

Helena and Lewis & Clark National Forests Forest Plan Assessment

Chapter 5, Social, Cultural, and Economic Conditions

2015

Table of Contents

Introduction.....	1
Process and Methods	2
Scale.....	2
Existing Information	3
Existing Condition	3
Culture and Lifestyles	3
The Social Environment.....	3
West.....	4
North	5
Central	7
East	9
Land Ownership.....	11
West.....	11
North	12
Central	13
East	13
Land Development, Land Use, and the Wildland Urban Interface.....	14
West.....	16
North	17
Central	18
East	19
Demographic Conditions and Trends	20
West.....	21
North	23
Central	25
East	26
Economic Conditions and Trends	28
Commodity Sectors	28
Travel and Tourism	39
Natural Amenities and the Economy.....	41

Employment and Income	49
Wildland Dependency	77
Federal Land Payments to States	80
Helena and Lewis & Clark National Forest’s Contributions to the Plan Area Economy.....	91
Process and Methods	91
Resource Program Data Used.....	92
Assessing the Economic Contributions of Major Industries in the HLC NFs Plan Area	93
HLC NFs Contributions to the Plan Area Economy	97
Recreation – A Special Case.....	99
The Secondary Area of Influence	100
Missoula, Anaconda-Deer Lodge, Gallatin, Park, Sweet Grass, Golden Valley, Yellowstone Counties.....	100
Climate Change Impacts	105
Vulnerability of Rural Communities	105
Vulnerability associated with biophysical changes in the ecosystem	108
Environmental Justice	110
West.....	111
North	113
Central	116
East	119
Trends and Drivers	121
Information Needs.....	121
References	121

Tables

Table 5.1 Population in the west area, 2000-2012	5
Table 5.2 Population in the north area, 2000-2012	6
Table 5.3 Population change in the central area, 1990-2012	8
Table 5.4 Population in the east area, 2000-2012	10
Table 5.5 Land ownership, HLC NFs primary plan area-west.....	12
Table 5.6 Land ownership, HLC NFs primary plan area-north.....	12
Table 5.7 Land ownership, HLC NFs primary plan area-central	13

Table 5.8 Land ownership, HLC NFs primary plan area-east.....	14
Table 5.9 Residential development in the HLC NFs primary plan area-west from 2000-2010	16
Table 5.10 Amount (square miles and percent) of wildland urban interface (WUI) in the east area, 2010.....	17
Table 5.11 Residential development in the HLC NFs primary plan area-north from 2000-2010.....	18
Table 5.12 Amount (square miles and percent) of wildland urban interface (WUI) in the north area, 2010	18
Table 5.13 Residential development in the HLC NFs primary plan area - central from 2000-2010.....	18
Table 5.14 Amount (square miles and percent) of wildland urban interface (WUI) in the central area, 2010	19
Table 5.15 Residential development in the HLC NFs primary plan area-east from 2000-2010	19
Table 5.16 Amount (square miles and percent) of wildland urban interface (WUI) in the east area, 2010.....	20
Table 5.17 Population in the west area, 2000-2012	21
Table 5.18 Age and gender distribution in the west area, 2012	21
Table 5.19 Change in median age in the west area, 2000-2012	22
Table 5.20 Population change in the west area, 2000-2012	22
Table 5.21 Percent of population change from 2000-2012 in the west area	23
Table 5.22 Population in the north area, 2000-2012	23
Table 5.23 Age and gender distribution in the north area, 2012.....	23
Table 5.24 Change in median age in the north area, 2000-2012	24
Table 5.25 Population change in the north area, 2000-2012.....	24
Table 5.26 Population in the central area, 2000-2012.....	25
Table 5.27 Age and gender distribution in the central area, 2012.....	25
Table 5.28 Change in median age in the central area, 2000-2012.....	26
Table 5.29 Population change in the central area, 2000-2012	26
Table 5.30 Population in the east area, 2000-2012	26
Table 5.31 Age and gender distribution in the east area, 2012	27
Table 5.32 Population change in the east area, 2000-2012.....	28
Table 5.33 Employment in timber industry in Broadwater and Powell County, 2012.....	30
Table 5.34 Number and types of farms for the west area and the state of Montana, 2012	32
Table 5.35 Number of farms by type for the north area and the state of Montana, 2012	34
Table 5.36 Number of farms by type for the central area and the state of Montana, 2012	35
Table 5.37 Number of farms by type for the east area and the state of Montana, 2012.....	37
Table 5.38 Natural amenity scale for all Montana counties	42

Table 5.39 Total employment and percent of total employment by industry for the west area, 2012, and change from 2000 to 2012.....	51
Table 5.40 Top 20 private employers in the west area, 2011	53
Table 5.41 Total employment and percent of total employment by industry for the north area, 2012, and change from 2000 to 2012.....	56
Table 5.42 Top private employers in Glacier County 2011	58
Table 5.43 Total employment and percent of total employment by industry for the central area, 2012, and change from 2000 to 2012.	59
Table 5.44 Top 20 private employers in Cascade County 2011	61
Table 5.45 Total employment and percent of total employment by industry for the east area, 2012, and change from 2000 to 2012.....	64
Table 5.46 Top 20 private employers in the east area, 2011	66
Table 5.47 Non-labor income percentages for the west area, 2012.....	73
Table 5.48 Non-labor income percentages for the north area, 2012	74
Table 5.49 Non-labor income percentages for the central area, 2012	75
Table 5.50 Non-labor income percentages for the east area, 2012.....	76
Table 5.51 Comparison of wildland dependency (percent of total county labor income derived from wildland-based industries) for the west area for 2000 and 2010	78
Table 5.52 .Comparison of wildland dependency (percent of total county labor income derived from wildland-based industries) for the north area for 2000 and 2010.....	79
Table 5.53 Comparison of wildland dependency (percent of total county labor income derived from wildland-based industries) for the central area for 2000 and 2010	79
Table 5.54 Comparison of wildland dependency (percent of total county labor income derived from wildland-based industries) for the east area for 2000 and 2010	80
Table 5.55 Payment (millions of dollars) in lieu of taxes for thirteen western states from 1995-2012	82
Table 5.56 Entitlement acres, payments in lieu of taxes and payments in lieu of taxes per entitlement acre for thirteen western states in 1999 and 2012	83
Table 5.57 Comparison of payments in lieu of taxes, entitlement acres and average payments in lieu of taxes per entitlement acre by county for all Montana counties for 2000 to 2002 and 2010 to 2012	84
Table 5.58 Forest Service revenue sharing payments (millions of dollars) for all counties in Montana from 1986 to 2000.....	86
Table 5.59 Secure rural school act payments (millions of dollars) for all counties in Montana from 2001 to 2012	88
Table 5.60 Employment by major industry and driven by major industry throughout the HLC NFs area, 2012....	95

Table 5.61 Earnings by major industries and driven by major industries throughout the HLC NFs plan area, 2012	96
Table 5.62 Area employment driven by major industry and by HLC NFs management, 2012	97
Table 5.63 Area earnings driven by major industry: total and HLC NFs management, 2012	98
Table 5.64 Current HLC NFs related job contributions to the plan area economy, by resource area	99
Table 5.65 Employment generated by spending of HLC NFs visitors by economic driver, 2012	100
Table 5.66 Population change in the secondary area of influence, 1990-2012	104
Table 5.67 Population by race in the west area, 2012	112
Table 5.68 Poverty in the west area, 2012	112
Table 5.69 Population by race in the north area, 2012	113
Table 5.70 American Indian and Alaska Native population in the north area, 2012	113
Table 5.71 Poverty in the north area, 2012	115
Table 5.72 Poverty by race and ethnicity in the north area, 2012*	115
Table 5.73 Population by race in the central area, 2012	116
Table 5.74 Hispanic population in the central area, 2012	116
Table 5.75 American Indian and Alaska Native population in the central area, 2012	117
Table 5.76 Poverty in the central area, 2012	118
Table 5.77 Poverty by race and ethnicity in the central area, 2012*	119
Table 5.78 Population by race in the east area, 2012	119
Table 5.79 Poverty in the east area, 2012	120
Table 5.80 Poverty by race and ethnicity in the east area, 2012*	120

Figures

Figure 5.1 Percent of total employment by commodity sectors for the four HLC NFs county groupings, the State of Montana and the United States	29
Figure 5.2 Timber related employment in Broadwater and Powell Counties, 1998–2012	30
Figure 5.3 Average annual wages in timber sectors for Broadwater and Powell County, MT, 2012	31
Figure 5.4 Farm jobs as a percent of total employment, 2012	33
Figure 5.5 Farm earnings in the west area, 1970-2012	33
Figure 5.6 Farm jobs as a percent of total employment, north area, 2012	34
Figure 5.7 Farm earnings in the north area, 1970-2012	35

Figure 5.8 Farm jobs as a percent of total employment in the central area, 2012.....	36
Figure 5.9 Farm earnings in the central area, 1970-2012	36
Figure 5.10 Farm jobs as a percent of total employment in the east area, 2012	37
Figure 5.11 Farm earnings in the east area from 1970-2012.....	38
Figure 5.12 Percent of total private employment in mining in the west area, 2012	39
Figure 5.13 Percent of total private employment in mining in the north area, 2012.....	39
Figure 5.14 Percent of total private employment in industries that include travel and tourism for the HLC NFs primary analysis area.....	40
Figure 5.15 Average annual wages and percent jobs in industries that include travel and tourism for the four areas in the HLC NFs primary plan area in 2012	41
Figure 5.16 Amenity characteristics	44
Figure 5.17 Percent of federal public lands by type for the west area and the State of Montana.....	46
Figure 5.18 Percent of federal public lands by type for the north area and the State of Montana	46
Figure 5.19 Percent of federal public lands by type for the central area and the State of Montana	47
Figure 5.20 Percent of federal public lands by type for the east area and the State of Montana	48
Figure 5.21 Average annual unemployment rate in the west area, 1990-2013	54
Figure 5.22 Average annual unemployment rate in the north area, 1990-2013	58
Figure 5.23 Average annual unemployment rate in the central area, 1990-2013.....	62
Figure 5.24 Average annual unemployment rate, east area, 1990-2013.....	67
Figure 5.25 Per capita income for the west area, 2012	68
Figure 5.26 Average earnings per job in the west area, 2012.....	69
Figure 5.27 Per capita income for the north area, 2012	69
Figure 5.28 Average earnings per job in the north area, 2012	70
Figure 5.29 Per capita income for the central area, 2012.....	70
Figure 5.30 Average earnings per job in the central area, 2012	71
Figure 5.31 Per capita income for the east area, 2012	71
Figure 5.32 Average earnings per job in the east area, 2012.....	72
Figure 5.33 Components of Federal land payments, FY 2013.....	90
Figure 5.34 Federal land payments, percent of total general government revenue, FY 2007	90

Social, Cultural, and Economic Conditions

Introduction

The preamble of the 2012 planning rule (planning rule) for National Forest System (NFS) land management planning recognizes that ecological, social, and economic systems are interdependent. One system is not a priority over the other. The planning rule requires the consideration of social, economic, and ecological factors in all phases of the planning process. The planning rule also recognizes that, although national forest management can influence social and economic conditions relevant to a plan area, it cannot ensure social and economic sustainability. This is because many factors are outside the control and authority of the NFS responsible official. For that reason, the planning rule requires that plan components contribute to social and economic sustainability within Forest Service authority and the inherent capability of the plan area.

The planning rule defines sustainability in the following ways (§ 219.19):

- “Ecological sustainability” refers to the capability of ecosystems to maintain ecological integrity;
- “Economic sustainability” refers to the capability of society to produce and consume or otherwise benefit from goods and services including contributions to jobs and market and nonmarket benefits; and
- “Social sustainability” refers to the capability of society to support the network of relationships, traditions, culture, and activities that connect people to the land and to one another, and support vibrant communities.

To address the issue of social and economic sustainability, the planning rule requires that an assessment be completed, wherein the responsible official shall identify and evaluate existing information relevant to the plan area for 15 identified items. Three of the items tied most closely to social and economic sustainability are number 6: social, cultural, and economic conditions and trends; number 7: benefits that people obtain from the NFS plan area (ecosystem services); and number 8: multiple uses and their contributions to local, regional, and national economies (§ 219.6(b)).

This chapter of the assessment presents the social, cultural, and economic contexts within which the Helena and Lewis & Clark National Forests operate. The information provided in this report is intended as a descriptive and comparative baseline about the counties in the area of influence and includes information up through the year 2012 for most variables.

In order to provide the social and cultural contexts, information regarding social characteristics, local government, and county health is presented and several questions often used in social and economic assessment studies (see Adams-Russell Consulting 2004) are considered:

- What are the structure and dynamics of the population?
- What is the pattern of land ownership?
- What are the characteristics of employment, income, and industry?

In addition to the three questions above, information is also provided on issues especially pertinent to natural resource management on the Helena and Lewis & Clark National Forests (HLC NFs), including:

- Land use and development in the wildland-urban interface
- Federal land payments
- Montana’s forest products industry
- Natural resource amenity counties (counties where natural amenities such as scenic vistas, clean air, varied topography, and proximity to surface water make the area an attractive place to live) and amenity-driven development

- Data on Forest Service programs, salary and non-salary expenditures, and employment
- The contribution of the HLC NFs programs and expenditures to jobs and labor income.

A section addressing Environmental Justice (Executive Order 12898) is also included.

Process and Methods

Scale

The land administered by the HLC NFs is vast, comprising almost 2,850,000 acres. It is spread over many counties, with numerous rivers, lakes, reservoirs, and streams and a number of mountain ranges. In order to determine how to bound and conduct the analysis across the HLC NFs, a number of factors were discussed between the regional economist, the regional social scientist, the plan revision interdisciplinary team leader, and the forest supervisor. The factors for determining the plan area include commuting patterns, recreational visitation, trade, travel corridors, social and cultural identity, and timber processing areas. The counties where the HLC NFs are located and that meet most of these factors are considered “Primary Analysis Area Counties”, or primary areas. The counties that do not meet most of these factors and do not contain HLC NFs land are considered “Secondary Analysis Area Counties”, or secondary areas. The secondary area counties have fewer, but still meaningful connections to the management of the HLC NFs. These connections include mills where timber from HLC NFs land is processed, or a small amount of NFS land that is not accessed very frequently. Missoula County is an example of a secondary area because it has no lands administered by the HLC NFs, but is considered in the analysis because it has a timber processing site. For the secondary counties, the assessment will contain limited information that focused on the specific ties that these counties have to the HLC NFs.

To analyze and present the data in a logical and efficient manner, the primary area counties are grouped into four areas: west, north, central, and east. This grouping is based on similar factors as above and geographic proximity. Primary area counties include:

- **West:** Broadwater, Jefferson, Lewis and Clark, Powell Counties
- **North:** Glacier, Pondera, Teton Counties
- **Central:** Cascade, Chouteau Counties
- **East:** Meagher, Judith Basin, Wheatland, Fergus Counties.

Secondary area counties include:

- Missoula County
- Deerlodge County
- Gallatin and Park Counties
- Golden Valley and Sweet Grass Counties
- Yellowstone County

The 13 primary area counties cover approximately 32,220 square miles and contain more than 3.8 million acres of NFS land, nearly three quarters of which is administered by the HLC NFs. The remainder of the national forest land in these thirteen counties is administered by the Custer, Deer Lodge, Flathead, Gallatin, or Lolo National Forests (see chapter 12, Land Status, Use/Access, and Other Infrastructure/Roads).

The seven counties in the secondary area cover another 14,400 square miles and another 2.8 million acres of NFS land, with almost all of that land (99%) being administered by other national forests.

See appendix A, map 17, Social and Economic Analysis Areas.

Existing Information

Much of the information contained in this report was taken from the Economic Profile System – Human Dimensions Toolkit (EPS-HDT). This toolkit was developed by Headwaters Economics (EPS-HDT 2014) in partnership with the Bureau of Land Management and the U.S. Forest Service (<http://headwaterseconomics.org/tools/eps-hdt>). EPS-HDT is a free software application that produces detailed socioeconomic reports of communities, counties, states, and regions, including custom aggregations and comparisons. EPS-HDT uses published statistics from federal data sources, including, but not limited to, the Bureau of Economic Analysis, the Bureau of Labor Statistics, and the Census Bureau and American Census. Other significant sources of information used for this report include the following:

- Reports from county planning offices,
- The Population Health Institute at University of Wisconsin,
- Publications on Montana’s forest products industry developed by the Bureau of Business and Economic Research,
- Northwest Economic Development District publications,
- Data on Forest Service programs,
- Salary and non-salary expenditures, and employment from Forest Service corporate databases,
- Montana Bureau of Public Instruction and the results of an analysis of the contribution of the Helena and Lewis & Clark NFs programs and expenditures on jobs and labor income using Forest Service corporate data and Impact Analysis for Planning Modeling System (IMPLAN) data for the year 2010.

The University of Wisconsin Population Health Institute conducts an annual ranking of counties throughout the United States. The Institute considers a county’s policies and programs and how these support “health factors” and then how “health outcomes” result. The health factors include: 1) health behaviors, 2) clinical care, 3) social and economic factors (including: education, employment, income, family and social support, community safety), and 4) physical environment (including: air and water quality, housing and transit). Health outcomes are a consideration of length of life and quality of life, which includes poor physical and mental health, and low birth weight. The Institute was able to conduct analysis for 46 of Montana’s 56 counties. The purpose of evaluating the measures and assigning the rankings is to bring organizations and government together to determine ways to improve a county’s health. The Forest Service could provide some input into the “physical environment” factors, for example, as one of those measures under this category is clean water.

Specifics on these and other sources used in the development of this report can be found in the references section.

Existing Condition

Culture and Lifestyles

The culture and lifestyles within the plan area are tied strongly to the geography and natural resources present in the area. The lifestyles are based in part on the “outdoors” which generally means using national forests to enjoy, relax, utilize, recreate, boat, hunt and fish for food or pleasure, or for agricultural purposes. Chapter 11, Cultural and Historical Resources and Uses provides more information on the cultural and historical context of the area surrounding the HLC NFs.

The Social Environment

Assessing social, economic, demographic and cultural conditions can help address the relationship between those characteristics and resources present in the national forests with the people and communities who interact with the national forests. Also important to this relationship are the meanings, activities and traditions which connect

people to the land, and form a sense of place. Sense of place addresses those meanings which people hold for a place. Many things factor in to one's sense of place, including a consideration of a combination of the biophysical setting (e.g. mountains, lakes, forests); psychological influences (e.g. perception, emotion, memory); and social and cultural influences (e.g. values and beliefs, desires for commodities and recreation opportunities, heritage). Sense of place can involve consideration of things which are non-tangible, such as lifestyles, values, employment patterns, and population patterns. It can also involve consideration of things which are tangible, such as special places, recreation use, land uses, scenery, land settlement patterns and population (Manning et.al. 1997). At this time we do not have current scientifically gathered information to present the connections or sense of place. However, all information produced by such organizations as Chambers of Commerce, references how people have strong ties and attachments to the area, in particular the mountains, rivers and lakes.

West

Social Characteristics

The west area of the assessment is comprised of four counties. These include: Lewis and Clark County, Broadwater County, Jefferson County, and Powell County. The four-county area had a 2012 population of 87,434 people. Lewis and Clark County was by far more populous, with a population of 63,432. Broadwater County had a population of 5,575, Jefferson County had 11,360 people, and Powell County had 7,067 people.

Lewis and Clark County is home to Montana's state capital in Helena. Lewis and Clark County also has popular destinations such as the Great Divide Ski Area and much of Canyon Ferry Reservoir, which is the third largest body of water in Montana. There are three sections of wilderness areas in the county; two on the Rocky Mountain Front and one on the north end of the Big Belt Mountains. The towns of Lincoln and Augusta serve as major entry points to the Bob Marshall and Scapegoat Wildernesses. These two towns are also Census Designated Places which are settled concentrations of populations that are not legally incorporated (U.S Department of Commerce 2014). Lewis and Clark County is also home to two Hutterite colonies.

From 2000 to 2012, the population in Lewis and Clark County increased by 13.8 percent. Helena is considered a "micropolitan" area with a census population of over 10,000 and under 50,000.

Broadwater County is bordered by the Elkhorn Mountains to the west and the Big Belt Mountains to the east. Canyon Ferry Dam is in Broadwater County. Broadwater County experienced the largest population shift (growth) in the four-county area in the 2000 to 2012 period. It had a significant increase of 27.1 percent. It appears this is attributable to affordable housing in the county, with people commuting to jobs in Helena and Bozeman and other points in between.

The population in Jefferson County grew 13 percent during the 2000 to 2012 period. Jefferson County is noted for its many hot springs and associated commercial development. Many of the hot springs are considered to have health and therapeutic values and some are associated with ghost towns. Lewis and Clark Caverns State Park is also a popular destination. Jefferson County is home to one Amish community.

Powell County was the only county in the west area which experienced a decrease in population from 2000 to 2012. The population had the smallest change and decreased 1.6 percent. Deerlodge is the location for the Montana Men's State Prison, which has some impact on the reporting of demographics. The prison can hold 1,495 males which can skew the female to male population statistic; it also likely has influence on the overall rating for county health.

These counties hold a strong sense of place, particularly in terms of their roles in the historical development of Montana. Gold mining brought many people to the area. Settlements began to emerge, and with that, the infrastructure needed to support the settlements. Mining of copper commenced nearby and commerce grew. A boom and bust economy developed, with little concern given to conditions of waterways and land. People

lobbied to bring the railroad through the area which brought more growth, and increased the harvesting of timber which was much needed for railroad construction. Concern about the unclear regulation of these timbered lands along with the mining eventually gave rise to the U.S. Forest Service. Lands were purchased and farming and ranching ensued. Federal cattle grazing allotments became very important.

