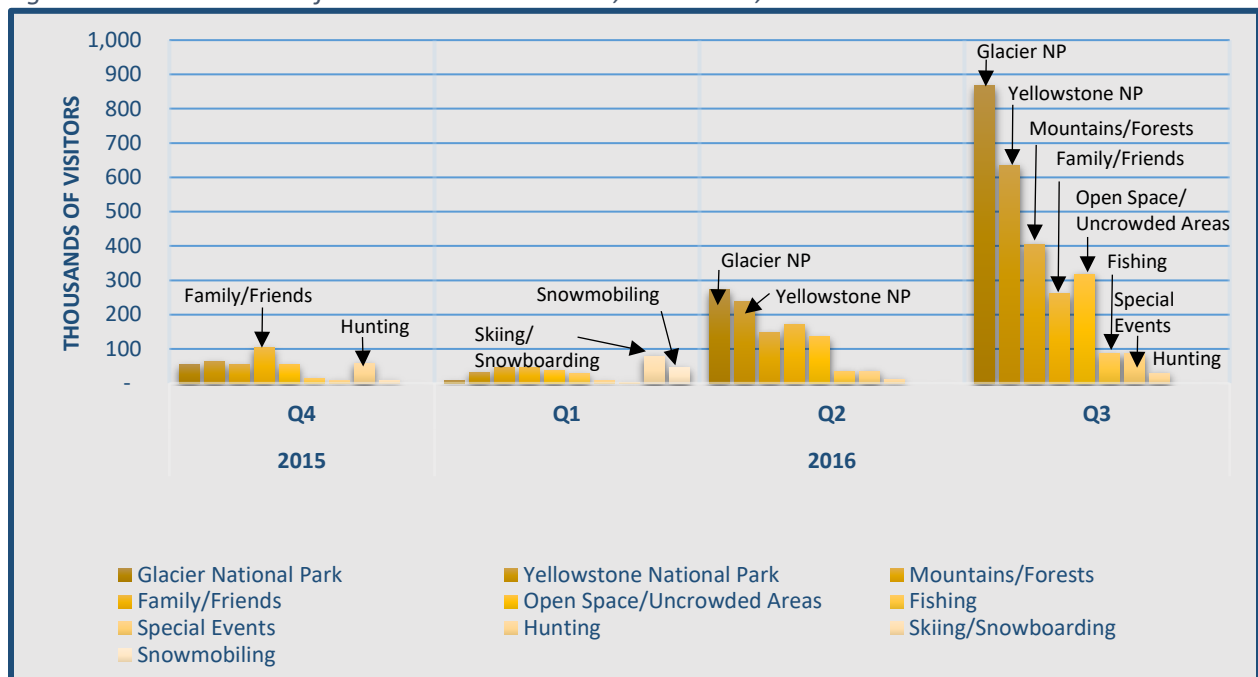
results highlight the recreation and tourism based social and economic opportunities, tradeoffs and challenges associated with establishing such a multi-million-acre grassland reserve.

Nonresident Visitors to Northeast Montana

In 2016, nonresident visitors to Montana spent an estimated \$3.49 billion dollars in the state, directly supporting \$4.78 billion in economic activity, and more than 52,000 jobs across the state.¹ Visitors come to Montana for a multitude of reasons; high among them, is outdoor based recreation in some fashion. When asked about their main attractant to visiting Montana, an overwhelming number of visitors indicate their desire to visit Yellowstone or Glacier National Parks (Figure 1). Given such a response, it is quite straight forward to assume that a majority of visitor expenditures and thus contribution to economic vitality occur in the regions of the state in closest proximity to the two parks. In fact, this can readily be observed in Figure 2, where Glacier Country and Yellowstone Country travel regions account for 60 percent of the economic output and 65 percent of the jobs generated by nonresident visitor spending (Figure 3).

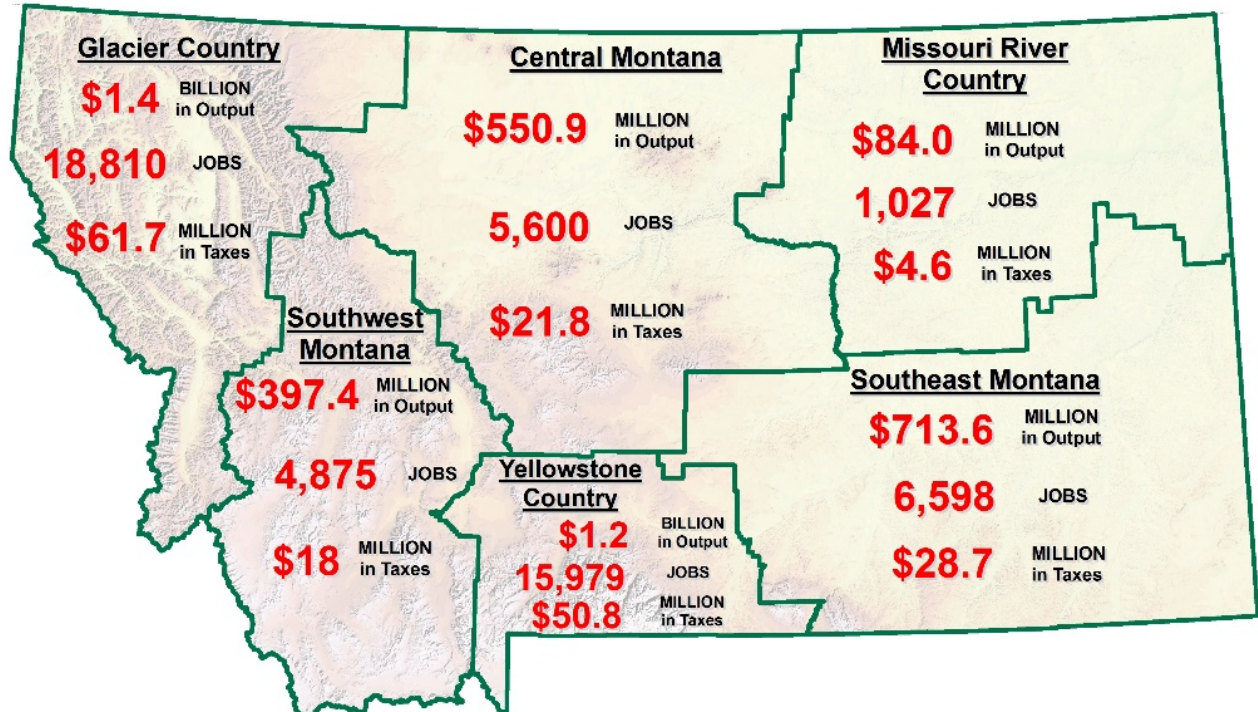
¹ Grau, K. 2016. 2016p Montana Nonresident Traveler Expenditures & Economic Contribution.
<http://itrr.umt.edu/files/Prelim2016NonresExplmp.pdf>

Figure 1. Main Attractant for Nonresident Vacation, Recreation, and Pleasure Travelers.



Source: ITRR Interactive Data. <http://itr.umn.edu/interactive-data/default.php>

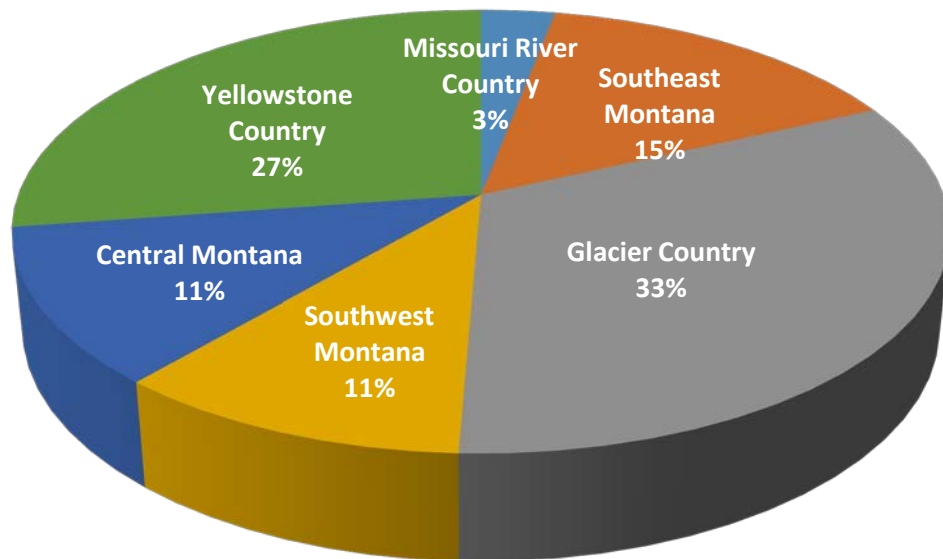
Figure 2. Nonresident Visitor Expenditure Based Economic Impacts, by Travel Region.



Source: Grau, K. (2016). 2015 Economic Contribution of Nonresident Travel Spending in Montana Travel Regions and Counties.

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Figure 3. 2015 Estimate of Nonresident Traveler Spending.



Source: Grau, K. (2016). 2015 Economic Contribution of Nonresident Travel Spending in Montana Travel Regions and Counties.

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As can be observed in Figure 3, northeast Montana, also known as the Missouri River Country (MRC) Travel Region, receives the fewest nonresident traveler spending of all six of Montana's travel regions. In 2015², visitors spent \$112.71 million in MRC (Table 1) generating 1,027 jobs and \$84 million in economic output. Spending in each of the other five travel regions was at least 3.5 times that of MRC. It is valuable to understand not only how much visitors spend, but also what visitors spend their money on while in MRC. As a whole, nonresidents spent 26 percent of their travel dollars in Montana on fuel, 27 percent on food products³, and 13 percent on lodging⁴ (Table 2). In MRC, the fuel portions are substantially increased to 47 percent of total spending (Table 1); nearly 10 percent higher than any

² All 2015 reported travel region spending and economic impact values are inflation adjusted to 2015 USDs and based on the average of 2014 and 2015 spending.

³ Restaurants, Bars and Groceries, Snacks combined.

⁴ Hotel, Motel; Rental Cabin, Condo; and Campground, RV Park combined.

other region. Spending in MRC on food items, 22 percent, is 5 percent lower than that observed across the state. Lodging based expenditures in MRC, at 7 percent, are well below the statewide average.

Table 1. 2015 Missouri River Country Nonresident Spending per Expenditure Category.

Gasoline, Diesel	\$53,030,000	Made in MT	\$850,000
Retail Sales	\$15,470,000	Gambling	\$730,000
Restaurant, Bar	\$12,820,000	Campground, RV Park	\$540,000
Groceries, Snacks	\$12,660,000	Misc. Services	\$400,000
Hotel, Motel	\$6,680,000	Outfitter, Guide	\$260,000
Vehicle Repairs	\$4,390,000	Auto Rental	\$130,000
Lic., Entrance Fees	\$3,630,000	Transportation Fares	\$10,000
Rental Cabin, Condo	\$1,100,000	Farmers Market	<i>Insufficient Sample Size</i>
		TOTAL	\$112,700,000

Source: Grau, K. (2016). 2015 Economic Contribution of Nonresident Travel Spending in Montana Travel Regions and Counties.

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Table 2. 2015 Statewide Nonresident Spending per Expenditure Category.

Gasoline, Diesel	\$983,770,000	Made in MT	\$131,460,000
Retail Sales	\$505,940,000	Gambling	\$17,900,000
Restaurant, Bar	\$679,470,000	Campground, RV Park	\$29,680,000
Groceries, Snacks	\$325,350,000	Misc. Services	\$26,250,000
Hotel, Motel	\$394,190,000	Outfitter, Guide	\$268,250,000
Vehicle Repairs	\$32,430,000	Auto Rental	\$87,630,000
Lic., Entrance Fees	\$209,870,000	Transportation Fares	\$4,110,000
Rental Cabin, Condo	\$64,380,000	Farmers Market	\$14,800,000
		TOTAL	\$3,775,480,000

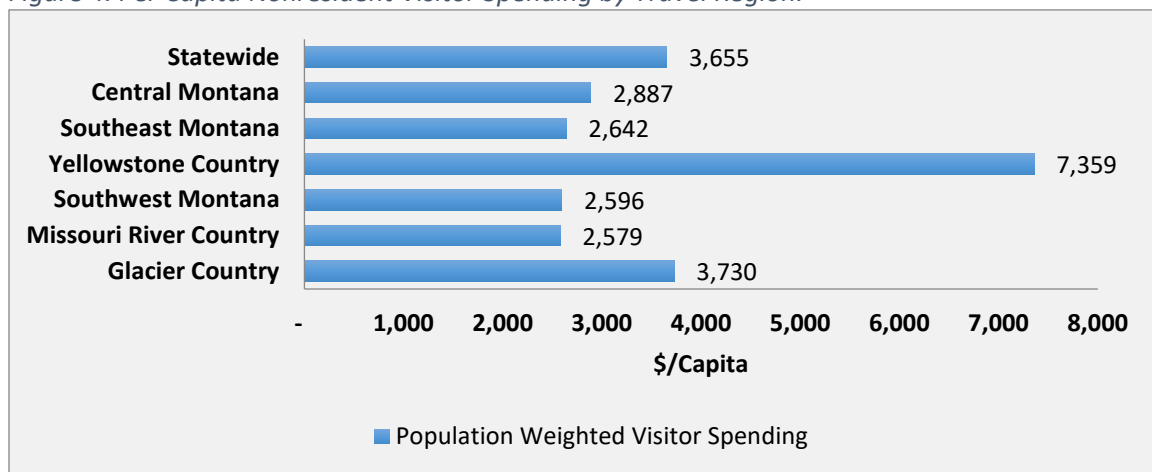
Source: Grau, K. (2016). 2015 Economic Contribution of Nonresident Travel Spending in Montana Travel Regions and Counties.

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Despite the significant spending discrepancies between MRC and the remaining regions, the differences are muted when considered in relation to the region's population. Per capita spending brings MRC relatively in line with the other regions, with the exception of Yellowstone Country (Figure 4). The eight counties that make up the Missouri River Country (Daniels, Garfield, McCone, Phillips, Richland,

Roosevelt, Sheridan, and Valley), have a combined population of less than 50,000.⁵ The next closest region is the five counties making up Yellowstone Country, with a population of just more than 140,000. On the one hand, the wide open spaces, and scenery possessed by northeast Montana are the attributes that endear visitors to the state. However, on the other hand, these same vast landscapes, and their geographic and highway network relationships to the two major draws to Montana, frequently leaves the northeast region as little more than a drive through landscape, as evidenced by the large portions of spending related to fuel. Further, the low and in many places lowering populations constrain the communities' capacity to invest in further infrastructure to attract visitors and capture a larger portion of their Montana based spending.

Figure 4. Per Capita Nonresident Visitor Spending by Travel Region.



Source: U.S. Department of Commerce, Census Bureau, American Community Survey Office, Washington D.C., 2016.; Grau, K. (2016). 2015 Economic Contribution of Nonresident Travel Spending in Montana Travel Regions and Counties.

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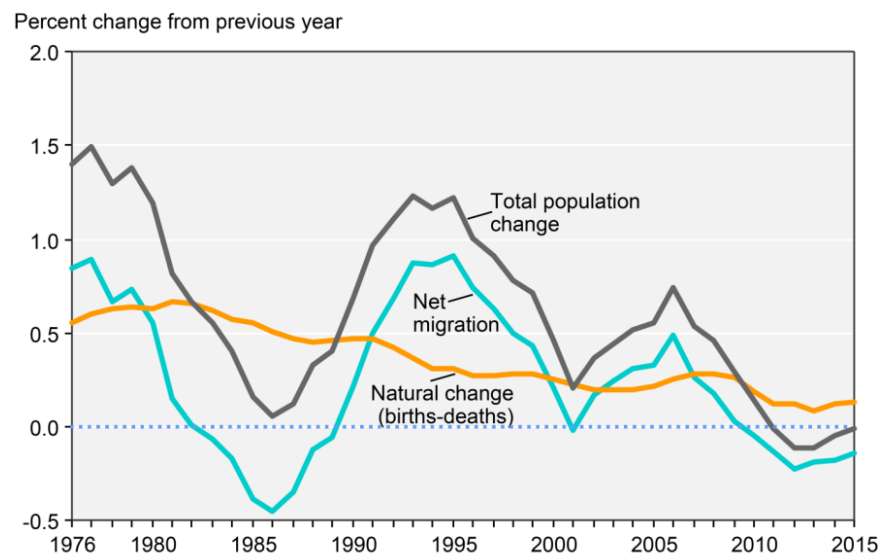
⁵ Based on 2010 U.S. Census.

Regional Socioeconomic Background

Declining Rural Populations

The United States Department of Agriculture (USDA), among others, has long recognized declining rural populations in some parts of the country for decades. In fact, 2010-15 marked the first time that rural America had an estimated population loss as a whole. The net loss was quite small, at -0.29 percent, but a loss nonetheless. Population changes, whether up or down, are driven by two primary components, natural change (births minus deaths) and net migration (in-migrants minus out-migrants) (Figure 5). The general trend for natural change has trended downward for much of the last several decades in rural America (negative slope of Natural Change Line). Net migration has fluctuated much more significantly, typically in correspondence with economic conditions. However, even in times of net out migration (e.g. mid-1980's), the natural growth was positive enough to not result in a net population loss for rural America. This has changed in the last five years.⁶ Upswings (peaks) in net migration have gradually gotten smaller over the last three cycles.

Figure 5. Nonmetro Population Change and Components of Change, 1976-2015.

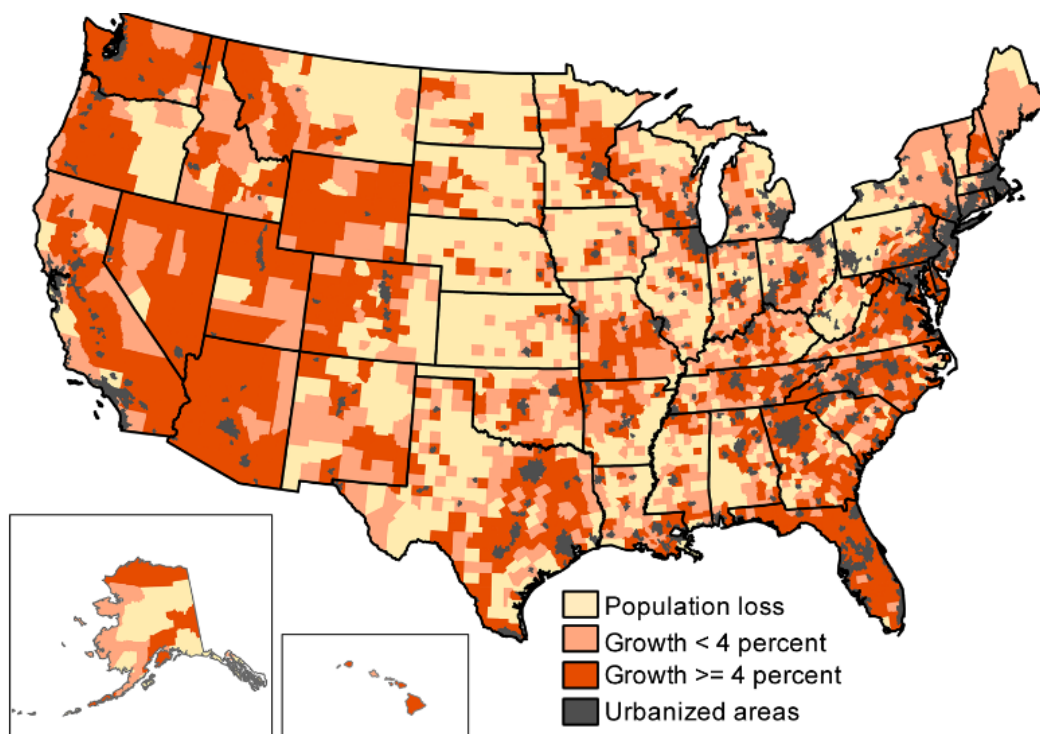


Source: USDA, Economic Research Service Using data from U.S. Census Bureau. Graphic originally appeared:
<https://www.ers.usda.gov/topics/rural-economy-population/population-migration/recent-population-change/>

⁶ United State Department of Agriculture, Economic Research Service. *Population and Migration*.
<https://www.ers.usda.gov/topics/rural-economy-population/population-migration/>

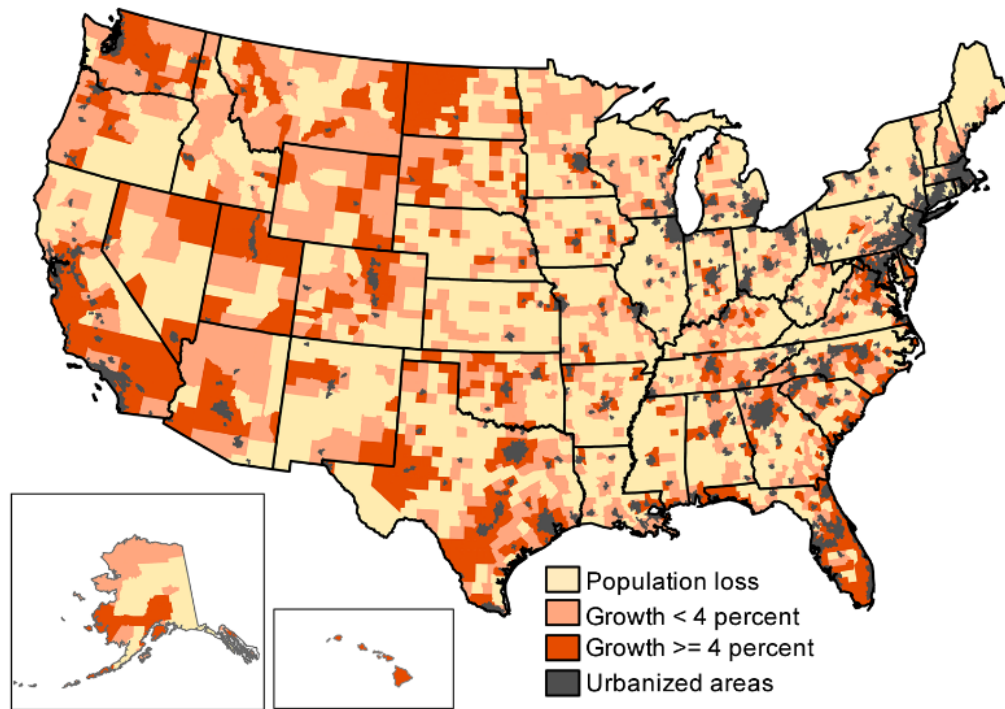
During the five years leading into the Great Recession (2002-2007), substantial areas of the Great Plains, including eastern Montana and into the Corn Belt were affected by population losses (Figure 6). Meanwhile, western Montana and other recreation rich areas of the Pacific and Rocky Mountain west experienced significant population increases. In the five years coming out of the Great Recession several counties of eastern Montana and much of North Dakota reversed trend and experienced population growth, largely attributable to the energy boom (Figure 7). The lasting effects of such a change in course remain to be seen. The following section digs deeper into the population changes and demographics of northeast Montana. For the following section, the Missouri River Country Travel region is expanded to also include Fergus County in the discussion given its proximity to the southwest corner of the C.M. Russell Reserve and the western end of the planned American Prairie Reserve. As such, the region of concern encapsulates nine Montana counties (Daniels, Fergus, Garfield, McCone, Phillips, Richland, Roosevelt, Sheridan, and Valley).

