



HEADWATERS  
ECONOMICS

# A Summary Profile

## **Beartooth Region**

Selected Geographies:

Big Horn County, MT; Carbon County, MT; Stillwater County, MT; Sweet Grass  
County, MT; Yellowstone County, MT

Benchmark Geographies:

U.S.

Produced by

Headwaters Economics'

**Economic Profile System (EPS)**

<https://headwaterseconomics.org/eps>

December 6, 2018

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# Summary

## Beartooth Region

### About the Economic Profile System (EPS)

EPS is a free web tool created by Headwaters Economics to build customized socioeconomic reports of U.S. counties, states, and regions. Reports can be easily created to compare or aggregate different areas. EPS uses published statistics from federal data sources, including the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics.

The Bureau of Land Management and Forest Service have made significant financial and intellectual contributions to the operation and content of EPS.

See <https://headwaterseconomics.org/eps> for more information about the capabilities of EPS. For technical questions, contact Patty Gude at [eps@headwaterseconomics.org](mailto:eps@headwaterseconomics.org) or telephone 406-599-7425.



[headwaterseconomics.org](https://headwaterseconomics.org)

**Headwaters Economics** is an independent, nonprofit research group. Our mission is to improve community development and land management decisions.



[www.blm.gov](https://www.blm.gov)

**The Bureau of Land Management**, an agency within the U.S. Department of Interior, administers 249.8 million acres of America's public lands, located primarily in western states. It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.



[www.fs.fed.us](https://www.fs.fed.us)

**The Forest Service**, an agency of the U.S. Department of Agriculture, administers national forests and grasslands encompassing 193 million acres. The Forest Service's mission is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations.

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#### Note to Users:

This is one of 14 reports that can be created and downloaded from EPS. Topics include land use, demographics, specific industry sectors, the role of non-labor income, the wildland-urban interface, the role of amenities in economic development, and payments to county governments from federal lands. The EPS reports are downloadable as Excel or PDF documents. See <https://headwaterseconomics.org/eps>.

# Summary

## Beartooth Region

### Overview

	Big Horn County, MT	Carbon County, MT	Stillwater County, MT	Sweet Grass County, MT	Yellowstone County, MT	Montana	Beartooth Region	U.S.
Population, 2016	13,343	10,460	9,406	3,623	158,437	1,042,520	195,269	323,127,513
<b>Trends</b>								
Population % change, 1970-2016	32.6%	47.7%	100.8%	21.5%	80.4%	49.5%	73.4%	58.6%
Employment % change, 1970-2016	55.4%	104.8%	177.1%	104.7%	172.1%	122.4%	157.5%	112.2%
Personal Income % change, 1970-2016	103.1%	197.6%	269.5%	139.0%	251.3%	177.7%	235.4%	201.1%
<b>Prosperity</b>								
Unemployment rate, 2017	12.1%	3.6%	3.9%	3.1%	3.4%	4.0%	3.9%	4.4%
Average earnings per job, 2016 (2017 \$s)	\$42,770	\$26,312	\$49,426	\$37,618	\$53,829	\$44,571	\$51,566	\$59,598
Per capita income, 2016 (2017 \$s)	\$30,153	\$43,038	\$45,245	\$45,193	\$48,464	\$43,849	\$46,707	\$50,280
<b>Economy</b>								
Non-Labor % of personal income, 2016	49.5%	47.8%	42.0%	51.8%	34.6%	42.7%	36.6%	36.8%
Services % of employment, 2016	29.7%	55.7%	41.1%	46.0%	76.8%	67.6%	71.5%	72.9%
Government % of employment, 2016	39.8%	11.1%	10.2%	10.8%	8.9%	14.4%	10.6%	12.5%
<b>Use Sectors<sup>A</sup></b>								
Timber % of private employment, 2016	0.0%	0.2%	0.5%	0.0%	0.2%	0.9%	0.2%	0.6%
Mining % of private employment, 2016	25.0%	1.6%	24.6%	35.8%	0.6%	1.6%	2.7%	0.5%
Fossil fuels (oil, gas, & coal), 2016	25.5%	0.7%	0.1%	0.0%	0.6%	0.9%	1.3%	0.4%
Other mining, 2016	0.3%	2.0%	24.4%	31.9%	0.3%	1.1%	1.6%	0.3%
Agriculture % of employment, 2016	9.8%	13.8%	11.6%	13.7%	1.3%	4.5%	2.9%	1.4%
Travel & Tourism % of private emp., 2016	20.0%	45.7%	11.7%	22.4%	18.6%	19.8%	19.2%	15.8%
<b>Federal Land<sup>*</sup></b>								
Federal Land % total land ownership	0.9%	43.6%	17.5%	24.8%	4.6%	29.9%	13.8%	28.2%
Forest Service %	0.0%	24.8%	16.8%	23.5%	0.0%	18.2%	9.3%	8.4%
BLM %	0.8%	16.7%	0.5%	1.3%	4.6%	8.8%	4.0%	10.6%
Park Service %	0.0%	2.1%	0.0%	0.0%	0.0%	1.3%	0.3%	3.4%
Military %	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	1.0%
Other %	0.0%	0.0%	0.3%	0.0%	0.0%	1.5%	0.1%	4.9%
Federal land % Type A**	5.3%	37.9%	70.6%	32.1%	1.1%	25.3%	38.9%	41.8%
Federal payments % of gov. revenue, FY20 <sup>1</sup>	0.1%	9.3%	5.1%	5.1%	0.2%	2.4%	1.8%	
<b>Development</b>								
Residential area % change, 2000-2010	71.1%	71.4%	69.7%	114.5%	34.3%	49.0%	46.0%	12.3%
Wildland-Urban Interface % developed, 2010	na	11.9%	1.5%	1.5%	na	9.4%	3.0%	16.3%

Estimates for data that were not disclosed are indicated with tildes (~).