Table 5.1 Population in the west area, 2000-2012

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
Population (2012*)	5,575	11,360	63,432	7,067	87,434	990,785
Population (2000)	4,385	10,049	55,716	7,180	77,330	902,195
Population Change (2000-2012*)	1,190	1,311	7,716	-113	10,104	88,590
Population Percent Change (2000-2012*)	27.1%	13.0%	13.8%	-1.6%	13.1%	9.8%

Local Government

Helena is the county seat for Lewis and Clark County. Broadwater County’s county seat is in Townsend. Jefferson County’s county seat is Boulder. The county seat for Powell County is Deerlodge.

All four counties have similar local governments. Each has an elected three-person County Board of Commissioners.

County Health

According to the county health rankings compiled by the Population Health Institute at the University of Wisconsin, Lewis and Clark and Jefferson rated in the top 12 counties in the state. Broadwater rated in the 2nd quartile in the state (counties ranked from 12th-24th in the state), and Powell County in the 3rd quartile (counties ranked from 24th-34th).

North

Social Characteristics

The north area of the assessment is comprised of three counties: Glacier, Pondera, and Teton. The three-county area had a total population of 25,651 people in 2012. The population declined from the 2000 census when it totaled 26,116, a decrease of 1.8 percent. The Rocky Mountains and Rocky Mountain Front provide the western border for the counties, which then roll out onto the plains.

Glacier County is the northern most of the three counties; its northern border is shared with Canada. It is named for Glacier National Park. Glacier County includes the Blackfeet Indian Reservation (1.5 million acres) and Glacier National Park (1.1 million acres). The Blackfeet Reservation comprises about 70 percent of the county, and about 20 percent of the county is Glacier National Park. The population in Glacier County in 2012 was 13,422.

The town of Browning is the largest community in Glacier County and is home to the accredited Blackfeet Community College. East Glacier Park and Saint Mary’s are also in the county and serve as entrances into Glacier National Park. The town of Cut Bank is located on the eastern edge of Glacier County. Like many Montana towns, it was settled along the railroad. The town was founded in 1910 and named after the geographical feature made by Cut Bank Creek. It is largely an agricultural area and was associated with an oil boom at the turn of the twentieth century. Five Hutterite counties are located in Glacier County.

The Blackfeet Reservation was created by the Fort Laramie Treaty of 1851, with subsequent adjustments reducing its size. The 1855 Judith River Treaty, 1888 Sweetgrass Hills Treaty and the 1896 Treaty caused further boundary changes to the reservation. The 1896 Treaty created what is known in present-day as the “ceded strip” or the Badger-Two Medicine area. The Badger-Two Medicine is an important area to the Blackfeet and has been designated a Traditional Cultural District.

Pondera County is located south of Glacier County. The population for Pondera County in 2012 was 6,147 people. It includes about 1,620 square miles. Federal land comprised 270,687 acres, of which 106,639 acres are NFS. Five Hutterite colonies are located in Pondera County.

Like Glacier County, it is bordered by the Rocky Mountains on the west. The southern border of the Blackfeet Reservation extends into Pondera County (about 162,643 acres). Pondera County was founded in 1919 and was named after the Conrad family, who owned a successful river freighting business, originally based out of Fort Benton on the Missouri River. Pondera County is a rural agricultural county, and is included in the area known as the Golden Triangle. The Golden Triangle is named after the color of the winter wheat grown in the area.

Teton County is located south of Pondera County and covers about 2,273 square miles, with a population density of 3 people per square mile. It is bordered to the west by the Rocky Mountain Front. It was founded in 1893. Teton County is known for its scenery, recreation opportunities, wildlife and wealth of natural resources. It is also known for important paleontological findings, particularly dinosaurs. Maiasaura were found at the fossil beds at Egg Mountain. Teton Pass Ski Area is located in the county.

The town of Choteau, named after fur trader Pierre Chouteau (same name as adjacent county, Chouteau, although not spelled the same), was first a trading area. In 1868 it was established as a second Blackfeet Agency when the Blackfeet Reservation’s southern boundary was the Sun River, not Birch Creek. A trading post and post office were established. Then, in 1876 the Agency was moved to Badger Creek, and called “New Agency,” leaving this location to be known as “Old Agency.” The name was changed to Choteau and then moved three miles south by 1883. Choteau was incorporated in 1913.

Gibson Dam was built on the Sun River between 1926 and 1929 in response to neighboring interests for further agricultural development and homesteading opportunities.

Table 5.2 Population in the north area, 2000-2012

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
Population (2012*)	13,422	6,147	6,082	25,651	990,785
Population (2000)	13,247	6,424	6,445	26,116	902,195
Population Change (2000-2012*)	175	-277	-363	-465	88,590
Population Percent Change (2000-2012*)	1.3%	-4.3%	-5.6%	-1.8%	9.8%

Local Government

The county seat of Glacier County is Cut Bank. The town of Browning, in Glacier County, is the government seat of the Blackfeet Tribe. The Blackfeet Tribe is governed by the Blackfeet Tribal Business Council, with nine elected council members. Conrad is the county seat of Pondera County. Choteau is the county seat of Teton County.

Glacier, Pondera and Teton Counties are all governed by a commission of three county commissioners.

County Health

Teton County ranked 22nd for health factors out of the 46 counties ranked for the State of Montana. It ranked 14th for social and economic factors. One of the elements considered in social and economic factors is children in poverty. Approximately 20 percent of the children in Teton County are in poverty, compared to 21 percent for the state. For physical environment, Teton County ranked 29th.

For health outcomes, Teton County ranked 18th of the 46 ranked counties. It ranked third for quality of life.

Pondera County ranked 33rd of the 46 ranked counties. It ranked 27th for social and economic factors. Children in poverty was 28 percent. Physical environment was ranked at 36th.

For health outcomes, Pondera County ranked 10th of the 46 ranked counties. It ranked 13th for quality of life.

Glacier County ranked last of all counties ranked for the state of Montana for Health Factors: 46th out of the 46 counties. It ranked 45th for Social and Economic Factors. Children in poverty was high at 40 percent. Physical environment was ranked low at 44th. Drinking water violations were high, attributing to the very low rank.

For health outcomes, Glacier County ranked low at 45th of the 46 ranked counties. It also ranked 45th for quality of life.

Central

Social Characteristics

The central area of the assessment is comprised of two counties: Cascade and Chouteau. Cascade County's population was 81,723 in 2012, the fifth most populous county in the state of Montana. Chouteau County, while over 1,100,000 acres in size, has a much sparser population in 2012 with 5,904 people. Both counties have strong agricultural ties. They are both part of the previously mentioned golden triangle.

Cascade County is named for the waterfalls on the Missouri River (Cascade is a French word for waterfall). The Sun River also flows through Cascade County and connects with the Missouri River in the city of Great Falls. The county is bordered on the west by the Rocky Mountains and to the southeast by the Little Belt Mountains. A small portion of the Highwood Mountains are on the eastern border. The Adel Mountains Volcanic Field is in the southwestern part of the county. The "Hi-Line" is to the north. The Hi-Line is a geographical term referring to the portion of the northern United States south of the Canadian border along which runs the main line of the Burlington Northern Santa Fe (BNSF) Railway (originally the mainline of the Great Northern Railway) and U.S. Highway 2 (Vichorek 1993). Cascade County is approximately 2,712 square miles in size. Data from the 2010 U.S. Census Bureau state the population density to be 31 people per square mile.

Great Falls is a census-designated "metropolitan area," meaning the population is greater than 100,000. Great Falls is a major medical center for central Montana with Benefis Hospital. Benefis Hospital is the largest private employer in the county. The University of Great Falls and the Montana State University-Great Falls College of Technology are located in Great Falls. The C.M. Russell Museum and the Lewis and Clark Interpretive Center are also in Great Falls. The Lewis and Clark trail passes through the county, and the Great Falls of the Missouri posed great challenges for the expedition. The area is also known for its "Old West" lore, epitomized by artist Charlie Russell. A number of historic and paleontological attractions are also located in the county.

Cascade County is home to Malmstrom Air Force Base. Malmstrom plays a significant role in the area's economy. Additionally, Malmstrom provides some diversity in terms of culture, race, and ethnicity.

Great Falls founder Paris Gibson was drawn to the power of the falls of the Missouri River. Gibson was financially backed by railroad magnate James J. Hill who had the town platted in 1883. The power of the river and falls was utilized by developing industries. Soon hydroelectricity from Black Eagle Dam powered large

smelters, built to refine the silver and copper ore delivered by rail. Construction slowed after the Panic of 1893 only to rebound in force when the 1909 Enlarged Homestead Act brought an influx of settlers to the region. The Chicago, Milwaukee and St. Paul Railroad arrived in Great Falls in 1910. The years that followed saw construction of numerous commercial blocks, warehouses, and railroad-related buildings. The Great Northern railroad went through in 1887. The Northside District, part of the original town site, was planned as a neighborhood removed from industrial activity but still convenient to it. By the 1890s doctors, lawyers, politicians, businessmen, and smelter officials had begun to settle

Gibson envisioned the city becoming both a great industrial center and a city of great beauty. These twin goals converged in the Railroad Historic District. Like other “City Beautiful” advocates, Gibson believed that parks could help promote civic virtue. They were also good for business. Beauty, according to Gibson, would attract growth.

The Little Shell Tribe of Chippewa Indians is located in Great Falls. It is currently not a federally designated tribe but this status is under reconsideration. There are five known Hutterite colonies in the county.

Chouteau County’s total area is approximately 3,997 square miles. U.S. Census data from 2010 state the population density to be 1.5 people per square mile. The area is noted for its gently rolling plains, divided into benches by the Missouri, Marias, and Teton Rivers. The Bear Paws Mountains provide a contrast to the plains in the northeast part of the county, with the Highwood Mountains (Lewis and Clark National Forest) to the south.

Chouteau County played a very significant role in the history of the settlement of Montana. Chouteau County is one of the original nine counties of Montana. Chouteau County was named after Pierre Chouteau, who was President of the American Fur Company. The American Fur Company established a trading post and other businesses soon followed. The town of Fort Benton emerged and incorporated in 1883. It became a very important port on the Missouri River, the “Head of Navigation.” Early explorers, then trappers and traders, travelled up the Missouri River and branched out from the town. Soon thereafter, steamboats travelled up the Missouri and brought many people, most affiliated with fur trapping and trading businesses. Later, people travelled to get closer to gold and other mining operations. As businesses grew and people settled, significant banking and mercantile operations followed. Railroads started entering the area in the 1880’s, and the steamboat trade ended soon thereafter. Cattle and sheep ranching started to flourish, with the cattle and sheep being shipped to markets elsewhere. With the Enlarged Homestead Act of 1909, people settled the area further. Chouteau County became the center of trade for the previously mentioned golden triangle.

The Rocky Boy’s Indian Reservation is located in Choteau County. There are also two known Hutterite colonies in the county.

Table 5.3 Population change in the central area, 1990-2012

	Cascade County	Chouteau County	HLC NFs Central	Montana
Population 1990	77,788	5,468	83,256	800,204
Population 2000	80,318	6,062	86,380	903,773
Population 2012	81,723	5,904	87,627	1,005,141
Population Change 1990-2012	3,935	436	4,371	204,937
Percent Change 1990-2012	5.1%	8.0%	5.3%	25.6%

Local Government

The county seat of Cascade County is Great Falls. Great Falls is the state's third largest city, and accounts for about three quarters of the county's population. Other towns are: Cascade, Ulm, Sun River, Belt, Millegan, Monarch and Neihart. Cascade County is governed by three county commissioners.

The county seat of Chouteau County is Fort Benton. Other towns include: Big Sandy and Geraldine, and the smaller communities of Loma, Carter, Floweree, Highwood, Shonkin, and Square Butte. Chouteau County is governed by three county commissioners.

The Chippewa Cree Tribe of Rocky Boy's Reservation is headquartered at Rocky Boy's Agency in the town of Box Elder. According to the Governor's Office of Indian Affairs website, "Rocky Boy" was named after "Stone Child," a leader of a band of Chippewa Indians. The tribe call themselves "Ne Hiyawak" which means "those who speak the same language." The reservation is home to 55 percent of the 6,177 enrolled Chippewa and Cree tribal members. The economy is primarily supported by agriculture and livestock. It encompasses approximately 122,000 acres. The Chippewa Cree Business Council governs the tribe. The Stone Child College is located in Box Elder.

County Health

Cascade County ranked 24th of the 46 counties ranked in Montana for health factors in 2014. Cascade County's ranking for social and economic factors was 26. One of the elements considered in social and economic factors is children in poverty. Approximately 27 percent of the children in Cascade County are in poverty, which is higher than the state's percentage of 21 percent. Physical environment ranking was 35. As mentioned earlier, Cascade County has a major medical center and this is reflected in its ranking as 4th for clinical care.

For health outcomes, Cascade County again ranked lower than the midpoint: 27th of the 46 counties. The quality of life ranking was 31, but the length of life ranking was 17th.

For health factors, Chouteau County ranked 27th. Chouteau County's ranking for social and economic factors was 23. Children in poverty was 27 percent, higher than the state's percentage of 21 percent. Physical environment ranking was 24.

For health outcomes, Chouteau County ranked at 20 of the 46 counties. Quality of life ranking was 6, and length of life ranking was 23.

East

Social Characteristics

The east area of the assessment is comprised of four counties: Meagher, Judith Basin, Wheatland, and Fergus Counties. The east area had a 2012 population of 17,601 people. This was a decline from the 2000 census, when it totaled 18,413 people, a decrease of 4.4 percent. All four counties experienced some level of population loss.

Fergus County is the most populous, with a 2012 population of 11,507. Judith Basin County had a population of 2,052, Wheatland County had 2,142 people, and Meagher County had 1,900 people.

Fergus County's largest town is Lewistown. From 2000 to 2012, the population in Fergus County decreased by 3.2 percent. Fergus County was created in 1885. Early on, Lewistown became the center of development and a supply center for central Montana. Lewistown is situated along Spring Creek and Big Springs and was settled in 1879 by the Metis, a group of fur traders-Chippewa-Cree Indians. Soon thereafter, gold was discovered in nearby Maiden, bringing more people to the area. In 1900, the population in Fergus County was 6,739. In 1910 the population grew to 17,385. In 1920, the population was 28,344. Sievert (1999:2) explains this "...meteoric growth in the first twenty years of the century, as transportation, construction and other community development

coalesced to accommodate the force of the homestead era.” Numerous homesteaders were drawn to the area, until a drought occurred in 1919, and people moved away. Fergus County is home to five Hutterite colonies and one Amish community.

Judith Basin County experienced a significant population decrease of 11.9 percent from 2000 to 2012. The town of Stanford was platted in 1898. When the railroad was built in 1908, Stanford moved two miles to be next to the station and tracks. The Judith Basin is known for its affiliation with artist Charles M. Russell, who painted local scenes in many of his paintings. One Hutterite colony is located in Judith Basin County.

Wheatland County experienced a population decrease of 5.2 percent from 2000 to 2012. The town of Harlowton was founded in 1900 and served as a railroad station for the Montana Railroad. The Montana Railroad became the Milwaukee Road, and Harlowton became the eastern end of its electric operations. One Hutterite colony is located in Wheatland County.

The population of Meagher County decreased slightly from 2000 to 2012 by 1.7 percent. Meagher County is recognized for its recreational opportunities and the diversity of recreation opportunities. Showdown Ski area is located at Kings Hill, along with nearby developed cross-country skiing areas and developed snowmobiling trails. There are four Hutterite colonies located in Meagher County. The town of White Sulphur Springs was named after the mineral hot springs.

Table 5.4 Population in the east area, 2000-2012

	Fergus County	Judith Basin County	Meagher County	Wheatland County	HLC NFs East	Montana
Population (2012*)	11,507	2,052	1,900	2,142	17,601	990,785
Population (2000)	11,893	2,329	1,932	2,259	18,413	902,195
Population Change (2000-2012*)	-386	-277	-32	-117	-812	88,590
Population Percent Change (2000-2012*)	-3.2%	-11.9%	-1.7%	-5.2%	-4.4%	9.8%

Local Government

Fergus County’s county seat is Lewistown. The county seat for Judith Basin County is Stanford. The county seat for Wheatland County is Harlowton. The county seat for Meagher County is White Sulphur Springs. Each county is governed by a board of three county commissioners.

County Health

Judith Basin County ranked 15th of the 46 counties ranked in Montana for health factors. Judith Basin County’s ranking for social and economic factors was 7th. One of the elements considered in social and economic factors is children in poverty; 22 percent of children are in poverty, which is about the same as the state’s percentage of 21 percent. Physical environment ranking was 19th. Judith Basin County ranked 33rd for clinical care.

For health outcomes, Judith Basin County ranked 13th of the 46 counties. The quality of life ranking was 5, but the length of life ranking was 24th. This latter ranking can have implications for forest management and infrastructure.

For health factors, Fergus County ranked 19th. Fergus County’s ranking for social and economic factors was 23. Children in poverty was 20 percent, about the same as the state’s percentage of 21 percent. Physical environment ranking was very low; Fergus was ranked 45th of the 46 ranked counties. One of the factors for the physical

environment ranking is drinking water violations, and Fergus had a very high rate of 88 percent (the state's rate is 13 percent). Fergus County ranked 8th for clinical care.

For health outcomes, Fergus County ranked high: 5th of the 46 counties. It also ranked 4th for quality of life and 19th for length of life.

Meagher County ranked 34th of the 46 ranked counties in Montana for health factors. This may be attributed to one of the factors considered being "food environment index." This considers access to healthy food and food insecurity, which is whether people have enough to eat. This is on a zero (worst) to ten (best) range. For the United States, this index score is 7.6; for Montana it is 7.4. Meagher County is 2.8, which is even less than the worst performing counties (bottom 10%). Meagher County's ranking for social and economic factors was low at 39th. This may be attributed to its children in poverty score of 31 percent, much more than the state's percentage of 21 percent. Physical environment ranking was 18th.

For health outcomes, Meagher County ranked low at 38th of the 46 counties. This could partially be attributed to its poor ranking of 44th for quality of life.

Musselshell County ranked 30th of the 46 ranked counties for health factors.

Musselshell County ranked 19th of the 46 ranked counties for health outcomes. It was ranked 33rd for social and economic factors; children in poverty was 30 percent, higher than the 21 percent for Montana. Physical environment was ranked 32nd.

Land Ownership

Decisions made by public land managers may influence the local economy and lifestyles of residents, particularly if public lands represent a large portion of the land base. Agency management actions that affect quality of life amenities and the extent and type of resource extraction are particularly important in areas where much of the land is managed by public agencies. When there is a mix of land ownership, there is the potential for a mix of management priorities and actions. This is especially true across landscapes that share basic similarities. Federal and state land managers, private land owners, and others are constrained in different ways by laws and regulations that dictate how their lands can be managed. This can lead to adjacency challenges and opportunities (EPS-HDT 2014). The amount of federal lands in these counties also has direct fiscal implications related to federal payments such as Payments in Lieu of Taxes (PILT) and Payments to States. These are revenue-sharing payments made to the state that are distributed to the counties under the Secure Rural Schools and Community Self-Determination Act of 2000.

Approximately 30 percent of Montana's land is under federal ownership (similar to that of the nation), while 6.2 percent is owned by the state and another 9 percent is tribal land. The remaining 55 percent of the land area is under private ownership. There are approximately 18.5 million acres of federal lands managed by the Forest Service in Montana, accounting for about 20 percent of the state's land area. Compared to the state as a whole, the amount of land under federal ownership is somewhat smaller for the HLC NFs plan area with approximately 25.6 percent. However, this varies widely by county, ranging from 53.2 percent for Jefferson County down to 7 percent for Chouteau County. Almost all of the federal land is administered by the Forest Service (19.1 percent of the 25.6 percent), with the next largest amount being administered by the Bureau of Land Management (4.1 percent). More detailed information on land ownership is provided in the county groupings below.

West

A great deal of the land in the west area is federally owned (Table 5.5). Jefferson, Lewis and Clark, and Powell Counties all have more than half of their land area under federal ownership, with the vast majority administered

by the Forest Service. The majority (60 percent) of the land in Broadwater County (the smallest county in terms of land area) is under private ownership. None of land in the western area is under tribal ownership.

Table 5.5 Land ownership, HLC NFs primary plan area-west

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
Total Area (acres)	771,471	1,049,469	2,133,617	1,400,438	5,354,995	92,306,919
	Percent of Total Area					
Private Lands	60.1	43.4	41.5	38.7	43.8	54.8
Conservation Easement	2.8	1.2	4.9	6.6	4.3	1.9
Federal Lands	34.7	53.2	50.1	52.0	49.0	30.0
Forest Service	24.2	43.8	46.3	45.7	42.5	20.1
BLM	8.3	9.4	3.3	5.9	5.9	7.1
National Park Service	na	na	na	0.1	0.0	1.4
Military	na	na	0.3	na	0.1	0.3
Other Federal	2.3	na	0.3	0.3	0.5	1.2
State Lands	5.1	3.5	8.3	9.3	7.2	6.2
State Trust Lands	3.1	3.0	6.3	4.0	4.6	5.6
Other State	2.0	0.5	2.1	5.3	2.6	0.6
Tribal Lands	na	na	na	na	na	9.0
City, County, Other	0.1	0.0	0.1	na	0.0	0.0

Data Sources: U.S. Geological Survey, Gap Analysis Program. 2012. Protected Areas Database of the United States (PADUS) version 1.3 (Accessed via EPS-HDT).