Figure 6. Population Change, 2002-2007.



Source: USDA, Economic Research Service using data from U.S. Census Bureau. Graphic originally appeared: <https://www.ers.usda.gov/topics/rural-economy-population/population-migration/shifting-geography-of-population-change/>

Figure 7. Population Change, 2010-2015.

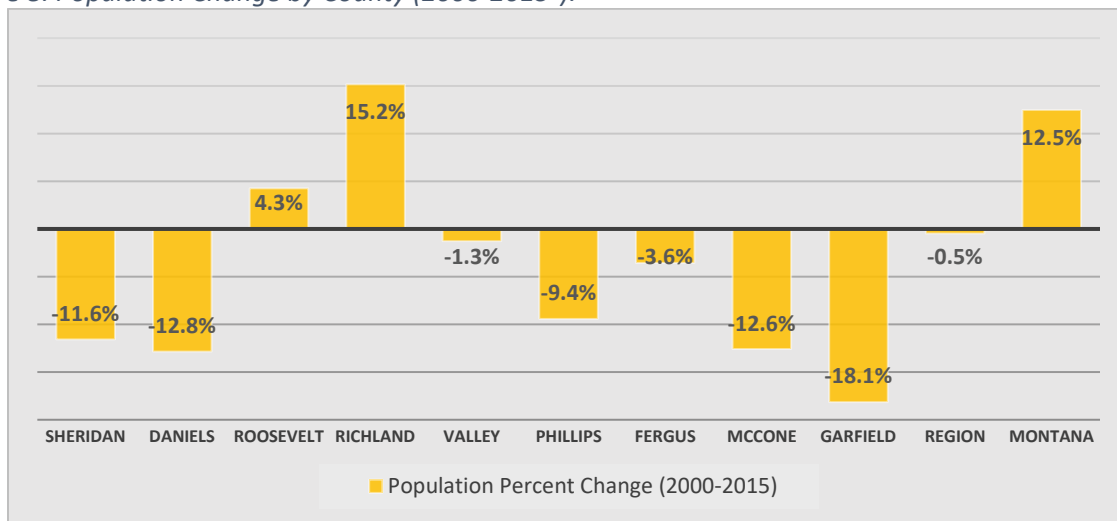


Source: USDA, Economic Research Service using data from U.S. Census Bureau. Graphic originally appeared: <https://www.ers.usda.gov/topics/rural-economy-population/population-migration/shifting-geography-of-population-change/>

Population Change & Demographics

As observed in the previous section, much of northeast Montana has experienced declining populations for the better part of the 21st century. With the exception of Richland and Roosevelt counties, the remaining seven counties have experienced negative population change since 2000 (Figure 8). Roosevelt and Richland counties gained 452 and 1,465 individuals respectively, however those gains were more than offset by the losses elsewhere, resulting in a net loss of 0.5 percent. During this same period, Montana as a whole grew by 12.5 percent. Characteristic of western states, these gains are largely driven by amenity rich counties.

Figure 8. Population Change by County (2000-2015⁷).

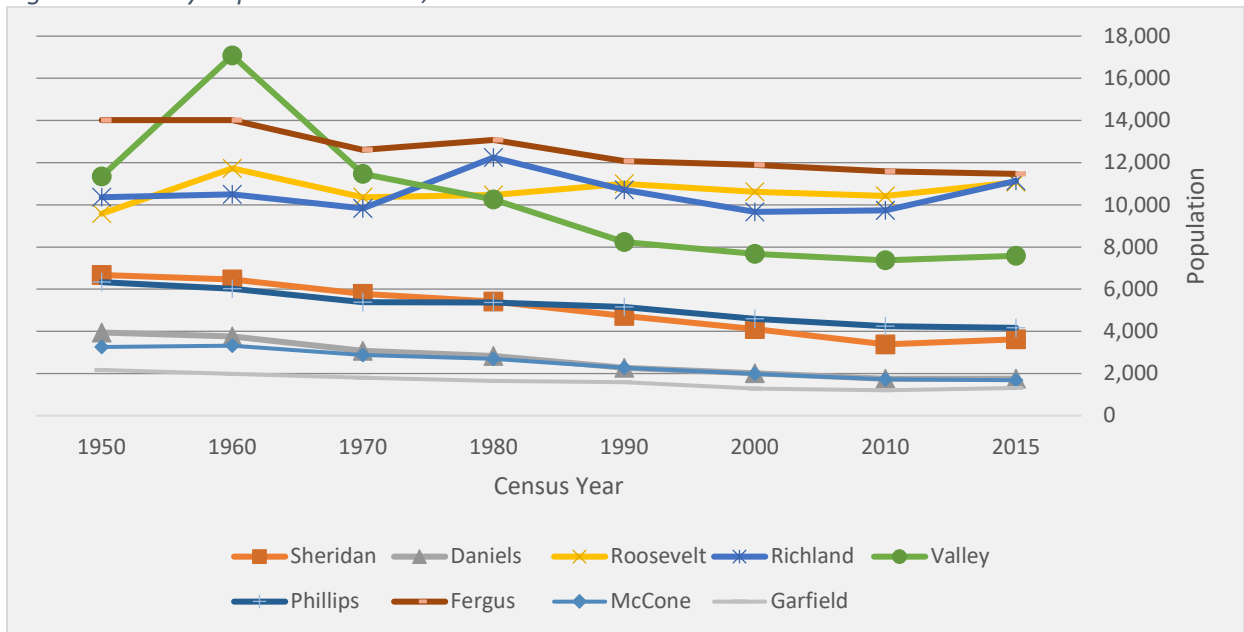


Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Sources: U.S. Department of Commerce, Census Bureau, American Community Survey Office, Washington D.C., 2016. U.S. Department of Commerce, Census Bureau, Systems Support Division, Washington, D.C., 2000.

By and large, the population declines experienced thus far in the 21st century are not a new phenomenon. Figure 9 below demonstrates that with the exception of Richland and Roosevelt Counties, the remaining seven counties have experienced declining populations since at least 1950. Using 1970 as a base year, it can be observed that Montana as a whole has steadily increased in population, while the nine county region of northeast Montana has declined (Figure 10). Figure 11 develops more insight into the change in population numbers. Between 2000 and 2015, the average annual natural growth (birth-death) was 23 individuals while net domestic migration averaged a loss of 63 individuals. The domestic net out-migration have been offset slightly by a net in-migration of 14 individuals. The sum of all these factors is an average net loss of 42 individuals annually thus far in the 21st century.

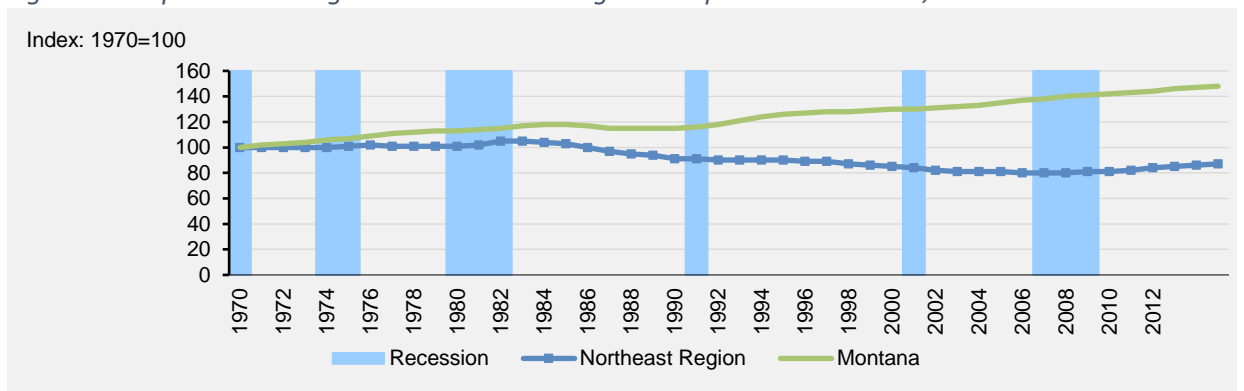
⁷ 2015 population data is calculated from the American Communities Surveys conducted between 2011-2015 and are thus representative of average characteristics during this period.

Figure 9. County Population Trends, 1950-2015.



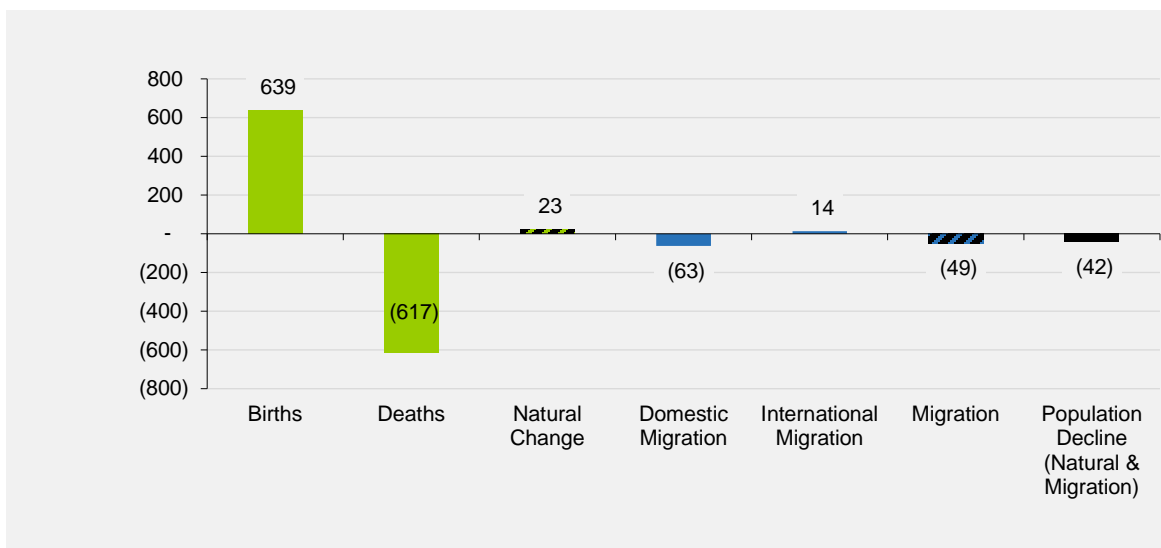
Source: U.S. Department of Commerce, Census Bureau, Decennial Census Reports 1950-2010; U.S. Department of Commerce, Census Bureau, American Community Survey Office, Washington D.C., 2016.

Figure 10. Population Change in the Northeast Region Compared to Montana, Indexed on 1970.



Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Sources: U.S. Department of Commerce, Census Bureau, Decennial Census Reports 1950-2010; U.S. Department of Commerce, Census Bureau, American Community Survey Office, Washington D.C., 2016.

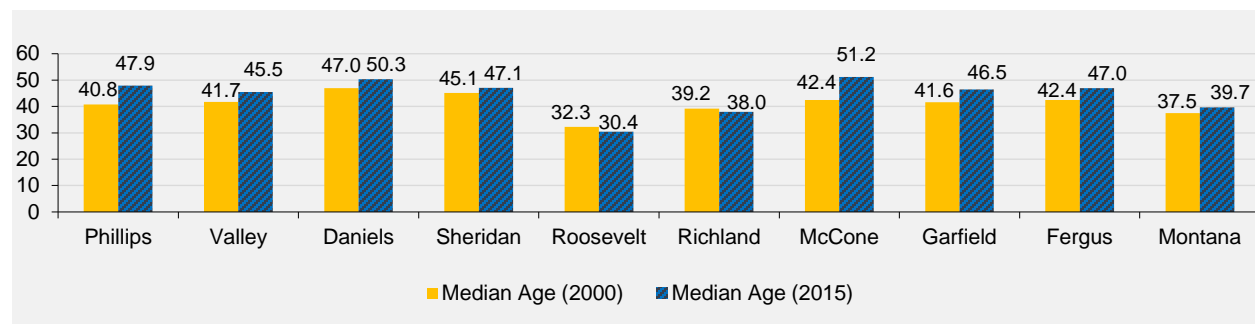
Figure 11. Average Annual Components of Population Change in Northeast Montana, 2000-2015.



Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Sources: U.S. Department of Commerce, Census Bureau, American Community Survey Office, Washington D.C., 2016. U.S. Department of Commerce, Census Bureau, Systems Support Division, Washington, D.C., 2000.

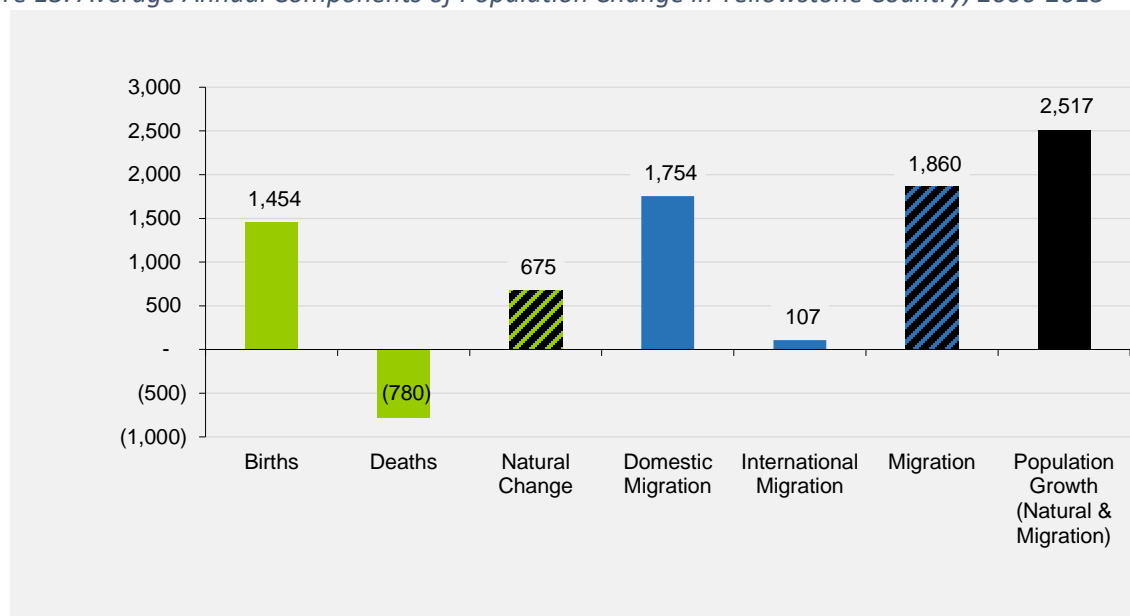
Not only has most of northeast Montana steadily lost population for the last half century in both raw numbers and relative to the rest of Montana, but it is also getting older. Every county that lost population between 2000 and 2015 also saw an increase in their median age (Figure 12). Such findings are characteristic of many rural counties and particularly rural farming counties. As previously noted, rural counties in the Rocky Mountain West and Pacific Northwest, have tended to fare significantly better in terms of population numbers. For example, Montana's Yellowstone Country is made up of Gallatin, Park, Carbon, Stillwater, and Sweet Grass counties, and has witnessed an annual average increase of 2,517 individuals (Figure 13). These gains are seen in both natural changes and net migration. In Yellowstone Country, average annual births exceeded deaths by nearly two to one (1,454 to 780), and both domestic and international migration trended towards a net in-migration. A comparison of Figure 11 and Figure 13 suggests stark differences in these two regions' trajectories.

Figure 12. County Median Age 2000 and 2015.⁸



Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Sources: U.S. Department of Commerce, Census Bureau, American Community Survey Office, Washington D.C., 2016. U.S. Department of Commerce, Census Bureau, Systems Support Division, Washington, D.C., 2000.

Figure 13. Average Annual Components of Population Change in Yellowstone Country, 2000-2015



Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Sources: U.S. Department of Commerce, Census Bureau, American Community Survey Office, Washington D.C., 2016. U.S. Department of Commerce, Census Bureau, Systems Support Division, Washington, D.C., 2000.

While there is no singular cause of these trends, several factors are often considered as contributing to these observations in Rural America. First, the Baby Boom generation (born 1945-1964) remains one of the largest generations, only having been recently surpassed by the Millennial generation (born 1981-

⁸ 2015 median age data is calculated from the American Communities Surveys conducted between 2009-2015 and are thus representative of average characteristics during this period.

1997).⁹ This large Baby Boom generation tends to raise the median age upward in many counties, not just small rural ones. Additionally, this older group is often not observed to be among those migrating out from rural counties in large numbers. Those generations that are migrating out, tend to be younger Millennials and Gen-X'ers (born 1965-1980).¹⁰ Many of the individuals that are out-migrating, also tend to be of childbearing age, thus not only contributing to the net out-migration numbers, but also contributing to lower birth rates compared to death rates as seen in Figure 11. The economic and employment conditions in many rural areas are often cited as a major contributor to the observed out-migration of young adults in many rural areas.¹¹ We explore employment in northeast Montana next.

Employment

Prior to the official start of the Great Recession in December of 2007, rural employment (number of employed adults) had already begun to experience a slight decline from the peaks seen in the first quarter of 2007, while metro employment was still climbing (Figure 14). Beginning with the first quarter of the recession period, rural counties across the country experienced a collective six percent decline in employment. Metro counties also began a steep decline at about the same point in time and dropped five percent. In both metro and rural regions, employment continued its decline for two quarters following the official end of the recession midway through 2009. Beginning with the first quarter of 2010, both metro and rural areas began a slow trend towards increased employment, though rural areas did so at a considerably slower pace. Metro areas returned to pre-recession levels in late 2013, while rural areas remain 2-3 percent behind those 2007 levels.¹²

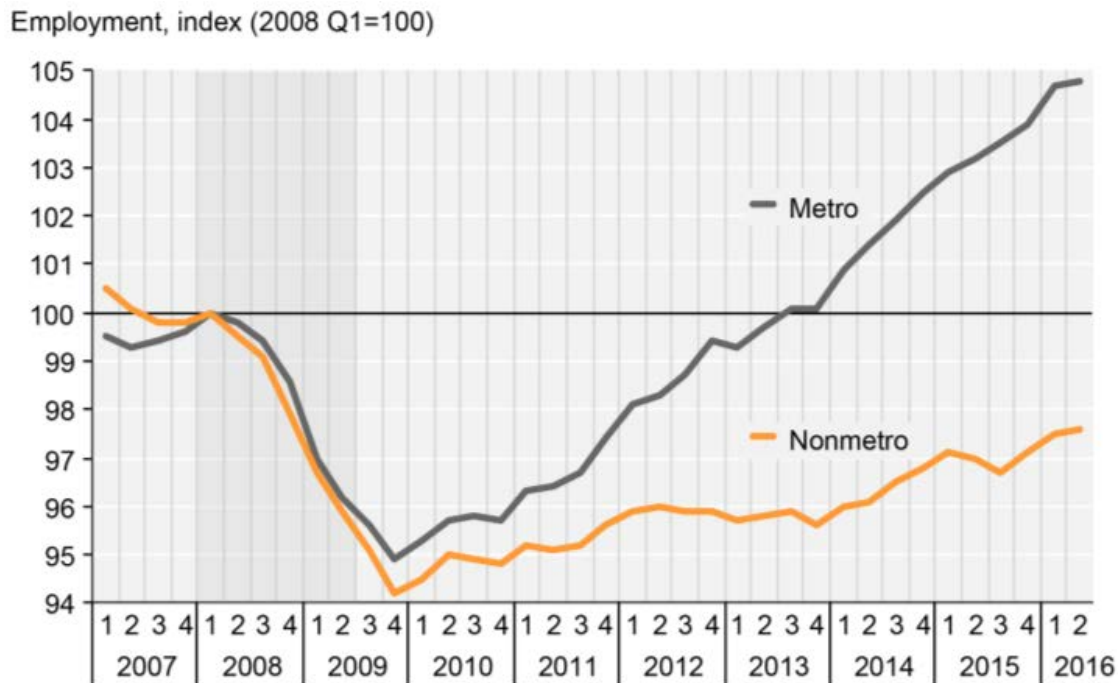
⁹ Pew Research Center. *Millennials Overtake Baby Boomers as America's Largest Generation*. <http://www.pewresearch.org/fact-tank/2016/04/25/millennials-overtake-baby-boomers/>. April 25, 2016.