<sup>A</sup>Data for timber, mining, and travel and tourism-related are from County Business Patterns which excludes proprietors, and data for agriculture are from Bureau of Economic Analysis which includes proprietors.

<sup>\*</sup> The land ownership data source and year vary depending on the selected geography. See following pages for specifics.

<sup>\*\*</sup> Federal public lands that are managed primarily for natural, cultural, and recreational features. These lands include 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), Waterfowl Production Areas (FWS), Wildlife Management Areas (FWS), Research Natural Areas (FS, BLM), Areas of Critical Environmental Concern (BLM), and National Wildlife Refuges (FWS).

Data Sources: Various; see following pages for specifics.

Find more reports like this at [headwaterseconomics.org/eps](http://headwaterseconomics.org/eps)

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# Summary

## Beartooth Region

### Overview

#### What do we measure on this page?

Using summary statistics from topical EPS reports, this page compares socioeconomic indicators<sup>1</sup> of the selected area to a benchmark.

**Trends:** General indicators of economic well-being (population, employment, and real personal income) measured over time.

**Prosperity:** Common indicators of individual well-being or hardship (unemployment, average earnings per job, and per capita income).

**Economy:** Three significant sectors of the economy: non-labor income (e.g., government transfer payments, and investment and retirement income), services, and government employment.

**Use Sectors:** Components of the economy (commodity sectors including timber, mining and agriculture, and industries that include travel and tourism) that could be associated with the use of public lands.

**Federal Land:** The amount and type of federal land ownership, and the dependence of county governments on payments related to federal lands such as National Park Service (NPS), Forest Service (FS), Bureau of Land Management (BLM), and Fish and Wildlife Service (FWS).

**Development:** Residential development of private lands, including the wildland-urban interface. The wildland-urban interface data are available and reported only for the 11 western states and do not include Alaska and Hawaii.

#### Why is it important?

This report allows the user to compare a broad range of socioeconomic measurements. A user can refer to EPS topic-specific reports for more details. For example, when a county shows unusually high unemployment rates, a user may want to create an EPS Socioeconomic Measures report for that county. Or an EPS Timber report could be created for a county that shows a relatively high number of people employed in the timber industry.

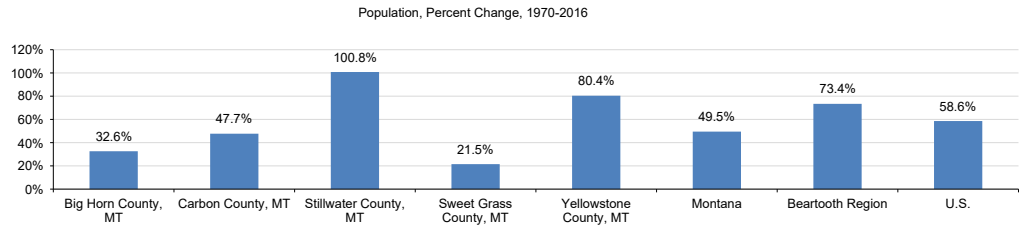
This report uses information from the following EPS reports: Socioeconomic Measures, Demographics, Agriculture, Mining, Services, Tourism, Government, Non-Labor Income, Timber, Land Use, Public Land Amenities, Wildland-Urban Interface, and Federal Land Payments. Consult these reports directly for additional information at <https://headwaterseconomics.org/eps>.

# Summary

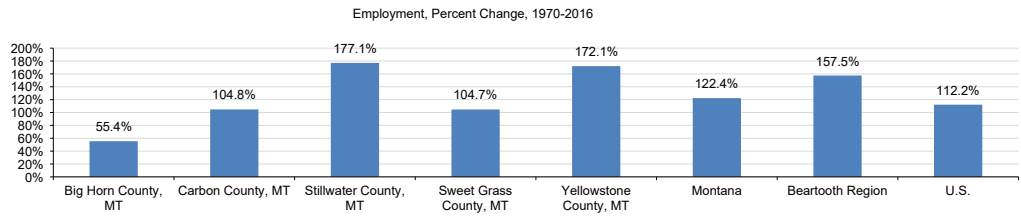
## Beartooth Region

### Population, Employment, and Personal Income

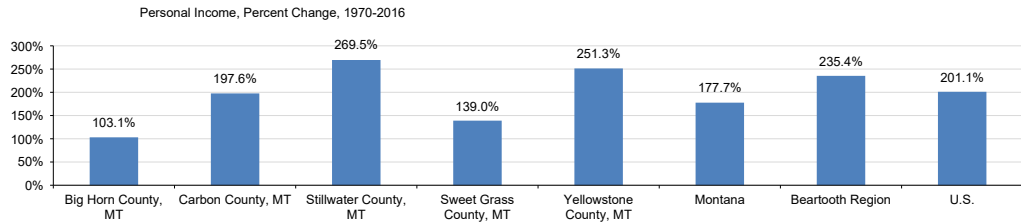
- Between 1970 and 2016, Stillwater County, MT had the largest percent change in population (100.8%), and Sweet Grass County, MT had the smallest (21.5%).



- Between 1970 and 2016, Stillwater County, MT had the largest percent change in employment (177.1%), and Big Horn County, MT had the smallest (55.4%).



- Between 1970 and 2016, Stillwater County, MT had the largest percent change in personal income (269.5%), and Big Horn County, MT had the smallest (103.1%).



## Summary

Beartooth Region

### Population, Employment, and Personal Income

#### What do we measure on this page?

This page describes percent change in population, employment, and real personal income.

The EPS Demographics report provides additional information on population dynamics, while the EPS Socioeconomic Measures report provides additional information on employment and personal income. See <https://headwaterseconomics.org/eps>.