North

Land ownership in the three-county north area varies widely between counties (Table 5.6). Glacier County, the largest of the three counties in terms of acreage, is predominantly tribally owned (70.5 percent). Although nearly 21 percent of Glacier County is federally owned, most of the federal land is managed by the National Park Service. Conversely, the vast majority of the land in Pondera and Teton Counties is privately owned (68.5 and 73.2 percent respectively). Federal land makes up about 10 to 16 percent of the land in Pondera and Teton Counties, with the majority of the federal land administered by the Forest Service. Teton County contains no tribal lands while more than 15 percent of the land in Pondera County is tribally owned.

Table 5.6 Land ownership, HLC NFs primary plan area-north

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
Total Area (acres)	1,942,186	1,039,336	1,438,852	4,420,374	92,306,919
	Percent of Total Area				
Private Lands	8.3	68.5	73.2	43.6	54.8
Conservation Easement	0.1	1.0	2.0	0.9	1.9
Federal Lands	20.7	10.5	17.7	17.3	30.0
Forest Service	1.5	10.3	16.4	8.4	20.1
BLM	0.0	0.1	1.2	0.4	7.1
National Park Service	19.2	na	na	8.4	1.4
Military	na	na	na	na	0.3
Other Federal	0.0	0.1	0.1	0.1	1.2

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
State Lands	0.4	5.5	9.1	4.4	6.2
State Trust Lands*	0.4	5.4	7.2	3.8	5.6
Other State	na	0.1	1.9	0.6	0.6
Tribal Lands	70.5	15.6	na	34.6	9.0
City, County, Other	na	na	0.0	0.0	0.0

Data Sources: U.S. Geological Survey, Gap Analysis Program. 2012. Protected Areas Database of the United States (PADUS) version 1.3 (Accessed via EPS-HDT).

Central

Both Cascade and Chouteau Counties are comprised primarily of private lands (81.3 percent and 81.1 percent respectively, Table 5.7). Both counties have a relatively small percentage of Forest Service lands, with Cascade County at 10.8 percent and Chouteau County at 1.2 percent. Chouteau County has 1.3 percent of its lands owned tribally.

Table 5.7 Land ownership, HLC NFs primary plan area-central

	Cascade County	Chouteau County	HLC NFs Central	Montana
Total Area (acres)	1,662,528	2,520,291	4,182,819	92,306,919
	Percent of Total Area			
Private Lands	81.3	81.1	81.2	54.8
Conservation Easement	4.4	1.5	2.6	1.9
Federal Lands	13.2	7.0	9.5	30.0
Forest Service	10.8	1.2	5.0	20.1
BLM	1.5	5.7	4.0	7.1
National Park Service	na	na	na	1.4
Military	0.2	na	0.1	0.3
Other Federal	0.8	0.1	0.4	1.2
State Lands	5.5	10.5	8.5	6.2
State Trust Lands*	4.7	10.5	8.2	5.6
Other State	0.8	0.0	0.3	0.6
Tribal Lands	na	1.3	0.8	9.0
City, County, Other	0.0	0.0	0.0	0.0

Data Sources: U.S. Geological Survey, Gap Analysis Program. 2012. Protected Areas Database of the United States (PADUS) version 1.3 (Accessed via EPS-HDT).

East

More than 70 percent of the land in the four-county eastern area is under private ownership (Table 5.8). Wheatland County contains the largest percentage of privately-owned land (84.2 percent), while less than 8 percent of its land is federally owned. Meagher County contains the smallest percentage of private land (60.4 percent). However, federal land makes up around one third of the land in Meagher County, almost all of which is administered by the Forest Service. Around a quarter of the land in Judith Basin County is federally owned, with almost all of the federal land being administered by the Forest Service. Fergus County is nearly 20 percent federally owned; however, much of the federal land is administered by the Bureau of Land Management. None of the land in the eastern area is tribally owned.

Table 5.8 Land ownership, HLC NFs primary plan area-east

	Fergus County	Judith Basin County	Meagher CountyT	Wheatland County	HLC NFs East	Montana
Total Area (acres)	2,744,285	1,181,920	1,458,335	892,131	6,276,671	92,306,919
	Percent of Total					
Private Lands	74.4	64.6	60.4	84.2	70.7	54.8
Conservation Easement	1.5	1.3	5.1	2.5	2.4	1.9
Federal Lands	19.5	26.2	33.1	7.4	22.2	30.0
Forest Service	6.4	25.2	32.6	7.3	16.1	20.1
BLM	11.3	1.0	0.6	0.2	5.3	7.1
National Park Service	na	na	na	na	na	1.4
Military	na	na	na	na	na	0.3
Other Federal	1.8	na	na	na	0.8	1.2
State Lands	6.1	9.2	6.5	8.3	7.1	6.2
State Trust Lands*	5.8	8.4	6.2	8.0	6.7	5.6
Other State	0.3	0.8	0.3	0.3	0.4	0.6
Tribal Lands	na	na	na	na	na	9.0
City, County, Other	0.0	na	na	na	0.0	0.0

Land Development, Land Use, and the Wildland Urban Interface

Population growth is often a key metric used to describe human effects on natural resources. However, in most geographies land consumption is outpacing population growth. In these areas, land consumption (the area of land used for residential development) is strongly related to wildlife habitat loss and the degree to which public lands are bordered by residential development. The impact of residential development on ecological processes and biodiversity to surrounding lands is widely recognized. These impacts include:

- changes in ecosystem size, with implications for minimum dynamic area,
- species–area effect and trophic structure,
- altered flows of materials and disturbances into and out of surrounding areas,
- effects on crucial habitats for seasonal and migration movements and population source/sink dynamics,
- exposure to humans through hunting, exotics species, and disease (Hansen et al. 2007, Hansen and DeFries 2005).

In the past several decades, 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 (lots between 1.7 and 40 acres in size) in much of the country has exacerbated this trend (low density development results in a larger area of land converted to residential development). This pattern of development reflects a number of factors, including demographic trends, the increasingly “footloose” nature of economic activity (the economic activity can be conducted virtually and is not tied to a specific geographical location or employment site), the availability and price of land, and preferences for homes on larger lots. These factors can place new demands on public land managers as development increasingly pushes up against public land boundaries. For example, human-wildlife conflicts and wildfire threats may become more serious issues for public land managers where development occurs adjacent to public lands. In addition, there may be new demands for recreation opportunities and concern about the commodity use of the landscape (such as timber, agriculture, and mining) (EPS-HDT 2014).

For the primary analysis areas, there has been a substantial increase in residential acreage since 2000. Residential acreage increased from 107,747 acres in 2000 up to 166,698 acres in 2010, a 55 percent increase. From 2000 to 2010, Broadwater County had the largest percent change in residential development (163 percent), where residential acreage increased by 14,393 acres. Pondera County had the smallest increase in percentage terms (8.7 percent), increasing only 114 acres over the ten-year period. Although residential acreage has increased substantially, the 13-county area has a much smaller percentage of private land classified as residential (1.4 percent) than the rest of the nation (16 percent) and slightly less than the state (2 percent).

An analysis of land use change by county has recently been completed in support of the 2010 Renewable Resources Planning Act Assessment (Wear 2011). Land use change is forecast using a statistical model that incorporates both population projections and historical land use changes from the Natural Resources Inventory (NRI) survey of land uses. Population projections used in the analysis are based upon three of the Intergovernmental Panel on Climate Change's (IPCC) population scenarios: A1B (mid-level population increase with high per capita disposal personal income), A2 (high population change and low personal income growth), and B2 (lowest population change and mid-level income change). Nonfederal land use categories analyzed in the report include forest land, cropland, range land, urban and built up areas, and pasture land and native pastures.

The land use forecasts developed by Wear (2011) show some conversion from rural uses to urban and developed uses in the primary land area, averaging around a half of one percent of the private land base by the year 2060 (depending upon climate scenario (explained in previous paragraph)). The largest amount of conversion is forecast to occur in Jefferson County (1.8 to 2.7 percent, depending upon climate scenario) and the smallest change is forecast to occur in Chouteau County and Fergus County (0.2 percent to 0.4 percent depending upon scenario).

For the Forest Service and other natural resource agencies, housing development in close proximity to public lands is a major concern because of the risk of wildfire to communities and private property. According to a study by Headwaters Economics (Gude et al. 2103):

“The wildfire problems in the wildland-urban interface (WUI) have received national attention as more acres and homes are burned by wildfire (National Interagency Fire Center [NIFC] 2011). A government audit in 2006 identified the WUI as the primary source of escalating federal firefighting costs, which exceeded \$1 billion in three of the past six years (OIG 2006). In 87 percent of large wildfires reviewed in the audit, the protection of private property was cited as a major reason for firefighting efforts.”

Over the past two decades, both the magnitude and the variability of the area burned by wildfire have increased substantially. Several factors have been identified as potential causal factors for the increase in wildfire activity including past suppression efforts, drought conditions, and climate change. Coinciding with these trends, the 10-year average national federal suppression expenditures have increased from \$620 million a decade ago (1990 through 1999) to \$1,580 million (2000 to 2009) (inflated to constant 2009 dollars) (Gebert and Black 2012). Many studies have delineated the rising costs of forest and other wildland fires. These studies all point to the expanding pattern of residential development adjacent to public lands as a significant contributing factor as expressed above.

As defined in the National Fire Plan, the WUI includes areas “where structures and other human development meet or intermingle with undeveloped wildland.” Other federal documents define the WUI as areas “where humans and their development meet or intermix with wildland fuel”. Headwaters Economics, the developers of EPS-HDT, define the WUI as private forestlands that are within 500 meters of public forestlands. The forestland classification is based upon land cover imagery from the National Land Cover Dataset (Vogelmann et al. 2001). The classifications include evergreen needleleaf forest, evergreen broadleaf forest, deciduous needleleaf forest, deciduous broadleaf forest, mixed forests, and closed shrublands. Further information on how the WUI area in

EPS-HDT was calculated can be found in the EPS-HDT (2014) report, “A Profile of Development and the Wildland Urban Interface” found in the project file.

In 2010, about 671 square miles of the primary area met the definition of WUI used in EPS-HDT. Given that the total square mileage of the plan area is 32,220 square miles, this is around 2 percent of the total land area. Of the total 671 square miles of this defined WUI area, approximately 4.6 percent (30.9 square miles) contained houses in 2010, compared to 16.3 percent for the eleven western states¹ and 9.4 percent for the state of Montana. Since wildfires are most often a concern when in proximity to communities and structures, a greater number of homes in the WUI indicates more potential for property damage. These numbers, therefore, indicate that, on average, the primary analysis area has fewer homes in the WUI than other areas in Montana or the west as a whole. In 2010, Cascade County had 12.4 percent of WUI areas with homes, the largest percentage of the primary area. Chouteau and Fergus Counties had the smallest, at nearly zero.

In 2000, nearly 7.6 percent of homes in the primary area were classified as second homes. Homes built near forested public lands are much more likely to be second homes compared to homes built on other private western lands. One in five homes near public forests in the west is a second home, compared to one in twenty-five homes on other western private lands (Gude et al. 2008). For the primary analysis area (as well as the state of Montana), the numbers are much larger, with nearly one in three homes in the WUI being a second home.

More detailed information on land development and the WUI is provided in the tables below. However, no further information on forecasted land use changes is provided by county grouping since the differences between counties are relatively small.

West

Residential acreages increased substantially in two of the counties in the west area – Broadwater and Jefferson (Table 5.9) between 2000 and 2010. From 2000 to 2010, residential acreage increased 163 percent in Broadwater County, from 3,004 acres to 7,901 acres, and it increased 107 percent in Jefferson County, from 11,386 acres to 23,555. However, the largest increase in actual acreage occurred in Lewis and Clark County, where residential acreage went from 47,120 acres in 2000 to 65,553 acres in 2010. Lewis and Clark County also had the largest amount of private land classified as residential in 2010 (7.4 percent). Residential acres/person increased the most in Jefferson County between 2000 and 2010, increasing nearly an acre, up to 2.06 acres per person. The largest number of second homes was found in Lewis and Clark County in 2000 (2,061); however, the largest percentage of second homes was found in Powell County (10.8 percent).

Table 5.9 Residential development in the HLC NFs primary plan area-west from 2000-2010

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
Residential Acres 2000	3,004	11,386	47,120	3,656	65,166	692,039
Residential Acres 2010	7,901	23,555	65,553	6,103	103,112	1,030,829
Change in Residential Acres 2000-2010	4,897	12,169	18,433	2,447	37,946	338,790
Percent (%) Change	163.0%	106.9%	39.1%	66.9%	58.2%	49.0

¹ The eleven western states include Arizona, California, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming.

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
Residential Acres as a percent (%) of private land	1.7%	5.2%	7.4%	1.1%	4.4%	2.0%
Residential Acres/Person, 2000	0.69	1.13	0.84	0.51	0.69	0.77
Residential Acres/Person, 2010	1.40	2.06	1.03	0.87	1.40	1.04
Change in Residential Acres/Person, 2000-2010	0.72	0.93	0.19	0.36	0.72	0.27
Total Residential Units 2000	2,002	4,199	25,672	2,930	34,803	412,633
Second Homes in 2000	183	288	2,061	315	2,847	36,434
Percent (%) Second Homes	9.1%	6.9%	8.0%	10.8%	8.2%	8.8%

Data Sources: Theobald, DM. 2013. Land use classes for ICLUS/SERGoM v2013. Unpublished report, Colorado State University.; U.S. Department of Commerce. 2000. Census Bureau, Systems Support Division, Washington, D.C.(Accessed via EPS-HDT).

In 2010, Lewis and Clark County had the largest amount of area classified as WUI (according to the definition used in EPS-HDT), at 168 square miles and the highest percentage of the WUI area with homes at 7.7 percent. This is a lower percentage of homes in the WUI than for either the state (9.4 percent) or the western states (16.3 percent).

Table 5.10 Amount (square miles and percent) of wildland urban interface (WUI) in the east area, 2010

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana	Western states
Total WUI Area (mi ²)	27	95	168	115	404	2,943	23,596
WUI Area with Homes (%)	0.7	6.8	7.7	1.0	5.1	9.4	16.3

Data Sources: Gude et al. 2008; TIGER/Line 2010 Census Blocks from <http://www.census.gov/geo/maps-data/data/tiger-line.html>; U.S. Department of Commerce. 2011. Census Bureau, Census 2010, Washington, D.C. Summary File 1. (Accessed via EPS-HDT)

North

Residential acreages increased by a much smaller amount in the north area than in the west area, with increases in the northern counties ranging from 23.6 percent in Teton County down to only 8.7 percent in Pondera County (Table 5.11). The largest increase in actual acreage occurred in Glacier County, where residential acreage went from 3,815 acres in 2000 to 4,564 acres in 2010. Glacier County also had the largest amount of private land classified as residential in 2010 (2.8 percent). Residential acres/person changed little over the ten year period. The largest number (and the largest percentage) of second homes was found in Glacier County in 2000 (635 or 12.1 percent of homes).

Table 5.11 Residential development in the HLC NFs primary plan area-north from 2000-2010

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
Residential Acres 2000	3,815	1,306	2,550	7,671	692,039
Residential Acres 2010	4,564	1,420	3,152	9,136	1,030,829
Change in Residential Acres 2000-2010	749	114	602	1,465	338,790
Percent (%) Change	19.6%	8.7%	23.6%	19.1%	49.0%
Residential Acres as a percent (%) of private land	2.8%	0.2%	0.3%	0.5%	2.0%
Residential Acres/Person, 2000	0.29	0.20	0.40	0.30	0.77
Residential Acres/Person, 2010	0.34	0.23	0.52	0.36	1.04
Change in Residential Acres/Person, 2000-2010	0.05	0.03	0.12	0.06	0.27
Total Residential Units 2000	5,243	2,834	2,910	10,987	412,633
Second Homes in 2000	635	213	239	1,087	36,434
Percent (%) Second Homes	12.1%	7.5%	8.2%	9.9%	8.8%

Data Sources: Theobald, DM. 2013. Land use classes for ICLUS/SERGoM v2013. Unpublished report, Colorado State University.; U.S. Department of Commerce. 2000. Census Bureau, Systems Support Division, Washington, D.C.(Accessed via EPS-HDT).

In 2010, Glacier County had the largest amount of area classified as WUI, at 13 square miles and the highest percentage of the WUI area with homes at 4.3 percent. This is a lower percentage of homes in the WUI than for either the state (9.4 percent) or the western states (16.3 percent) and around half of the amount in the west area.

Table 5.12 Amount (square miles and percent) of wildland urban interface (WUI) in the north area, 2010

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana	Western states
Total WUI Area (mi ²)	13	3	4	21	2,943	23,596
WUI Area with Homes (%)	4.3%	0%	0.2%	2.8%	9.4	16.3

Data Sources: Gude et al. 2008; TIGER/Line 2010 Census Blocks from <http://www.census.gov/geo/maps-data/data/tiger-line.html>; U.S. Department of Commerce. 2011. Census Bureau, Census 2010, Washington, D.C. Summary File 1. (Accessed via EPS-HDT)

Central

Residential acreages in the central area increased by a larger amount than in the north area but not as much as it increased in the west area (Table 5.13). However, changes in the central area were driven largely by Cascade County, which is one of only three counties classified as metropolitan statistical areas in Montana (the other two being Yellowstone County and Missoula County). Cascade County also had the largest amount of private land classified as residential in 2010 (3.1 percent). Residential acres/person changed little over the ten year period, with lot sizes being considerably smaller than for the state. Though the largest number of second homes are found in Cascade County (1,405 homes), the largest percentage of second homes was found in Chouteau where 14.1 percent of homes were classified as second homes in 2000, compared to 4 percent for Cascade County.

Table 5.13 Residential development in the HLC NFs primary plan area - central from 2000-2010

	Cascade County	Chouteau County	HLC NFs Central	Montana
Residential Acres 2000	27,123	1,257	28,380	692,039
Residential Acres 2010	41,516	1,514	43,030	1,030,829
Change in Residential Acres	14,393	257	14,650	338,790

	Cascade County	Chouteau County	HLC NFs Central	Montana
2000-2010				
Percent (%) Change	53.1%	20.4%	51.6%	49.0%
Residential Acres as a percent (%) of private land	3.1%	<0.5%	1.3%	2.0%
Residential Acres/Person, 2000	0.34	0.21	0.33	0.77
Residential Acres/Person, 2010	0.51	0.26	0.49	1.04
Change in Residential Acres/Person, 2000-2010	0.17	0.05	0.16	0.27
Total Residential Units 2000	35,225	2,776	38,001	412,633
Second Homes in 2000	1,405	392	1,797	36,434
Percent (%) Second Homes	4.0%	14.1%	4.7%	8.8%

Data Sources: Theobald, DM. 2013. Land use classes for ICLUS/SERGoM v2013. Unpublished report, Colorado State University.; U.S. Department of Commerce. 2000. Census Bureau, Systems Support Division, Washington, D.C.(Accessed via EPS-HDT).

In 2010, none of Chouteau County was classified as WUI. However, 71 square miles of Cascade County was classified as WUI, where 12.4 percent of the WUI area had homes. This is a much lower percentage of homes in the WUI than for either the state (9.4 percent) or the western states (16.3 percent).

Table 5.14 Amount (square miles and percent) of wildland urban interface (WUI) in the central area, 2010

	Cascade County	Chouteau County	HLC NFs Central	Montana	Western states
Total WUI Area (mi ²)	71	8	78	2,943	23,596
WUI Area with Homes (%)	12.4%	0%	12.4%	9.4	16.3

Data Sources: Gude et al. 2008; TIGER/Line 2010 Census Blocks from <http://www.census.gov/geo/maps-data/data/tiger-line.html>; U.S. Department of Commerce. 2011. Census Bureau, Census 2010, Washington, D.C. Summary File 1. (Accessed via EPS-HDT)

East

The counties making up the east area stretch across a large area, with very low population densities. Although residential acreages have increased from 60.9% in Meagher County up to 75.9 percent in Fergus County, the amount of land classified as residential is still very low (less than half a percent) (Table 5.15). The largest increase in actual residential acreage occurred in Fergus County, where residential acreage went from 3,400 acres in 2000 to 5,980 acres in 2010. Residential acres/person changed some over the ten year period, with Judith Basin County experiencing the largest increase from less than half an acre/person to more than an acre. The largest number (and the largest percentage) of second homes was found in Meagher County in 2000 (450 or 33 percent of homes). In fact, the percentage of second homes in the east area is substantially higher than in any of the other county areas.

Table 5.15 Residential development in the HLC NFs primary plan area-east from 2000-2010

	Fergus County, MT	Judith Basin County, MT	Meagher County, MT	Wheatland County, MT	HLC NFs East	Montana
Residential Acres 2000	3,400	1,222	1,216	692	6,530	692,039
Residential Acres 2010	5,980	2,273	1,956	1,211	11,420	1,030,829
Change in Residential Acres 2000-	2,580	1,051	740	519	4,890	338,790

	Fergus County, MT	Judith Basin County, MT	Meagher County, MT	Wheatland County, MT	HLC NFs East	Montana
2010						
Percent (%) Change	75.9%	86.0%	60.9%	75.0%	74.9%	49.0%
Residential Acres as a percent (%) of private land	<0.5%	<0.5%	<0.5%	<0.5%	<0.5%	2.0%
Residential Acres/Person, 2000	0.29	0.52	0.63	0.31	0.36	0.77
Residential Acres/Person, 2010	0.52	1.10	1.03	0.56	0.64	1.04
Change in Residential Acres/Person, 2000-2010	0.23	0.57	0.40	0.25	0.29	0.27
Total Residential Units 2000	5,558	1,325	1,363	1,154	9,400	412,633
Second Homes in 2000	392	324	450	185	1,351	36,434
Percent (%) Second Homes	7.1%	24.5%	33.0%	16.0%	14.4%	8.8%

Data Sources: Theobald, DM. 2013. Land use classes for ICLUS/SERGoM v2013. Unpublished report, Colorado State University.; U.S. Department of Commerce. 2000. Census Bureau, Systems Support Division, Washington, D.C.(Accessed via EPS-HDT).