¹⁰ United States Department of Agriculture. *Rural America at a Glance: 2015 Edition*. Economic Information Bulletin 145. https://www.ers.usda.gov/webdocs/publications/eib145/55581_eib145.pdf?v=42397.

¹¹ *Ibid.*

¹² United States Department of Agriculture, Economic Research Service. *Rural Employment and Unemployment*. <https://www.ers.usda.gov/topics/rural-economy-population/employment-education/rural-employment-and-unemployment/#emp>. Washington, D.C.

Figure 14. U.S. Employment, Metro and Nonmetro areas, 2007-2016.

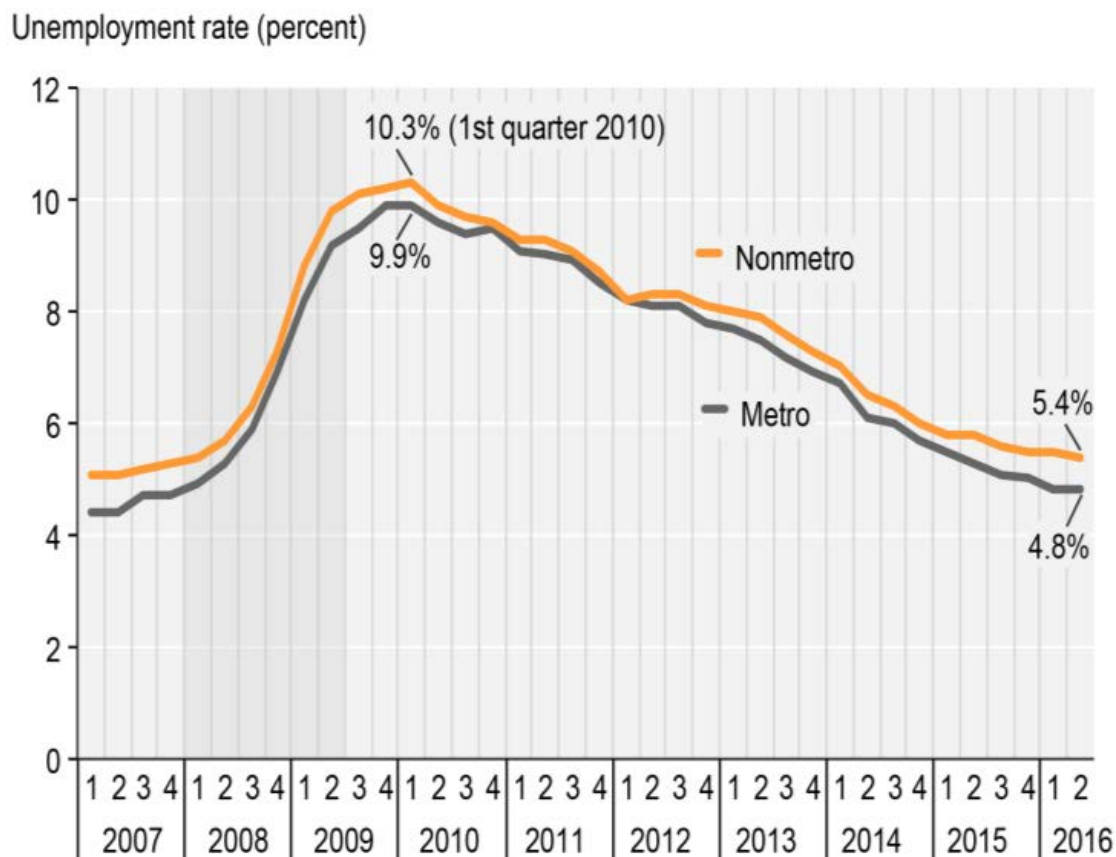


Source: Graphic Originally appeared in:

https://www.ers.usda.gov/webdocs/charts/56371_employmentindicespng/employmentindices.png?v=42681. Data Source: Bureau of Labor and Statistics, Local Area Unemployment Statistics (LAUS).

Changing the perspective slightly from that shown in Figure 14, Figure 15 shows the comparative unemployment rates of metro versus rural areas leading into, through and following the Great Recession. Rural unemployment peaked out at 10.3 percent in early 2010 and has steadily decreased to 5.4 percent in mid-2016. Though always slightly lower, metro employment has followed the same trends, peaking at 9.9 percent and falling to 4.8 percent in mid-2016.

Figure 15. U.S. Unemployment Rates, metro and Nonmetro areas, 2007-2016.



Source: Graphic Originally appeared in:

https://www.ers.usda.gov/webdocs/charts/56371_employmentindicespng/employmentindices.png?v=42681. Data Source: Bureau of Labor and Statistics, Local Area Unemployment Statistics (LAUS).

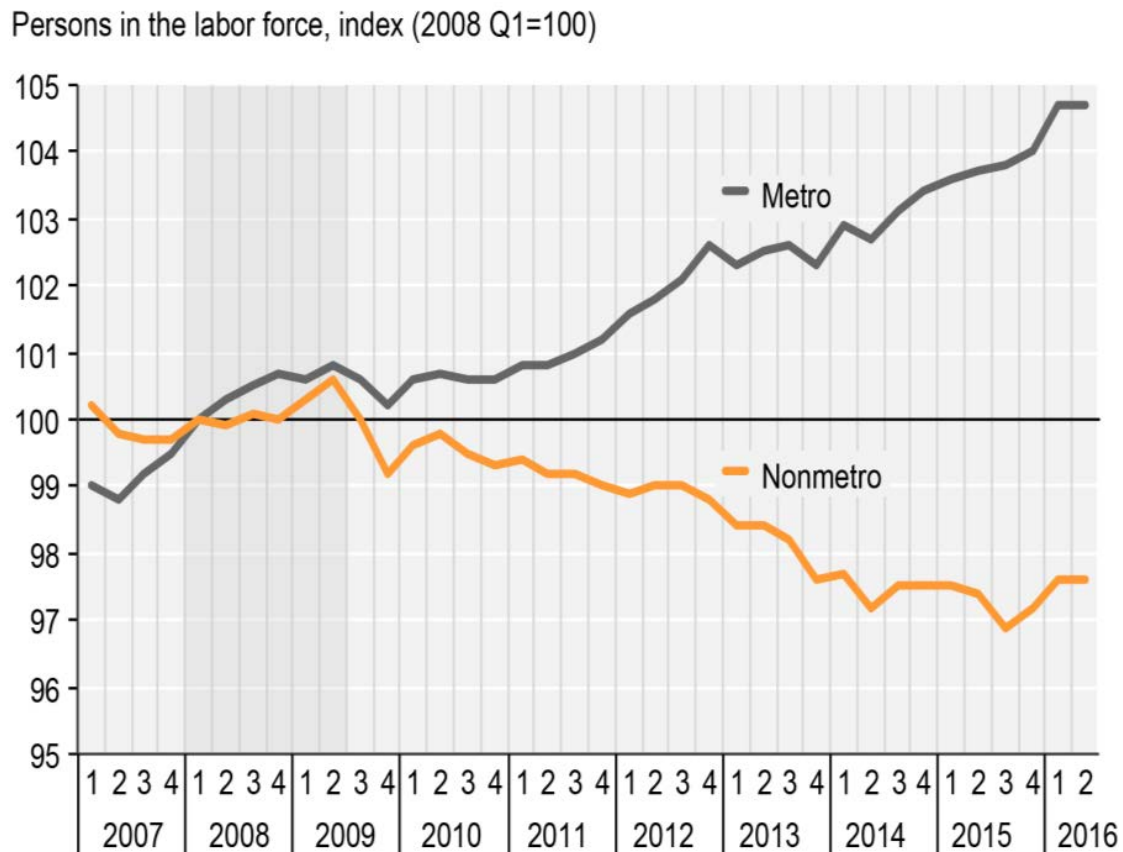
As may be expected given a combined look at Figure 14 and Figure 15, the reduction in unemployment rates in rural areas is not entirely attributable to an increase in the number of individuals working. In fact, just more than half of the decline in unemployment is due to a reduction in people seeking work. In both metro and rural areas, work force participation rates have fallen roughly three percent.¹³ In part, roughly half, this phenomenon may be related back to an aging population as previously discussed.

In metro areas, despite a reduced workforce participation rate, Figure 14 still showed considerable climbs in employed individuals, largely as a result of an increasing population. Rural areas however, are largely flat or declining in population and thus are experiencing a declining workforce (Figure 16). Thus,

¹³ United States Department of Agriculture, Economic Research Service. *Rural Employment and Unemployment*. <https://www.ers.usda.gov/topics/rural-economy-population/employment-education/rural-employment-and-unemployment/#emp>. Washington, D.C.

the compounding of a reduced and aging population leaves many rural areas with fewer employed individuals in total. The following sections build on these nationwide trends to highlight the employment trends in northwest Montana.

Figure 16. U.S. Labor Force, Metro and Nonmetro areas, 2007-2016.



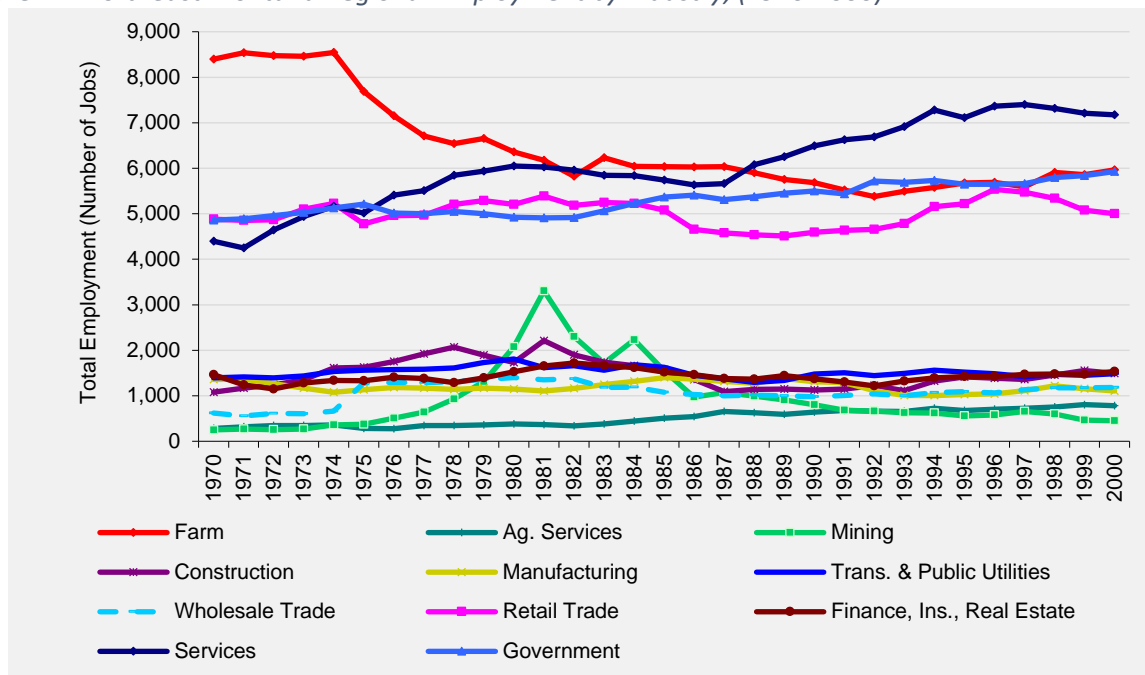
Source: Graphic Originally appeared in:

https://www.ers.usda.gov/webdocs/charts/56371_employmentindicespng/employmentindices.png?v=42681. Data Source: Bureau of Labor and Statistics, Local Area Unemployment Statistics (LAUS).

For much of the modern history of northeast Montana, employment has been largely based on a farm economy. Prior to the 1980s, farm employment far outpaced that of any other sector of the economy. In 1970 farm jobs in the region exceeded 8,000, while the next closest sectors, retail and government, topped out just shy of 5,000 each. Beginning in the mid-1970s, farm employment began to starkly decrease, while the service sector began an upward climb. By 1988, service sector jobs outnumbered those in farming (Figure 17). By 1990, government jobs also exceeded farm jobs. These four sectors, farming, government, service, and retail, dominated the employment landscape for the latter half of the

20th century. In 2000, the US government changed its industry classification scheme from SIC to the current NAICS system (Figure 18).¹⁴ Under this new system of classification, farming and government still heavily outweigh all other industries in total employment. During these first two decades of the 21st century, several interesting changes can be observed. Construction trended slightly upward, as did food and accommodations, though to a lesser extent. Large changes were observed in the mining sector beginning in 2010 and peaking in 2014. These drastic increases are reflective of the energy boom centered around eastern Montana and to a higher degree, North Dakota.

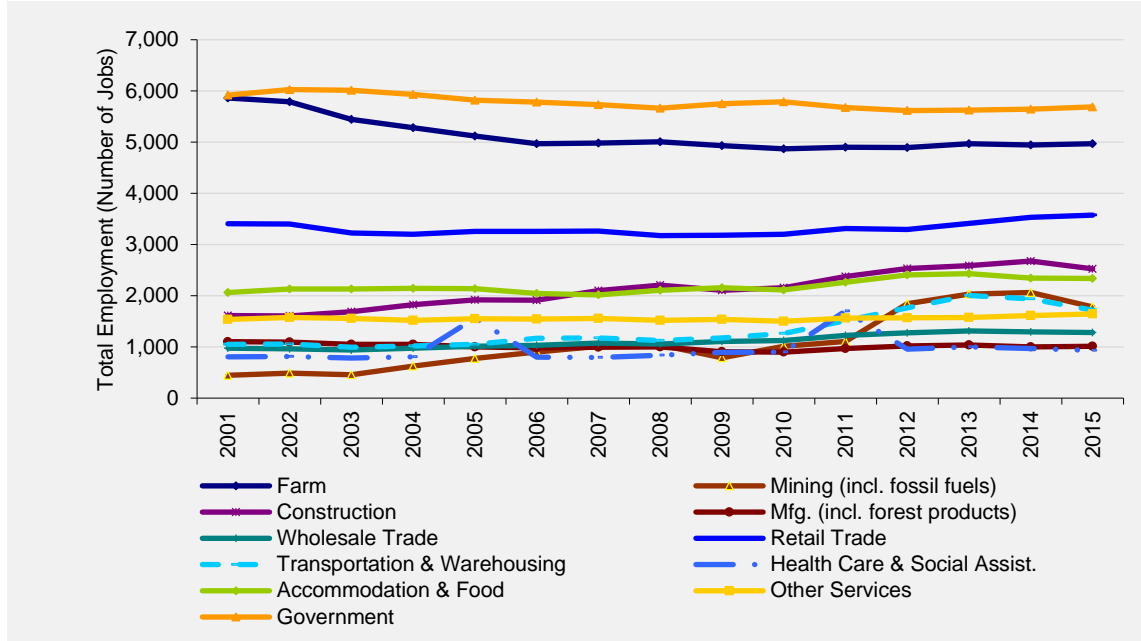
Figure 17. Northeast Montana Regional Employment by Industry, (1970-2000).



Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Sources: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Accounts, Table CA25. Washington, D.C., 2016.

¹⁴ Standard Industrial Classification(SIC) and North American Industrial Classification System (NAICS) codes classify firms' primary business activity. SIC is the precursor to NAICS, with the transition occurring around 2000.

Figure 18. Northeast Montana Regional Employment by Industry, (2001-2015).



Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Sources: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Accounts, Table CA25. Washington, D.C., 2016.

Regionally, employment in northeast Montana is rather concentrated in just a few industry sectors (Table 3).¹⁵ Both within region and in Montana, the Education, Health Care and Social Assistance sector employs more individuals than any other sector. In the northeast region, this is followed closely by Agriculture, Forestry, Fishing and Hunting, and Mining, while at the statewide level, employment becomes more quickly spread out across sectors. Typically, as populations decline, employment base concentrates into fewer industrial sectors. Thus, expectation would suggest that higher populated counties would have less concentrated employment.

¹⁵ Civilian employed persons >16 years of age.

Table 3. Employment Proportion by Industry (2015).

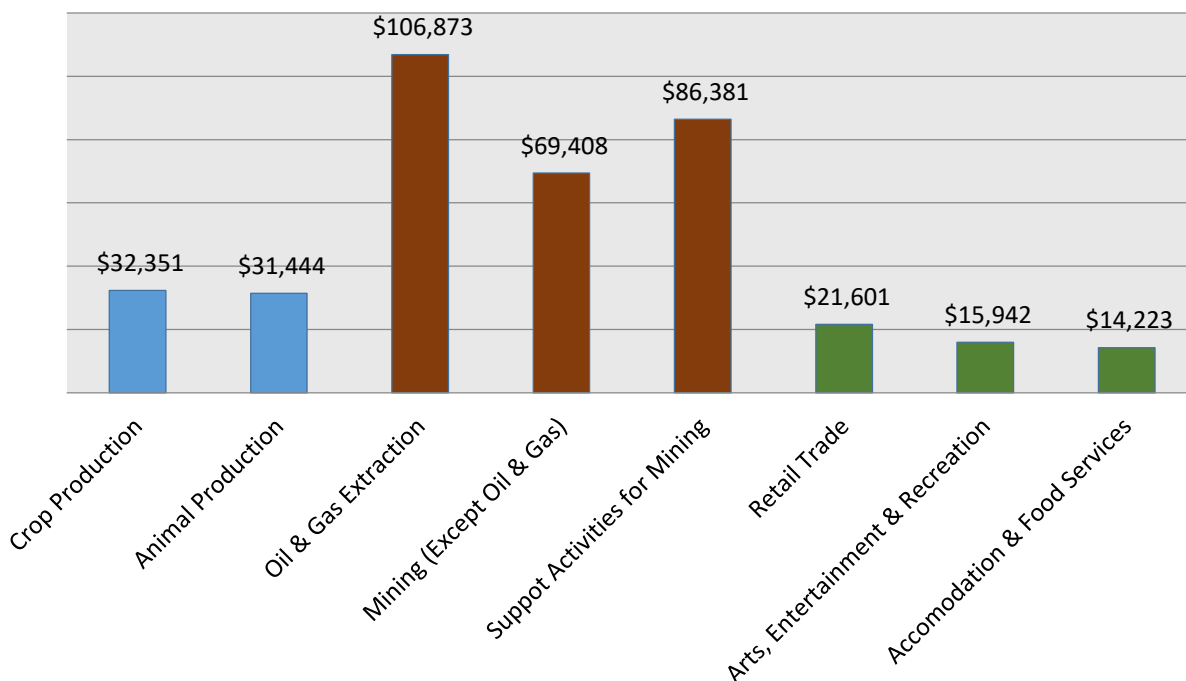
	Phillips	Valley	Daniels	Sheridan	Roosevelt	Richland	McCone	Garfield	Fergus	Region	Montana
Education, Health Care, & Social Assistance	18%	22%	19%	19%	30%	15%	16%	12%	25%	21%	23%
Agriculture, Forestry, Fishing & Hunting, Mining	24%	16%	21%	19%	12%	22%	31%	45%	13%	18%	7%
Retail Trade	11%	9%	9%	12%	10%	10%	12%	11%	9%	10%	12%
Construction	10%	6%	3%	6%	8%	8%	8%	10%	10%	8%	8%
Transportation, Warehousing, and Utilities	7%	9%	2%	7%	6%	10%	6%	3%	3%	7%	5%
Arts, Entertainment, Recreation, Accommodations, & Food Services	7%	8%	6%	9%	7%	8%	3%	4%	7%	7%	11%
Public Administration	7%	9%	11%	5%	14%	2%	5%	4%	6%	7%	6%
Professional, Scientific, Management, Administration, & Waste Management	4%	3%	1%	4%	3%	6%	4%	1%	7%	5%	8%
Other Services, Except Public Administration	4%	6%	6%	5%	3%	5%	3%	3%	7%	5%	5%
Finance and Insurance, and Real Estate	3%	3%	2%	7%	3%	5%	4%	3%	4%	4%	5%
Manufacturing	1%	1%	2%	2%	3%	5%	1%	1%	4%	3%	5%
Wholesale Trade	0%	3%	3%	4%	1%	3%	2%	0%	1%	2%	2%
Information	3%	4%	15%	1%	1%	0%	3%	3%	2%	2%	2%

Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Source: U.S. Department of Commerce, Census Bureau, American Community Survey Office, 2016. Washington, D.C.
NOTE: Given the small employment size within single counties for most industries, significantly large coefficient of variation may occur. Region and state level aggregations do not suffer from large coefficients.