The Bureau of Economic Analysis reports data either by place of residence or by place of work. Population and personal income data on this page are reported by place of residence, and employment data by place of work.

#### Why is it important?

One measure of economic performance is whether a location is growing or declining. Standard measures of growth and decline are population, employment, and real personal income.

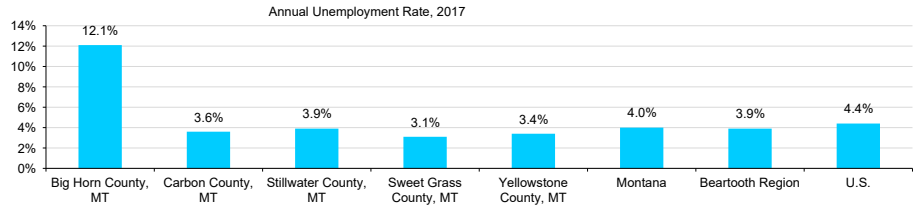
The information on this page helps users understand whether locations are growing or declining at different rates, and makes it easy to see discrepancies between changes in population, employment, and real personal income. If population and employment are growing faster than real personal income, for example, it may be worthwhile to research whether growth has been in low-wage industries and occupations. Alternatively, if personal income is growing faster than employment, it may be caused by growth in high-wage industries and occupations and/or non-labor income sources.

# Summary

## Beartooth Region

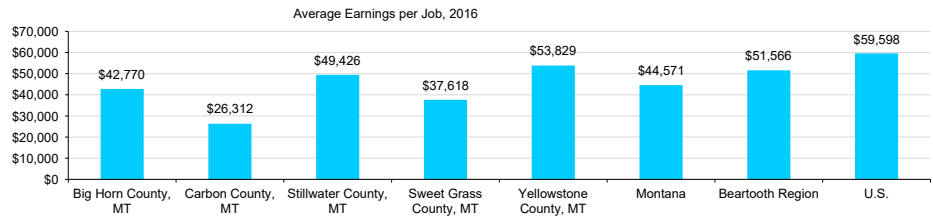
### Unemployment, Earnings, and Per Capita Income

- In 2017, Big Horn County, MT had the highest unemployment rate (12.1%), and Sweet Grass County, MT had the lowest (3.1%).



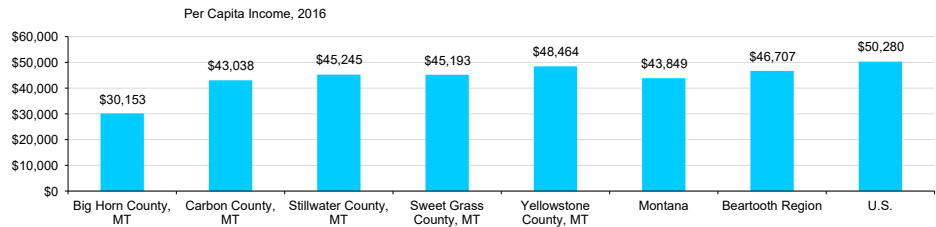
- In 2016, the U.S. had the highest average earnings per job (\$59,598), and Carbon County, MT had the lowest (\$26,312).

2017 \$s



- In 2016, the U.S. had the highest per capita income (\$50,280), and Big Horn County, MT had the lowest (\$30,153).

2017 \$s





# Summary

## Beartooth Region

### Unemployment, Earnings, and Per Capita Income

#### What do we measure on this page?

This page describes three measures of individual prosperity: unemployment, average earnings per job, and per capita income.<sup>1</sup>

**Unemployment Rate:** The number of people who are jobless, looking for jobs, and available for work divided by the labor force.<sup>3</sup>

**Average Earnings per Job:** Total earnings divided by total employment. Full-time and part-time jobs are counted at equal weight. Employees, sole proprietors, and active partners are included.

**Per Capita Income:** Total personal income (from labor and non-labor sources) divided by total population.

#### Why is it important?

Statistics presented on this page are important indicators of economic well-being.

The annual unemployment rate is the number of people actively seeking but not finding work as a percent of the labor force. This figure can go up during national recessions and/or when more localized economies are affected by area downturns. Seasonal variations in unemployment can be viewed in the EPS Socioeconomic Measures report at <https://headwaterseconomics.org/eps>.

Average earnings per job is an indicator of the quality of local employment. A higher average earning per job indicates relatively more high-wage occupations.<sup>4</sup> It can be useful to consider earnings against local cost of living indicators.

Per capita income is one of the most important measures of economic well-being. However, it can be misleading. Per capita income is total personal income divided by population. Because per capita income is calculated using total population and not the labor force, per capita income can be relatively low when a disproportionate number of children and/or elderly people are in the population. And because total personal income includes non-labor income sources, per capita income can be relatively high due to the presence of retirees and people with investment income. To investigate the impact of non-labor income sources on total personal income, create the EPS Non-Labor report at <https://headwaterseconomics.org/eps>.

To see how these measurements have changed over time, create an EPS Socioeconomic Measures report at <https://headwaterseconomics.org/eps>.

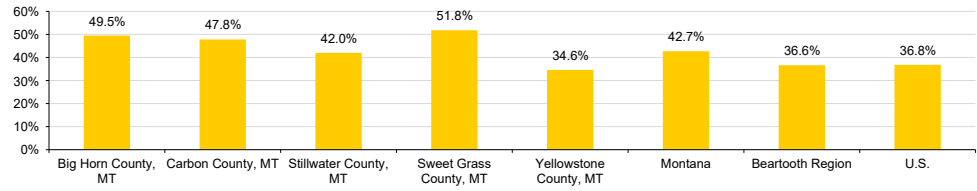
# Summary

## Beartooth Region

### Non-Labor Income, Services, and Government

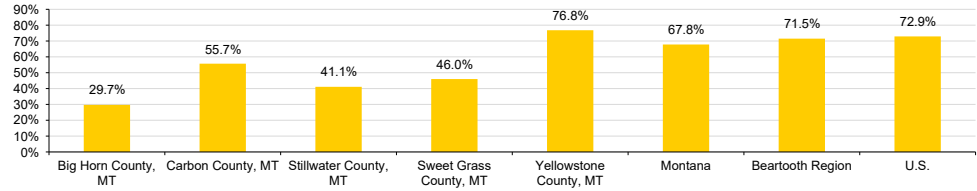
- In 2016, Sweet Grass County, MT had the largest percent of total personal income from non-labor income sources (51.8%), and Yellowstone County, MT had the smallest (34.6%).