In 2010, very little of the east area (around 1.6 percent) was classified as WUI, at 168 square miles with the largest amount (80 square miles) found in Meagher County (Table 5.16). Additionally, very little (less than one percent) of the WUI had homes in 2010.

Table 5.16 Amount (square miles and percent) of wildland urban interface (WUI) in the east area, 2010

	Fergus County, MT	Judith Basin County, Mt	Meagher County, MT	Wheatland County, MT	HLC NFs East	Montana	Western states
Total WUI Area (mi ²)	63	22	80	2	168	2,943	23,596
WUI Area with Homes (%)	0.0%	0.9%	0.9%	na	0.6%	9.4%	16.3

Data Sources: Gude et al. 2008; TIGER/Line 2010 Census Blocks from <http://www.census.gov/geo/maps-data/data/tiger-line.html>; U.S. Department of Commerce. 2011. Census Bureau, Census 2010, Washington, D.C. Summary File 1. (Accessed via EPS-HDT)

Demographic Conditions and Trends

The focus of this section is to provide the social context of existing conditions and future trends for the areas of the Helena and Lewis and Clark National Forests. Different population groups use the areas in different ways and it is beneficial to have some statistical understanding of those people and their uses. This section includes information regarding current population and how it has changed over time, along with some population projections. In addition to population numbers, this information includes: components of population change, age and gender; public assistance; education levels; and home affordability. These data can inform public involvement

and promote sensitivity to cultural interests. This information can also help tailor outreach and help in Environmental Justice determinations. Information on racial, Hispanic and tribal composition and poverty levels are displayed in the section on Environmental Justice.

Demographics, statistics which describe population structure and dynamics, are an important consideration in land management planning. They contribute to understanding the people and communities with whom land managers are working and interacting. Structure and changes in demographics can affect land management planning. Examples of this include: wildland urban interface issues, particularly growth of populations and increased housing development in proximity to wildfire-prone areas; elevated infrastructure needs, such as building additional or making improvements to campgrounds and trailheads; exerting pressures for access and use of natural resources; and fragmentation of non-public lands, which can lead to increased human and wildlife conflicts. Population growth, for example, can cause a number of potential impacts to the Helena and Lewis and Clark National Forests and surrounding areas, which need to be factored in to land management planning and decision-making. Conversely, land management can affect people and communities – as seen by the amounts and types of support or lack thereof for certain management decisions.

West

The west area, comprised of Broadwater, Jefferson, Lewis and Clark and Powell Counties, experienced a strong growth in population during the 2000 to 2012 period. The exception to the growth in population is Powell County, which actually lost 1.6 percent of its population. Broadwater County experienced the greatest growth, at 27.1 percent.

Table 5.17 Population in the west area, 2000-2012

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
Population (2012*)	5,575	11,360	63,432	7,067	87,434	990,785
Population (2000)	4,385	10,049	55,716	7,180	77,330	902,195
Population Change (2000-2012*)	1,190	1,311	7,716	-113	10,104	88,590
Population Percent Change (2000-2012*)	27.1%	13.0%	13.8%	-1.6%	13.1%	9.8%

The gender distribution for three of the counties in the west area is similar to that of the state with more males than females. This is particularly true in Powell County which is likely due to the fact that that Montana’s State Men’s Prison is located in Powell County. Lewis and Clark County, however, had slightly more females than males in 2012. The age categories with the largest populations in 2012 were as follows: Broadwater County – 60 to 64 year olds, Jefferson County – 55 to 59 year olds, Lewis and Clark County – 50 to 54 year olds, and Powell County – 45 to 49 year olds. All four counties had a higher median age in 2012 than the state average of 39.9, with Jefferson County having the highest median age at 46.8 years. Jefferson also saw the largest percent change in median age between 2000 and 2012, with an increase of 16.4 percent.

Table 5.18 Age and gender distribution in the west area, 2012

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
Total Population	5,575	11,360	63,432	7,067	87,434	990,785
Under 5 years	282	529	3,843	285	4,939	60,865
5 to 9 years	319	647	4,237	344	5,547	62,478
10 to 14 years	436	859	3,813	257	5,365	60,620
15 to 19 years	307	793	4,115	452	5,667	67,002

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
20 to 24 years	177	380	3,804	333	4,694	68,483
25 to 29 years	294	378	3,833	445	4,950	62,791
30 to 34 years	190	463	3,636	313	4,602	58,873
35 to 39 years	323	544	3,886	466	5,219	55,669
40 to 44 years	394	794	3,669	592	5,449	58,542
45 to 49 years	468	993	4,765	690	6,916	69,723
50 to 54 years	473	1,165	5,321	673	7,632	78,035
55 to 59 years	425	1,366	4,861	539	7,191	75,894
60 to 64 years	479	798	4,808	521	6,606	63,838
65 to 69 years	360	696	2,941	406	4,403	47,076
70 to 74 years	260	412	2,008	292	2,972	34,342
75 to 79 years	175	236	1,591	190	2,192	26,633
80 to 84 years	112	171	1,289	175	1,747	20,379
85 years and over	101	136	1,012	94	1,343	19,542
Total Female	2,747	5,513	31,994	2,681	42,935	493,644
Total Male	2,828	5,847	31,438	4,386	44,499	497,141

Table 5.19 Change in median age in the west area, 2000-2012

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
Median Age^ (2012*)	45.6	46.8	40.7	45.4	N/A	39.9
Median Age^ (2000)	41.3	40.2	38.0	39.7	N/A	37.5
Median Age % Change	10.4%	16.4%	7.1%	14.4%	N/A	6.4%

Table 5.20 displays components of population change. Total population change is the sum of natural change and migration. Natural change is factored by the number of births minus the number of deaths. Migration includes international and domestic migrations into the counties. For all four counties, population change between 2000 and 2012 was largely due to domestic migration into the area. Lewis and Clark County also experienced a large annual average change in population due to births being substantially greater than deaths during this time.

Table 5.20 Population change in the west area, 2000-2012

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs Central	Montana
Population Change, 2000-2013	1,390	1,324	8,998	-82	11,630	101,848
Avg. Annual Population Change	51	119	675	-5	841	7,856
Avg. Annual Natural Change	-8	8	214	-20	194	3,332
Avg. Annual Births	40	98	719	54	911	11,772
Avg. Annual Deaths	48	90	505	74	717	8,440
Avg. Annual Net Migration	61	118	489	19	685	4,647
Avg. Annual International	1	1	32	3	35	358

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs Central	Montana
Migration						
Avg. Annual Domestic Migration	60	117	457	16	650	4,289
Avg. Annual Residual	-2	-7	-28	-4	-38	-123

Table 5.21 Percent of population change from 2000-2012 in the west area

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
Avg. Annual Natural Change	0.0%	6.5%	31.7%	100.0%	23.1%	42.4%
Avg. Annual Net Migration	100.0%	97.5%	72.5%	0.0%	81.4%	59.2%

North

The three counties considered in north plan area include Glacier, Pondera and Teton Counties. This area experienced a 1.8 percent decrease in population from 2000 to 2012 from 26,116 people in 2000 to 25,651 people in 2012. Pondera and Teton Counties had some sizeable losses. Pondera County lost 4.3 percent of its population, from 6,424 people in 2000 to 6,147 people in 2012. Teton County's loss was greater, at 5.6 percent. Population in Teton County in 2000 was 6,445 people and in 2012 it was 6,082. Glacier County had a small increase in population of 1.3 percent, from 13,247 people in 2000 to 13,422 people in 2012. All counties are significantly less than the overall population increase of 9.8 percent for the state of Montana.

Table 5.22 Population in the north area, 2000-2012

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
Population (2012*)	13,422	6,147	6,082	25,651	990,785
Population (2000)	13,247	6,424	6,445	26,116	902,195
Population Change (2000-2012*)	175	-277	-363	-465	88,590
Population Percent Change (2000-2012*)	1.3%	-4.3%	-5.6%	-1.8%	9.8%

The gender distribution for Glacier, Pondera and Teton Counties is similar. All three counties have more women than men, which is different than the state on average, which has more men than women. The median age in all three counties increased from 2000 to 2012. The median age in Teton County increased more than twice that which the state did. Pondera County also had a significant age increase. Glacier County's age increase was small. The median age in 2012 is greatest for Teton County, 45.6 years. Pondera is a few years behind at 42.9 years. Both of these counties had a higher median age than the state of Montana, which was 39.9 years. Glacier County had a much younger median age in 2012; it was 31.4 years. Glacier County has a relatively young population compared to the other two counties. In 2012, the age category with the highest estimated population in Glacier County was 5 to 6 years of age. For Pondera and Teton, the age categories with the highest populations in 2012 were 50 to 54 year olds (Pondera) and 55 to 59 year olds (Teton).

Table 5.23 Age and gender distribution in the north area, 2012

	Glacier County, MT	Pondera County, MT	Teton County, MT	HLC NFs North	Montana
Total Population	13,422	6,147	6,082	25,651	990,785
Under 5 years	1,236	407	320	1,963	60,865

	Glacier County, MT	Pondera County, MT	Teton County, MT	HLC NFs North	Montana
5 to 9 years	1,363	450	386	2,199	62,478
10 to 14 years	980	378	424	1,782	60,620
15 to 19 years	1,092	421	458	1,971	67,002
20 to 24 years	947	283	218	1,448	68,483
25 to 29 years	830	324	263	1,417	62,791
30 to 34 years	684	290	283	1,257	58,873
35 to 39 years	898	220	326	1,444	55,669
40 to 44 years	600	458	332	1,390	58,542
45 to 49 years	978	458	462	1,898	69,723
50 to 54 years	1,000	485	497	1,982	78,035
55 to 59 years	858	443	508	1,809	75,894
60 to 64 years	537	358	342	1,237	63,838
65 to 69 years	356	296	402	1,054	47,076
70 to 74 years	466	261	266	993	34,342
75 to 79 years	380	211	197	788	26,633
80 to 84 years	144	199	168	511	20,379
85 years and over	73	205	230	508	19,542
Total Female	6,892	3,222	3,077	13,191	493,644
Total Male	6,530	2,925	3,005	12,460	497,141

Table 5.24 Change in median age in the north area, 2000-2012

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
Median Age^ (2012*)	31.4	42.9	45.6	N/A	39.9
Median Age^ (2000)	30.6	38.6	40.0	N/A	37.5
Median Age % Change	2.6%	11.1%	14.0%	N/A	6.4%

Table 5.25 displays components of population change in terms of natural change (births and deaths) versus migration. The counties in the north area experienced population change much different than that in the west area. Both Pondera and Teton Counties lost population between 2000 and 2012, which was mainly due to migration out of the area. Glacier County, which saw an increase in population, grew because of more births than deaths. In fact, the high birth rate made up for the fact that migration was negative during this time.

Table 5.25 Population change in the north area, 2000-2012

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
Population Change, 2000-2012	514	-212	-382	-80	101,848
Average Annual Population Change	59	-46	-34	-21	7,856
Average Annual Natural Change	152	5	0	157	3,332
Avg. Annual Births	262	76	62	400	11,772
Avg. Annual Deaths	110	71	62	243	8,440
Avg. Annual Net Migrations	-87	-49	-30	-167	4,647

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
Avg. Annual International Mig.	3	0	11	13	358
Avg. Annual Domestic Mig.	-90	-49	-41	-180	4,289
Avg. Annual Residual	-6	-2	-4	-11	-123

Central

Cascade County experienced only 1.1 percent increase from 2000 to 2012. Chouteau County experienced a loss in population of 2.7 percent. These are both considerably less than Montana's overall increase of 9.8 percent increase, particularly the loss of population in Chouteau County.

Table 5.26 Population in the central area, 2000-2012

	Cascade County	Chouteau County	Montana	HLC NFs Central
Population (2012*)	81,248	5,811	990,785	87,059
Population (2000)	80,357	5,970	902,195	86,327
Population Change (2000-2012*)	891	-159	88,590	732
Population Percent Change (2000-2012*)	1.1%	-2.7%	9.8%	0.8%

The gender distribution for both Cascade and Chouteau Counties is very similar, with a close number of males as females. The age categories with the largest populations in 2012 were as follows: Cascade County – 20 to 24 year olds, and Chouteau County – 55 to 59 year olds. The large number of 20 to 24 year olds in Cascade County is most likely due to the presence of Malstrom Air Force Base. The median age in both counties increased. The median age in Cascade County in 2012 was 38.7, slightly less than Montana's median age of 39.9. The median age in Chouteau County was 41.5, more than the state's median age.

Table 5.27 Age and gender distribution in the central area, 2012

	Cascade County	Chouteau County	HLC NFs Central	Montana
Total Population	81,248	5,811	87,059	990,785
Under 5 years	5,515	392	5,907	60,865
5 to 9 years	4,746	466	5,212	62,478
10 to 14 years	5,252	382	5,634	60,620
15 to 19 years	5,304	406	5,710	67,002
20 to 24 years	6,128	313	6,441	68,483
25 to 29 years	5,641	302	5,943	62,791
30 to 34 years	4,956	275	5,231	58,873
35 to 39 years	4,207	307	4,514	55,669
40 to 44 years	4,771	310	5,081	58,542
45 to 49 years	5,536	342	5,878	69,723
50 to 54 years	6,122	462	6,584	78,035
55 to 59 years	5,507	515	6,022	75,894
60 to 64 years	4,829	329	5,158	63,838
65 to 69 years	3,672	239	3,911	47,076
70 to 74 years	3,009	264	3,273	34,342

	Cascade County	Chouteau County	HLC NFs Central	Montana
75 to 79 years	2,567	166	2,733	26,633
80 to 84 years	1,843	194	2,037	20,379
85 years and over	1,643	147	1,790	19,542
Total Female	40,928	2,935	43,863	493,644
Total Male	40,320	2,876	43,196	497,141

Table 5.28 Change in median age in the central area, 2000-2012

	Cascade County	Chouteau County	Montana	HLC NFs Central
Median Age^ (2012*)	38.7	41.5	39.9	N/A
Median Age^ (2000)	36.7	39.3	37.5	N/A
Median Age % Change	5.4%	5.6%	6.4%	N/A

Table 5.29 displays components of population change in terms of natural change (births and deaths) versus migration. Cascade County's population increase from 2000 to 2012 was largely due to more births than deaths, since migration into the area was negative during this time. Chouteau County's decrease in population was mainly due to migration out of the area.

Table 5.29 Population change in the central area, 2000-2012

	Cascade County	Chouteau County	Montana	HLC NFs Central
Population Change, 2000-2013	2,183	-126	111,872	2,057
Avg. Annual Population Change	239	-65	8,007	174
Avg. Annual Natural Change	387	-15	3,328	372
Avg. Annual Births	1,140	44	11,799	1,184
Avg. Annual Deaths	753	59	8,471	812
Avg. Annual Net Migration	-335	-48	4,776	-383
Avg. Annual International Migration	5	1	389	6
Avg. Annual Domestic Migration	-340	-49	4,387	-389
Avg. Annual Residual	187	-2	-97	185

East

The four counties which comprise the east plan area – Fergus, Judith Basin, Meagher, and Wheatland – have a different demographic from the State of Montana and nearby counties. During the years 2000 to 2012, all four counties lost population. Judith Basin lost a large percentage at 11.9 percent, Wheatland lost 5.2 percent, Fergus lost 3.2 percent, and Meagher lost 1.7 percent. This is in large contrast to the overall growth in population in the State of Montana of 9.8 percent.

Table 5.30 Population in the east area, 2000-2012

	Fergus County	Judith Basin County	Meagher County	Wheatland County	HLC NFs East	Montana
Population (2012*)	11,507	2,052	1,900	2,142	17,601	990,785
Population (2000)	11,893	2,329	1,932	2,259	18,413	902,195
Population Change (2000-2012*)	-386	-277	-32	-117	-812	88,590

	Fergus County	Judith Basin County	Meagher County	Wheatland County	HLC NFs East	Montana
Population Percent Change (2000-2012*)	-3.2%	-11.9%	-1.7%	-5.2%	-4.4%	9.8%

Fergus County and Meagher County had more males than females in 2012, similar to the state, while Judith Basin and Wheatland had more females than males. The age category with the largest populations in 2012 was 55 to 59 year olds for all four counties. All four counties had a higher median age in 2012 than that for the state (39.9), with Judith Basin having the highest median age, at 51.3 years. Judith Basin also had the largest percentage increase in median age between 2000 and 2012 (at 22.1 percent), though all of the counties saw a larger percentage increase in median age than the state.

Table 5.31 Age and gender distribution in the east area, 2012

	Fergus County, MT	Judith Basin County, MT	Meagher County, MT	Wheatland County, MT	HLC NFs East	Montana
Total Population	11,507	2,052	1,900	2,142	17,601	990,785
Under 5 years	604	34	117	131	886	60,865
5 to 9 years	582	120	91	85	878	62,478
10 to 14 years	622	152	90	86	950	60,620
15 to 19 years	700	107	142	207	1,156	67,002
20 to 24 years	439	33	62	131	665	68,483
25 to 29 years	576	63	117	86	842	62,791
30 to 34 years	554	59	121	112	846	58,873
35 to 39 years	590	118	100	93	901	55,669
40 to 44 years	572	87	78	59	796	58,542
45 to 49 years	763	194	110	138	1,205	69,723
50 to 54 years	982	189	176	167	1,514	78,035
55 to 59 years	1,119	236	188	184	1,727	75,894
60 to 64 years	877	169	145	131	1,322	63,838
65 to 69 years	635	117	93	124	969	47,076
70 to 74 years	638	174	72	173	1,057	34,342
75 to 79 years	443	67	78	51	639	26,633
80 to 84 years	427	71	57	89	644	20,379
85 years and over	384	62	63	95	604	19,542
Total Female	5,699	1,082	929	1,102	8,812	493,644
Total Male	5,808	970	971	1,040	8,789	497,141
Change in Median Age, 2000-2012						
Median Age^ (2012*)	48.1	51.3	46.9	48.5	N/A	39.9
Median Age^ (2000)	42.4	42.0	42.8	41.4	N/A	37.5
Median Age % Change	13.4%	22.1%	9.6%	17.1%	N/A	6.4%

Table 5.32 displays components of population change in terms of natural change (births and deaths) versus migration. All four counties lost population from 2000 to 2012. For Fergus County, the decrease was largely due

to more deaths than births (natural change) rather than migration out of the county. For the other three counties, the decrease was almost entirely due to migration out of the area. Many residents or neighboring residents speculate that it's because of a desired change from the traditional agricultural lifestyles, or desires to perform jobs which don't exist in these farming and ranching communities or are better-paid.

Table 5.32 Population change in the east area, 2000-2012

	Fergus County	Judith Basin County	Meagher County	Wheatland County	HLC NFs East	Montana
Population Change, 2000-2012	-445	-308	-5	-147	-905	101,848
Average Annual Population Change	-75	-32	3	-23	-130	7,856
Average Annual Natural Change	-53	-2	1	-2	-57	3,332
Avg. Annual Births	102	15	22	22	161	11,772
Avg. Annual Deaths	155	17	21	24	218	8,440
Avg. Annual Net Migration	-16	-29	3	-21	-65	4,647
Avg. Annual Internatl. Mig.	8	1	1	1	10	358
Avg. Annual Domestic Mig.	-24	-30	2	-22	-75	4,289
Avg. Annual Residual	-6	-1	-1	0	-8	-123
Percent of Population Change						
Avg. Annual Natural Change	70.8%	6.0%	11.5%	9.8%	44.3%	42.4%
Avg. Annual Net Migration	22.1%	92.9%	119.2%	89.0%	50.5%	59.2%

Economic Conditions and Trends

The economic health and well-being of area communities is always a topic of ongoing interest. Long-term, steady growth of population, employment, and real personal income is generally an indication of a healthy, prosperous economy. Erratic growth, no-growth, or long-term decline in these indicators are generally an indication of a struggling economy. Growth can benefit the general population of a place, especially by providing economic opportunities, but it can also stress communities, and lead to income stratification.

Understanding the economic context of the area surrounding the HLC NFs provides important information to land managers as the economy of the local area influences and is influenced by the management of the forest. This section of the assessment provides information on: sectors of the economy particularly influenced by national forest management; the influence of natural amenities on economic growth; employment trends and types of industries; income; and federal land payments and their importance to county revenue.

Commodity Sectors

Public lands can play a key role in stimulating local employment by providing opportunities for commodity extraction. In this report, timber, mining, and agriculture are together referred to as commodity sectors because they have the potential for using public lands for the extraction of commodities. For example, timber may be harvested from Forest Service System lands, and oil and gas development and cattle grazing may occur on federal lands. The exact number of jobs that rely on the commodity use of public lands cannot be measured; however, the relative size of the commodity sectors is important to understand, in order to put the economy related to commodity extraction in perspective. For example, a county with 90% of its employment in the commodity sectors has a higher chance of being impacted by decisions that permit (or restrict) timber, mining, and grazing activities on public lands than a county where only 10% of the workforce is in these sectors.

Figure 5.1 shows the percent of total employment in 2011 accounted for by the commodity sectors (timber, mining, and agriculture) in the primary analysis area, by county grouping and commodity type. For all four county areas, agriculture supports more employment than either mining or timber. Agriculture accounts for around 14 percent of total private employment in both the northern and eastern counties of the HLC NFs primary analysis area, a substantially larger percentage than for either the state or the nation. Mining and timber each account for 3 percent or less of employment in each area. However, these percentages vary widely within each area. More information on each of the commodity sectors by areas is provided below.