Employment shares only tell one piece of the story. Figure 19 reports the annual average wages (2011-2015) related to three prominent industries. In blue, farm based crop and animal production yield average wages of roughly \$32,000. These wages, combined with farming's prominence in total employment, paint a more complete picture of the contribution of farming wages to the region. In brown, the wages of mining based sectors can be observed to grossly exceed that of any other sectors. Referring back to Figure 18, it can be seen that the mining sector traditionally employed relatively few individuals. The time period considered here, 2011-2015 largely encapsulates the energy boom period in northeast Montana and western North Dakota. This boom has since calmed, with an uncertain future.

The final three sectors in green are typically considered to be primary sectors serving the tourism industry. Combined, these three sectors make up 17 percent of the employment base. It is important to note in reviewing Figure 19, several underlying attributes of the industries making up the three tourism sectors. First, wages and earnings in these categories are more highly varied than either agriculture or mining and oil and gas extraction. The three tourism related sectors often rely on a high number of seasonal and part time employees. Inclusion of a large number of such jobs inherently lowers the average annual wages. Second, these three tourism sectors include a wide range of industries, all of which have a highly variable pay structure. With such a wide ranging structure, an increase in those industries that fall below the average can significantly lower the average. This is exacerbated by the small employment base of the northeast Montana region as a whole.

Figure 19. Average Annual Wages, 2011-2015 (2015 \$).

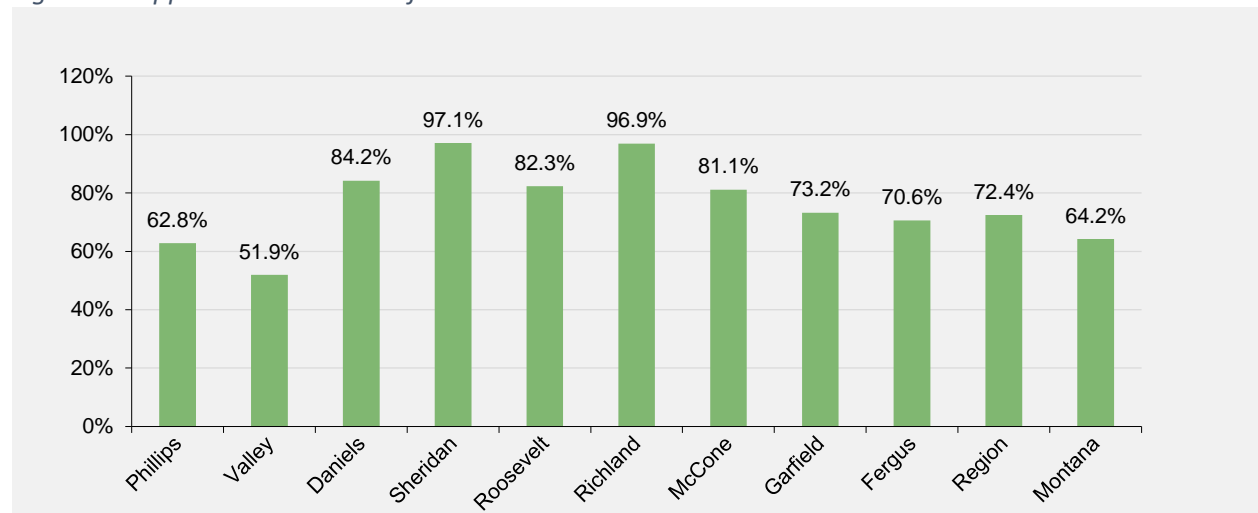


Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Source: U.S. Department of Labor, bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2016. Washington, D.C.

Agriculture

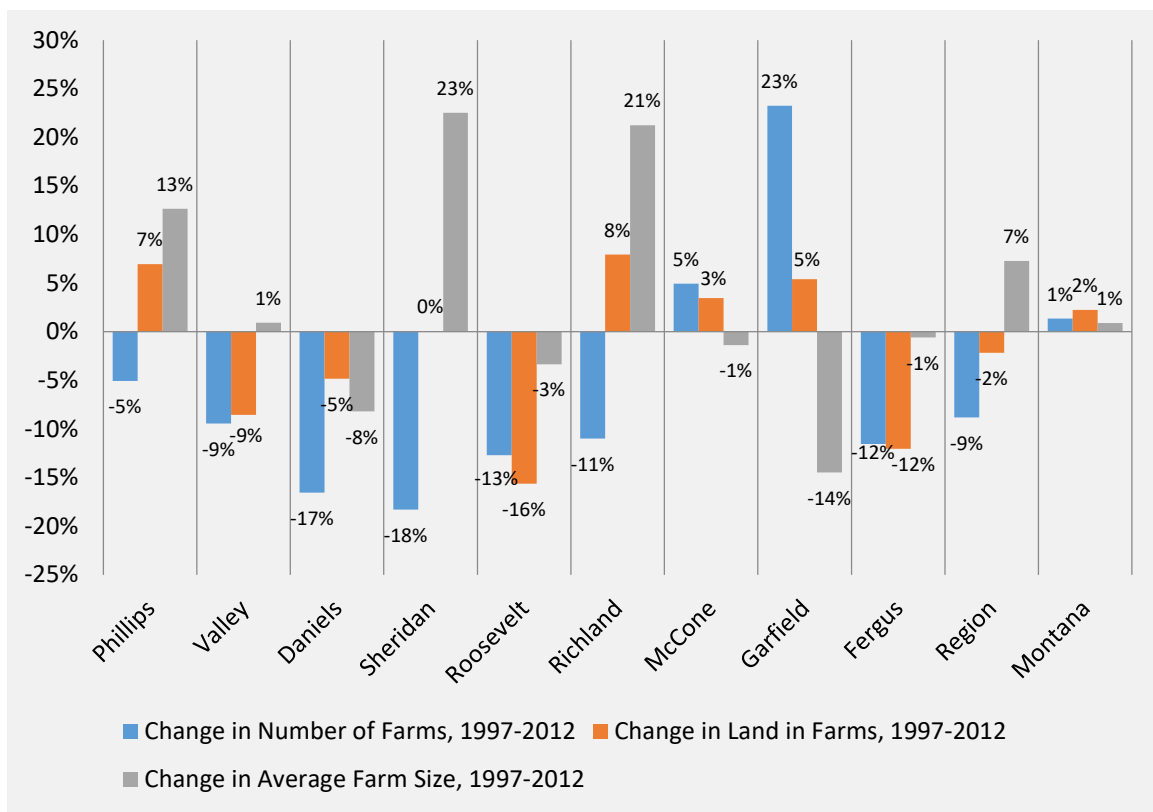
Given the prominence of agricultural employment and activity in northeast Montana, a tighter focus on its influence in the region is warranted. Nearly three-quarters (72.4 percent) of the land area in the region is farmland as of 2012. This area proportion is eight percent higher than the state as a whole (Figure 20). The 2012 farm acres represents a 2 percent decline since 1997 throughout the region. Within counties, the variation in change in farm acreages is significant. On one end, Roosevelt County has reduced farm acreage by 16 percent, while on the other end, Richland has increased farm acreage by 8 percent (Figure 21). Similar changes in the farm make up can be observed in the number of farms, down nine percent, and the average size, up seven percent. Such changes suggest the concentration of farming operations into fewer hands.

Figure 20. Approximate Percent of Land Area in Farms in 2012.



Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Source: U.S. Department of Agriculture, National Agriculture Statistics Service, Census of Agriculture, 2014. Washington, D.C.

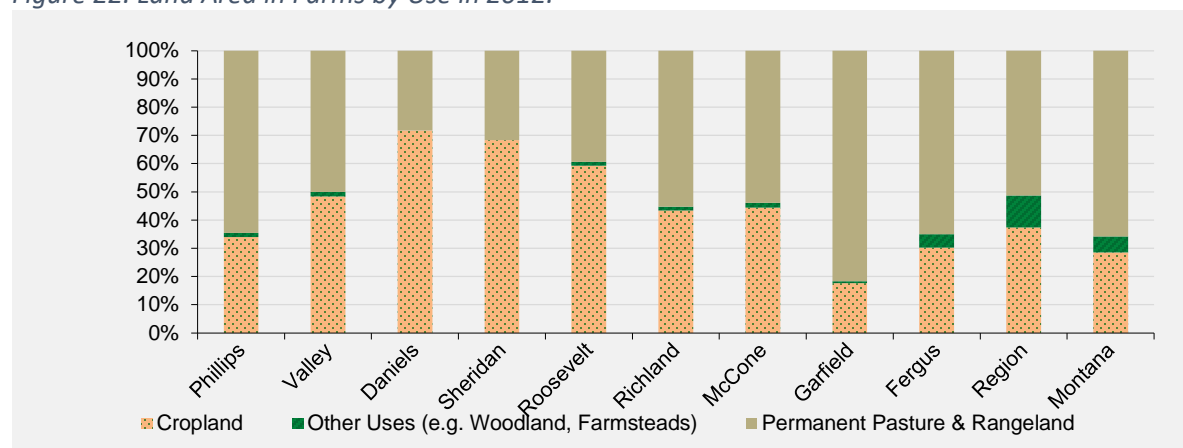
Figure 21. Change in Farm Characteristics, 1997-2012.



Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Source: U.S. Department of Agriculture, National Agriculture Statistics Service, Census of Agriculture, 2014. Washington, D.C.

Regionally, farmland is predominantly divided into either cropland or pasture/rangeland. Several counties (e.g. Daniels, Roosevelt, and Sheridan) are dominated by cropland, while the remaining are more dedicated towards permanent pasture and rangeland (Figure 22). The outputs generated by these agricultural lands and the operations dependent upon them can be observed in Table 4. The value of crop production in northeast Montana represents just more than a third of all of Montana's production. To a lesser extent, the region accounts for 15 percent of the State's value of livestock and poultry production. The value of production of livestock is not totally dependent upon the production attributable to that taking place on private lands. Considerable use of public lands contributes to the productive capacity of the region. We explore the public lands make-up of northeast Montana next.

Figure 22. Land Area in Farms by Use in 2012.



Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Source: U.S. Department of Agriculture, National Agriculture Statistics Service, Census of Agriculture, 2014. Washington, D.C.

Table 4. Value of Agricultural Production by County, 2012 (Thousands of 2012 \$s).

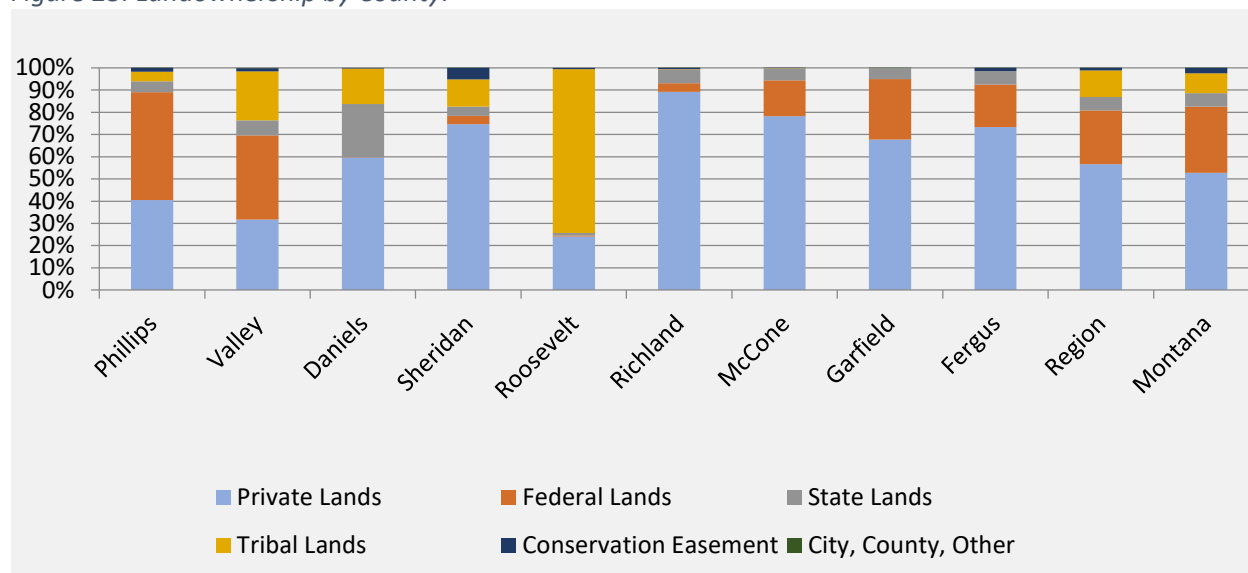
	Total value of agricultural products sold		Value of crops, including nursery and greenhouse		Value of livestock, poultry, and their products	
Phillips	\$	95,800 (2%)	\$	58,401 (3%)	\$	37,399 (2%)
Valley	\$	151,464 (4%)	\$	119,097 (5%)	\$	32,367 (2%)
Daniels	\$	95,003 (2%)	\$	87,040 (4%)	\$	7,963 (<1%)
Sheridan	\$	129,751 (3%)	\$	114,836 (5%)	\$	14,915 (1%)
Roosevelt	\$	126,399 (3%)	\$	113,026 (5%)	\$	13,373 (1%)
Richland	\$	139,166 (3%)	\$	93,696 (4%)	\$	45,470 (2%)
McCone	\$	102,227 (2%)	\$	77,755 (3%)	\$	24,472 (1%)
Garfield	\$	72,928 (2%)	\$	27,039 (1%)	\$	45,889 (2%)
Fergus	\$	145,720 (3%)	\$	71,745 (3%)	\$	73,975 (4%)
Region	\$	1,058,458 (25%)	\$	762,635 (34%)	\$	295,823 (15%)
Montana	\$	4,230,083	\$	2,255,996	\$	1,974,087
(%) = Proportion of Montana's total value sold.						

Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Source: U.S. Department of Agriculture, National Agriculture Statistics Service, Census of Agriculture, 2014. Washington, D.C.

Public Lands of Northeast Montana

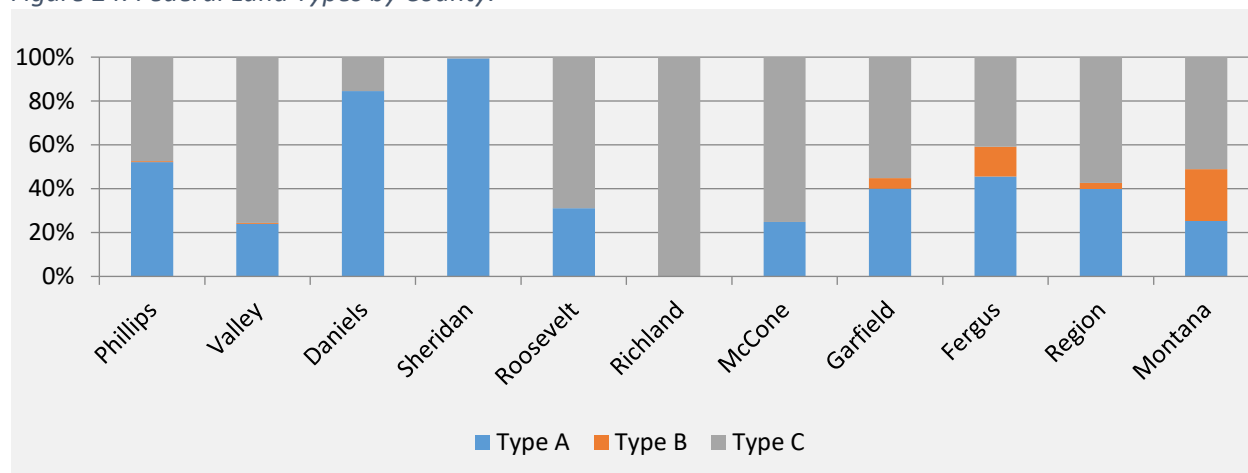
Region wide, federal public lands constitute 24 percent of the land area of northeast Montana. Phillips County at 48.5 percent is the county with the largest single proportion of federal lands (Figure 23). Additionally, nearly three fourths of Roosevelt County is made up of Tribal Lands (Fort Peck Reservation). Breaking out the federal land ownership by type of management practices that take place, allows for a deeper picture of the influence of the lands to be generated. With the exception of Daniels and Sheridan counties, Type C lands dominate the region's federal lands. Type C lands are characterized by lands such as the BLM in which grazing has a historical role (Figure 24). Fergus County is the only county within the region with Forest Service Lands (94,971 acres) as of 2009, making up 3.4% of the county land area and 0.5% of the total region's land area. Montana as a whole has 14.3% of its area in Forest Service holdings.

Figure 23. Landownership by County.



Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Source: U.S. Geological Survey, Gap Analysis Program. Protected Areas Database of the United States (PADUS) version 1.4, 2016.

Figure 24. Federal Land Types by County.



Type A: National Parks and Preserves (NPS), Wilderness (NPS, FWS, FS, BLM), National Conservation Areas (BLM), National Monuments (NPS, FS, BLM), National Recreation Areas (NPS, FS, BLM), National Wild and Scenic Rivers (NPS, FS, BLM), Waterfowl Production Areas (FWS), Wildlife Management Areas (FWS), Research Natural Areas (FS, BLM), Areas of Critical Environmental Concern (BLM), and National Wildlife Refuges (FWS).

Type B: Wilderness Study Areas (NPS, FWS, FS, BLM), Inventoried Roadless Areas (FS).

Type C: Public Domain Lands (BLM), O&C Lands (BLM), National Forests and Grasslands (FS).

NPS = National Park Service; FS = Forest Service; BLM = Bureau of Land Management; FWS = Fish and Wildlife.

Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Source: U.S. Geological Survey, Gap Analysis Program. Protected Areas Database of the United States (PADUS) version 1.4, 2016; Rasker, R. (2006). An exploration into the economic impact of industrial development versus conservation on western public lands. Society and Natural Resources, 19(3), 191-207.

Payments from Land Use

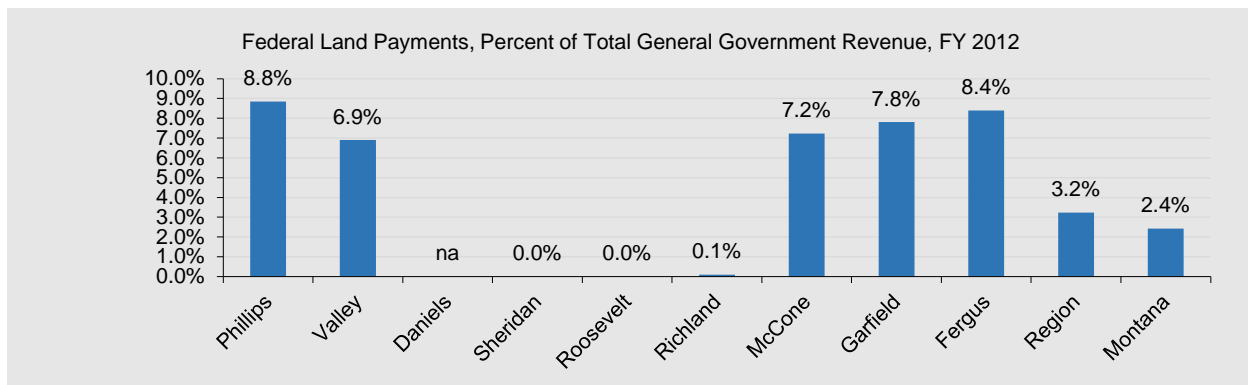
Political arguments are often levied back and forth as to the impact a high preponderance of public lands has on the economic vitality of a county. While this document does not wade directly into that political argument, we provide here several mechanisms by which counties are compensated for the federal lands found within their jurisdiction. In 2015 the counties making up northeast Montana received \$4.3 million in federal land payments, the majority of which was generated via Payments in Lieu of Taxes (PILT) (Table 5). For several counties within the region, led by Phillips County at 8.8 percent these federal land payments represent sizable contributions to their overall general revenue (Figure 25).

Table 5. Federal Land Payment Categories, by County, (USD \$, FY 2015).

	PILT	Forest Service Payments	BLM Payments	USFWS Refuge Payments	Federal Mineral Royalties	Total Federal Land Payments
Phillips	495,442	-	416,531	19,142	-	931,115
Valley	1,092,363	-	172,674	6,023	-	1,271,060
Daniels	-	-	648	402	-	1,050
Sheridan	641	-	93	23,760	-	24,494
Roosevelt	1,541	-	1,812	1,708	-	5,061
Richland	19,503	-	23,015	-	-	42,518
McCone	251,734	-	70,507	2,003	-	324,244
Garfield	221,625	-	152,567	6,293	-	380,485
Fergus	1,174,020	78,403	94,486	3,042	-	1,349,951
Region	3,256,869	78,403	932,333	62,373	-	4,329,978
Montana	29,259,009	18,285,238	1,518,974	243,532	33,984,476	83,291,229

Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Source: U.S. Department of Interior, Payments in Lieu of Taxes (PILT), 2016. Washington, D.C.; U.S. Department of Agriculture, Forest Service, 2016. Washington, D.C.; U.S. Department of Interior, Bureau of Land Management, 2016. Washington D.C.; U.S. Department of Interior, U.S. Fish and Wildlife Service, 2016, Washington, D.C.; U.S. Department of Interior, Office of Natural Resources, 2016. Washington D.C.

Figure 25. Federal Land Payments as a Percent of Total General Government Revenue (FY 2012).



Source: Graphic produced using Headwaters Economics' Economic Profile System. Data Source: U.S. Department of Interior, Payments in Lieu of Taxes (PILT), 2016. Washington, D.C.; U.S. Department of Agriculture, Forest Service, 2016. Washington, D.C.; U.S. Department of Interior, Bureau of Land Management, 2016. Washington D.C.; U.S. Department of Interior, U.S. Fish and Wildlife Service, 2016, Washington, D.C.; U.S. Department of Interior, Office of Natural Resources, 2016. Washington D.C.