Non-Labor Income, Percent of Total Personal Income, 2016



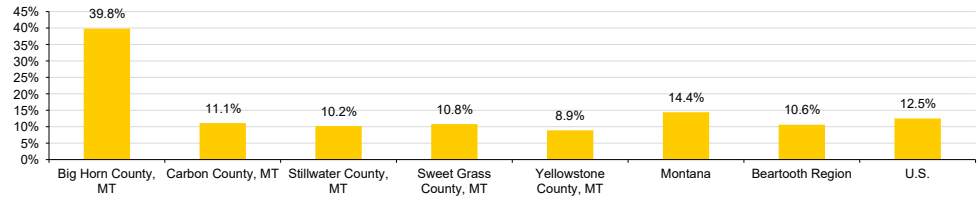
- In 2016, Yellowstone County, MT had the largest percent of total jobs in services (76.8%), and Big Horn County, MT had the smallest (29.7%).

Services, Percent of Total Employment, 2016



- In 2016, Big Horn County, MT had the largest percent of total jobs in government (39.8%), and Yellowstone County, MT had the smallest (8.9%).

Government, Percent of Total Employment, 2016



# Summary

## Beartooth Region

### Non-Labor Income, Services, and Government

#### What do we measure on this page?

This page describes non-labor income and employment in services and government.<sup>1</sup>

**Non-Labor Income:** Dividends, interest and rent (money earned from investments), and transfer payments (includes government retirement and disability insurance benefits, medical payments such as Medicare and Medicaid, income maintenance benefits, unemployment insurance benefits, etc.). Non-labor income is reported by place of residence.

**Services:** Employment in the following sectors: Utilities, Wholesale Trade, Retail Trade, Transportation & Warehousing, Information, Finance & Insurance, Real Estate & Rental & Leasing, Professional & Scientific & Tech., Management of Companies & Enterprises, Administrative & Support Services, Educational Services, Health Care & Social Assistance, Arts & Entertainment & Recreation, Accommodation & Food Services, and Other Services.

**Government:** Employment in federal, state, and local government agencies and government enterprises.

For more detailed information about the role of non-labor income, service industry employment, and government employment in the economy, create an EPS Non-Labor report, an EPS Services report, or an EPS Government report at <https://headwaterseconomics.org/eps>.

#### Why is it important?

In many counties, non-labor income (for example, retirement and investment income, government transfer payments) can be more than a third of all personal income. As the Baby Boomer generation retires, this source of income will continue to grow. A high dependence on non-labor income can indicate a location with an aging population and/or attractiveness to people with investment income. In some cases, it can also signal hardship, such as when there is a high dependence on Medicaid and income maintenance payments.

Nationally, services account for more than 95 percent of the growth in new jobs since 2000. Despite the strong growth of employment in services, the term "services" is often misunderstood. Services consist of a wide mix of jobs including high-wage, high-skilled occupations (e.g., doctors, engineers, software developers) and low-wage, low-skilled occupations (e.g., restaurant workers, tour bus operators). The service sector typically provides services, such as banking and education, rather than creating tangible objects. However, many service sectors such as utilities, engineering, and architecture are closely associated with goods-producing sectors.

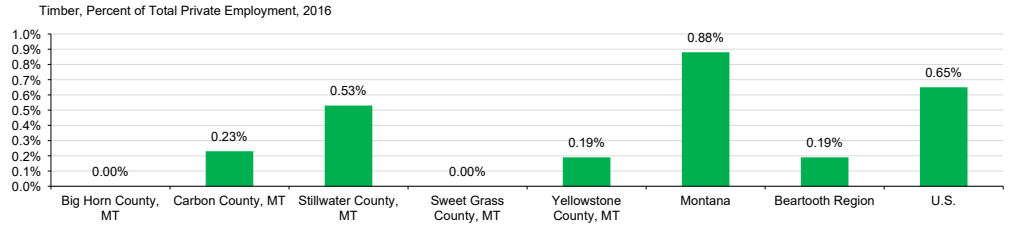
Government can be a major employer in some locations, particularly in rural areas and locations with significant government facilities such as federal land management offices, military bases, prisons, or research facilities. Changes in government employment tend to track population trends. Local government often accounts for much of job growth in the government sector as additional services are demanded by a growing population.

# Summary

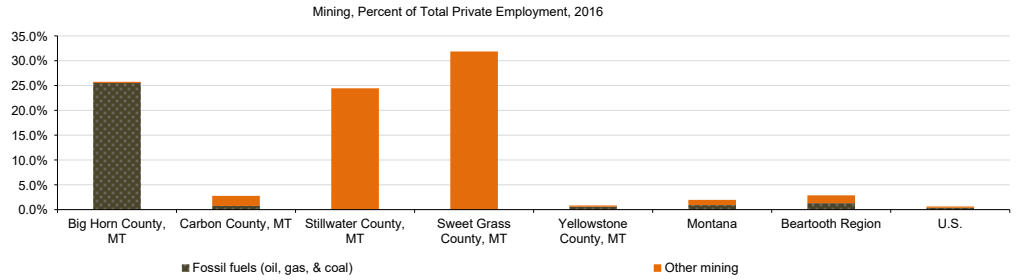
## Beartooth Region

### Employment in Commodity Sectors

- In 2016, Montana had the largest percent of total jobs in timber (0.88%), and Big Horn County, MT had the smallest (0%).