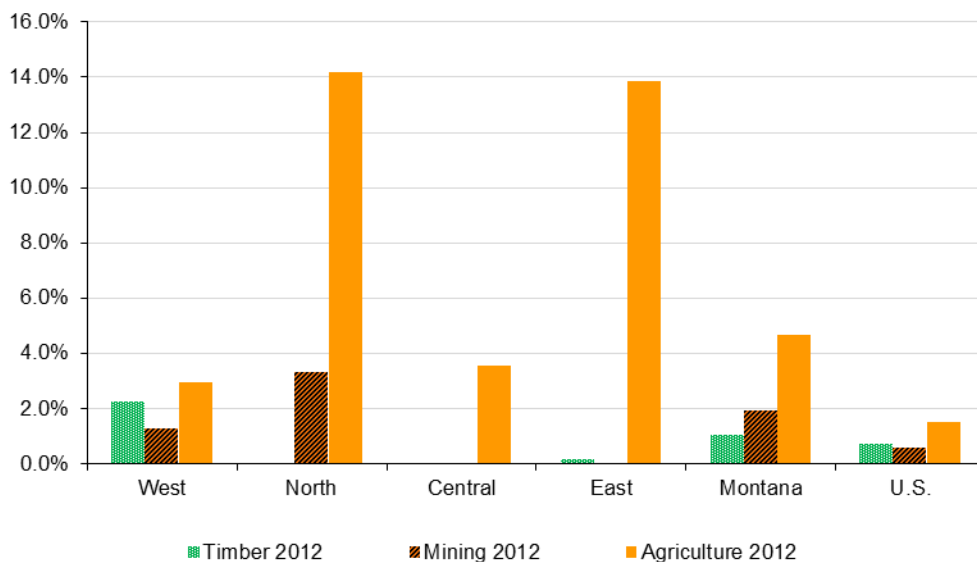


Figure 5.1 Percent of total employment by commodity sectors for the four HLC NFs county groupings, the State of Montana and the United States

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Table CA25N; U.S. Department of Commerce. 2014. Census Bureau, County Business Patterns, Washington, D.C. [Accessed via EPS-HDT)

Timber Sector

Many rural western communities have seen changes in their local economies because of changes in the timber industry that began in the 1990s. During this time period, mill closures occurred throughout communities in Idaho, Montana, Washington, and Oregon (Ehinger 2001). According to McIver et al. (2013), from 1998 to 2009 the number of primary wood product facilities in Montana fell from 220 to 127. In 2009, the number of workers in Montana’s wood and paper products industry was 7,051, down from the most recent peak of 12,116 employees in 1990. In a more recent update, Morgan et al. (2013) estimated that employment in 2012 was 6,650 workers. They list the reasons for the decline in the primary wood industry as: 1) the decline in Federal timber sale program after 1987 and 2) the collapse of the U.S. housing market (2006-2010). They state that the volume harvested from National Forests in Montana declined 76 percent from 1987 to 1995, and the NFs proportion of the total harvest in Montana dropped from over 40 percent to approximately 20 percent. In 2006, the housing market began to collapse, with a severe collapse occurring during 2008 and 2009 when the country was hit with the “great recession”. Although the recession officially ended in June of 2009, the housing market was slow to recover and in 2011 housing starts were at their lowest level since the U.S. Census Bureau began tracking them in 2009. Forecasts are for continued growth in the U.S. economy and an increase in the demand for wood products (Morgan et al. 2013).

In 1998, there were 32 active primary wood products facilities in the 13-county analysis area. However, by 2009, this number had dropped to 16 (Keegan et al. 2001, McIver et al. 2013). By 2012, the amount of timber-related employment in the primary analysis area was very small, with the largest amount occurring in the western area, which derived a higher percentage of its employment (2.2 percent) from timber-related industries than either the state (1 percent) or the nation (0.7 percent). The only two counties in the primary analysis area that had any substantial amount of timber-related employment in 2012 were Broadwater County, where timber-related employment accounted for 22.5 percent of private employment and Powell County, where it accounted for 23.7 percent (County Business Patterns 2014). Because of the small size (or nonexistence) of timber-related employment in the other 11 counties, this section will focus on Broadwater and Powell counties alone.

Since 1998, Broadwater and Powell County have not seen the same decline in timber-related employment as the state. Figure 5.2 shows timber employment by county, and for the state, from 1998 to 2011, indexed to 1998 (1998=100). Timber-related employment in Broadwater County was higher in 2012 than in 1998 by more than 50 percent and was 36 percent higher in Powell County, compared to a decrease of around 55 percent for the state of Montana.

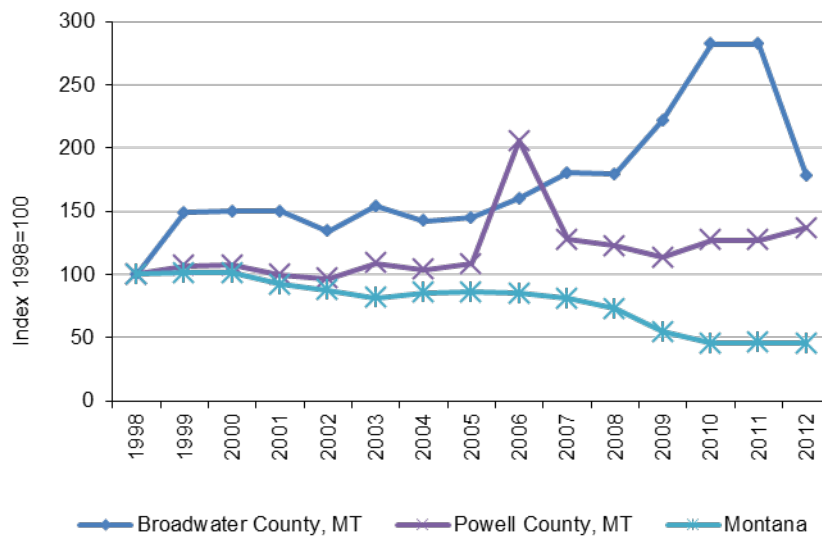


Figure 5.2 Timber related employment in Broadwater and Powell Counties, 1998–2012.
 Source: County Business Patterns (Accessed via EPS-HDT)

Table 5.33 shows the breakdown of employment in the forest products industry for the two counties. Sectors that have zero employment in the two counties were eliminated from the table. The 178 timber-related jobs in Broadwater County in 2012 occurred mainly in sawmills (143) and other wood product manufacturing (31 jobs). In Powell County, most employment was associated with growing and harvesting, which accounted for 95 of the 243 timber-related jobs. The second largest sector was sawmills, which accounted for another 141 jobs. In addition, proprietors (the self-employed) in the timber industry accounted for another 25 jobs in the two counties, almost all of which were associated with forestry and logging.

Table 5.33 Employment in timber industry in Broadwater and Powell County, 2012

	Broadwater County	Powell County
Total Private Employment	790	1,024
Timber	178	243

	Broadwater County	Powell County
Growing & Harvesting	4	95
Forestry & Logging	3	66
Support Activities for Forestry	1	29
Sawmills & Paper Mills	143	141
Sawmills & Wood Preservation	143	141
Wood Products Manufacturing	31	7
Other Wood Product Mfg.	31	7
Non-Timber	612	781

Source: County Business Patterns. This table does not include employment data for government, agriculture, railroads, or the self-employed because these are not reported by County Business Patterns. Estimates for data that were not disclosed are shown in italics. (Accessed via EPS-HDT)

Average annual wages in timber-related industries often tend to be relatively high compared to the average for other sectors. Figure 5.3 shows average annual wages for timber-related jobs in Broadwater and Powell Counties from 1998 to 2012. From 1998 to 2012, average wages in forestry & logging shrank (in real terms) from \$50,462 to \$35,363, a 29.9 percent decrease. The average annual wage in the two counties in 2012 was approximately \$34,402 per year.

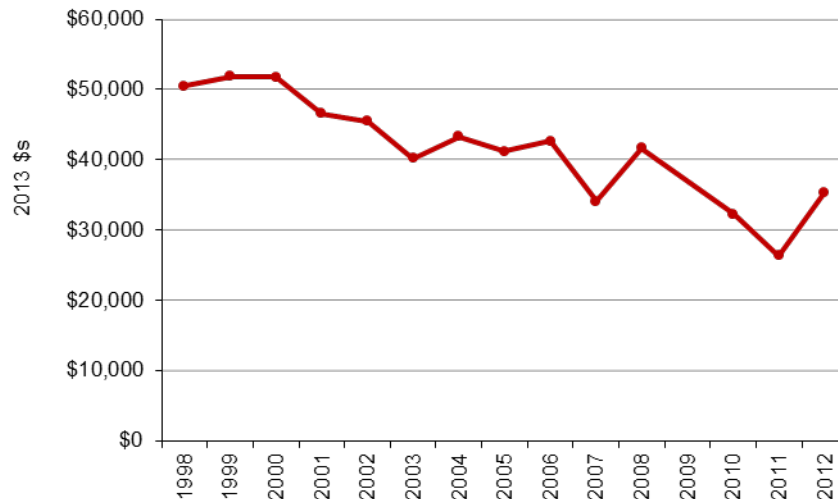


Figure 5.3 Average annual wages in timber sectors for Broadwater and Powell County, MT, 2012
Source: Bureau of Labor Statistics, 2012. (Accessed via EPS-HDT)

Agricultural Sector

Farming and ranching can be a significant portion of the landscape and the local economy. Some forms of agriculture, such as ranching, may depend on public lands for grazing forage. Others, such as crop production, may rely on upstream public lands that provide water for irrigation. While nationwide trends show that fewer people are work in farming, the land in farms is still valuable for a number of reasons, including the production of food (with gains in production efficiency, fewer farmers can produce more food than in the past) and the preservation of open space, scenic vistas, and wildlife habitat (EPS-HDT 2014).

As shown in Figure 5.1, agriculture is an important economic sector in the plan area, providing a substantial amount of employment, particularly in the north and east areas. The percentage of land area devoted to farming in the primary analysis area is very high, ranging from a low of 35 percent in Jefferson County to a high of 96 percent in Wheatland County. In comparison, the percentage of the nation’s land in agriculture is 45 percent, and 66 percent of the state of Montana is agricultural land. In fact, eight of the 13 counties in the primary analysis area have a higher percentage of agricultural land than the state and all but Jefferson, Lewis and Clark, and Powell have a higher percentage than the nation. There are 6,786 farms in the primary area with 2,063 of those farms being classified as beef cattle ranch and farms (NASS 2014). More information on the importance of agriculture to the plan area is provided below by county area.

West

Table 5.34 shows the number of farms, by type, for the four-county west area. In 2012, there were 1,654 farms in the area, with the largest number of farms (541 or 32.7 percent) classified as beef cattle ranch and farms. This is comparable to the state as a whole at 31.1 percent. Powell County had a substantially higher percentage of beef cattle ranches at 46 percent. The second largest farm type was “animal aquaculture & other animal products”, which is comprised of establishments primarily engaged in raising animals and insects (except cattle, hogs and pigs, poultry, sheep and goats, and aquaculture) for sale or product production. These establishments are primarily engaged in one of the following: bees, horses and other equine, rabbits and other fur-bearing animals, etc, and producing products such as honey and other bee products. Establishments primarily engaged in raising a combination of animals with no one animal or family of animals accounting for one-half of the establishment’s agricultural production are also included in this industry group. “Other crop farming”, which includes other crops not listed in the table or farms where no one crop or family of crop(s) account for one-half or more of the establishment's agricultural production, was the third largest type, at 26.9 percent.

Table 5.34 Number and types of farms for the west area and the state of Montana, 2012

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
All Farms	287	401	703	263	1,654	28,008
	Percent of Total Farms					
Oilseed & Grain Farming	11.5	1.2	1.7	0.4	3.1	16.9
Vegetable & Melon Farming	1.4	0.2	1.6	0.0	1.0	0.7
Fruit & Nut Tree Farming	1.0	0.2	1.0	0.0	0.7	1.0
Greenhouse, Nursery, etc.	1.4	1.2	1.1	0.8	1.1	1.2
Other Crop Farming	31.0	20.7	31.7	19.0	26.9	26.4
Beef Cattle Ranch. & Farm.	33.4	38.4	24.2	46.0	32.7	31.1
Cattle Feedlots	0.0	1.0	0.0	1.1	0.4	0.6
Dairy Cattle & Milk Prod.	1.0	0.0	0.6	0.4	0.5	0.3
Hog & Pig Farming	0.7	1.2	0.1	0.0	0.5	0.3
Poultry & Egg Production	1.4	1.2	2.0	1.5	1.6	0.7
Sheep & Goat Farming	1.7	3.7	0.9	3.0	2.1	2.1
Aquaculture & Other Prod.	15.3	30.7	35.1	27.8	29.4	18.8

Source: U.S. Department of Agriculture. 2014. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C., Table 44. (EPS-HDT 2014)

As shown in Figure 5.1, agriculture accounted for approximately 2.9 percent of total employment in the four-county area in 2012. However, this ranged from 11.6 percent for Broadwater County down to 1.5 percent for Lewis and Clark County (Figure 5.4). From 1970 to 2012, farm employment has been fairly steady, growing 11

percent from 1,503 jobs in 1970 to 1,674 jobs in 2012. In 1970, farm proprietors represented 58.5 percent of all farm employment. By 2012, farm proprietors represented 79 percent of all farm employment in the west county area.

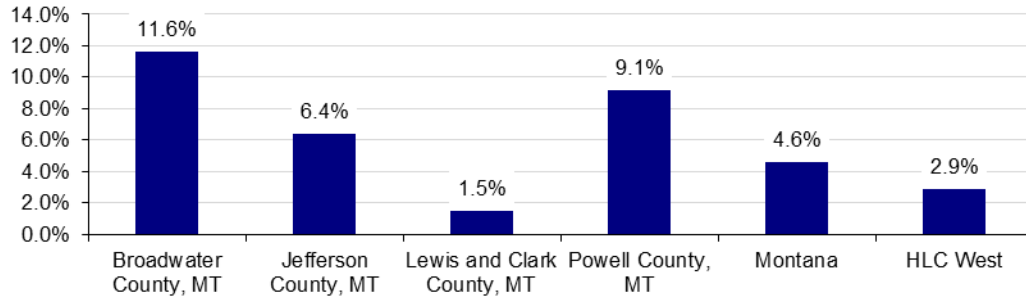


Figure 5.4 Farm jobs as a percent of total employment, 2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Tables CA25 & CA25N (EPS-HDT 2014)

Farm earnings are defined as the net income from sole proprietors, partners, and hired laborers arising directly from the production of agricultural commodities, either livestock or crops. It includes net farm proprietors' income, wages and salaries, pay-in-kind, and supplements to wages and salaries of hired farm laborers. It specifically excludes income from non-family farm corporations. Farm earnings, shown in Figure 5.5, tend to be much more volatile than farm jobs and have ranged from a low of negative \$3.5 million in 1985 to a high of \$21.7 million in 1993 for the four-county west area. In 2012, farm earnings for the area were \$18.7 million.

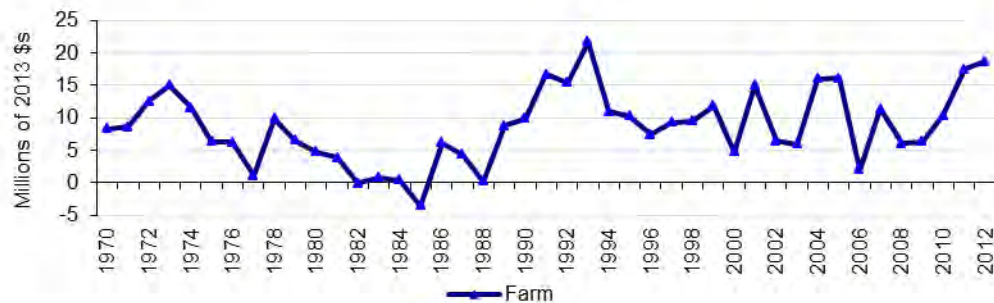


Figure 5.5 Farm earnings in the west area, 1970-2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Tables CA05 & CA05N. (EPS-HDT 2014)

North

Table 5.35 shows the number of farms, by type, for the three-county north area. In 2012, there were 1,849 farms in the area, with the largest number of farms (586 or 31.7 percent of farms) classified as “oilseed and grain farming”. The second largest farm type was “other crop farming” at 25.5 percent of farms. Beef cattle ranch and farms was the third largest type, accounting for 24.7 percent of farms. This was less than the state as a whole at 31.1 percent. In 2012, Glacier County had the largest percent of beef cattle ranching and farming of the three northern counties (35.4), and Pondera County had the smallest percent (19.4).

Table 5.35 Number of farms by type for the north area and the state of Montana, 2012

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
All Farms	602	505	742	1,849	28,008
	Percent of Total Farms				
Oilseed & Grain Farming	18.6	45.1	33.2	31.7	16.9
Vegetable & Melon Farming	0.0	0.2	0.0	0.1	0.7
Fruit & Nut Tree Farming	0.0	0.0	0.3	0.1	1.0
Greenhouse, Nursery, etc.	0.0	0.2	0.4	0.2	1.2
Other Crop Farming	20.6	22.8	31.3	25.5	26.4
Beef Cattle Ranch. & Farm.	35.4	19.4	19.7	24.7	31.1
Cattle Feedlots	0.0	0.4	0.5	0.3	0.6
Dairy Cattle & Milk Prod.	0.0	0.2	0.3	0.2	0.3
Hog & Pig Farming	0.0	0.2	0.4	0.2	0.3
Poultry & Egg Production	0.3	0.6	0.1	0.3	0.7
Sheep & Goat Farming	0.7	2.0	1.3	1.3	2.1
Aquaculture & Other Prod.	24.4	8.9	12.5	15.4	18.8

Source: U.S. Department of Agriculture. 2014. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C., Table 44. (EPS-HDT 2014)

As shown in Figure 5.1, agriculture accounted for approximately 14.2 percent of total employment in the north area in 2012. However, this ranged from 20 percent for Teton County down to 9.3 percent for Glacier County (Figure 5.6). From 1970 to 2011, farm employment shrank from 2,471 to 1,845 jobs, a 25.3 percent decrease. In 1970, farm proprietors represented 73 percent of all farm employment in the three-county area. By 2012, farm proprietors represented 81.4 percent of all farm employment in the area.

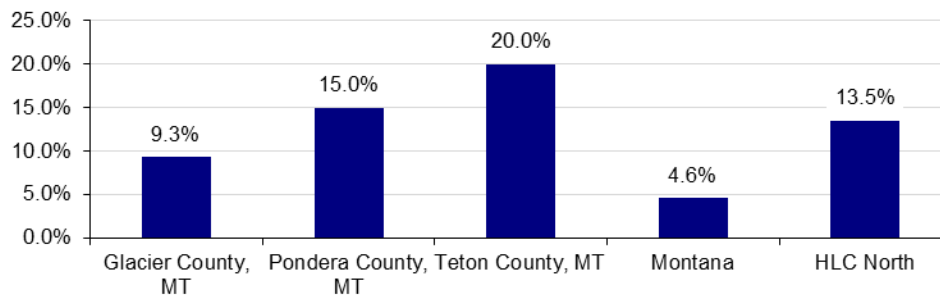


Figure 5.6 Farm jobs as a percent of total employment, north area, 2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Tables CA25 & CA25N (EPS-HDT 2014)

Farm earnings, Figure 5.7, ranged from a low of a negative \$16 million in 1985 to a high of \$110 million in 2012 for the three-county north area.

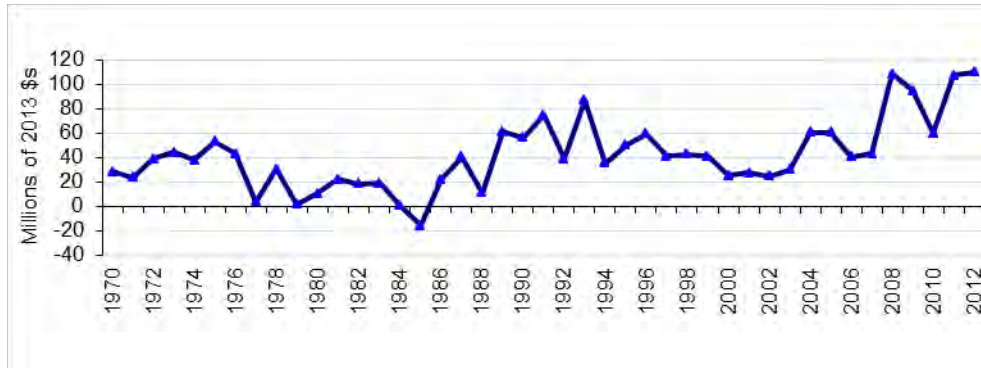


Figure 5.7 Farm earnings in the north area, 1970-2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Tables CA05 & CA05N. (EPS-HDT 2014)

Central

Table 5.36 shows the number of farms, by type, for the two-county central area. In 2012, there were 1,879 farms in the area, with the largest number of farms (569 or 30.3 percent of farms) classified as “other crop farming”. The second largest farm type was “oilseed and grain farming” (28.7 percent). Beef and cattle ranch and farms were the third largest in number at 22.2 percent, which was lower than the state as a whole (31.1 percent). In 2012, Cascade County had the largest percent of beef cattle ranching and farming (28.5 percent) in the two-county, while beef ranches only accounted for 13.2 percent of farms in Chouteau County.