Socioeconomic Opportunities through Conservation

Review

The previous sections highlight the economic and social conditions felt throughout the northeast Montana region. Such conditions may be thought of as either constraining or enhancing the economic vitality of the region. Many of these factors in northeast Montana are in stark contrast to other regions of Montana that are perceived as rich in natural amenities; namely the greater Glacier and Yellowstone regions. Economic vitality is often loosely used, with academics, policymakers, and even the general public each having varying definitions. Numerous public, private, and non-profit centers have been established in recent decades with a major focus of aiding communities, counties, and their constituents to identify and act upon measures to increase what they perceive as economic vitality. Generally, four traits stand out as important measures of vitality: (1) economic activity (e.g. industry output, sales), (2) Demography (e.g. migration; new home starts; building permits), (3) Employment (e.g. employment rates, industry employment change), and (4) Income (e.g. distribution of wealth, poverty rates). Public lands, their use, and amenity value are often seen as contributing to the vitality and promise of a region.¹⁶ Such observations routinely get lumped under the broad term, the “amenity phenomenon”. This amenity phenomenon is a driver behind seeking economic opportunity through conservation and reestablishment of a large and intact prairie ecosystem, complete with a large herd of bison. The hypothesis of proponents of the conservation effort is that such an intact system will provide the attractive force necessary to increase the tourism and recreation value of the region. These efforts have similarities that may be found in other efforts throughout the world as development groups seek to identify opportunities for sustainable (economically and environmentally) development.

Wildlife and Tourism Globally

Attraction to wildlife based amenities such as the bison is not a characteristic unique to Montana or its wildlife. Wildlife based tourism is a global phenomenon. The ‘African Safari’ is a classic image of the draw wildlife has to people the world over. Such tourism is based in both consumptive (e.g. hunting) and non-consumptive (e.g. watching) activities in natural areas. The varying forms of wildlife and ecosystem based tourism have a diverse set of economic return potentials, as well as sustainability potential.¹⁷

¹⁶ Rasker, R. 2005. An exploration into the economic impact of industrial development versus conservation on western public lands. *Society and Natural Resources* 19(3): 191-207.

¹⁷ Roe, D., Leader-Williams, N., & Dalal-Clayton, B. 1997. Take only photographs leave only footprints: the environmental impacts of wildlife tourism. IIED Wildlife and Development Series, No.10, October 1997. As cited by: INTOSAI Working Group on Environmental Auditing (WGEA): <http://www.environmentalauditing.org>.

Return potentials are largely driven by the number of visitors attracted, the length of their stay and their willingness to spend within the region. Similar to the amenity phenomenon introduced above, development planners around the world are seeking opportunities to integrate sustainable development and protected area (PA) management. Globally, the World Conservation Union defines PAs as a “clearly defined geographical space that is recognized, dedicated and managed through legal and other effective means to achieve the long term conservation of nature with associated ecosystem services and cultural values.”¹⁸ Just as in the case of National Parks like Yellowstone and Glacier, these PAs are among emerging and growing destinations for tourism by international travelers.¹⁹ Arguably, natural amenity attractions like Yellowstone are sufficiently large in absolute size and their influence on regional economy to be considered more than just a niche product. Hammer and Siegrist argue that under certain circumstances, protected areas, or other such areas, managed for conservation goals and the promotion of sustainable tourism can similarly step out of its niche role.²⁰ These circumstances include:

- 1. Existence of an adequate number of natural and cultural attractions;*
- 2. Willingness of the political policy to seriously support sustainable regional development and nature-based tourism;*
- 3. Professional experience-oriented design of tenders and effective marketing of nature-based tourism products;*
- 4. Professional visitor management (visitor monitoring and guidance, visitor information, and heritage interpretation).*

Infused within the above identified circumstances are 14 success factors (Table 6) that enhance the probability of the construction and development of viable and sustainable tourism activities. While these factors and circumstances are developed based on tourism and recreation opportunity for developing countries and regions, they are nonetheless applicable to a region such as northeast Montana. Northeast Montana, as already described currently experiences relatively small amounts of

¹⁸ Dudley, N. (Ed). 2008. Guidelines for Applying Protected Area Management Categories. IUCN, Gland, Switzerland.

¹⁹ Thapa, K. Protected Area Tourism and Regional Economic Impact – The Case of Annapurna Conservation Area, Nepal. <https://ecoclub.com/education/articles/933-140711-annapurna>

²⁰ Hammer, T., & Siegrist, D. 2008. Protected Areas in the Alps – The Success Factors if Nature-Based Tourism and the Challenge for Regional Policy *GAIA 17/S1*: 152-160.

natural amenity based tourism, and actors within the region are actively seeking to enhance the economic opportunity to capitalize on its amenities. Like developing regions of the world, success here is significantly linked to cooperation and open exchange that enhances the social welfare of the region.

Table 6. Success Factors for Protected Area Tourism.

General Conditions for Protected Area Tourism	
1	Adequate resources, especially financial, for the management of the protected area.
2	Positive attitude to the protected area and to protected area tourism on the part of the actors involved.
Cooperation Between the Actors Involved	
3	Genuine Participation.
4	Regular contacts between representatives of the protected area management and local and regional tourism organizations.
5	Project-related cooperation between different groups of actors.
6	Institutionalization of a responsible body with a broad range of different partners.
7	Conflict Resolution through cooperation and exchange of information.
8	Good Balance of top-down and bottom-up approaches.
Design of Tourism Services and Products	
9	Intact landscape.
10	Value for money.
11	Target-group oriented, close-to-nature services.
12	Experience orientation.
13	Consistent marketing strategy.
14	Integration of services on offer in protected area tourism into the regional tourism services chain.

Source; Hammer, T., & Siegrist, D. 2008. Protected Areas in the Alps – The Success Factors of Nature-Based Tourism and the Challenge for Regional Policy GAIA 17/S1: 152-160.

Methods

In an effort to highlight the recreation and tourism based social and economic opportunities, tradeoffs and challenges associated with establishing a multi-million-acre grassland reserve with abundant native wildlife, including the restoration of a large herd of wild bison in northeast Montana, ITRR conducted a pair of surveys with both Montana residents, as well as nonresidents. The intent of the surveys was to gauge their current perceptions of northeast Montana and likely willingness to visit in the future given a variety of conditions in the region. The construction of the survey instrument was based on previous efforts to measure recreation benefits of quality improvements through revealed and stated behavior

data.^{21,22,23} To highlight the outcomes of this survey, the remainder of this section is organized into a brief discussion of the survey and analysis methods, followed by a summary of the major findings and potential implications for the region.

Using two simultaneously delivered online surveys²⁴, both Montana residents and nonresidents were asked to identify their historic travels and experience with northeast Montana. These questions establish a base of revealed behavior. From this information, we are able to understand not only how much use occurs in the region, but we are also able to identify non-use. In addition to past behaviors, respondents were also asked about their planned level of activity in the region in the next year. Again, we identify both the users and non-users. After identifying both their revealed and intended use of the region, respondents were provided with two scenarios from which they could then identify the potential impact on their willingness to visit the region. Scenario one described the current state of the American Prairie Reserve and surrounding public lands. Scenario two described the idealized state of the reserve based on the goals put forth by proponents of the reserve. The development and questioning of the two scenarios allows for the creation of two different recreation quality states.

By creating two recreation quality states, we are able to measure the change in intended recreation activity; change in demand. Two co-occurring outcomes were expected. First, those that already state an intention to visit the region will do so more often and/or for extended period of time. Second, those that do not currently intend to visit the region may be induced to do so given the improved quality of the recreation amenity. Both events serve to increase the visitor days in the region, and thus increase visitor expenditures in the region. To measure the economic impact these potential increases in recreation activity have on the economy, we utilize the most recent nonresident visitor spending information collected by ITRR (see Table 1). The spending reported in Missouri River Country generated the economic impact shown in Table 7. This impact level serves as the basis of comparison for the change events generated by an improved recreation quality.

²¹ Whitehead, J.C., Haab, T.C., and Huang, J. 2000. Measuring recreation benefits of quality improvements with revealed and stated behavior data. *Resource and Energy Economics*, 22, 339-354.

²² Loomis, J.B. 1993. An Investigation onto the reliability of intended visitation behavior. *Environmental and Resource Economics*, 3, 183-191.

²³ Loomis, J., and Caughlan, L., 2004, Economic analysis of alternative bison and elk management practices on the national elk refuge and Grand Teton National Park: A comparison of visitor and household responses: U.S. Geological Survey, Biological Resources Discipline, Open File Report 2004-1305, 110 p.

²⁴ Qualtrics survey software used for survey delivery.

Table 7. 2015 Economic Impact of Nonresident Visitor Spending in Missouri River Country.

	Direct	Indirect	Induced	Combined
Industry Output	\$59,310,000	\$11,900,000	\$12,800,000	\$84,010,000
Employment (# of jobs)	830	90	100	1,020
Employee Compensation	\$21,800,000	\$2,760,000	\$3,210,000	\$27,770,000
Proprietor Income	\$4,430,000	\$480,000	\$530,000	\$5,440,000
Other Property Type Income	\$6,550,000	\$1,660,000	\$2,420,000	\$10,630,000
State & Local Taxes^	–	–	–	\$4,590,000

Source: Grau, K. (2016). 2015 Economic Contribution of Nonresident Travel Spending in Montana Travel Regions and Counties.

http://scholarworks.umt.edu/itr_pubs/351/

Local and Regional Economic Impact Areas

The Missouri River Country (MRC) travel region is identified as the “local” area of analysis for the purposes of this analysis. This identification of local is based on the readily available data for nonresident spending behavior and the close overlap in area of the anticipated full extent of the reserve. Though both Montana residents and nonresidents are surveyed, only nonresidents are included in the analysis of economic impact. Travel behavior of Montana residents who do not reside in the local area is also reported, in raw number change in recreation behavior numbers. The purpose behind only including nonresident travel in impact estimates is that Montanan’s travel and spending in MRC does not represent new money coming into the state economy. It is expected that Montana residents would spend their money elsewhere in the state even if they did not visit the APR or surrounding region.²⁵

Results

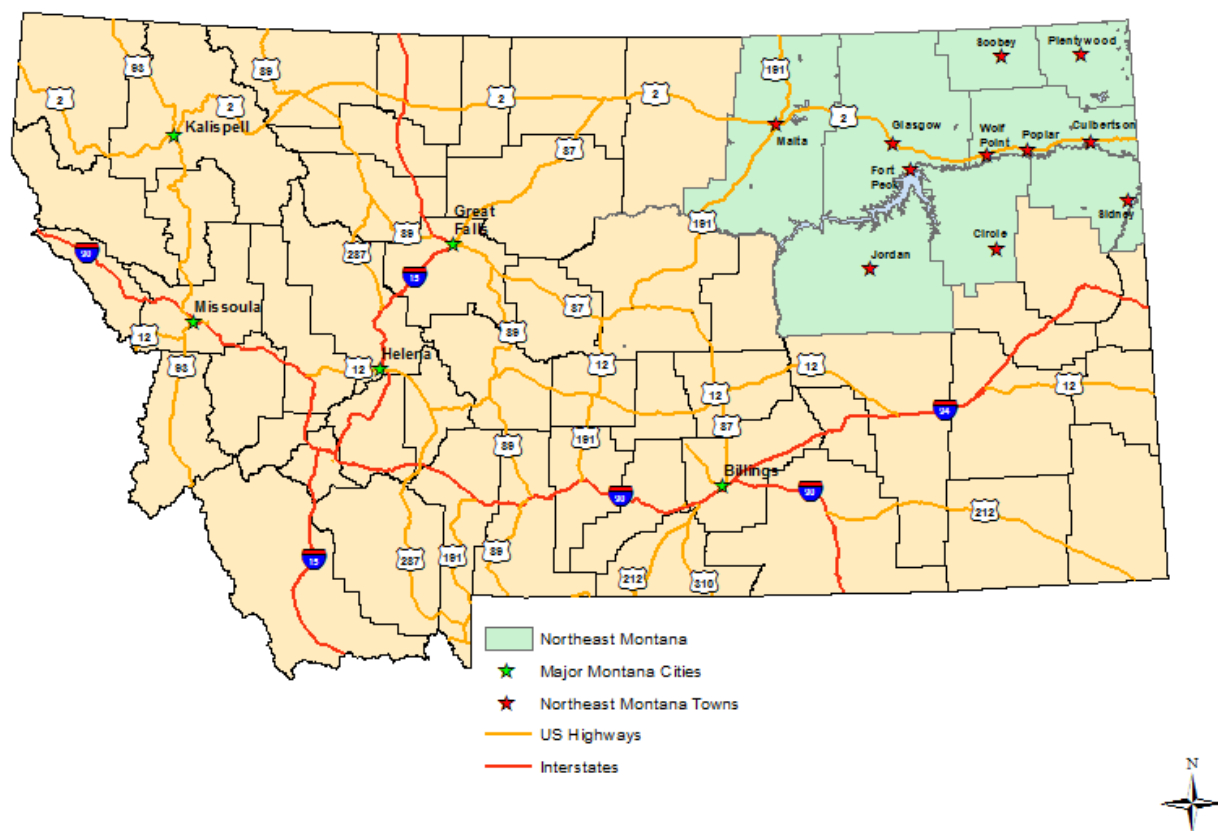
The nonresident panel survey was sent to email addresses of 2,490 individuals. We received 623 viable responses. After accounting for undeliverable surveys (27) and those that were incorrectly classified (21) (e.g. respondent was a Montana Resident), we achieved a 26 percent response rate. Similarly, the resident panel survey was sent to 912 Montana residents, with 318 valid responses collected, for a response rate of 35 percent.

²⁵ Loomis, J., and Caughlan, L., 2004, Economic analysis of alternative bison and elk management practices on the national elk refuge and Grand Teton National Park: A comparison of visitor and household responses: U.S. Geological Survey, Biological Resources Discipline, Open File Report 2004-1305, 110 p.

Have You Ever Visited or Traveled through Northeast Montana?

When asked about previous visits into or through the region (Figure 26), 70 percent of Montana respondents, 217 of 318, indicate that they have been to northeast Montana at some point in the past. Forty two percent of nonresident respondents, 259 of 623, have been into or through northeast Montana at some point. It is important to note that the panels from which these surveys are drawn are made up primarily of individuals who have been intercepted by ITRR surveyors at some point in the past and have opted into receiving future surveys such as this about recreation in Montana. As such, care should be taken when attempting to generalize the responses provided to the general population. Many of these nonresident respondents have been to Montana in the past or already expressed interest in visiting.

Figure 26. Northeast Montana.



In both surveys, the only demographic variable demonstrated to affect the likelihood of whether or not the respondent has ever traveled to northeast Montana is their gender (Table 8 and Table 9).²⁶ For the nonresident survey, men made up 55 percent of all respondents and 65 percent of those who have traveled to the region. Similarly, 42 percent of all resident respondents were men, while 49 percent of those who have traveled to the region were men. Such results may be reflective of the activities drawing visitors to the region as shown in the following section.

Table 8. Frequency Distribution of Montana Respondents' Gender.

Gender	All Montana Respondents		Montana Respondents who have been to northeast Montana	
	Frequency	Percent	Frequency	Percent
Female	172	54%	102	47%
Male	134	42%	107	49%
Prefer Not To Answer	10	3%	7	3%
No Response	2	1%	1	0%
Total Responses	318		217	

Table 9. Frequency Distribution of Nonresident Respondents' Gender.

Gender	All Nonresident Respondents		Nonresident Respondents who have been to northeast Montana	
	Frequency	Percent	Frequency	Percent
Female	264	42%	83	32%
Male	345	55%	168	65%
Prefer Not To Answer	7	1%	2	1%
No Response	7	1%	6	2%
Total Responses	623		259	

Recreation Activities while Visiting Northeast Montana

Both residents and nonresidents were asked in an open ended question to identify any recreational activities they have participated in while visiting the region. The most frequently identified activities are shown in Table 10 and Table 11. Similar activities appear in both. Sightseeing appears as the second highest indicated activity by both groups of responses. Often, this response was selected by those respondents who indicated they were just passing through and saw the sights along the way. Such comments may also be reflected in the dominance of the fuel spending category for the region as compared to other regions.

²⁶ Tables for other demographic variable may be found in the Appendix.

Table 10. Top Ten Activities for Montana Respondents in Northeast Montana.

Activity	Frequency
Fishing	34
Sightseeing	31
Hunting	31
Hiking	23
Camping	22
Travel Through	13
Boating	12
Wildlife Watching	10
Scenic Drive	8
Bird Watching	6

Table 11. Top Ten Activities for Nonresident Respondents in Northeast Montana.

Activity	Frequency
Hiking	61
Sightseeing	51
Camping	46
Fishing	32
Wildlife Viewing	19
Hunting	15
Photography	12
Bicycling	8
Horseback riding	7
Motorcycle touring	6

Traveling Preferences

Respondents to both the resident and nonresident surveys were asked to think about their preferences while traveling and to rate their agreement (Strongly Disagree to Strongly Agree) with a series of six questions (Table 12 and Table 13). Respondents of both surveys tended to have an overall positive opinion about their feelings towards small towns, with the vast majority agreeing with the statement “I enjoy visiting small, rural towns”. Small rural towns and their neighboring areas frequently have limited dining and lodging options. When asked about preferences for locally operated dining and lodging options, more respondents tended to somewhat agree or strongly agree with a preference for local restaurants (nonresident average score of 4.43, resident of 4.5) than they did for locally owned, non-

chain, lodging options (nonresident average score of 3.26, resident of 3.27). By and large, residents and nonresidents were in relative agreement with their preferences. Both groups indicated high desirability for viewing wildlife and while not as high, they both do on average enjoy viewing working landscapes. Montanans scored slightly higher on latter category.

Table 12. Nonresident Preferences while Traveling²⁷.

	Strongly Disagree (1)	Somewhat Disagree (2)	Neither Agree nor Disagree (3)	Somewhat Agree (4)	Strongly Agree (5)	Average Score
I enjoy viewing wildlife in natural settings	2%	3%	1%	11%	81%	4.76
I typically prefer local restaurants over chains	1%	2%	10%	26%	58%	4.43
I enjoy visiting small, rural towns	2%	2%	7%	34%	56%	4.40
I enjoy viewing working landscapes (e.g. ranches, farms)	2%	7%	19%	32%	37%	3.98
I enjoy staying in rustic accommodations (e.g. camping, cabins, yurts)	7%	11%	15%	34%	29%	3.69
When choosing to stay at hotels/motels, I tend to stay at those locally owned whenever possible (i.e. non-chain)	6%	12%	42%	23%	13%	3.26

²⁷ Note: Percentages in result tables may not sum to 100% due to rounding.

Table 13. Resident Preferences while Traveling.

	Strongly Disagree (1)	Somewhat Disagree (2)	Neither Agree nor Disagree (3)	Somewhat Agree (4)	Strongly Agree (5)	Average Score
I enjoy viewing wildlife in natural settings	3%	1%	0%	13%	84%	4.74
I typically prefer local restaurants over chains	2%	2%	8%	24%	65%	4.5
I enjoy visiting small, rural towns	1%	3%	6%	38%	51%	4.40
I enjoy viewing working landscapes (e.g. ranches, farms)	2%	6%	16%	39%	38%	4.05
I enjoy staying in rustic accommodations (e.g. camping, cabins, yurts)	5%	12%	18%	35%	31%	3.75
When choosing to stay at hotels/motels, I tend to stay at those locally owned whenever possible (i.e. non-chain)	5%	14%	44%	22%	15%	3.27

Perceptions of Northeast Montana

Following an opportunity to reveal their preferences while traveling, respondents were asked about their perceptions of northeast Montana. Both respondents who have visited the area in the past and those with no, ‘on the ground’ experience in the area were asked to rate their agreement, from strongly disagree to strongly agree, on a series of 23 statements about the region. We break the statements into six common themed tables: (1) Landscape Perceptions (Table 14), (2) Cultural and Community Perceptions (Table 15), (3) Wildlife Viewing Opportunities (Table 16), (4) Hunting and Camping Opportunities (Table 17), (5) Family Activities (Table 18) , and (6) Other Perceptions (Table 19).

For each statement, respondents were able to provide an ‘I don’t know’ response. Respondents who have not been to the area frequently responded with I don’t know, indicating that many people have little information from which to confidently base an opinion about the region prior to visiting or traveling through. We break the respondents into those that have visited and those that have not in order to assess any differences in perception. We highlight several key differences here. The rest may be seen in the following tables.

Both residents and nonresidents who have been to the region rate the “awe inspiring scenery” higher than those who have not been, suggesting that visitor experiences of scenery in the region potentially outperform what they had expected prior to coming. However, residents who have been to the region rank the “unique water features” lower than those residents who have not been to the region. This indicates a potential drop in perception after visiting. Similar observations occur with respect to “intriguing native culture” both residents and nonresidents score this category lower if they have been to the area.

Wildlife viewing opportunities reveal a large drop in perception between those who have never been to the region and those who have. Perceived bison viewing opportunities took a substantial drop in perception. Resident perceptions dropped a half a point 3.14 to 2.66, while nonresident perceptions dropped from 3.55 to 3.27. Elk viewing also dropped in both categories. Similar sentiments do not hold when considering the quality of hunting and fishing.

Table 14. Landscape Based Perceptions of Northeast Montana.