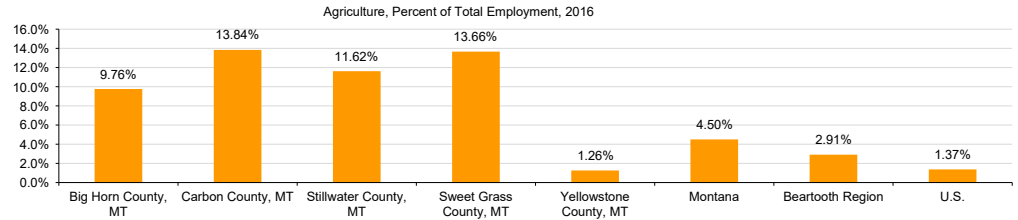


- In 2016, Big Horn County, MT had the largest percent of total jobs in mining of fossil fuels (25.5%), and Sweet Grass County, MT had the smallest (0%).



- In 2016, Sweet Grass County, MT had the largest percent of total jobs in mining unrelated to fossil fuels (31.86%), and Big Horn County, MT had the smallest (0.25%).

- In 2016, Carbon County, MT had the largest percent of total jobs in agriculture (13.84%), and Yellowstone County, MT had the smallest (1.26%).



### Employment in Commodity Sectors

#### What do we measure on this page?

This page describes employment<sup>1</sup> in three commodity sectors: timber, mining (minerals, oil, gas, and coal), and agriculture. These are sectors of the economy that extract commodities from land (for example, timber harvesting, energy development, and grazing).

**Timber:** Employment associated with growing and harvesting trees, employment at sawmills and paper mills, and wood products manufacturing.

**Mining:** Employment associated with oil and gas extraction, coal mining, metals mining, and nonmetallic minerals mining.

**Agriculture:** Employment associated with all forms of agriculture, including farming and ranching.

County Business Patterns (CBP)<sup>2</sup> are used in EPS reports as a data source for timber and mining because this data set has fewer data gaps compared to other sources.

The Bureau of Economic Analysis (BEA) is used as the data source for agriculture because CBP data do not include agriculture. However, the BEA data include proprietors, which are not included in CBP data. As a result, the data for agriculture are not strictly comparable to data for timber and mining. The latest year for each data source may vary due to different data release schedules.

For more detailed information about commodity sectors and for industry definitions, create an EPS Timber, Mining, or Agriculture report at <https://headwaterseconomics.org/eps>.

#### Why is it important?

Opportunities for commodity extraction can stimulate local employment.

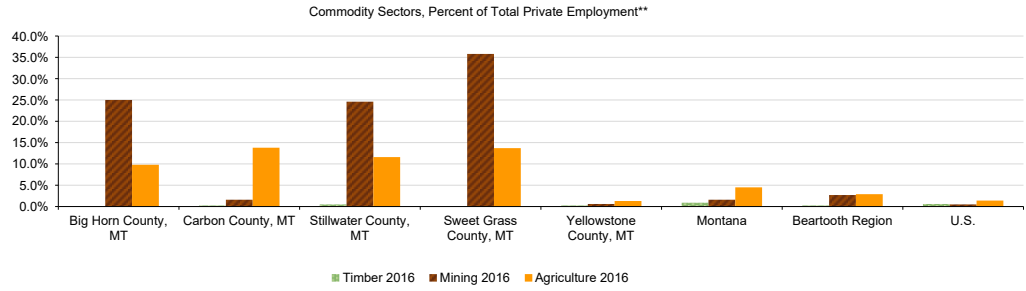
Timber industries, mining—including fossil fuel development (oil, natural gas, and coal)—and farming and ranching play important roles in some locations. Information on this page helps explain whether that is the case in the locations selected, and whether locations differ from one another.

# Summary

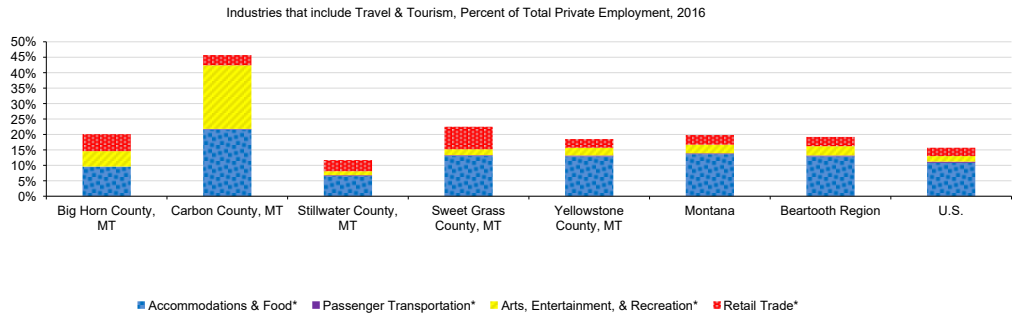
## Beartooth Region

### Employment in Commodities, Travel & Tourism

- Sweet Grass County, MT had the largest percent of total jobs in commodity sectors (49.5%), and Yellowstone County, MT had the smallest (2.1%).
- Agriculture was the largest component of commodity sector employment (2.9% of total jobs) in the Beartooth Region, and timber was the smallest component (0.2% of total jobs).



- In 2016, Carbon County, MT had the largest percent of total jobs in industries that include travel and tourism (45.7%), and Stillwater County, MT had the smallest (11.7%).
- In 2016, accommodations & food\* was the largest component of travel and tourism-related employment (12.9% of total jobs) in Beartooth Region, and passenger transportation\* was the smallest (0.3% of total jobs).