Table 5.36 Number of farms by type for the central area and the state of Montana, 2012

	Cascade County, MT	Chouteau County, MT	HLC NFs Central	Montana
All Farms	1,105	774	1,879	28,008
	Percent of Total			
Oilseed & Grain Farming	11.7	53.0	28.7	16.9
Vegetable & Melon Farming	0.4	0.1	0.3	0.7
Fruit & Nut Tree Farming	0.3	0.0	0.2	1.0
Greenhouse, Nursery, etc.	0.9	0.1	0.6	1.2
Other Crop Farming	31.4	28.7	30.3	26.4
Beef Cattle Ranch. & Farm.	28.5	13.2	22.2	31.1
Cattle Feedlots	0.5	0.3	0.4	0.6
Dairy Cattle & Milk Prod.	0.1	0.0	0.1	0.3
Hog & Pig Farming	0.3	0.1	0.2	0.3
Poultry & Egg Production	1.4	0.0	0.8	0.7
Sheep & Goat Farming	2.1	0.6	1.5	2.1
Aquaculture & Other Prod.	22.5	3.9	14.8	18.8

Source: U.S. Department of Agriculture. 2014. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C., Table 44. (EPS-HDT 2014)

As shown in Figure 5.8, agriculture accounted for approximately 3.5 percent of total employment in the two-county central area in 2012. This is largely influenced, however, by Cascade County, which is a metropolitan statistical area, where farm jobs accounted for only 2.2 percent of employment. Conversely, in Chouteau County, farm jobs accounted for 26.5 percent of jobs. From 1970 to 2012, farm employment shrank from 2,901 to 1,856 jobs, a 36 percent decrease. In 1970, farm proprietors represented 73 percent of all farm employment in the central area. By 2011, farm proprietors represented 82.4 percent of all farm employment.

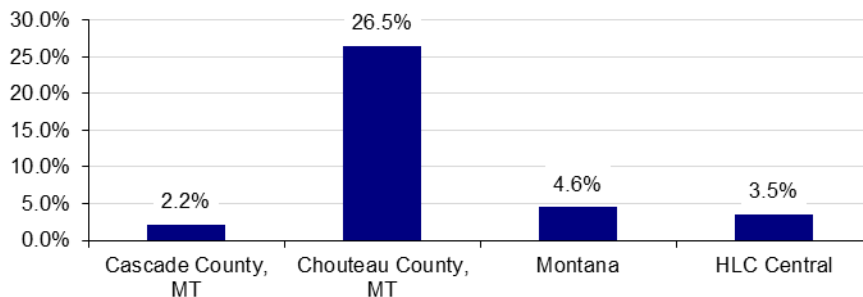


Figure 5.8 Farm jobs as a percent of total employment in the central area, 2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Tables CA25 & CA25N (EPS-HDT 2014)

Farm earnings (Figure 5.9) ranged from a low of a negative \$6.3 million in 1985 to a high of \$102.5 million in 1993 for the two-county central area. In 2012, farm earnings were \$76.5 million.

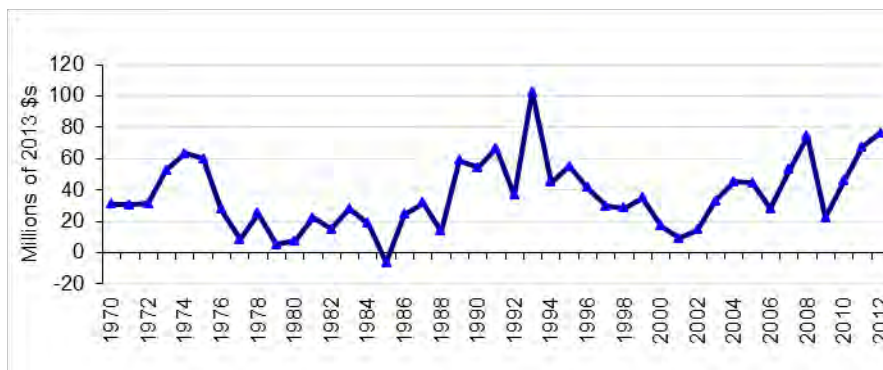


Figure 5.9 Farm earnings in the central area, 1970-2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Tables CA05 & CA05N. (EPS-HDT 2014)

East

Table 5.37 shows the number of farms, by type, for the four-county east area. In 2012, there were 1,404 farms in the area, with the largest number of farms (648 or 46.2 percent of farms) classified as beef cattle ranch and farms. All four counties had a higher percentage of beef cattle ranches than the state’s percentage of 31.1. In 2012, Meagher County had the largest percent of beef cattle ranching and farming (53.7 percent) in the four-county area, and Fergus County had the smallest (43.2 percent). The second largest farm type was “other crop farming”.

Table 5.37 Number of farms by type for the east area and the state of Montana, 2012

	Fergus County	Judith Basin County	Meagher County	Wheatland County	HLC NFs East	Montana
All Farms	790	324	136	154	1,404	28,008
	Percent of Total					
Oilseed & Grain Farming	17.2	15.1	3.7	2.6	13.8	16.9
Vegetable & Melon Farming	0.0	0.0	0.0	0.0	0.0	0.7
Fruit & Nut Tree Farming	0.0	0.0	0.0	0.0	0.0	1.0
Greenhouse, Nursery, etc.	0.6	0.0	0.0	0.6	0.4	1.2
Other Crop Farming	23.7	21.9	19.1	22.1	22.6	26.4
Beef Cattle Ranch. & Farm.	43.2	48.1	53.7	50.6	46.2	31.1
Cattle Feedlots	0.9	1.2	3.7	0.0	1.1	0.6
Dairy Cattle & Milk Prod.	0.0	0.0	0.0	0.0	0.0	0.3
Hog & Pig Farming	0.4	0.0	0.7	0.0	0.3	0.3
Poultry & Egg Production	0.0	0.0	0.0	0.0	0.0	0.7
Sheep & Goat Farming	1.4	4.9	0.7	10.4	3.1	2.1
Aquaculture & Other Prod.	12.7	8.6	18.4	13.6	12.4	18.8

Source: U.S. Department of Agriculture. 2014. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C., Table 44. (EPS-HDT 2014)

As shown in Figure 5.10, agriculture accounted for approximately 13.9 percent of total employment in the four-county area in 2012. However, this ranged from 22.9 percent for Judith Basin County down to 10.7 percent for Wheatland County. From 1970 to 2012, farm employment in the four-county area shrank from 2,574 to 1,538 jobs, a 40.2 percent decrease. In 1970, farm proprietors represented 69.7 percent of all farm employment. By 2012, farm proprietors represented 76.4 percent of all farm employment.

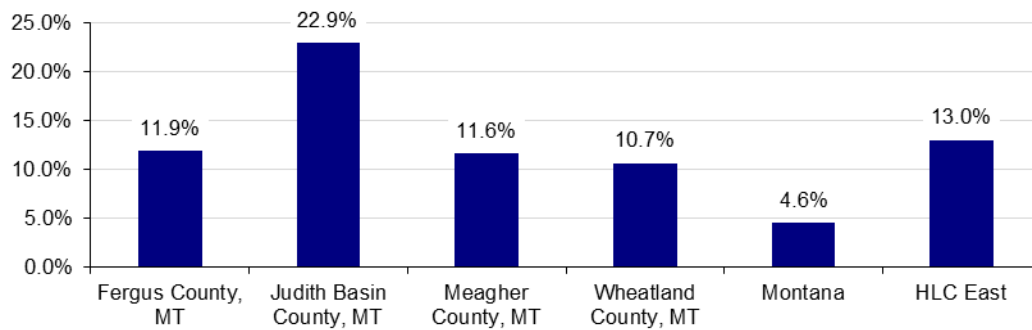


Figure 5.10 Farm jobs as a percent of total employment in the east area, 2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Tables CA25 & CA25N (EPS-HDT 2014)

Farm earnings (Figure 5.11) ranged from a low of a negative \$14.5 million in 1985 to a high of \$53.9 million in 2012 for the four-county east area.



Figure 5.11 Farm earnings in the east area from 1970-2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Tables CA05 & CA05N. (EPS-HDT 2014)

Mining

Mining has had a rich history in many of the counties connected to the HLC NFs. However, in recent times, the role of mining in local economies has declined. In 2012, mining accounted for less than 1 percent of employment in the primary analysis area in 2012; however, the importance of mining to the local economy varied widely by both county area and by counties within the four areas. As shown in Figure 5.1, the north area had the largest amount of mining employment, at around 3 percent. The west area also had some employment connected to mining (around 1 percent), while the central and east areas had little or none (or the amount of employment was not disclosed). Out of the 13 counties in the primary area, Jefferson and Glacier Counties have the largest amount of mining employment in 2012, at 4.9 percent and 9.9 percent respectively. Glacier County’s employment was associated with the oil and gas, while Jefferson County’s employment was tied to metal ore mining, specifically gold, zinc, lead, and silver. More information on mining is provided below for the west and north county areas.

West

The vast majority of the mining employment in the west area occurred in Jefferson County in 2012 where mining accounted for more than 10 percent of employment (Figure 5.12). The mining industry is centered on two large mines at either end of the county. The Golden Sunlight Mine is an open pit operation that has over 170 employees and has an annual payroll of about 13 million dollars. Montana Tunnels Mining Inc., a subsidiary of Elkhorn Goldfields Corporation, is an open pit mine that produces zinc, lead, silver and gold. At their peak, they employ over 200 people and have an annual payroll over 13 million dollars. They currently employ three individuals and are in a 'care and maintenance' status until investment dollars can be found (Jefferson County 2012). Broadwater, Lewis and Clark, and Powell Counties all have only a small percentage of employment in mining, less than 1 percent. However, because of the size of the Lewis and Clark economy, this small percentage actually accounted for around 193 employees, most of which were associated with metal ore mining. Much of this was attributable to the Drumlummon Mine in Marysville, which halted operations in 2013, laying off 107 employees (Independent Record 2013),

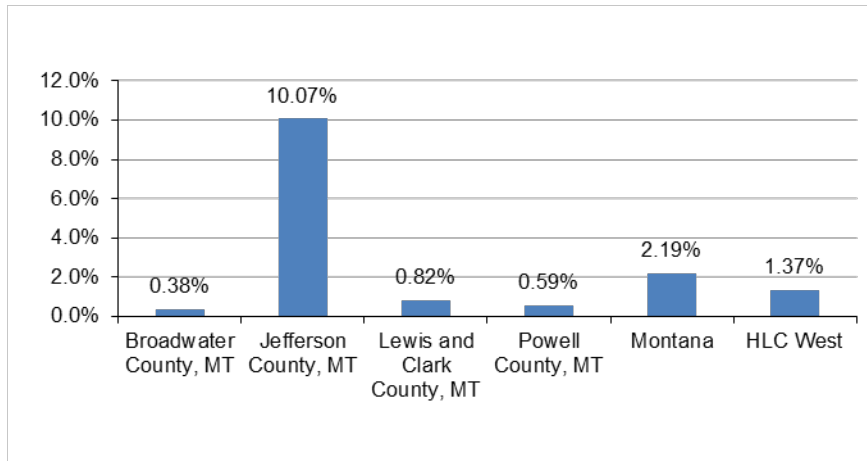


Figure 5.12 Percent of total private employment in mining in the west area, 2012

Source: U.S. Department of Commerce. 2014. Census Bureau, County Business Patterns, Washington, D.C.(EPS-HDT 2014)

North

The mining employment in the three-county north area is found almost entirely in Glacier County, where mining accounts for 4.7 percent of total private employment (Figure 5.13). All of this employment is associated with oil and gas extraction. A small amount of mining employment is found in Pondera County (0.81 percent) and none in Teton County.

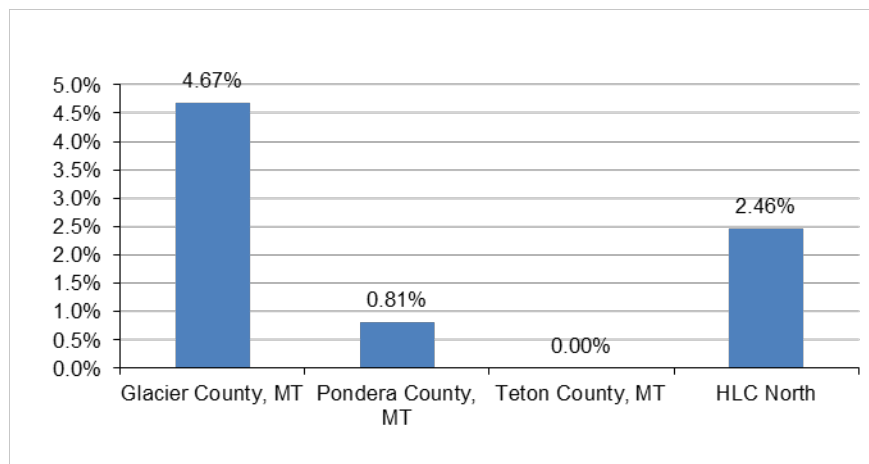


Figure 5.13 Percent of total private employment in mining in the north area, 2012

Source: U.S. Department of Commerce. 2014. Census Bureau, County Business Patterns, Washington, D.C.(EPS-HDT 2014)

Travel and Tourism

Public lands can also play an important role in stimulating local employment by providing opportunities for recreation. Communities adjacent to public lands can benefit economically from visitors who spend money in hotels, restaurants, ski resorts, gift shops, and elsewhere. The information in this section is drawn from EPS-HDT. EPS-HDT provides information on travel- and tourism-related sectors of the economy. While the information provided in the report is not an exact measure of the size of the travel and tourism sectors in the local economy, and it does not measure the type and amount of recreation on public lands, it can be used to understand whether travel and tourism-related economic activity is present, how it has changed over time, and whether there are

differences between areas. As defined by EPS-HDT, travel and tourism consists of sectors that provide goods and services to visitors to the local economy, as well as to the local population. These industries are: retail trade; passenger transportation; arts, entertainment, and recreation; and accommodation and food.

It is also not known what proportion of the jobs in these sectors is attributable to expenditures by visitors, including business and pleasure travelers, versus by local residents. Some researchers refer to these sectors as “tourism-sensitive.” They could also be called “travel and tourism-potential sectors” because they have the potential of being influenced by expenditures by non-locals. This information is useful for explaining whether sectors that are likely to be associated with travel or tourism exist, and whether there are differences between areas. It is less useful as a measure of the absolute size of employment in travel and tourism. To know this would require detailed knowledge, obtained through surveys and other means, of the proportion of a sector's employment that is directly attributable to travelers (EPS-HDT 2014).

Figure 5.14 shows the percent of total private employment in industries that include travel and tourism for the primary analysis area, by county grouping. Total private employment as shown here does not include employment in government, agriculture, railroads, or the self-employed because these are not reported by County Business Patterns. From 16 to 20 percent of total private employment in the primary area is associated with industries connected to travel and tourism with most of that associated with the accommodation and food sector. From 1998 to 2012, travel and tourism employment grew from 10,781 to 12,625 jobs in the 13-county area, a 17.1 percent increase. In 2012, Meagher County had the largest percent of total travel and tourism employment (37.7 percent), and Teton County had the smallest (15.1 percent). In comparison, travel and tourism employment accounted for about 20 percent of employment in the state of Montana and 15.2 percent for the nation.

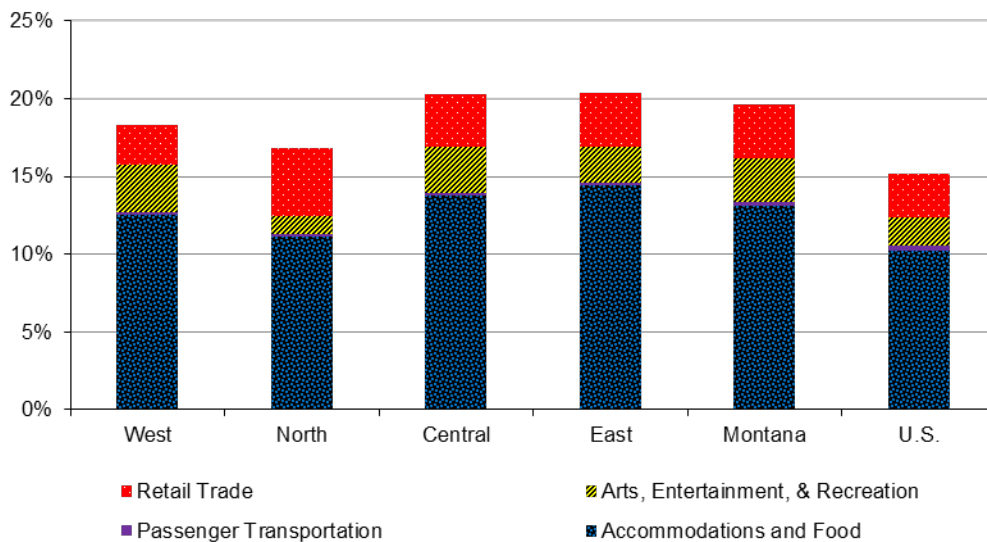


Figure 5.14 Percent of total private employment in industries that include travel and tourism for the HLC NFs primary analysis area.

(Source: County Business Patterns 2012 (EPS-HDT 2014))

Though travel and tourism-related industries benefit local economies by bringing in people from outside the area to spend money in hotels, restaurants, and on recreational activities, these types of jobs often tend to be seasonal, leading to higher rates of unemployment during winter months. They are also often part-time. Jobs in travel and tourism-related sectors also tend to pay substantially lower wages than most other jobs in an economy. Figure 5.15 shows the average annual wages and the percentage of jobs for the travel- and tourism-related sectors in the

plan area. The wages for these types of jobs are extremely low, paying \$20,000 per year or less, compared to average wage for the 13-county area of \$37,061. One of the lowest paying sector, accommodation & food services (\$14,500 per year), also has the most employees. Additional information on travel and tourism by county grouping is not provided as there was little variation in employment percentages or wages.

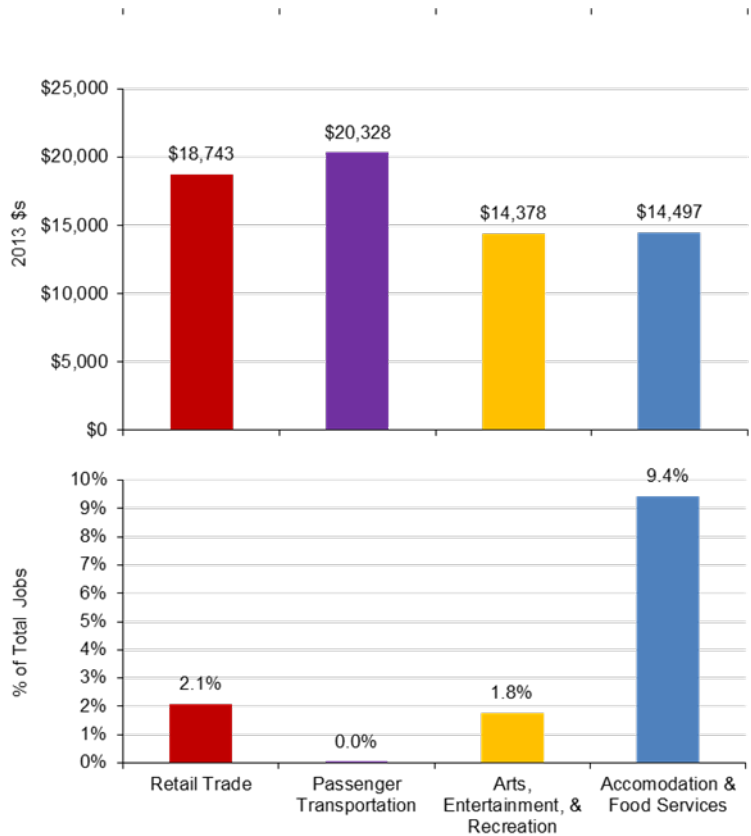


Figure 5.15 Average annual wages and percent jobs in industries that include travel and tourism for the four areas in the HLC NFs primary plan area in 2012

Source: Bureau of Labor Statistics, 2012 (EPS-HDT 2014).

Natural Amenities and the Economy

Natural amenities on public lands are qualities of these lands that make a region an attractive place to live, recreate, and work. They may consist, for example, of scenic vistas, recreational opportunities, and wildlife habitat. For some communities, surrounding public lands may serve an economic role by creating a setting that attracts and retains people and businesses. For others, the recreational opportunities may attract tourists. For yet others, the opportunities to hunt, fish, and view wildlife may be important to local residents and serve as a magnet that keeps them from leaving. While amenities alone are typically not sufficient to foster growth, they have increasingly been shown to contribute to population growth and economic development. Many factors can contribute to economic growth, including access to raw materials, workforce quality, availability of investment capital, and transportation networks. In recent decades, amenities have also become increasingly important for people who can choose where to live and work, and for businesses that are not subject to location constraints. Employers now advertise public land amenities to attract and retain a talented workforce. Communities are taking advantage of nearby public lands to attract new businesses, as well as retirement and investment income. Thus, amenities provided by public lands can be considered an economic asset. For a public lands manager, this means

proposed activities should be evaluated in the context of how they may impact public lands amenities and, in turn, an economy that may be dependent on these resources (EPS-HDT 2014).

A 2003 study by the University of Idaho (Harris et al. 2003) looked at the role of forested lands in economic development using two models of resource-based economic development – commodity based development and amenity based development. Their study found that both commodity driven development and amenity driven development can lead to economic growth but which is better for a community depends upon the characteristics of the community, and it doesn't have to be an either or choice. Both development strategies can be useful in fostering economic growth.