	Strongly Disagree (1)	Somewhat Disagree (2)	Somewhat Agree (3)	Strongly Agree (4)	I Don't Know	Average
Awe Inspiring Scenery						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	2%	12%	40%	42%	4%	3.27
Not visited NE MT (N=364)	2%	3%	12%	11%	73%	3.20
<u>Montanans</u>						
Have visited NE MT (N=217)	2%	12%	49%	35%	2%	3.18
Not visited NE MT (N=93)	3%	9%	20%	14%	55%	2.98
Unique Geologic Features						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	2%	4%	36%	49%	9%	3.44
Not visited NE MT (N=364)	1%	1%	13%	14%	71%	3.33
<u>Montanans</u>						
Have visited NE MT (N=217)	2%	5%	31%	55%	7%	3.49
Not visited NE MT (N=93)	1%	1%	20%	31%	48%	3.53
Unique Water Features						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	2%	8%	41%	31%	18%	3.23
Not visited NE MT (N=364)	1%	2%	11%	10%	76%	3.21
<u>Montanans</u>						
Have visited NE MT (N=217)	3%	11%	39%	35%	13%	3.21
Not visited NE MT (N=93)	0%	7%	10%	21%	62%	3.37
Unpleasant Terrain						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	41%	34%	13%	3%	9%	1.74
Not visited NE MT (N=364)	12%	9%	6%	1%	73%	1.88
<u>Montanans</u>						
Have visited NE MT (N=217)	29%	37%	26%	3%	6%	2.02
Not visited NE MT (N=93)	10%	19%	15%	3%	54%	2.23
Vast Open Spaces						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	1%	0%	9%	85%	5%	3.86
Not visited NE MT (N=364)	1%	0%	11%	30%	59%	3.66
<u>Montanans</u>						
Have visited NE MT (N=217)	1%	1%	10%	86%	3%	3.86
Not visited NE MT (N=93)	0%	0%	9%	57%	34%	3.87

Table 15. Culture and Community Based Perceptions of Northeast Montana.

	Strongly Disagree (1)	Somewhat Disagree (2)	Somewhat Agree (3)	Strongly Agree (4)	I Don't Know	Average
Interesting Cultural History						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	1%	3%	34%	43%	20%	3.47
Not visited NE MT (N=364)	1%	1%	12%	15%	70%	3.40
<u>Montanans</u>						
Have visited NE MT (N=217)	1%	5%	40%	42%	12%	3.40
Not visited NE MT (N=93)	1%	2%	23%	23%	52%	3.39
Intriguing Native Culture						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	1%	2%	32%	35%	30%	3.44
Not visited NE MT (N=364)	0%	1%	8%	18%	73%	3.59
<u>Montanans</u>						
Have visited NE MT (N=217)	2%	13%	34%	33%	18%	3.18
Not visited NE MT (N=93)	1%	0%	25%	22%	53%	3.42
Vibrant Ranching Farming						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	1%	3%	38%	37%	21%	3.40
Not visited NE MT (N=364)	2%	0%	11%	16%	72%	3.43
<u>Montanans</u>						
Have visited NE MT (N=217)	1%	5%	36%	45%	13%	3.43
Not visited NE MT (N=93)	1%	2%	22%	24%	52%	3.41
Welcoming Communities						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	2%	5%	28%	46%	19%	3.48
Not visited NE MT (N=364)	0%	1%	8%	8%	83%	3.43
<u>Montanans</u>						
Have visited NE MT (N=217)	2%	7%	30%	45%	16%	3.40
Not visited NE MT (N=93)	2%	1%	19%	12%	66%	3.21

Table 16. Wildlife Viewing Based Perceptions of Northeast Montana.

	Strongly Disagree (1)	Somewhat Disagree (2)	Somewhat Agree (3)	Strongly Agree (4)	I Don't Know	Average
Bison Viewing Opportunities						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	12%	6%	22%	22%	49%	3.23
Not visited NE MT (N=364)	1%	0%	7%	13%	80%	3.55
<u>Montanans</u>						
Have visited NE MT (N=217)	5%	16%	29%	7%	43%	2.66
Not visited NE MT (N=93)	2%	2%	14%	10%	72%	3.14
Bird Watching Opportunities						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	0%	3%	22%	33%	42%	3.51
Not visited NE MT (N=364)	1%	0%	10%	15%	75%	3.53
<u>Montanans</u>						
Have visited NE MT (N=217)	0%	2%	33%	37%	28%	3.48
Not visited NE MT (N=93)	0%	0%	19%	23%	58%	3.55
Elk Viewing Opportunities						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	1%	9%	16%	22%	53%	3.25
Not visited NE MT (N=364)	1%	1%	10%	10%	79%	3.38
<u>Montanans</u>						
Have visited NE MT (N=217)	5%	16%	29%	17%	34%	2.88
Not visited NE MT (N=93)	0%	5%	16%	10%	69%	3.16
Other Wildlife Viewing Opportunities						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	1%	3%	28%	39%	29%	3.48
Not visited NE MT (N=364)	1%	0%	11.0%	17%	71%	3.56
<u>Montanans</u>						
Have visited NE MT (N=217)	0%	2%	38%	43%	16%	3.49
Not visited NE MT (N=93)	0%	1%	22%	22%	55%	3.47

Table 17. Hunting, Fishing, and Camping Based Perceptions of Northeast Montana.

	Strongly Disagree (1)	Somewhat Disagree (2)	Somewhat Agree (3)	Strongly Agree (4)	I Don't Know	Average
High Quality Hunting Opportunities						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	1%	1%	13%	22%	64%	3.54
Not visited NE MT (N=364)	1%	1%	7%	11%	79%	3.39
<u>Montanans</u>						
Have visited NE MT (N=217)	1%	5%	22%	41%	32%	3.49
Not visited NE MT (N=93)	0%	2%	15%	25%	58%	3.55
High Quality Fishing Opportunities						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	0%	2%	19%	29%	51%	3.53
Not visited NE MT (N=364)	1%	1%	8%	12%	78%	3.44
<u>Montanans</u>						
Have visited NE MT (N=217)	1%	5%	27%	45%	23%	3.51
Not visited NE MT (N=93)	0%	2%	17%	15%	66%	3.38
Attractive Camping Opportunities						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	1%	5%	29%	32%	32%	3.38
Not visited NE MT (N=364)	1%	1%	10%	10%	78%	3.37
<u>Montanans</u>						
Have visited NE MT (N=217)	4%	9%	36%	25%	26%	3.12
Not visited NE MT (N=93)	1%	6%	14%	11%	68%	3.09

Table 18. Family Activity Based Perceptions of Northeast Montana.

	Strongly Disagree (1)	Somewhat Disagree (2)	Somewhat Agree (3)	Strongly Agree (4)	I Don't Know	Average
Nothing of Interest						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	58%	21%	11%	1%	9%	1.50
Not visited NE MT (N=364)	25%	9%	6%	1%	60%	1.55
<u>Montanans</u>						
Have visited NE MT (N=217)	51%	28%	12%	5%	4%	1.71
Not visited NE MT (N=93)	24%	23%	10%	3%	41%	1.87
Accessible Water Based Recreation						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	1%	3%	24%	26%	47%	3.40
Not visited NE MT (N=364)	0%	0%	12%	9%	79%	3.38
<u>Montanans</u>						
Have visited NE MT (N=217)	1%	6%	30%	36%	27%	3.37
Not visited NE MT (N=93)	0%	3%	17%	18%	62%	3.39
Unique Dinosaur Site(s)						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	2%	1%	14%	18%	66%	3.42
Not visited NE MT (N=364)	1%	0%	9%	9%	82%	3.36
<u>Montanans</u>						
Have visited NE MT (N=217)	1%	2%	24%	37%	36%	3.51
Not visited NE MT (N=93)	0%	0%	20%	29%	52%	3.59
Nothing to do for families						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	40%	24%	10%	2%	24%	1.66
Not visited NE MT (N=364)	19%	6%	4%	2%	70%	1.61
<u>Montanans</u>						
Have visited NE MT (N=217)	33%	30%	13%	2%	21%	1.81
Not visited NE MT (N=93)	16%	14%	10%	1%	59%	1.90

Table 19. Other Perceptions of Northeast Montana.

	Strongly Disagree (1)	Somewhat Disagree (2)	Somewhat Agree (3)	Strongly Agree (4)	I Don't Know	Average
Inadequate traveler dining services						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	19%	28%	27%	4%	23%	2.20
Not visited NE MT (N=364)	3%	4%	5%	2%	86%	2.38
<u>Montanans</u>						
Have visited NE MT (N=217)	9%	30%	33%	8%	21%	2.51
Not visited NE MT (N=93)	2%	4%	13%	5%	76%	2.88
Relaxing Atmosphere						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	0%	3%	23%	66%	8%	3.68
Not visited NE MT (N=364)	1%	0%	12%	19%	69%	3.56
<u>Montanans</u>						
Have visited NE MT (N=217)	1%	4%	37%	52%	7%	3.51
Not visited NE MT (N=93)	0%	1%	12%	26%	61%	3.64
Quality Road Infrastructure						
<u>Nonresidents</u>						
Have visited NE MT (N=259)	2%	17%	46%	24%	12%	3.04
Not visited NE MT (N=364)	1%	2%	8%	5%	84%	3.04
<u>Montanans</u>						
Have visited NE MT (N=217)	7%	29%	44%	6%	14%	2.56
Not visited NE MT (N=93)	3%	7%	8%	4%	78%	2.59

Revealed and Stated Travel Behavior

Previous Year History of Travel to the Region

As previously described, 70 percent of responding residents have at some time been to northeast Montana, as have 42 percent of nonresidents (Table 20). Note that Montana residents who live in the northeast region are not included in this portion of the analysis. Focusing now only on those who have at some point visited the region, 24 percent of nonresidents and 36 percent of residents have spent at least one night in the region in the last year (Table 21). Residents who have spent nights, averaged just more than four nights, while nonresidents average 2.74 nights. The reported average nights spent are consistent with findings by ITRR on the estimated number of nights spent in northeast Montana by all nonresident visitors.²⁸

²⁸ ITRR Interactive Data. <http://itr.UMT.edu/interactive-data/default.php>. Of nonresident visitors who spent at least one night in northeast Montana, the average number of nights stayed in the region was 3.53 nights. Averaged across 2014 and 2015.

Similar to questions about overnight trips to the region, respondents were asked about their last year's day trips. Of those respondents who have ever been to the region, 32 percent of nonresidents have made day trips into or through the area in the last year, with an average of 1.75 trips, while 34 percent of residents have done so, with an average of 2.59 trips (Table 22).

Table 20. Have You Ever Visited or Traveled Through Northeast Montana?

	Nonresident	Resident
Yes	259	217
No	364	93
Proportion of Respondents who have ever traveled in northeast Montana	42%	70%

Table 21. In the Past 12 Months, How Many Nights have You Stayed in Northeast Montana?

	Nonresident	Resident
Number of respondents who have spent at least one night in last 12 months	62	77
Number of respondents who have been to northeast Montana, but have not spent at least one night in the last 12 months	197	140
Proportion of <u>all respondents</u> who have spent nights in last 12 months	10%	25%
Proportion of <u>respondents who have ever been</u> to northeast Montana, who have spent nights in last 12 months	24%	36%
Average number of nights spent by respondents who stayed overnight in northeast Montana in the last 12 months	2.74	4.04

Table 22. In the Past 12 Months, How Many Times Have You Traveled Into or Through Northeast Montana Without Staying Any Nights?

	Nonresident	Resident
Number of respondents who have traveled into or through northeast Montana in last 12 months	83	74
Number of respondents who have been to northeast Montana, but have not traveled into or through in last 12 months	176	143
Proportion of <u>all respondents</u> who have traveled into or through northeast Montana in last 12 months	13%	24%
Proportion of <u>respondents who have ever been</u> to northeast Montana, who have traveled into or through in last 12 months	32%	34%
Average number of trips made by respondents who have traveled into or through northeast Montana in the last 12 months	1.75	2.59

Intended Travel to the Region

After identifying their previous travel to the area, all respondents were asked about their intended travel over the course of the next 12 months. These statements of intended trips were made prior to the respondents being provided any additional information about the APR or other conservation efforts. Thinking about planned day trips, 22.5 percent of all nonresident respondents indicated they planned to travel to take trips into or through the region during this period (Table 23). This is a roughly nine percent increase in stated intent to travel over revealed travel in the previous year. As for residents, 29.7 percent indicated they intended to travel to or through the region in the next 12 months; 5.8 percent higher rate than the previous year.

Table 23. In the Next 12 Months, How Many Trips are You Likely to Take Into or Through Northeast Montana without Spending Any Nights?

	Nonresident	Resident
Number of <u>all</u> respondents who plan to travel into or through northeast Montana in the next 12 months	140	92
Proportion of <u>all</u> respondents who plan to travel into or through northeast Montana in the next 12 months	23%	30%
Proportion of respondents <u>who have ever been</u> to northeast Montana, who plan to travel into or through northeast Montana in the next 12 months	36%	40%
Average number of trips planned by all respondents into or through northeast Montana in the next 12 months	0.34	0.59
Of those who plan to travel at least once, the average number of trips planned into or through northeast Montana in the next 12 months is:	1.51	1.99

In terms of intended overnight visits to the area, 25.2 percent of nonresident respondents indicated planned overnights, compared to 10 percent who did so in the previous year. Nearly forty two percent of resident respondents indicated they planned to spend an overnight in the area, compared to 24.8 percent who did so in the previous year (Table 24).

Table 24. In the Next 12 Months, How Many Nights are You Likely to Stay in Northeast Montana?

	Nonresident	Resident
Number of <u>all</u> respondents who plan to spend nights in northeast Montana in the next 12 months	157	130
Proportion of <u>all</u> respondents who plan to spend nights in northeast Montana in the next 12 months	25%	42%
Proportion of respondents who have ever been to northeast Montana, who plan to spend nights in northeast Montana in the next 12 months	38%	53%
Average number of nights planned by all respondents in northeast Montana in the next 12 months	0.65	1.21
Of those who plan to travel at least once, the average number of nights planned in northeast Montana in the next 12 months is:	2.57	2.88

The high level of estimation for intended trips is consistent with other intended recreation studies comparing past behavior and intended behavior. The potential for over estimation may have multiple independent and potentially interrelated causes. Whitehead et al. identify two such possibilities as higher expected income in the future, or over estimation due to good intentions.²⁹ While respondents may intend to visit as stated, numerous factors may impede their actual ability to act on those intentions.

Scenario Based Changes in Travel and Visitation

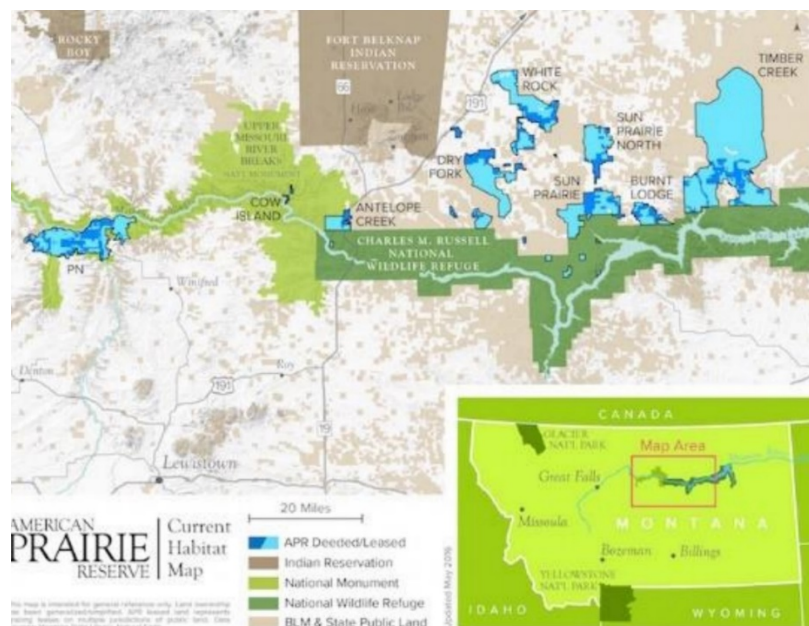
Following the identification of previous travel behavior and intended travel behavior, respondents were provided with additional information about efforts on the APR and neighboring public lands. First, they were provided a statement about APR as a non-profit entity:

We would now like you to think about a pair of scenarios (Current and Future) involving how the American Prairie Reserve (APR) may influence your decision to travel to northeast Montana. The APR is a Montana-based nonprofit with a primary focus of purchasing private lands, such that a large, connected stretch of land may be managed collaboratively with state and federal agencies for habitat and wildlife conservation and public access.

Respondents were additionally provided a map of the area (Figure 27) for reference about the location of the APR in relation to public and private lands in the region. The map indicates the current deeded or leased properties held by the APR.

²⁹ Whitehead, J.C., Haab, T.C., and Huang, J. 2000. Measuring recreation benefits of quality improvements with revealed and stated behavior data. *Resource and Energy Economics*, 22, 339-354.

Figure 27. American Prairie Reserve Area Map.



Source: <https://www.americanprairie.org/>

Current Scenario

Respondents were provided with the following information about the 'current scenario':

- **353,000 acres** owned or leased by APR (see previous map)
- **Wildlife Include:** More than 150 bird species; less than 2,000 elk; **700 bison**; 6 prairie dog communities; small populations of big horn sheep, pronghorns, and mule deer; badgers; bobcats; river otters; and rattlesnakes. No known wolves or grizzlies.
- **Open to public hunting** access for ungulate species (e.g. elk), small mammals and birds.
- Access to the APR is by limited to **gravel and dirt roads**. High clearance vehicles strongly recommended. Hiking/Biking trails are largely linked to established game trails and not actively maintained.
- The APR has one basic public campground with tent and RV sites. Additionally, the APR has a high end, full service, safari-style accommodation camp in climate controlled yurts. There are no fuel, grocery, or other facilities located on the APR.

With this information at hand, respondents were asked: (1) how many trips over the course of a year would you likely make to the APR and/or surrounding public lands without spending the night in northeast Montana? (e.g. a day trip or a visit while passing through), and (2) how many nights

over the course of a year would you likely stay in northeast Montana to visit the APR and/or the surrounding public lands?

Table 25 and Table 26 summarize the responses to the current scenario. Fifteen percent more nonresidents and 10 percent more residents indicate a willingness to plan at least one trip (without overnighting) to the APR over the course of a year, than those who stated they had intended trips in the coming year (Table 23 and Table 25). Similarly, 26 percent more nonresident respondents indicated a desire for overnights to visit the APR, along with six percent more residents (Table 24 and Table 26).

Table 25. Given the Current Scenario, How Many Trips Over the Course of a Year Would You Likely Make to the APR and/or Surrounding Public Lands Without Spending Nights?

	Nonresident	Resident
Number of <u>all</u> respondents who would plan to travel to APR over the course of a year	235	123
Proportion of <u>all</u> respondents who would plan to travel to APR over the course of a year	38%	40%
Proportion of respondents <u>who have ever been</u> to northeast Montana, who plan to travel to APR over the course of a year	44%	43%
Average number of trips planned by all respondents to APR over the course of a year	0.59	0.73
Of those who plan to travel at least once, the average number of trips planned to APR over the course of a year, would be:	1.57	1.83

Table 26. Given the Current Scenario, How Many Nights Over the Course of a Year Would You Likely Stay in Northeast Montana to Visit the APR and/or the Surrounding Public Lands?

	Nonresident	Resident
Number of <u>all</u> respondents who would plan to spend nights around APR in the course of a year	318	173
Proportion of <u>all</u> respondents who plan to spend nights in northeast Montana in the next 12 months	51%	56%
Proportion of respondents <u>who have ever been</u> to northeast Montana, who plan to spend nights in northeast Montana in the next 12 months	58%	59%
Average number of nights planned by all respondents in northeast Montana in the next 12 months	1.10	1.18
Of those who plan to travel at least once, the average number of nights planned in northeast Montana in the next 12 months, would be:	2.16	2.11

With the improved information given to respondents, two simultaneous responses occur. Many current visitors expand their visit so to include the APR and its amenities. Additional visitors are now enticed to travel to the region who would not have otherwise.

Simply providing information on the current conditions of the APR and neighboring public lands produced a marked increase in the demand or desire to travel to the region. In fact, of those already planning to visit the region, 80 percent indicate a desire to spend nights in the region in order to visit the APR. They indicate that they will spend an average of 2.3 nights doing so. Similarly, 64 percent of those already planning day trips into or through the region, indicate they would plan an average of 1.87 day trips to visit the APR. Overall, the current scenario generates a 26% increase in nonresident overnight visitors and a 15% increase in day trippers above those that are currently planned. The new overnight visitors indicate a desire to spend an average of 2.07 nights in the region, and the new day trips indicate a desire for an average of 1.4 day trips to the area.

We model two potential responses within this ‘current scenario’, an optimistic response and a pessimistic response. Under the optimistic response, the additional nights that the respondents indicated they would spend to visit the APR are fully additional nights, meaning they add these 2.3 nights to their already planned 2.57 nights. Our pessimistic response suggests that the visitors replace planned time with the new activity of visiting the APR, thus really only have a net gain of 0.27 nights on average. These responses produce a range of potential impact change for the region.

Using the spending data displayed in Table 1, it was estimated that spending by nonresident visitors to northeast Montana generated an economic impact of \$84,010,000 in economic output, and 1,020 jobs (Table 27). Under the assumptions of an optimistic response to the ‘current scenario’, increased demand by current and new users combined creates a 46 percent increase in spending, resulting in an additional \$38,644,600 in economic output and 469 additional jobs beyond that shown in Table 27 (Table 28).