\* Charted values do not represent the entirety of these sectors, rather their components typically related to travel & tourism.

\*\* Data for timber and mining are from County Business Patterns which excludes proprietors, government, agriculture, and railroad. Data for agriculture are from Bureau of Economic Analysis. The latest year for each data source may vary due to different data release schedules.

# Summary

## Beartooth Region

### Employment in Commodities, Travel & Tourism

#### What do we measure on this page?

This page describes employment for commodity sectors and for industries that are associated with travel and tourism.

**Commodity Sectors:** Employment in timber, mining (including oil, gas, and coal), and agriculture.

**Travel and Tourism:** Employment in sectors that provide goods and services to visitors as well as to the local population. These industries are: Retail Trade, Passenger Transportation, Arts & Entertainment & Recreation, and Accommodation & Food Services. There is no single industrial classification for travel and tourism under the North American Industrial Classification System (NAICS). The exact proportion of jobs in these sectors attributable to expenditures by visitors, including business and pleasure travelers, is not known without additional research such as surveys.

County Business Patterns (CBP)<sup>2</sup> are used in EPS reports as a data source for timber and mining because this data set has fewer data gaps<sup>1</sup> compared to other sources.

The Bureau of Economic Analysis (BEA) is used as a data source for agriculture because CBP data do not include agriculture. However, the BEA data include proprietors, which are not included in CBP data. As a result, the data for agriculture are not strictly comparable to data for timber and mining. The latest year for each data source may vary due to different data release schedules.

For more detailed information about commodity sectors and for industry definitions, create an EPS Timber, Mining, or Agriculture report. For more information about the tourism-related components of the economy, create an EPS Tourism report at <https://headwaterseconomics.org/eps>.

#### Why is it important?

Commodity extraction can stimulate local employment. It is important to understand the relative size of sectors to put the commodity-related economy into perspective. For example, decisions that permit (or restrict) timber, mining, and grazing activities have a higher chance of impacting a county with a high percentage of its employment in the commodity sectors.

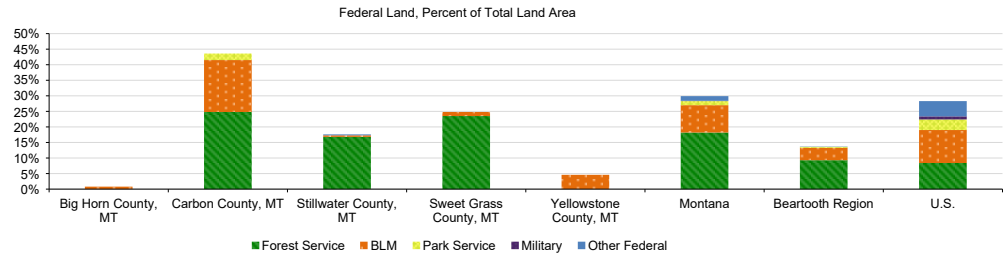
Tourism and recreation can stimulate local employment. Communities can benefit directly from visitors who spend money in hotels, restaurants, ski resorts, gift shops, and elsewhere. Tourism can also help communities retain and attract capital and spur transitions to more diverse economies. This report can be used to understand whether travel-and tourism-related economic activity is present and whether there are differences between locations.

# Summary

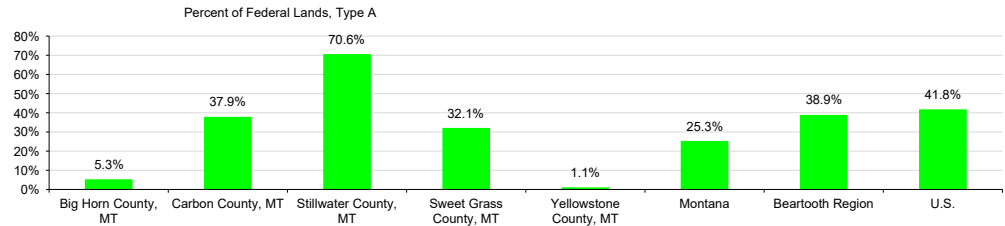
## Beartooth Region

### Federal Lands and Federal Land Payments

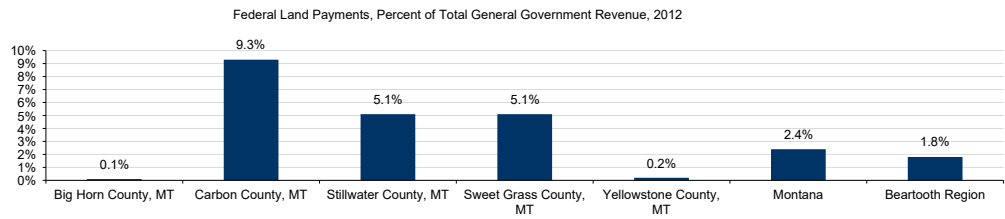
- Carbon County, MT had the largest percent of total land area in federal ownership (43.6%), and Big Horn County, MT had the smallest (0.9%).
- Forest Service lands were the largest component of federal land ownership (9.3%) in Beartooth Region, and Military lands were the smallest (0%).



- Stillwater County, MT had the largest percent of federal lands in Type A (70.6%), and Yellowstone County, MT had the smallest (1.1%).



- In FY 2012, Carbon County, MT had the largest percent of total general government revenue from federal land payments (9.3%), and Big Horn County, MT had the smallest (0.1%).



Data Sources: NASA MODIS Land Cover Type Yearly L3 Global 1km MOD12Q1, 2006; U.S. Geological Survey, Gap Analysis Program, 2016. Protected Areas Database of the United States (PADUS) version 1.4; U.S. Department of Commerce, 2014. Census Bureau, Governments Division, Washington, D.C.