In 1999, the USDA Economic Research Service (ERS) published their “natural amenity” scale (McGranahan 1999). According to the ERS and other sources (e.g, Cordell et al. 2011, Hunter et al. 2005, Harris et al. 2003), population change in rural counties is strongly related to their attractiveness as places to live. Factors that influence a county’s “attractiveness” include mild climate, varied topography, and proximity to surface water (ponds, lakes, and shoreline). More specifically, in the ERS study, natural amenities that were shown to make an area more attractive to live in included warm winters, more days of winter sun, a temperate summer climate, low summer humidity, topographic variation, and proximity to water. Such natural amenities make an area attractive to retirees and recreationists and can attract “footloose” workers, or those workers who can work virtually and are not tied to a particular location. Many of these jobs can be very high paying, as in software development or other high-tech service industries.

Table 5.38 shows the “natural amenity” rank of counties (1=low amenities; 7=high) in Montana with the counties ordered by their “raw score” (scores before rounding to an integer value of 1 to 7) (not shown). With the median rank being 4, 39 of Montana’s counties ranked as average or slightly above (4 or 5) and 16 counties ranked below average. Only Glacier County, one of the counties in the 13-county primary area, had a ranking of 6. Primary counties receiving a ranking of 5 included Broadwater, Teton, Pondera, Lewis and Clark, Wheatland, Meagher, and Fergus.

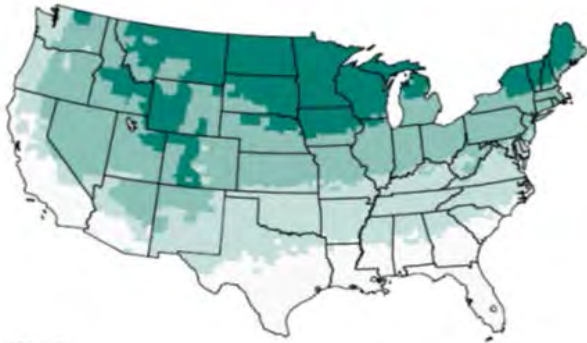
Table 5.38 Natural amenity scale for all Montana counties

County	Natural Amenity Scale (1=Low, 7=High)	County	Natural Amenity Scale (1=Low, 7=High)
Glacier	6	Ravalli	4
Carbon	5	Anaconda-Deer Lodge	4
Broadwater	5	Big Horn	4
Teton	5	Musselshell	4
Gallatin	5	Yellowstone	4
Lake	5	Toole	4
Park	5	Garfield	4
Beaverhead	5	McCone	4
Pondera	5	Liberty	4
Madison	5	Phillips	4
Sweet Grass	5	Blaine	4
Lewis And Clark	5	Golden Valley	4
Wheatland	5	Treasure	3
Meagher	5	Valley	3
Flathead	5	Richland	3
Fergus	5	Rosebud	3
Stillwater	5	Prairie	3

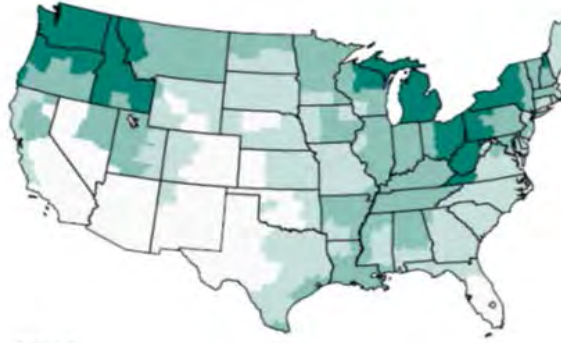
County	Natural Amenity Scale (1=Low, 7=High)	County	Natural Amenity Scale (1=Low, 7=High)
Lincoln	4	Carter	3
Sanders	4	Wibaux	3
Granite	4	Chouteau	3
Jefferson	4	Dawson	3
Cascade	4	Powder River	3
Silver Bow	4	Custer	3
Judith Basin	4	Hill	3
Petroleum	4	Fallon	3
Mineral	4	Sheridan	3
Powell	4	Roosevelt	2
Missoula	4	Daniels	2
Source: McGranahan 1999			

Figure 5.16 shows the maps of the characteristics used to rate counties, with darker colors being lower scores (less attractive). In general, the counties in the plan area ranked high in temperate summers, low summer humidity, and topographic variation. They ranked medium in water area, medium to low in winter sun, and low in warm winters.

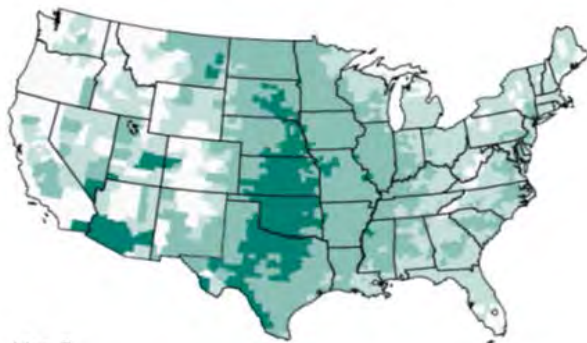
Map 1
Warm winter



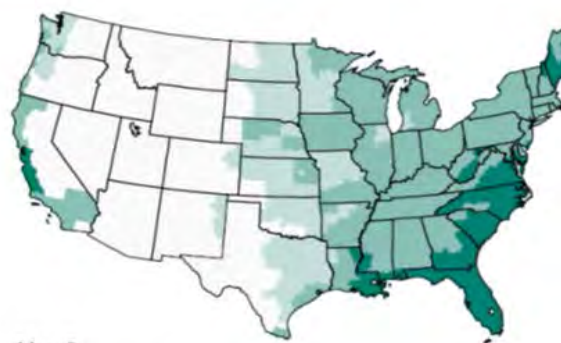
Map 2
Winter sun



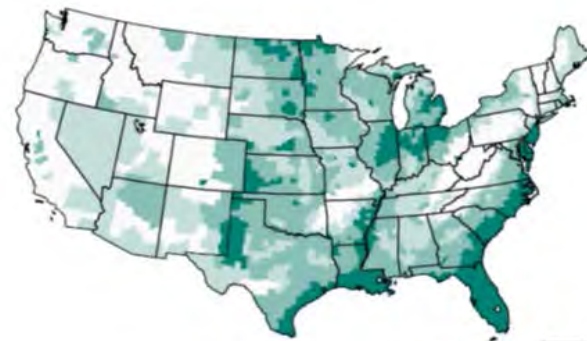
Map 3
Temperate summer



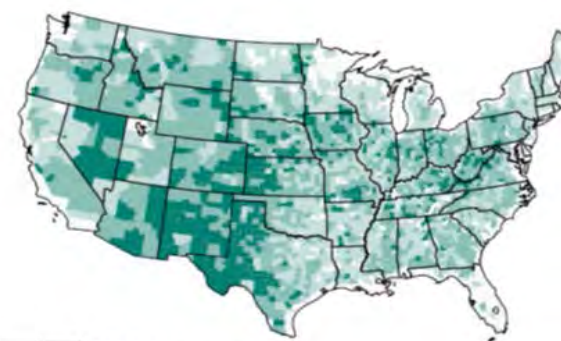
Map 4
Low summer humidity



Map 5
Topographic variation



Map 6
Water area



Low scores  High scores

Note: Maps are standard deviation (s.d.) units from mean, with darkest color over 1 s.d. below mean and lightest over 1 s.d. above. Lighter colors indicate higher scores.

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Figure 5.16 Amenity characteristics

Information on other factors related to economic growth related to natural amenities is provided below by topic and area.

Type of Federal Public Lands

EPS-HDT provides other information on natural amenities and related information. One factor studies have found to be associated with economic growth is the presence of certain types of federal public lands, such as National Parks and wilderness. When combined with other factors, such as an educated workforce and access to major markets via airports, these federal lands have been shown to be statistically significant predictors of growth. (Eichman et al. 2010, Rasker 2006). In a recent report, Headwaters Economics (2014) summarizes the results of a number of studies looking at the role that protected lands play in economic growth and state that “While every county has its own set of unique circumstances, there is a large body of peer-reviewed literature that examines the relationship between natural amenities, land conservation, and local and regional economic well-being.” They go on to state that these studies “have concluded that protected federal public lands in the West, including lands in non-metro counties, can be an important economic asset that extends beyond tourism and recreation to attract people and businesses.”

EPS-HDT categorizes federal public lands into three types, A, B, and C, to more easily distinguish lands according to primary or common uses and/or conservation functions, activities, permitted transportation uses, and whether they have a special designation (often through Congressional action) (Rasker 2006, US Geological Survey 2012).

- A. Type A lands consist of 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).
- B. Type B lands include Wilderness Study Areas (NPS, FWS, FS, BLM) and Inventoried Roadless Areas (FS).
- C. Type C lands are Public Domain Lands (BLM), O&C Lands (BLM), and National Forests and Grasslands (FS).

Type A lands tend to have more managerial and commercial use restrictions than Type C lands, represent smaller proportions of total land management areas (except within Alaska), and have a designation status less easily changed than Type B lands. In most other respects Type B lands are similar to Type A lands in terms of activities allowed. Type C lands generally have no special designations, represent the bulk of federal land management areas, and may allow a wider range of uses or compatible activities often including commercial resource utilization such timber production, mining and energy development, grazing, recreation, and large-scale watershed projects and fire management options (especially within the National Forest System and Public Domain lands of the BLM).

As more popularly described, Type A lands are areas having uncommon bio-physical and/or cultural character worth preserving; Type B lands are areas with limited development and motorized transportation worth preserving; and Type C lands are areas where the landscape may be altered within the objectives and guidelines of multiple use (EPS-HDT 2014).

West

Figure 5.17 shows the percentage of the different types of federal land in the four-county west area. Around 60 percent of the federal land in the plan area is classified as either Type A or Type B, somewhat higher than the breakdown for the state of Montana (50 percent Type A or B). Lewis and Clark County has the largest percentage of Type A land (45.3 percent) and Powell County has the next largest at 39 percent. Broadwater has no Type A land and Jefferson County has a few small amount (0.4 percent).

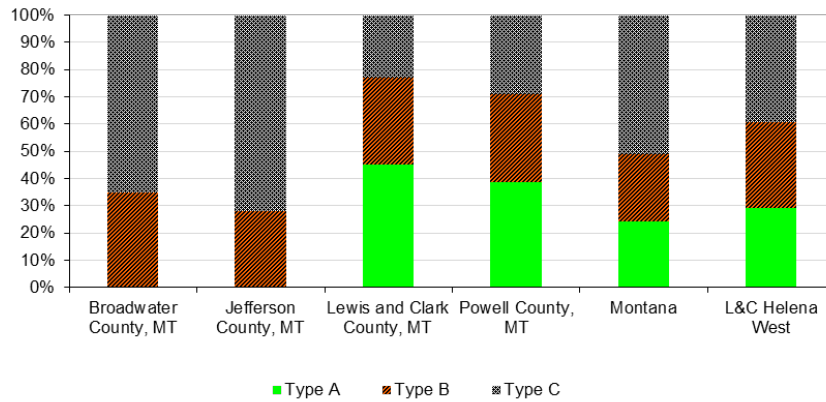


Figure 5.17 Percent of federal public lands by type for the west area and the State of Montana

Sources: 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; U.S. Geological Survey, Gap Analysis Program. 2012. Protected Areas Database of the United States (PADUS) version 1.3. (EPS-HDT 2014)

North

Figure 5.18 shows the percentage of the different types of federal land in the three-county north area. More than 95 percent of the federal land in the plan area is classified as either Type A or Type B, much higher than the breakdown for the state of Montana (50 percent Type A or B). Glacier County has the largest percentage of Type A land (93 percent), and Pondera County has very little (6.4 percent). However, Pondera County has a very large amount of Type B land (89.2 percent).

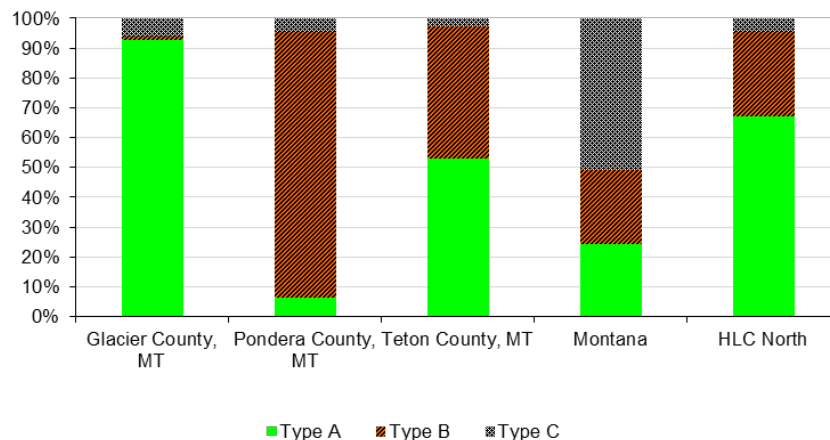


Figure 5.18 Percent of federal public lands by type for the north area and the State of Montana

Sources: 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; U.S. Geological Survey, Gap Analysis Program. 2012. Protected Areas Database of the United States (PADUS) version 1.3. (EPS-HDT 2014)

Central

Figure 5.19 shows the percentage of the different types of federal land in the two-county central area. Around 50 percent of the federal land in the plan area is classified as either Type A or Type B, similar to the state of Montana

(50 percent Type A or B). Chouteau County has the largest percentage of Type A land (43.8 percent), while Cascade County has only 7.3 percent. However, over 51.5 percent of Cascade County’s federal land is classified as Type B, compared to 17 percent for Chouteau County.

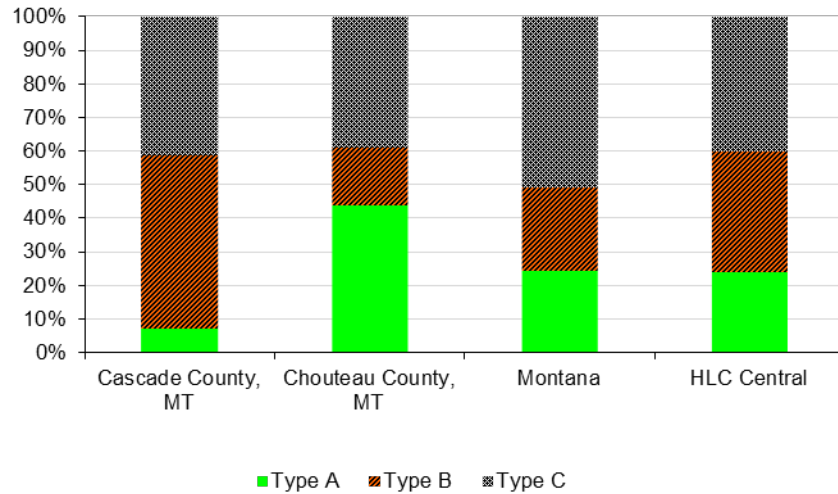


Figure 5.19 Percent of federal public lands by type for the central area and the State of Montana

Sources: 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; U.S. Geological Survey, Gap Analysis Program. 2012. Protected Areas Database of the United States (PADUS) version 1.3. (EPS-HDT 2014)

East

Figure 5.20 shows the percentage of the different types of federal land in the four-county east area. Around 54.4 percent of the federal land in the plan area is classified as either Type A or Type B, somewhat higher than the breakdown for the state of Montana (50 percent Type A or B). Fergus County has the largest percentage of Type A land (43.2 percent); Meagher and Wheatland have very little and Judith Basin has none. However, Judith Basin, Meagher, and Wheatland have a substantial amount of Type B land (42 to 65 percent).

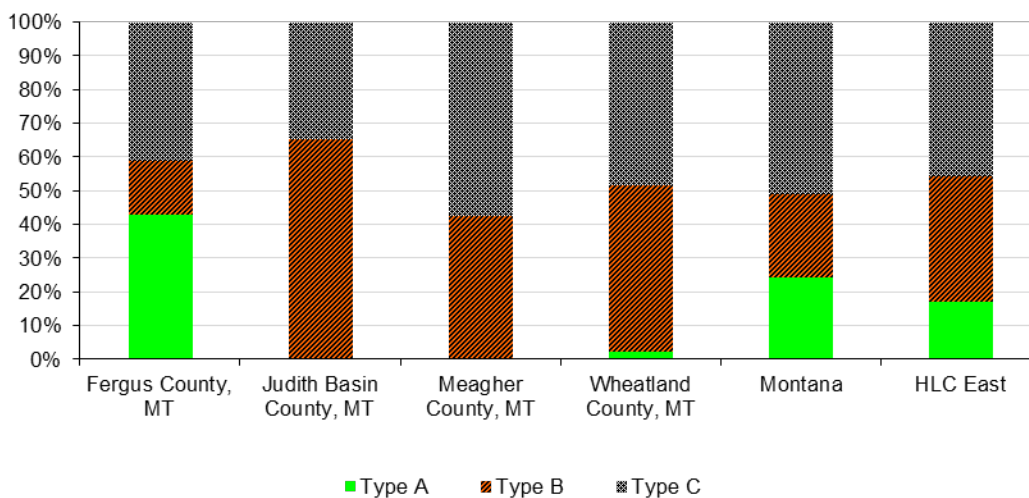


Figure 5.20 Percent of federal public lands by type for the east area and the State of Montana

Sources: 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; U.S. Geological Survey, Gap Analysis Program. 2012. Protected Areas Database of the United States (PADUS) version 1.3.(EPS-HDT 2014)

Amenity Migration

Additional information on natural amenities and rural population change can be found in a recent RPA document entitled "Natural Amenities and Rural Population Migration: A Technical Document Supporting the Forest Service 2010 RPA Assessment" (Cordell et al. 2011). This study developed an econometric model that modeled the effects of natural amenities, such as climate and landscape variables, on rural population migration patterns in the United States between 1990 and 2007. This estimated model was then used to predict the effects of changes in these variables on rural county net migration and population growth to 2060 under alternative future climate and land use projections (also produced for RPA). In general, their results estimated that changes in natural amenities would have positive effects on rural population migration trends in the Intermountain and Pacific Northwest regions. Counties were classified into one of four categories: moderate-high positive amenity migration (rural net migration greater than 2 percent), low to moderate positive amenity migration (rural net migration between 0 and 2 percent), low to moderate negative amenity migration (rural net migration between 0 and -2 percent), and moderate to high negative amenity migration (rural net migration less than -2 percent). Information on amenity migration by county area is found below.

West

With the exception of Broadwater County, amenity migration is anticipated to be low to moderately positive for counties in the west area regardless of time horizon or climate scenario. For Broadwater County, the forecasts are widely variable, with low to moderate migration under some time horizons and low to moderate *negative* migration in 2060. For reference, the only counties in Montana forecast to have moderate to high amenity migration (≥ 2 percent) are Gallatin and Madison Counties (Carbon County, Cascade County, and Missoula County were not included in the analysis). The authors offered the following limitation and cautions regarding interpreting the results of their study: the model excludes the effects of births/deaths and immigration on population changes; it does not consider possible spatial interrelationships and dependencies among counties; and it does not account for significant economic opportunity or employment changes.

North

All three counties in the north area are forecast to have low to moderate *negative* amenity migration regardless of time horizon or climate zone. Glacier County is forecast to lose the most population, with rural net migration of around -1.5 percent, and Teton County is forecast to lose the least population (less than ½ of a percent).

Central

Cascade County was not included in the RPA analysis of amenity migration. Chouteau County is forecast to have low to moderate *negative* migration regardless of time horizon or climate scenario.

East

Only Wheatland County is forecast to have positive amenity migration, with population growth of around 0.5 percent for each of the scenarios. Amenity migration in Fergus County is forecast to be near zero, while Meagher County is forecast to have low to moderate *negative* amenity migration. Judith Basin County stands out among all 13-counties in the primary analysis area, with moderate to high *negative* amenity migration ranging from 4 percent negative migration in the near future down to a negative 4.5 percent by 2060. For the state of Montana, only Petroleum and Sweet Grass Counties are forecast to lose more population than Judith Basin.

Employment and Income

Employment and income statistics are important indicators of the economic health of an area. Understanding which industries are responsible for most jobs and which sectors are growing or declining is key to grasping the type of economy that exists, how it has changed over time, and evolving competitive strengths. It also provides information on how the commodity sectors and the travel and tourism-related sectors described in previous sections fit in with the rest of the economy.

Another important indicator of economic health and wellbeing is the unemployment rate. It is low during good economic times and high during recessions. In an economic downturn, the rate tends to underestimate the number of unemployed because some people become discouraged and stop looking for work. At the individual level, unemployment reduces household income, limits access to health insurance, and contributes to psychological stress. At the community level, a rise in joblessness reflects a lack of employment opportunities and places demands on community services.

The level of and changes in per capita income and average earnings are also important for assessing the state of the economy and the well-being of individuals in the community. Changes in per capita income reflect economic growth in a community. In addition, comparisons between state and local area per capita income provide insight into the relative economic well-being of a community. Low per capita income may indicate that the local economy does not adequately support individuals and families. Average earnings, on the other hand, are an indicator of the quality of local employment, in terms of high-wage jobs.

Employment

From 1970 to 2012, wage and salary employment (people who work for someone else) in the state of Montana grew from 230,207 to 460,085, a 100 percent increase, while proprietors (the self-employed) grew from 70,844 to 171,111, a 142 percent increase. For the 13-county primary area, employment growth was substantially lower, with wage and salary employment growing 57 percent, from 64,449 to 100,920 and the number of proprietors growing by 100 percent, from 17,371 in 1970 to 34,766 in 2012. The west area saw the highest growth in employment while the east area saw the lowest growth. Unemployment for most of the counties in the 13-county primary area has been relatively low, either equal to or lower than the state rate since 1990. The exceptions are Broadwater, Glacier, and Meagher Counties which have had higher rates than the state in several years, particularly since 2008.