Table 27. 2015 Nonresident Visitor Spending Economic Impact.

	Direct	Indirect	Induced	Combined
Industry Output	\$59,310,000	\$11,900,000	\$12,800,000	\$84,010,000
Employment (# of jobs)	830	90	100	1,020
Employee Compensation	\$21,800,000	\$2,760,000	\$3,210,000	\$27,770,000
Proprietor Income	\$4,430,000	\$480,000	\$530,000	\$5,440,000
Other Property Type Income	\$6,550,000	\$1,660,000	\$2,420,000	\$10,630,000
State & Local Taxes^	—	—	—	\$4,590,000

Table 28. Change in Economic Impact under Optimistic Current Scenario.

	Direct	Indirect	Induced	Combined
Industry Output	\$27,282,600	\$5,474,000	\$5,888,000	\$38,644,600
Employment (# of jobs)	381	41	46	469
Employee Compensation	\$10,028,000	\$1,269,600	\$1,476,600	\$12,774,200
Proprietor Income	\$2,037,800	\$220,800	\$243,800	\$2,502,400
Other Property Type Income	\$3,013,000	\$763,600	\$1,113,200	\$4,889,800
State & Local Taxes^				\$2,111,400

Under the assumptions of a pessimistic response to the 'current scenario, increased demand by current and new users combined creates a 15 percent increase in spending, resulting in \$12,601,500 in increased economic output and 153 additional jobs (Table 29).

Table 29. Change in Economic Impact under Pessimistic Current Scenario.

	Direct	Indirect	Induced	Combined
Industry Output	\$8,896,500	\$1,785,000	\$1,920,000	\$12,601,500
Employment (# of jobs)	125	14	15	153
Employee Compensation	\$3,270,000	\$414,000	\$481,500	\$4,165,500
Proprietor Income	\$664,500	\$72,000	\$79,500	\$816,000
Other Property Type Income	\$982,500	\$249,000	\$363,000	\$1,594,500
State & Local Taxes^				\$688,500

Future Scenario

Respondents repeated the scenario exercise discussed above with additional information that depicts the vision proponents of the APR have for the region once the efforts have fully come to fruition. Specifically, they were told the region would possess:

- **3.5 million acres** of connected public and private lands (Roughly the size of Connecticut).
- Enhanced bird and riparian habitats; increased elk and ungulate populations; Reintroduction or habitat expansion of native wildlife species like the swift fox, prairie dogs, and black footed ferrets; **10,000 bison**; encouragement of a fully functional prairie ecosystem.
- **Expanded public hunting opportunities** for ungulates, small mammals and birds in addition to Bison where consistent with management plans.

- Improved roadway surfaces, but still at very low density throughout. Trails not expected to be maintained. **Overland trekking encouraged.**
- Expanded camping options across price ranges and interests, including a **Hut-to-Hut** system where visitors can hike, drive or paddle in between.

Nearly half of all nonresident respondents (46.5 percent) indicated a desire to make day trips to or through the region to visit the APR under the 'future scenario', with an average of 1.69 trips. Likewise, 42.2 percent of Montana resident respondents also indicated such a desire, with an average of 2.05 trips (Table 30). Thinking about the potential for an overnight trip to the region, 65 percent of nonresidents and 66 percent of residents indicated a desire for an overnight trip, with averages of 2.75 and 2.68 nights respectively (Table 31).

Table 30. Given the Future Scenario, How Many Trips Over the Course of a Year Would You Likely Make to the APR and/or Surrounding Public Lands Without Spending Nights?

	Nonresident	Resident
Number of <u>all</u> respondents who would plan to travel to APR over the course of a year	290	131
Proportion of <u>all</u> respondents who would plan to travel to APR over the course of a year	47%	42%
Proportion of respondents <u>who have ever been</u> to northeast Montana, who plan to travel to APR over the course of a year	50%	45%
Average number of trips planned by all respondents to APR over the course of a year	0.78	0.87
Of those who plan to travel at least once, the average number of trips planned to APR over the course of a year would be:	1.69	2.05

Table 31. Given the Future Scenario, How Many Nights Over the Course of a Year Would You Likely Stay in Northeast Montana to Visit the APR and/or the Surrounding Public Lands?

	Nonresident	Resident
Number of <u>all</u> respondents who would plan to spend nights around APR in the course of a year	405	205
Proportion of <u>all</u> respondents who plan to spend nights in northeast Montana in the next 12 months	65.0%	66.1%
Proportion of respondents <u>who have ever been</u> to northeast Montana, who plan to spend nights in northeast Montana in the next 12 months	71.4%	65.9%
Average number of nights planned by all respondents in northeast Montana in the next 12 months	1.78	1.77
Of those who plan to travel at least once, the average number of nights planned in northeast Montana in the next 12 months would be:	2.75	2.68

Similar to the strategies employed under the current scenario, we again assess the responses by both currently planned users expending their trips and the increased demand shown by new trips planned by

new users. Eighty seven percent of nonresidents currently planning an overnight trip expressed a desire to spend nights in the region to visit the APR, for an average of 2.93 nights. Additionally, 67 of those already planning day trips into or through the area expressed a desire to add an average of 1.93 trips to visit the APR.

Under an optimistic scenario in which all additional day trips and overnights by those already planning to visit are fully in addition to the current plans, the increased demand yields a 67 percent increase in nonresident visitor spending. Had this additional spending been in place in 2015, an additional \$56,286,700 in economic output could have been generated, along with 683 additional jobs (Table 32).

Table 32. Change in Economic Impact under Optimistic Future Scenario.

	Direct	Indirect	Induced	Combined
Industry Output	\$39,737,700	\$7,973,000	\$8,576,000	\$56,286,700
Employment (# of jobs)	556	60	67	683
Employee Compensation	\$14,606,000	\$1,849,200	\$2,150,700	\$18,605,900
Proprietor Income	\$2,968,100	\$321,600	\$355,100	\$3,644,800
Other Property Type Income	\$4,388,500	\$1,112,200	\$1,621,400	\$7,122,100
State & Local Taxes^				\$3,075,300

Under the pessimistic assumption in which visitors already planning trips to the region replace current activities with visits to the APR, visitor spending increases by 16 percent. This increase in spending results in \$13,441,600 in increased economic output and 163 additional jobs (Table 33).

Table 33. Change in Economic Impact under Pessimistic Future Scenario.

	Direct	Indirect	Induced	Combined
Industry Output	\$9,489,600	\$1,904,000	\$2,048,000	\$13,441,600
Employment (# of jobs)	133	14	16	163
Employee Compensation	\$3,488,000	\$441,600	\$513,600	\$4,443,200
Proprietor Income	\$708,800	\$76,800	\$84,800	\$870,400
Other Property Type Income	\$1,048,000	\$265,600	\$387,200	\$1,700,800
State & Local Taxes^				\$734,400

Discussion

Magnitude of Change in Recreation Demanded

The magnitude of increased demand shown in the preceding section is rather large, spanning from a low of 15 percent under the pessimistic assumptions of the current scenario, to a high of 67 percent increase under the optimistic conditions of the future scenario. Several key factors play into the resulting demand shifts shown. These factors both suggest caution in the results as well as some reason to believe that the results are potentially not far out of line.

On the cautionary side, the estimated demand is based on stated intentions of potential visitors. As already discussed the intended visitation stated by both nonresident and resident respondents significantly exceeds that of revealed visitation in the previous years. This overestimate can frequently be attributed to factors such as an optimistic outlook on future income, or more likely it is a factor of good intentions. These well intending potential visitors would lead us to believe that the region should be expecting a double digit increase in overnight travelers in the coming year. Such an increase is currently out of line with trends and expectations in the region. The observed difference in revealed (past visits) versus stated intent to travel to the area suggests the estimated increases under the two scenarios may be downward adjusted.

As cautionary as we should be about the stated intention outcomes, we do have other reasons to speculate that the results provided are not far out of line. These reasons stem from the observed overall lack of current awareness of the recreation amenities in northeast Montana. When asked if they had ever heard of the APR prior to this survey, only 13 percent of nonresidents responded yes. Of those 13 percent who had heard of the APR, 40 percent have visited. These numbers suggest an overall lack of awareness, but once aware, demand is relatively solid. Montanans responding to the resident survey were more aware of the APR; however, this awareness level is still quite low at 32 percent. Of those Montanan's that were aware of the APR, one third have ever visited.

The lack of awareness of the APR coincides with an overall lack of familiarity with northeast Montana. Recall Tables 14-19, in which respondents were asked about their perceptions on northeast Montana. Nonresidents who had never been to the area possessed little insight as to what to expect of the region. They responded "I don't know" to many of the attributes at rates of 59-85 percent. Not far ahead in

their awareness, Montanans did not have enough of a basis from which to willingly identify a perception 34-76 percent of the time if they had not previously traveled to the area. As a result of an overall low awareness of the amenities, it should come as no surprise that demand jumps considerably when more information is provided. Such a demand response is typical of most goods and services in the economy.

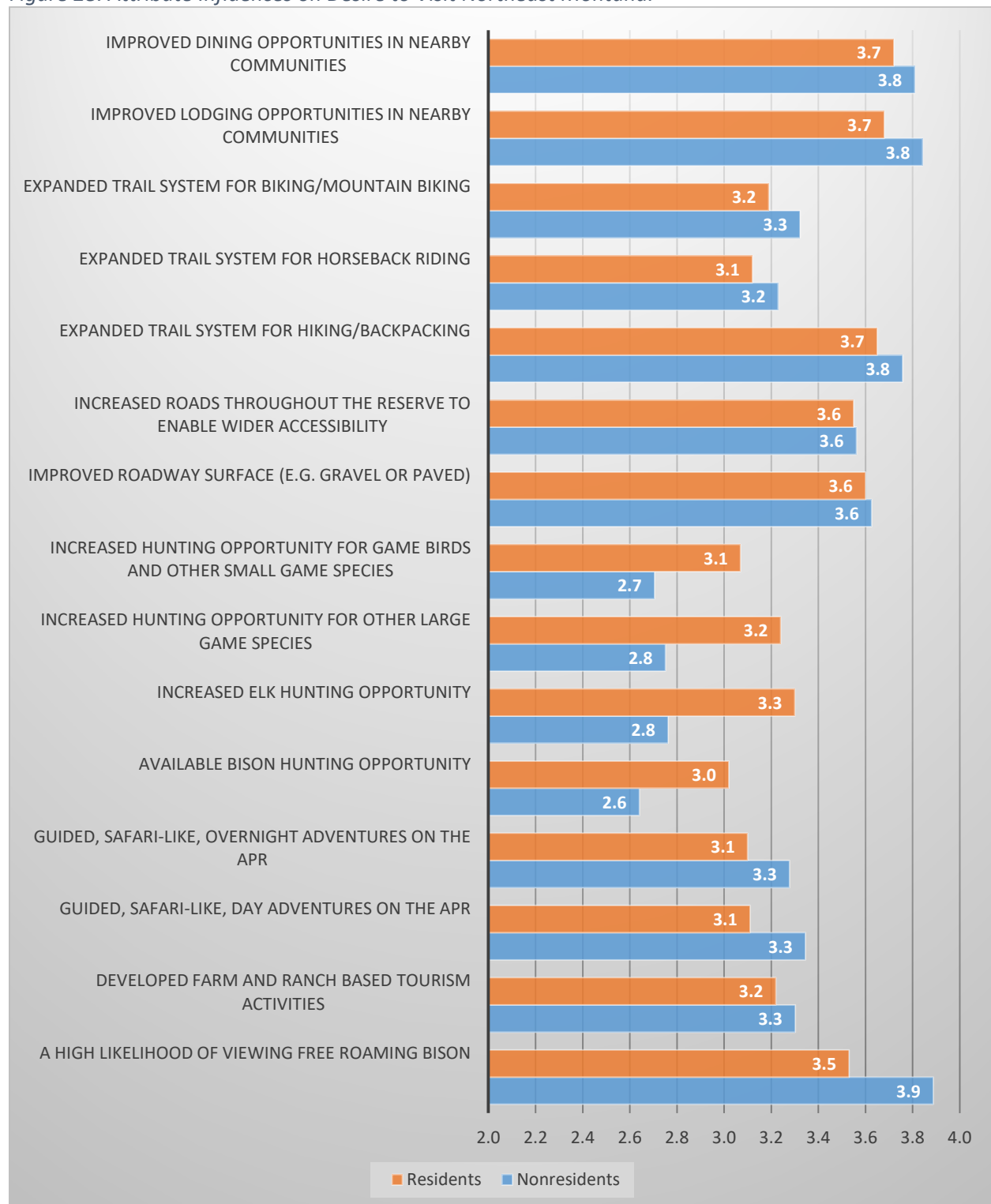
Adding to the general lack of awareness of the region's amenities, are the characteristics of those visitors already coming to the region. For many of the attributes, though certainly not all, an experience in northeast Montana improved the perception of the region. This is an important finding in that for many Montana visitors, once they come to the state, they will make repeat visits. ITRR nonresident travel data demonstrates that 81 percent of visitor groups who spent at least one night in northeast Montana in 2016 were comprised of visitors who had all been to Montana before. Additionally, 82% of visitor groups in 2016 planned to return within the next two years.³⁰ The lack of general awareness and the propensity of visitors to return, and return often, combine to underscore the importance of creating the original stimulus for attraction to the region that will then turn new users into repeat users.

Additional Attributes Influencing Likelihood of Visiting

Survey respondents were asked to indicate, on a scale from much less likely (1), to much more likely (5), the effect a series of attributes or amenities would have on their likelihood of visiting northeast Montana (Figure 28). Results above '3' indicate that on average the attribute would lead the respondents towards a higher likelihood of visiting. Results less than '3' indicate the attribute would lead respondents towards a lower likelihood of visiting. We can observe that for residents, all identified attributes lean towards promoting increased likelihood of visitation. Key among these attributes for residents is improved dining and lodging facilities. Nonresidents similarly provided high scores for the desire for improved lodging and dining facilities. However, even higher in their ranking, was the ability to have a high likelihood of viewing free-roaming bison. Alternatively, hunting opportunities invoked negative responses by the nonresidents (it is likely the nonresidents surveyed are not hunters and their response to hunting is similar to most non-hunters). Outside of hunting and guided day or overnight experiences on the APR, both residents and nonresidents revealed quite similar tastes for the presented attributes. Nonresidents placed a higher value on those guided adventures.

³⁰ ITRR Interactive Data, <http://itrr.umt.edu/interactive-data/default.php>

Figure 28. Attribute Influences on Desire to Visit Northeast Montana.



Conclusions and Future Study Needs

Many rural regions throughout the nation find themselves in the midst of a decades long decline in population in addition to struggling employment opportunities to attract and keep younger generations within the community. As community after community evaluates its path forward, they seek opportunities to engage in an evolving marketplace. Frequently bucking the trend of declining rural populations in the west are those counties with high natural resource amenities, often in the form of public lands such as national parks. The disparities generated between amenity rich counties and those without, create motivation for those without to identify opportunities to enhance the amenities they do have to create an attractive force of both visitors and potential in-migrants.

These disparities are at the forefront when considering the regions of Montana. In 2015, nonresident visitors to the state spent more than \$3.7 billion dollars. This spending is highly concentrated in the regions of the state with highly attractive natural amenities, namely Yellowstone and Glacier National Park. Such attraction leaves out much of northeast Montana from the benefits generated from visitor travel and spending.

Proponents of the American Prairie Reserve believe that their effort to restore a large intact prairie ecosystem serves as an opportunity to enhance the natural amenity of the region and thus the potential to capture a larger portion of visitor time and spending. This report summarizes the potential demand response of Montana visitors to these efforts. We reveal that there exists a substantial deficiency in knowledge of the region by not only nonresidents, but also by Montanan's themselves. Subsequently, informing potential visitors of the amenities available and being sought creates a significant bump in demand for visitation to the region.

This information gap provides the first impetus for future work in the region, which is an evaluation of the quality and effectiveness of the marketing of the region to not only those outside of Montana, but also within the state. It appears as though what many people know of Montana is based on amenities available in western regions of the state. As such, exploration is warranted as to the degree to which northeast Montana is well represented in statewide efforts.

With an increase in the positive perception of potential visitors comes the necessity to back up those perceptions once visitors are onsite. Several key attributes arise in consideration of maintaining

perception and ensuring expectation and experience are well matched. Among these attributes are experiences with wildlife and opportunities for viewing wildlife. Perception of the region tended to decline among those who have been to the area versus those who have not, indicating expectations were not met. In addition to wildlife, the built environment possesses a strong potential to influence the desirability of the region to future travelers. Montana residents and visitors to the state both indicated significant desires for improved lodging and dining facilities and opportunities within the region. If the goals are met by the proponents of the APR and the expected increase in tourism and recreation follows suit, the built infrastructure must be able to adequately accommodate the expanded use, otherwise it creates an unnecessary constraint to realization of the visitor potential.

The final piece of consideration builds around the current economic base of the region, agriculture. Agriculture has been and will continue to be a major contributor to the way of life in the region. As such consideration of the potential negative affects generated by any removal of lands from productive use should be considered in concert with gains to recreation and tourism. The two objectives, agricultural production, and recreation and habitat enhancement, are not necessarily at odds. Proponents of the APR have sought market based mechanisms to seek to align their objectives with that of the agricultural communities. Such market based activities include continuation of grazing opportunities where potential conflict is limited, as well as promotion of products produced by local ranchers working in concert with conservation efforts. The goal of such activities is the ability to increase the overall welfare for the communities, not just those directly benefiting from conservation efforts and increased recreation.

Future Needs

This study is limited in scope to a summary of the current regional socioeconomic conditions and an assessment of the potential recreation response of visitors to the region based on an expanded recreation amenity. Not considered, are several additional economic facets related to the endeavors discussed. This omission is not an indication of the lack of importance or concern, rather it is an artifact of attempting to focus primarily on the tourism and recreation based responses. As we have done here with recreation changes, additional assessments should be conducted, comparing the current state and direction of the region with anticipated future conditions. Briefly, the additional economic assessments needed for a complete picture of reserve expansion efforts include components that can be captured in

a complete Benefit-Cost Analysis that includes the potential nonmarket benefits and costs of the efforts in play. This includes:

- Ecosystem Services provided by an intact prairie ecosystem of the size sought by APR proponents.
- Welfare changes within the agricultural community, including:
 - Grazing opportunity and cost;
 - Potential for conflict;
 - Property values;
- Costs and Benefits accrued across levels of government agencies;
 - Changes in tax collection;
 - Land and wildlife management costs;
 - Infrastructure development and maintenance;
- Projected impacts to net migration;
- Additional utility of the region gained by local residents as their social welfare changes.

Combining all the above components allows for the creation of a measurement of a change in welfare, through net changes to consumer and producer surplus, and can provide a tool for a more complete consideration of the effects of the reserve endeavor.

An alternative approach to conducting a full cost benefit analysis may also be sought that seeks to expand on the opening sections of this paper. Namely, this involves the creation of an economic vitality index of the region and within the counties. An economic vitality index would evaluate potential trends and trajectories in: (1) economic activity (e.g. sales, economic output), (2) Demography (e.g. migration; new home starts; permits), (3) Employment (e.g. employment rates, industry employment change), and (4) Income (e.g. distribution of wealth, poverty rates). Such an analyses can build off the starting points represented within this document, with a broadened goal to examine trade-offs.

Appendix A

Table A-1. Frequency Distribution of Montana Respondents' Education Level.

Education Level	All Montana Respondents		Montana Respondents Who Have Been to Northeast Montana	
	Frequency	Percent	Frequency	Percent
Less Than High School	0	0%	0	0%
High School Diploma or GED	50	16%	37	17%
Associates Degree, Trade School, or Certificate	63	20%	49	23%
Undergraduate Degree	106	33%	63	29%
Advanced Degree (e.g. Masters, PhD, JD, MD)	99	31%	68	31%
No Response	0	0%	0	0%
Total Responses	318		217	

Table A-2. Frequency Distribution of Nonresident Respondents' Education Level.

Education Level	All Nonresident Respondents		Nonresident Respondents Who Have Been to Northeast Montana	
	Frequency	Percent	Frequency	Percent
Less Than High School	1	0%	1	0%
High School Diploma or GED	70	11%	30	12%
Associates Degree, Trade School, or Certificate	142	23%	67	26%
Undergraduate Degree	230	37%	83	32%
Advanced Degree (e.g. Masters, PhD, JD, MD)	175	28%	77	30%
No Response	5	1%	1	0%
Total Responses	623		259	

Table A-3. Frequency Distribution of Montana Respondents' Household Income.

Education Level	All Montana Respondents		Montana Respondents Who Have Been to Northeast Montana	
	Frequency	Percent	Frequency	Percent
Less than \$25,000	28	9%	21	10%
\$25,000-\$49,999	69	22%	42	19%
\$50,000-\$74,999	76	24%	51	24%
\$75,000-\$99,999	58	18%	40	18%
\$100,000-\$149,999	45	14%	34	16%
\$150,000-\$199,999	13	4%	10	5%
\$200,000 or greater	12	4%	7	3%
No Response	17	5%	12	6%
Total Responses	318		217	

Table A-4. Frequency Distribution of Nonresident Respondents' Household Income.