# Summary

## Beartooth Region

### Federal Lands and Federal Land Payments

#### What do we measure on this page?

This page describes differences in the percent of federal land ownership by agency; the share of federal lands managed primarily for natural, cultural, and recreational features; and the percent of county revenue derived from payments related to federal lands.

**Type A Federal Lands:** Federal public lands that are managed primarily for natural, cultural, and recreational features. There can be exceptions (for example, oil and gas development within a National Monument area), but generally Type A lands are less likely to be used for commodity production than other federal land types. Type A lands include 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), Waterfowl Production Areas (FWS), Wildlife Management Areas (FWS), Research Natural Areas (FS, BLM), Areas of Critical Environmental Concern (BLM), and National Wildlife Refuges (FWS). These definitions of land classifications are not legal or agency-adopted classifications—they are only provided for comparative purposes.

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

For additional information about land ownership and development patterns, create an EPS Land Use report. The EPS Public Land Amenities report provides additional information about the role of environmental amenities in economic development; see <https://headwaterseconomics.org/eps>.

**Federal Land Payments:** Federal payments that compensate state and local governments for non-taxable federal lands within their borders. Payments are funded by federal appropriations (e.g., PILT), from receipts received by federal agencies from activities on federal public lands (e.g., timber, grazing, and minerals), and from other programs such as the Secure Rural Schools & Community Self-Determination Act.

For additional information about the importance of federal payments to counties, create an EPS Federal Land Payments report at <https://headwaterseconomics.org/eps>.

#### Why is it important?

Understanding the composition of land ownership and management in an area is important because actions on federal lands may affect the local economy, particularly when federal lands are a large portion of the land base.

Some Type A federal public lands prohibit most forms of commercial use and development. These lands include national parks, wilderness areas, and national monuments. Because these lands are managed primarily for their non-commercial values (i.e., scenery, wildlife, recreation), they potentially play a different economic role than public lands more commonly associated with commodity sectors.<sup>6,7</sup>

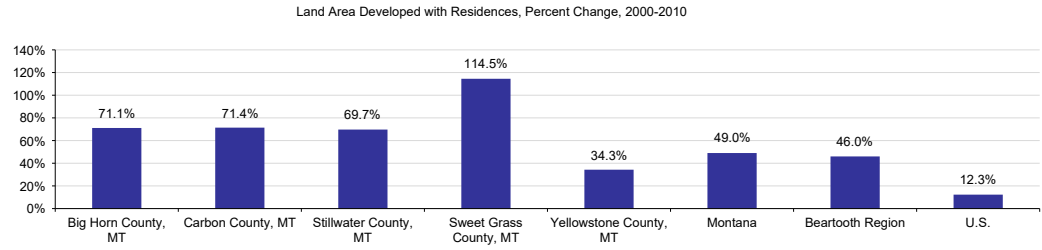
Locations with federal public lands receive government payments—for example, funding through Payments in Lieu of Taxes (PILT), the 25% Fund, or the Secure Rural Schools and Community Self-Determination Act. When these payments are a significant portion of the local county's budget, activities on public lands may affect the fiscal well-being of a county.<sup>8</sup>

# Summary

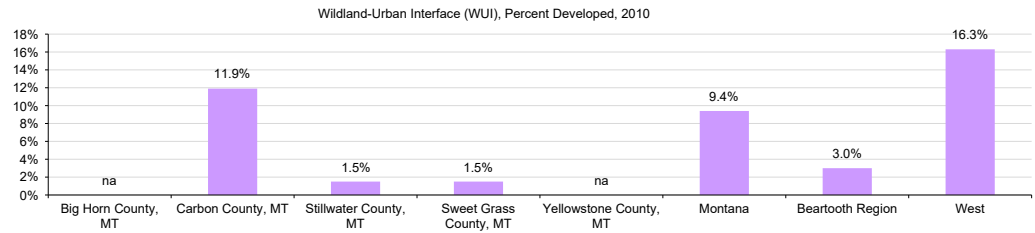
## Beartooth Region

### Development and the Wildland-Urban Interface

- Between 2000 and 2010, Sweet Grass County, MT had the largest percent change in residential land area developed (114.5%), and the U.S. had the smallest (12.3%).



- In 2010, the west had the largest proportion of the wildland-urban interface that is developed (16.3%), and Stillwater County, MT had the smallest (1.5%).



## Summary

### Beartooth Region

## Development and the Wildland-Urban Interface

### What do we measure on this page?

This page describes residential development on private lands, and the proportion of the wildland-urban interface (WUI) that is developed.<sup>9</sup> The EPS Land Use report provides additional information on land ownership, management, cover, and development: <https://headwaterseconomics.org/eps>.

This information is available only for the 11 western states and does not include Alaska and Hawaii.

**Wildland-Urban Interface (WUI):** Private forestlands that are within 500 meters of public forestlands. We use the threshold of 500 meters to identify the existing and potential WUI area because guidelines for the amount of defensible space necessary to protect homes from wildfire range from 40 to 500 meters around a home. We focus on adjacency to public forests because roughly 70 percent of western forests are publicly owned and because wildfire is a natural disturbance in many of these forests, creating a potential risk to adjacent private lands.<sup>10</sup>

### Why is it important?

The conversion of open space and agricultural land to residential development has occurred at a rapid pace in many parts of the U.S. The popularity of exurban lot sizes in much of the country has exacerbated this trend. (Low-density development results in a larger area of land converted to residential development). The pattern of development can reflect a number of factors, including demographic trends, the increasingly "footloose" nature of economic activity, the availability and price of land, and preferences for homes on larger lots. Locations with a large percent change in the area of residential development often have experienced significant in-migration from more urbanized areas. Counties with a small percent change either experienced little growth or were already highly urbanized in 2000.