Education Level	All Nonresident Respondents		Nonresident Respondents Who Have Been to Northeast Montana	
	Frequency	Percent	Frequency	Percent
Less than \$25,000	18	3%	9	4%
\$25,000 - \$49,999	79	13%	32	14%
\$50,000 - \$74,999	133	21%	52	23%
\$75,000 - \$99,999	122	20%	50	22%
\$100,000 - \$149,999	146	23%	56	24%
\$150,000 - \$199,999	59	9%	32	14%
\$200,000 or greater	43	7%	14	6%
No Response	23	4%	14	6%
Total Responses	623		231	

Table A-5. Frequency Distribution of Montana Respondents' Age.

Age	All Montana Respondents		Montana Respondents Who Have Been to Northeast Montana	
	Frequency	Percent	Frequency	Percent
18-29	19	6%	9	4%
30-39	57	18%	32	15%
40-49	52	16%	39	18%
50-59	66	21%	47	22%
60-69	90	28%	64	29%
70-79	27	8%	21	10%
80+	0	0%	0	0%
No Response	7	2%	5	2%
Total Responses	318		217	

Table A-6. Frequency Distribution of Nonresident Respondents' Age.

Age	All Nonresident Respondents		Nonresident Respondents Who Have Been to Northeast Montana	
	Frequency	Percent	Frequency	Percent
18-29	26	4%	3	1%
30-39	70	11%	23	9%
40-49	92	15%	30	12%
50-59	142	23%	64	25%
60-69	204	33%	93	36%
70-79	70	11%	34	13%
80+	5	1%	4	2%
No Response	11	2%	8	3%
Total Responses	620		259	

Table A-7. Frequency Distribution of Montana Respondents' Ethnicity.

Ethnicity	All Montana Respondents		Montana Respondents who have been to northeast Montana	
	Frequency	Percent	Frequency	Percent
White	298	94%	203	94%
Black or African American	1	0%	1	0%
American Indian or Alaska Native	6	2%	5	2%
Asian	1	0%	1	0%
Native Hawaiian or Pacific Islander	0	0%	0	0%
Latino/Hispanic	3	1%	1	0%
Other	6	2%	5	2%
No Response	3	1%	1	0%
Total	318		217	

Table A-8. Frequency Distribution of Nonresident Respondents' Ethnicity

Ethnicity	All Nonresident Respondents		Nonresident Respondents who have been to northeast Montana	
	Frequency	Percent	Frequency	Percent
White	568	91%	237	92%
Black or African American	2	0%	0	0%
American Indian or Alaska Native	6	1%	3	1%
Asian	12	2%	3	1%
Native Hawaiian or Pacific Islander	1	0%	1	0%
Latino/Hispanic	8	1%	2	1%
Other	17	3%	9	3%
No Response	9	1%	4	2%
Total	623		259	

Appendix B

Non Resident Survey

Q1.1 Hello: Thank you for taking part in the Institute for Tourism and Recreation Research's survey on travel and recreation activities in northeast Montana. This survey will take you approximately 10-15 minutes. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point. It is very important for us to learn about the types of recreation and outdoor activities that are important to you! Your survey responses will be strictly confidential, and data from this research will be reported only in the aggregate. If you have questions at any time about the survey or the procedures, you may contact Jeremy Sage at 406-243-5552 or by email at jeremy.sage@umontana.edu. Thank you very much for your time and support. Please start the survey now by clicking on the Next button below.

Q2.1 Are you a Montana Resident?

- ☐ Yes (23)
- ☐ No (24)

If Yes Is Selected, Then Skip To End of Survey

Q2.2 Are you a U.S. resident?

- ☐ Yes (23)
- ☐ No (24)

Display This Question:

If Are you a U.S. resident? Yes Is Selected

Q2.3 Please select your current state of residence.

- ☐ All States Listed in Dropdown

Display This Question:

If Are you a U.S. resident? Yes Is Selected

Q2.4 What is your zip code? (5-digits)

Display This Question:

If Are you a U.S. resident? No Is Selected

Q2.5 Are you a Canadian resident?

- ☐ Yes (28)
☐ No (29)

Display This Question:

If Are you a Canadian resident? Yes Is Selected

Q2.6 Please select your current province of residence.

- ☐ All Canadian provinces listed in dropdown.

Display This Question:

If Are you a Canadian resident? No Is Selected

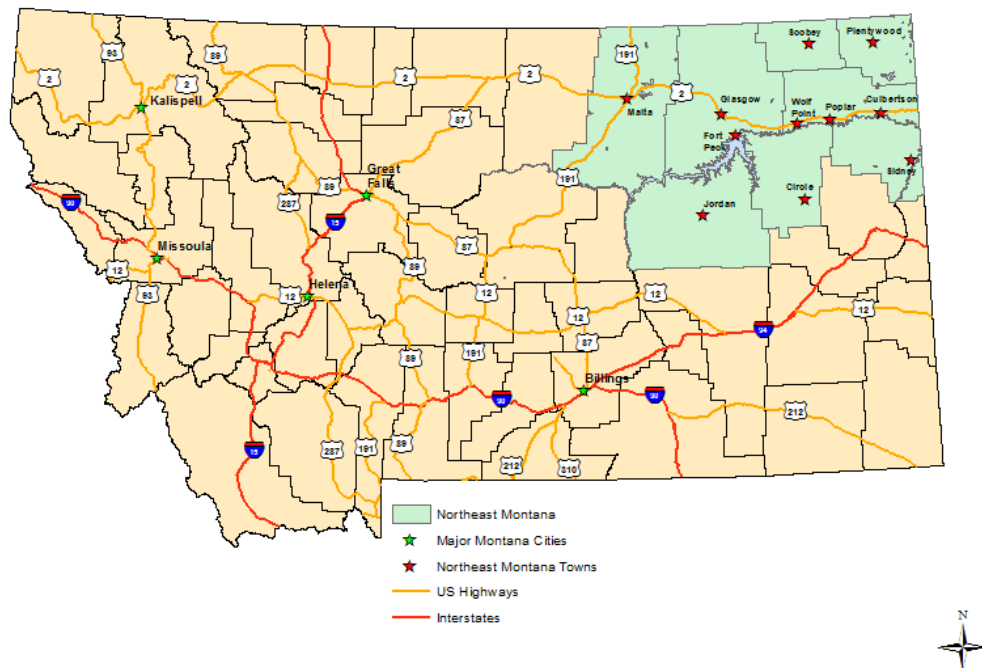
Q2.7 Please tell us what country you currently reside in.

Q2.8 Ok, thinking about your own preferences while traveling, please rate your level of agreement with the following statements:

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I enjoy visiting small, rural towns (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy viewing wildlife in natural settings (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When choosing to stay at hotels/motels, I tend to stay at those locally owned whenever possible (i.e. non-chain) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy staying in rustic accommodations (e.g. camping, cabins, yurts) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy viewing working landscapes (e.g. ranches, farms) (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I typically prefer local restaurants over chains (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2.9 Have you ever visited or traveled through northeast Montana? (Area shaded Green)

- ☐ Yes (1)
☐ No (2)



Display This Question:

If Have you ever visited or traveled through northeast Montana? (Area shaded Green) Yes Is Selected

Q2.10 What recreational activities have you ever participated in, while visiting northeast Montana?

(Please list all those can readily recall)

Q2.11 Thinking about the area in green above, please rate your agreement with the following statement. Northeast Montana has:

	Strongly disagree (1)	Somewhat disagree (2)	Somewhat agree (3)	Strongly agree (4)	I don't know (5)
Awe inspiring scenery (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unique geologic features (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unique water features (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interesting cultural history (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Welcoming communities (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intriguing native culture (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nothing of interest (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vibrant ranching/farming Industry (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High quality hunting opportunities (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High quality fishing opportunities (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attractive camping opportunities (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unpleasant terrain (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessible water based recreation (e.g. boating, canoeing swimming, floating) (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inadequate traveler dining services (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vast open spaces (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relaxing atmosphere (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bison viewing opportunities (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bird watching opportunities (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elk viewing opportunities (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other wildlife viewing opportunities (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unique dinosaur site(s) (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nothing to do for families (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality road infrastructure (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Display This Question:

If Have you ever visited or traveled through northeast Montana? (Area shaded Green) Yes Is Selected

Q3.1 In the past 12 months, how many times have you traveled into or through northeast Montana without staying any nights (e.g. a day trip to the Fort Peck Dam)?

- ☐ 0 (24)
- ☐ 1 (13)
- ☐ 2 (14)
- ☐ 3 (15)
- ☐ 4 (16)
- ☐ 5 (17)
- ☐ 6 (18)
- ☐ 7 (19)
- ☐ 8 (20)
- ☐ 9 (21)
- ☐ 10 (22)
- ☐ more than 10 (2)

Display This Question:

If Have you ever visited or traveled through northeast Montana? (Area shaded Green) Yes Is Selected

And In the past 12 months, how many times have you traveled into or through northeast Montana without... 0 Is Not Selected

Q3.2 What was your main destination(s) that took you into or through northeast Montana?

Display This Question:

If Have you ever visited or traveled through northeast Montana? (Area shaded Green) Yes Is Selected

Q3.3 In the past 12 months, how many nights have you stayed in northeast Montana?

- ☐ 0 (12)
- ☐ 1 (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 (5)
- ☐ 6 (6)
- ☐ 7 (7)
- ☐ 8 (8)
- ☐ 9 (9)
- ☐ 10 (10)
- ☐ more than 10 (11)

Display This Question:

If Have you ever visited or traveled through northeast Montana? (Area shaded Green) Yes Is Selected

And In the past 12 months, how many total nights have you stayed in northeast Montana? 0 Is Not Selected

Q3.4 Please click on all regions on the map where you have stayed in the past 12 months.

	Off (1)	On (2)
Phillips County (4)		
Valley County (5)		
Daniels County (6)		
Sheridan County (7)		
Roosevelt County (8)		
Richland County (9)		
McCone County (10)		
Garfield County (11)		



Q4.1 In the next 12 months, how many trips are you likely to take into or through northeast Montana without spending any nights?

- ☐ 0 (12)
- ☐ 1 (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 (5)
- ☐ 6 (6)
- ☐ 7 (7)
- ☐ 8 (8)
- ☐ 9 (9)
- ☐ 10 (10)
- ☐ more than 10 (11)

Display This Question:

If In the next 12 months, how many trips are you likely to take into or through northeast Montana wi... 0 Is Not Selected

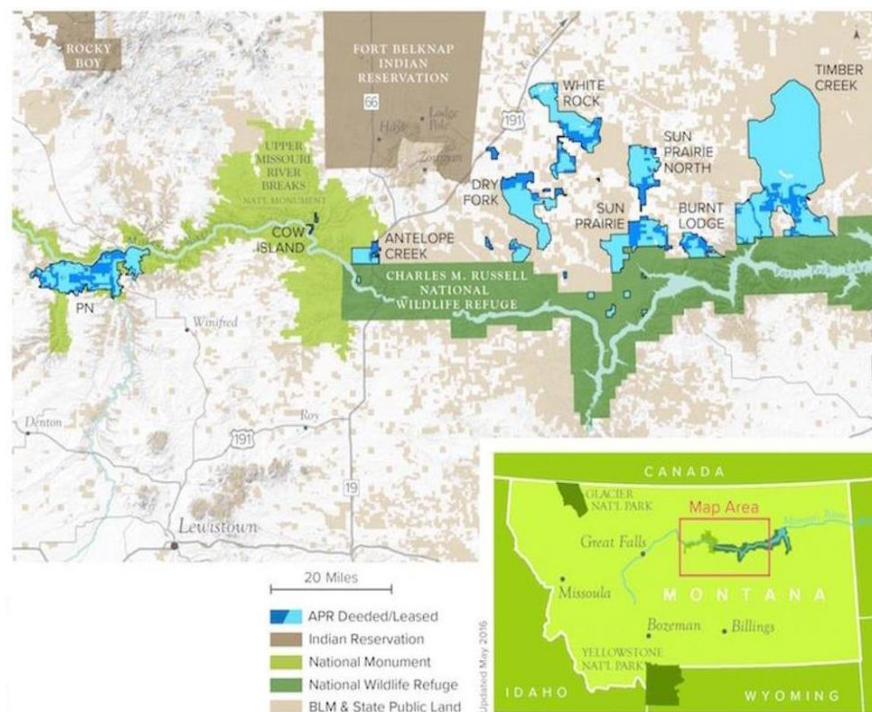
Q4.2 What is likely to be your destination (Inside or out of Montana) that will take you into or through northeast Montana?

Q4.3 In the next 12 months, how many nights are you likely to stay in northeast Montana?

- ☐ 0 (12)
- ☐ 1 (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 (5)
- ☐ 6 (6)
- ☐ 7 (7)
- ☐ 8 (8)
- ☐ 9 (9)
- ☐ 10 (10)
- ☐ more than 10 (11)

Q5.1 We would now like you to think about a pair of scenarios (Current and Future) involving how the American Prairie Reserve (APR) may influence your decision to travel to northeast Montana. The APR is a Montana-based nonprofit with a primary focus of purchasing private lands, such that a large, connected stretch of land may be managed collaboratively with state and federal agencies for habitat and wildlife conservation and public access. See the map to follow, for an idea of their current location and ownership.

Q5.2



Q5.3 First, please consider the current scenario: - 353,000 acres owned or leased by APR (see previous map) - Wildlife Include: More than 150 bird species; less than 2,000 elk; 700 bison; 6 prairie dog communities; small populations of big horn sheep, pronghorns, and mule deer; badgers; bobcats; river otters; and rattlesnakes. No known wolves or grizzlies. - Open public hunting access for ungulate species (e.g. elk), small mammals and birds. - Access to the APR is by limited to gravel and dirt roads. High clearance vehicles strongly recommended. Hiking/Biking trails are largely linked to established game trails and not actively maintained. - The APR has one basic public campground with tent and RV

sites. Additionally, the APR has a high end, full service, safari-style accommodation camp in climate controlled yurts. There are no fuel, grocery, or other facilities located on the APR.

Q5.4 Given the current scenario, how many trips over the course of a year would you likely make to the APR and/or surrounding public lands without spending the night in northeast Montana? (e.g. a day trip or a visit while passing through)

- ☐ 0 (12)
- ☐ 1 (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 (5)
- ☐ 6 (6)
- ☐ 7 (7)
- ☐ 8 (8)
- ☐ 9 (9)
- ☐ 10 (10)
- ☐ more than 10 (11)

Q5.5 Given the current scenario, how many nights over the course of a year would you likely stay in northeast Montana to visit the APR and/or the surrounding public lands?

- ☐ 0 (12)
- ☐ 1 (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 (5)
- ☐ 6 (6)
- ☐ 7 (7)
- ☐ 8 (8)
- ☐ 9 (9)
- ☐ 10 (10)
- ☐ more than 10 (11)

Q6.1 Now, please consider the future scenario: - 3.5 million acres of connected public and private lands (Roughly the size of Connecticut) - Enhanced bird and riparian habitats; increased elk and ungulate populations; Reintroduction or habitat expansion of native wildlife species like the swift fox, prairie dogs, and black footed ferrets; 10,000 bison; encouragement of a fully functional prairie ecosystem - Expanded public hunting opportunities for ungulates, small mammals and birds in addition to Bison where consistent with management plans - Improved roadway surfaces, but still at very low density throughout. Trails not expected to be maintained. Overland trekking encouraged. - Expanded camping

options across price ranges and interests, including a Hut-to-Hut system where visitors can hike, drive or paddle in between

Q6.2 Given the future scenario, how many trips over the course of a year would you likely make to the APR and/or surrounding public lands without spending the night in northeast Montana? (e.g. a day trip or a visit while passing through)

- ☐ 0 (12)
- ☐ 1 (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 (5)
- ☐ 6 (6)
- ☐ 7 (7)
- ☐ 8 (8)
- ☐ 9 (9)
- ☐ 10 (10)
- ☐ more than 10 (11)

Q6.3 Given the future scenario, how many nights over the course of a year would you likely stay in northeast Montana to visit the APR and/or the surrounding public lands?

- ☐ 0 (12)
- ☐ 1 (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 (5)
- ☐ 6 (6)
- ☐ 7 (7)
- ☐ 8 (8)
- ☐ 9 (9)
- ☐ 10 (10)
- ☐ more than 10 (11)

Q6.4 Would you be more or less likely to visit northeast Montana if there was...

	Much less likely (1)	Somewhat less likely (2)	No change in my plans (3)	Somewhat more likely (4)	Much more likely (6)
A high likelihood of viewing free roaming bison (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed farm and ranch based tourism activities (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guided, Safari-like, day adventures on the APR (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guided, Safari-like, overnight adventures on the APR (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Available bison hunting opportunity (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased elk hunting opportunity (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased hunting opportunity for other large game species (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased hunting opportunity for game birds and other small game species (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved roadway surface (e.g. gravel or paved) (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased roads throughout the reserve to enable wider accessibility (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expanded trail system for hiking/backpacking (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expanded trail system for horseback riding (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expanded trail system for biking/mountain biking (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved lodging opportunities in nearby communities (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved dining opportunities in nearby communities (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6.5 Prior to taking this survey, were you aware of the American Prairie Reserve (APR)?

- ☐ Yes (23)
- ☐ No (24)

Q6.6 Have you ever visited the American Prairie Reserve (APR)?

- ☐ Yes (28)
- ☐ No (29)

Q7.1 Finally, please let us know a little about you.

Q7.2 What is your highest level of education?

- ☐ Less than High School (1)
- ☐ High School Diploma or GED (2)
- ☐ Associates Degree, Trade School, or Certificate (3)
- ☐ Undergraduate Degree (4)
- ☐ Advanced Degree (e.g. Masters, PhD, JD, MD) (5)

Q7.3 What best describes your annual household income in US dollars?

- ☐ Less than \$25,000 (1)
- ☐ \$25,000 - \$49,999 (2)
- ☐ \$50,000 - \$74,999 (3)
- ☐ \$75,000 - \$99,999 (4)
- ☐ \$100,000 - \$149,999 (5)
- ☐ \$150,000 - \$199,999 (6)
- ☐ \$200,000 or greater (7)

Q7.4 What is your age (years)?

Q7.5 What is your gender?

- ☐ Male (4)
- ☐ Female (5)
- ☐ Prefer not to answer (6)

Q7.6 What is your ethnicity?

- ☐ White (1)
- ☐ Black or African American (2)
- ☐ American Indian or Alaska Native (3)
- ☐ Asian (4)
- ☐ Native Hawaiian or Pacific Islander (5)
- ☐ Latino/Hispanic (6)
- ☐ Other (7)

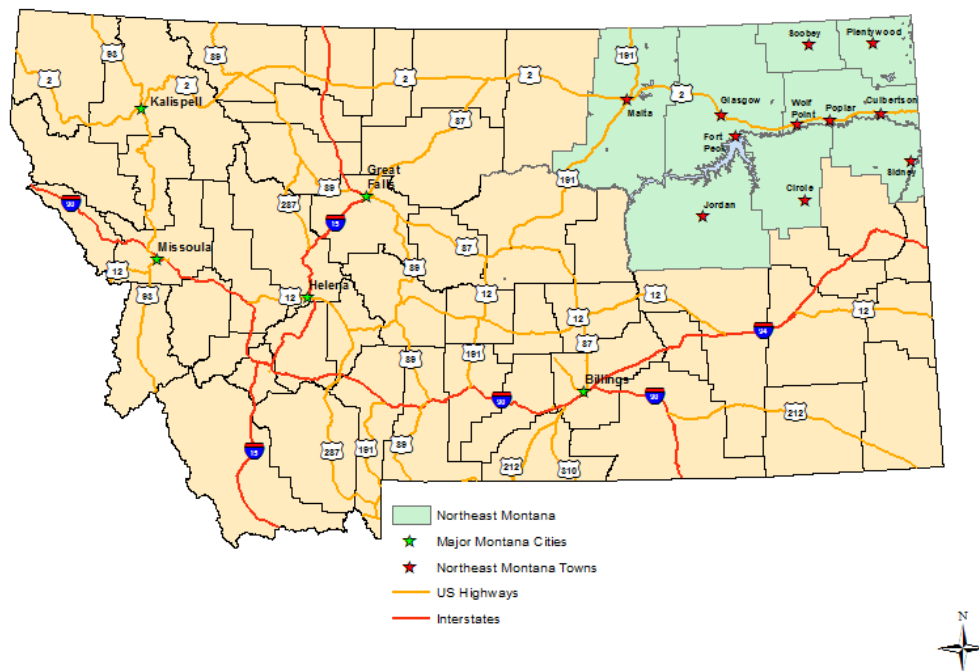
Q7.7 Thank you for participating in this important survey. We greatly appreciate your input. By clicking next, your survey will be anonymously recorded and you will be entered into our prize drawing of a \$500 visa card.

Resident Survey

Note: The Resident and nonresident survey are identical with exception of entry questions related to where the respondent lives.

Q2.1 Do you currently reside in any of the northeast Montana counties shaded in green (Daniels, Garfield, McCone, Phillips, Roosevelt, Sheridan, or Valley)?

- ☐ Yes (1)
- ☐ No (2)



Display This Question:

If Do you currently reside in any of the shaded green counties of northeast Montana (Daniels, Garfield, McCone, Phillips, Roosevelt, Sheridan, or Valley)? No Is Selected

Q2.2 In what Montana county do you reside?

- ☐ All Montana counties listed in dropdown
- ☐ I do not live in Montana (57)

If I do not live in Montana Is Selected, Then Skip To End of Survey