Development of homes adjacent to fire-prone federal public lands poses several challenges including the rising cost of protecting homes from wildfires; increased danger to wildland firefighters; and the consumption of funds that might otherwise be used for restoration, recreation, research, and other activities. When protecting homes is a priority, agencies are unable to allow otherwise beneficial fires to burn, even those that could reduce fuel loads.

# Summary

## Beartooth Region

### Data Sources & Methods

This EPS Summary report uses national statistics from public government sources. All data used in EPS can be readily verified with the original sources:

- **County Business Patterns**

Census Bureau, U.S. Department of Commerce  
<https://www.census.gov/programs-surveys/cbp.html>  
Contacts  
<https://www.census.gov/about/contact-us.html>

The EPS Summary report also uses data derived from Geographic Information Systems (GIS) to show more accurate statistics for land ownership:

- **Regional Economic Information Data**

Bureau of Economic Analysis, U.S. Department of Commerce  
[https://www.bea.gov/iTable/index\\_regional.cfm](https://www.bea.gov/iTable/index_regional.cfm)  
Contacts  
<https://www.bea.gov/contacts/search.htm>

- **TIGER/Line County Boundaries**

Bureau of the Census, U.S. Department of Commerce  
<https://www.census.gov/geo/maps-data/data/tiger.html>

- **Local Area Unemployment Statistics**

Bureau of Labor Statistics, U.S. Department of Labor  
<https://www.bls.gov/lau/>  
Contacts  
<https://www.bls.gov/bls/contact.htm>

- **Protected Areas Database**

U.S. Geological Survey, Gap Analysis Program  
<https://gapanalysis.usgs.gov/padus/>

#### EPS core approaches

EPS is designed to focus on long-term trends across a range of important measures. Trend analysis provides a more comprehensive view of changes than spot data for select years. We encourage users to focus on major trends rather than absolute numbers. EPS displays detailed industry-level data to show changes in the composition of the economy over time and the mix of industries at points in time. EPS employs cross-sectional benchmarking – comparing smaller areas such as counties to larger regions, states, and the nation – to give a sense of relative performance. EPS allows users to aggregate data for multiple locations to allow for more sophisticated cross-sectional comparisons.

#### Adjusting dollar figures for inflation

Because a dollar in the past was worth more than a dollar today, data reported in current dollar terms should be adjusted for inflation. The U.S. Department of Commerce reports personal income figures in terms of current dollars. All income data in EPS are adjusted to real (or constant) dollars using the Consumer Price Index. Figures are adjusted to the latest date for which the annual Consumer Price Index is available.

#### Data gaps and estimation

Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics uses supplemental data from the U.S. Department of Commerce to estimate these data gaps. These are indicated with tildes (~) in tables. Documentation explaining methods developed by Headwaters Economics for estimating disclosure gaps is available at <https://headwaterseconomics.org/eps>.

### Endnotes

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- 1 - Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics estimates these data gaps. Estimates are indicated with tildes (~). Documentation explaining methods developed by Headwaters Economics for estimating disclosure gaps is available at <https://headwaterseconomics.org/eps>.
- 2 - For details on Bureau of Economic Analysis terms, see: <https://bea.gov/regional/definitions>.
- 3 - For more information on unemployment, see the Bureau of Labor Statistics resources on this topic at <https://www.bls.gov/bls/unemployment.htm>.
- 4 - The Monthly Labor Review Online, published by the Bureau of Labor statistics, addresses earnings and wages by industry, sex, and educational achievement. Search at <https://www.bls.gov/mlr/>.
- 5- Data from County Business Patterns includes both full- and part-time employment. However, CBP data do not include employment in government, agriculture, railroads, or the self-employed and, as a result, undercount the size of industry sectors. Also, CBP data are based on mid-March employment and do not take into account seasonal fluctuations. For these reasons, the data are most useful for showing long-term trends, displaying differences between locations, and showing relationships between sectors over time.
- 6 - For examples of literature on the economic role of environmental amenities, see: Booth DE. 1999. Spatial Patterns in the Economic Development of the Mountain West. *Growth and Change* 30(3):384-405; Duffy-Deno KT. 1998. The Effect of Federal Wilderness on County Growth in the Intermountain Western United States. *Journal of Regional Science* 38(1):109-136; Lorah P and Southwick R. 2003. Environmental Protection, Population Change, and Economic Development in the Rural Western United States. *Population and Environment* 24(3):255-272; McGranahan DA. 1999. Natural Amenities Drive Rural Population Change. USDA Economic Research Service, Agricultural Economic Report No. 781. [https://www.ers.usda.gov/webdocs/publications/41047/13201\\_aer781.pdf?v=42061](https://www.ers.usda.gov/webdocs/publications/41047/13201_aer781.pdf?v=42061); Rasker R. 2006. An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands. *Society & Natural Resources* 19(3):191-207; Rudzitis G, Johansen HE. 1991. How Important is Wilderness? Results from a United States Survey. *Environmental Management* 15(2):227-233.
- 7- A bibliography of studies documenting the economic role of public lands can be found here: [https://headwaterseconomics.org/wp-content/uploads/Annotated\\_Bib\\_Value\\_Public\\_Lands.pdf](https://headwaterseconomics.org/wp-content/uploads/Annotated_Bib_Value_Public_Lands.pdf).
- 8- An online data visualization and map showing the history of federal land payments to counties can be seen here: <https://headwaterseconomics.org/dataviz/county-payments/>
- 9- For resources related to the wildland-urban interface (WUI), including planning tools and related solutions, see <https://headwaterseconomics.org/wildfire/>.
- 10- For a description of the methods used to define and measure the wildland-urban interface, see: Gude P, Rasker R, and van den Noort J. 2008. Potential for Future Development on Fire-Prone Lands. *Journal of Forestry* 106(4):198-205.