For the state of Montana, services-related employment makes up a larger percentage of the economy than does non-service-related jobs. Most new jobs created in the U.S. economy in the last thirty years have been in services related sectors. From 1990 to 2008, for example, more than 99 percent of net new jobs created in the U.S. economy were in service sectors. Despite the strong growth of employment in services, the term "services" is often misunderstood. Services consist of a wide mix of jobs, combining high-wage, high-skilled occupations (e.g., doctors, software developers) with 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, some service sectors, such as utilities and architecture, are closely associated with goods-producing sectors (EPS-HDT 2014).

In the 13-county primary area, in 2012 service-related jobs accounted for 62.1 percent of employment, while non-service related jobs, such as farming, mining, and manufacturing, accounted for 14.7 percent of jobs. Government employment accounted for 20.8 percent of jobs. In 2012 the three industry sectors with the largest number of jobs were government (28,230 jobs), retail trade (14,341 jobs), and health care and social assistance (14,073 jobs). From 2001 to 2012, the three industry sectors that added the most new jobs were health care and social assistance (2,714 new jobs), government (1,716 new jobs), and administration and waste services (1,650 new jobs). More detailed information on employment by county area is provided below.

West

From 1970 to 2012, the four-county west area saw a higher rate of growth in employment than did the state as a whole. Wage and salary employment (people who work for someone else) in the four-county west area grew from 18,946 in 1970 to 43,684 in 2012, a 131 percent increase, compared to an increase of 100 percent for the state. The number of proprietors grew by even a larger percentage (267 percent), increasing from 3,876 proprietors in 1970 to 14,211 in 2012, a 267 percent increase (compared to 142 percent for the state). In 2012 the three industry sectors with the largest number of jobs in the four-county western area were government (13,440 jobs), retail trade (5,751 jobs), and health care and social assistance (5,678 jobs). From 2001 to 2012, the three industry sectors that added the most new jobs were government (1,894 new jobs), health care and social assistance (1,292 new jobs), and professional, scientific, and technical (833 new jobs).

Table 5.39 uses Bureau of Economic Analysis (BEA) data to compare employment, type (service or non-service), and industry by individual county and the aggregated four-county area. Both Broadwater and Lewis and Clark County had larger percent increases in employment (26.4 percent and 20.2 percent, respectively) than the state of Montana (12.9 percent). Jefferson and Powell County had a smaller increase in employment than the state, at 7.3 percent and 11.2 percent, respectively. All four counties had a larger amount of employment in service-related sectors than non-service related sectors, particularly Lewis and Clark County. Government employment in the four-county area in 2012 ranged from 10.6 percent in Broadwater County up to 29.9 percent in Powell County.

The three largest industries (of those with available information), in terms of amount of employment (of those with available information), for each of the counties in 2012 were: Broadwater– farming (11.1 percent), manufacturing (10.7 percent), and government (10.6 percent); Jefferson – government (15.6 percent), construction (9.3 percent), and retail trade (8.4 percent); Lewis and Clark – government (24.2 percent), health care and social assistance (11.1 percent), and retail trade (10.4 percent); Powell – government (29.9 percent), farming (9.1 percent), and retail trade (7.2 percent). The industry that gained the most employment in each county from 2000 to 2012 was: Broadwater – retail trade (81 new jobs), Jefferson – real estate, rental and leasing (98 jobs), Lewis and Clark – government (1,954 jobs), Powell – arts, entertainment and recreation (83 jobs). For three of the counties, the farming sector lost the most jobs from 2000 to 2012 (Broadwater - 48 jobs, Jefferson – 101 jobs, and Powell – 32 jobs). For Lewis and Clark County, the information sector lost the most jobs (180) during this period.

Table 5.39 Total employment and percent of total employment by industry for the west area, 2012, and change from 2000 to 2012.

	Broadwater County		Jefferson County		Lewis & Clark County		Powell County, MT		HLC NFs West	
	Number of jobs	Change (2000-2012)	Number of jobs	Change (2000-2012)	Number of jobs	Change (2000-2012)	Number of jobs	Change (2000-2012)	Number of jobs	Change (2000-2012)
Total Employment	2,541	531	5,284	359	46,154	7,755	3,916	390	57,895	9,035
Percent change in employment (2000-2012)		26.4%		7.3%		20.2%		11.1%		18.5%
Employment by Industry (2012)										
	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)
Non-services related	737 (29.0%)	56	1,537 (29.1%)	-51	4,421 (9.6%)	288	647 (16.5%)	35	7,342 (12.7%)	328
Farm	295 (11.6%)	-48	339 (6.4%)	-101	682 (1.5%)	-22	358 (9.1%)	-32	1,674 (2.9%)	-203
Forestry, fishing, & related activities	na	na	70 (1.3%)	7	232 (0.5%)	55	137 (3.5%)	7	439 (0.8%)	69
Mining (including fossil fuels)	na	na	402 (7.6%)	61	389 (0.8%)	311	152 (3.9%)	60	943 (1.6%)	432
Construction	169 (6.7%)	56	494 (9.3%)	-31	2,229 (4.8%)	24	na	na	2,892 (5.0%)	49
Manufacturing	273 (10.7%)	48	232 (4.4%)	13	889 (1.9%)	-80	na	na	1,394 (2.4%)	-19
Services related	1,185 (46.6%)	351	3,005 (56.9%)	606	30,554 (66.2%)	5,513	1,298 (33.1%)	200	36,042 (62.3%)	6,670
Utilities	5 (0.2%)	0	na	na	108 (0.2%)	17	na	na	113 (0.2%)	17
Wholesale trade	51 (2.0%)	14	na	na	793 (1.7%)	29	na	na	844 (1.5%)	43
Retail trade	233 (9.2%)	81	445 (8.4%)	19	4,792 (10.4%)	447	281 (7.2%)	30	5,751 (9.9%)	577
Transportation and warehousing	58 (2.3%)	-32	155 (2.9%)	17	879 (1.9%)	-39	79 (2.0%)	-3	1,171 (2.0%)	-57
Information	27 (1.1%)	-2	44 (0.8%)	14	830 (1.8%)	-180	25 (0.6%)	-11	926 (1.6%)	-179

	Broadwater County		Jefferson County		Lewis & Clark County		Powell County, MT		HLC NFs West	
	Number of jobs	Change (2000-2012)	Number of jobs	Change (2000-2012)	Number of jobs	Change (2000-2012)	Number of jobs	Change (2000-2012)	Number of jobs	Change (2000-2012)
Finance and insurance	99 (3.9%)	60	195 (3.7%)	72	2,410 (5.2%)	307	100 (2.6%)	34	2,804 (4.8%)	473
Real estate and rental and leasing	132 (5.2%)	61	389 (7.4%)	98	1,664 (3.6%)	624	116 (3.0%)	40	2,301 (4.0%)	823
Professional and technical services	99 (3.9%)	30	322 (6.1%)	80	3,318 (7.2%)	714	96 (2.5%)	9	3,835 (6.6%)	833
Management of companies and enterprises	na	na	13 (0.2%)	13	221 (0.5%)	155	0 (0.0%)	0	234 (0.4%)	168
Administrative and waste services	na	na	202 (3.8%)	50	1,756 (3.8%)	549	69 (1.8%)	26	2,027 (3.5%)	625
Educational services	19 (3.9%)	18	54 (1.0%)	30	1,050 (2.3%)	407	na	na	1,123 (1.9%)	455
Health care and social assistance	135 (5.3%)	52	411 (7.8%)	80	5,132 (11.1%)	1,160	na	na	5,678 (9.8%)	1,292
Arts, entertainment, and recreation	41 (1.6%)	-4	170 (3.2%)	25	1,371 (3.0%)	354	151 (3.9%)	83	1,733 (3.0%)	458
Accommodation and food services	157 (6.2%)	31	293 (5.5%)	56	3,317 (7.2%)	494	212 (5.4%)	-23	3,979 (6.9%)	558
Other services, except public administration	129 (5.1%)	42	312 (5.9%)	52	2,913 (6.3%)	475	169 (4.3%)	15	3,523 (6.1%)	584
Government	269 (10.6%)	-12	822 (15.6%)	-75	11,179 (24.2%)	1,954	1,170 (29.9%)	27	13,440 (23.2%)	1,894

Note: 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 in italics in tables. For some industrial sectors, not enough information was available to allow estimation, which is indicated by "na". Sources: U.S. Department of Commerce (multiple years). Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA25N. (EPS-HDT 2014).

Table 5.40 shows the largest employers in the four-county west area, in terms of employment classes. Employment classes are as follows: Class 9 (1000+ employees), Class 8 (500-999), Class 7 (250-499), Class 6 (100-249), Class 5 (50-99), Class 4 (20-49), Class 3 (10-19). The largest two employers in Broadwater County in 2011 were RY Timber and Wheat Montana Bakery, each of which fell into employment Class 6. The largest size class in Jefferson County was Class 5, with three businesses falling into that category – Ashgrove Cement Company, Elkhorn Health & Rehabilitation, Inc., and Golden Sunlight Mine. Lewis and Clark County, with its larger population, had one business that fell into the Class 9 employment category of more than 1,000 employees – St. Peter’s Hospital and several Class 7 businesses (Blue Cross/Blue Shield, Carroll College, Shodair Hospital, and Wal-Mart. Powell County’s largest employers fell into the Class 6 category and included Easter Seals - Goodwill, Rock Creek Cattle Company, and Sun Mountain Lumber.

Table 5.40 Top 20 private employers in the west area, 2011

Business Name	Size Class	Business Name	Size Class
Broadwater County			
Bob’s Supermarket (S)	4	RY Timber	6
Broadwater Health Center	5	Wheat Montana Bakery	6
Graymont Western US Inc	4		
Jefferson County			
Alternative Youth Adventures	4	Harlows School Bus Service	4
Ash Grove Cememt Company	5	Liberty Place	4
Boulder Hot Springs	4	Montana City Grill & Saloon	4
Boyd Andrew Community Services	4	Smith and Sons Construction	4
Bullock Contracting	4	Stewart Title Co.	4
Eagle Ambulance Service	4	Sussex Construction	4
Elkhorn Health & Rehabilitation LLC	5	Town Pump	4
Golden Sunlight Mine	5		
Lewis and Clark County			
A2Z Staffing Solutions	6	Optimum	6
Albertsons	6	Rocky Mountain Develop. Council	6
Blue Cross/Blue Shield	7	Shodair Hospital	7
Carroll College	7	St. Peter’s Hospital	9
Costco	6	Student Assistance Foundation	6
Family Outreach	6	Summit Aeronautics	6
Helena Sand & Gravel	6	Town Pump	6
Intermountain Childrens Home	6	Valley Bank	6
McDonald’s	6	Wal-Mart	7
Mountain West Bank	6	West Mont	6
Powell County			
Colonial Manor/Deer Lodge Care & Rehab Center	5	Safeway	4
Easter Seals - Goodwill	6	Sun Mountain Logging	4
Four B’s Restaurant	4	Sun Mountain Lumber	6

Business Name	Size Class	Business Name	Size Class
Powell County Memorial Hospital	5	Sundance Rehabilitation	5
Rock Creek Cattle Company	6	Valley Foods IGA	4

Note: This list ONLY includes industry employers subject to unemployment insurance. Railroads, tribal entities, and government agencies are excluded. Source: Montana Department of Labor and Industry, Quarterly Census of Employment of Wages (QCEW) Program (2011).

Figure 5.21 uses Bureau of Labor Statistics data to show trends in unemployment rates among the four counties from 1990 to 2013. Over this period, Broadwater County generally had a higher unemployment rate than the other three counties and the state of Montana, and unemployment has remained at a relatively high rate (7 to 8 percent) since 2009. Powell County's unemployment rate was lower than the state during the earlier part of the period but has remained consistently higher than the state rate since 2000. Conversely, Jefferson and Lewis and Clark Counties have maintained unemployment rates lower the state rate.

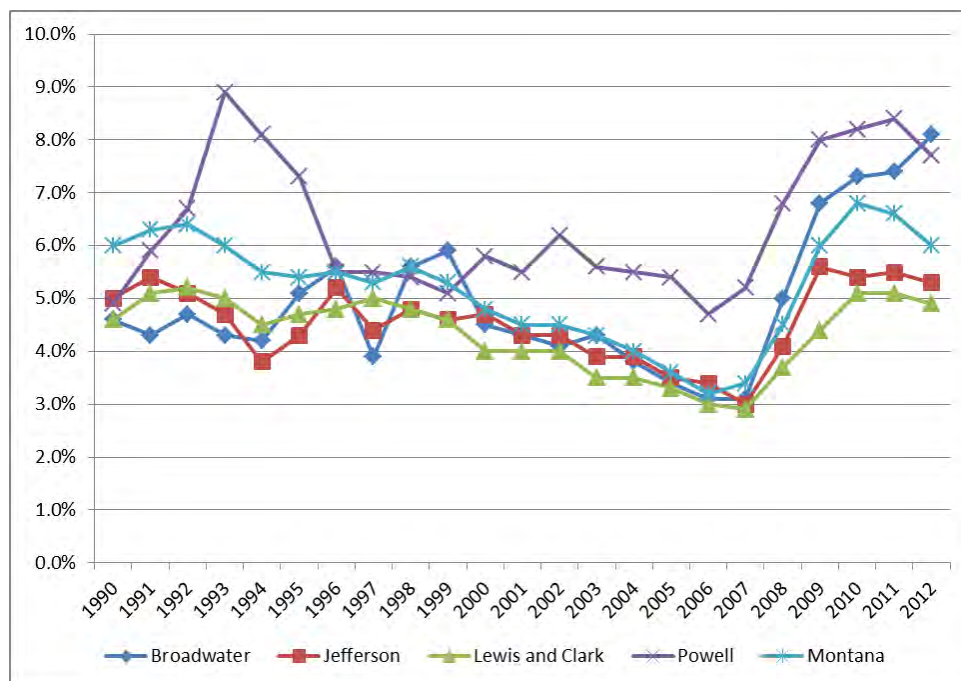


Figure 5.21 Average annual unemployment rate in the west area, 1990-2013

Source: U.S. Department of Labor. 2013. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C. (EPS-HDT 2014)

North

From 1970 to 2012, the three-county north area saw a lower rate of growth in employment than did the state as a whole. Wage and salary employment (people who work for someone else) in the north area increased from 6,272 in 1970 to 8,842 in 2012, a 41 percent increase, compared to an increase of 100 percent for the state. The number of proprietors grew 33 percent, increasing from 3,401 proprietors in 1970 to 4,516 in 2012. In 2012 the three industry sectors with the largest number of jobs in the three-county west area were government (3,283 jobs), farming (1,806 jobs), and retail trade (1,218 jobs). From 2001 to 2012, the three industry sectors that added the most new jobs were finance, insurance (314 new jobs), health care, social assistance (184 new jobs), and real estate, rental, leasing (154 new jobs).

Table 5.41 uses Bureau of Economic Analysis (BEA) data to compare employment, type of employment (service or non-service), and industry by individual county and the aggregated three-county area. Glacier County's employment increased by about the same percentage as the state of Montana's (12.6 percent) from 2000 to 2012, while Teton County's employment increase was lower, at 8.7 percent. Pondera County, however, saw a 3.3 percent *decrease* in employment during this time. All three counties had a larger amount of employment in service-related sectors than non-service sectors, ranging from 46.7 percent in Glacier County up to 60.8 percent in Pondera County. Government employment in 2012 ranged from 12.5 percent in Pondera County up to 36.1 percent in Glacier County.

The three largest industries (of those with available information), in terms of amount of employment, for each of the counties in 2012 were: Glacier – government (36.1 percent), accommodations and food (12.6 percent), and farming (9.3 percent); Pondera– farming (15 percent), government (12.5 percent), and health care and social assistance (11.6 percent); Teton – farming (20 percent), government (13.9 percent), and retail trade (7.7 percent). The industry that gained the most employment in each county from 2000 to 2012 was: Glacier – finance and insurance (185 jobs), Pondera – finance and insurance (127 jobs), Teton – Real estate, rental and leasing (71 jobs). The industry that lost the greatest number of jobs in each county was: Glacier – manufacturing (22 jobs), Pondera – government (143 jobs), Teton – Farming (63 jobs).

Table 5.41 Total employment and percent of total employment by industry for the north area, 2012, and change from 2000 to 2012.

	Glacier County		Pondera County		Teton County		HLC NFs North	
	Number of jobs	Change (2000-2012)	Number of jobs	Change (2000-2012)	Number of jobs	Change (2000-2012)	Number of jobs	Change (2000-2012)
Total Employment (number of jobs)	6,610	736	3,108	-105	3,640	290	13,358	921
Percent change in employment (2000-2012)		12.5		-3.3		8.7		7.4
Employment by Industry								
	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)
Non-services related	1,137 (17.3%)	118	800 (25.7%)	-192	1,013 (27.8%)	35	2,950 (22.1%)	-39
Farm	612 (9.3%)	70	466 (15.0%)	-95	728 (20.0%)	-63	1,806 (13.5%)	-88
Forestry, fishing, & related activities	na	na	na	na	na	na	na	na
Mining (including fossil fuels)	221 (3.3%)	82	47 (1.5%)	-3	na	na	268 (2.0%)	79
Construction	256 (3.9%)	-12	219 (7.0%)	-86	214 (5.9%)	68	689 (5.2%)	-30
Manufacturing	48 (0.7%)	-22	68 (2.2%)	-8	71 (2.0%)	30	187 (1.4%)	0
Services related	3,087 (46.7%)	535	1,889 (60.8%)	224	1,899 (52.2%)	235	6,875 (51.5%)	994
Utilities	80 (1.2%)	12	24 (0.8%)	2	54 (1.5%)	-1	158 (1.2%)	13
Wholesale trade	106 (1.6%)	12	154 (5.0%)	22	149 (4.1%)	4	409 (3.1%)	38
Retail trade	598 (9.0%)	93	338 (10.9%)	-39	282 (7.7%)	13	1,218 (9.1%)	67
Transportation	120	-14	97	30	87	-15	304	1

	Glacier County		Pondera County		Teton County		HLC NFs North	
and warehousing	(1.8%)		(3.1%)		(2.4%)		(2.3%)	
Information	46 (0.7%)	16	28 (0.9%)	5	218 (6.0%)	-15	292 (2.2%)	6
Finance and insurance	256 (3.9%)	175	219 (7.0%)	127	134 (3.7%)	12	609 (4.6%)	314
Real estate and rental and leasing	144 (2.2%)	65	83 (2.7%)	18	138 (3.8%)	71	365 (2.7%)	154
Professional and technical services	173 (2.6%)	31	90 (2.9%)	8	118 (3.2%)	36	381 (2.9%)	75
Management of companies and enterprises	0 (0.0%)	0	0 (0.0%)	0	na	na	na	na
Administrative and waste services	74 (1.1%)	19	54 (1.7%)	-35	50 (1.4%)	31	178 (1.3%)	15
Educational services	51 (0.8%)	6	50 (1.6%)	5	15 (0.4%)	9	116 (0.9%)	20
Health care and social assistance	268 (4.1%)	97	361 (11.6%)	50	190 (5.2%)	37	819 (6.1%)	184
Arts, entertainment, and recreation	86 (1.3%)	2	76 (2.4%)	37	42 (1.2%)	-24	204 (1.5%)	15
Accommodation and food services	835 (12.6%)	37	162 (5.2%)	8	188 (5.2%)	12	1,185 (8.9%)	57
Other services, except public administration	250 (3.8%)	-16	153 (4.9%)	-14	234 (6.4%)	65	637 (4.8%)	35
Government	2,387 (36.1%)	154	389 (12.5%)	-143	507 (13.9%)	-20	3,283 (24.6%)	-9

Note: 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 in italics in tables. For some industrial sectors, not enough information was available to allow estimation, which is indicated by “na”. Sources: U.S. Department of Commerce (multiple years). Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA25N. (EPS-HDT 2014).

Table 5.42 below shows the largest employers in Glacier County (data was not available for Pondera and Teton) in terms of number of employees by employment class. Employment classes are as follows: Class 6 (100-249), Class 5 (50-99), Class 4 (20-49), and Class 3 (10-19). The largest employer in Glacier County in 2011 was Glacier Park Inc, which fell into employment Class 6.

Table 5.42 Top private employers in Glacier County 2011

Business Name	Size Class	Business Name	Size Class
Albertsons	5	Hugh Black -St. Mary Enterprises	5
Glacier Care Center	4	Northern Rockies Medical Center	5
Glacier Electric Co-op	4	Teeples IGA Foodliner	5
Glacier Park Inc.	6	Town Pump	5
Hiestand & Miller Inc.	4	Willow Creek Construction	4

Note: This list ONLY includes industry employers subject to unemployment insurance. Railroads, tribal entities, and government agencies are excluded. Data was not available for Pondera or Teton County. Source: Montana Department of Labor and Industry, Quarterly Census of Employment of Wages (QCEW) Program (2011).

Figure 5.22 uses Bureau of Labor Statistics data to show trends in unemployment rates for the four counties from 1990 to 2013. Prior to 2007, all three counties had a lower rate of unemployment than the state rate. From 2008 to 2013, both Pondera and Teton County still experienced lower unemployment than the state. However, since 2007, Glacier County’s unemployment rate has surpassed that of the state. Unemployment increased from 3.1 percent in 2007 to 5 percent in 2008, continuing to climb to a high of 8.1 percent in 2012 (compared to the state rate of 6 percent). In 2013, unemployment in Glacier County dropped to 7.2 percent.

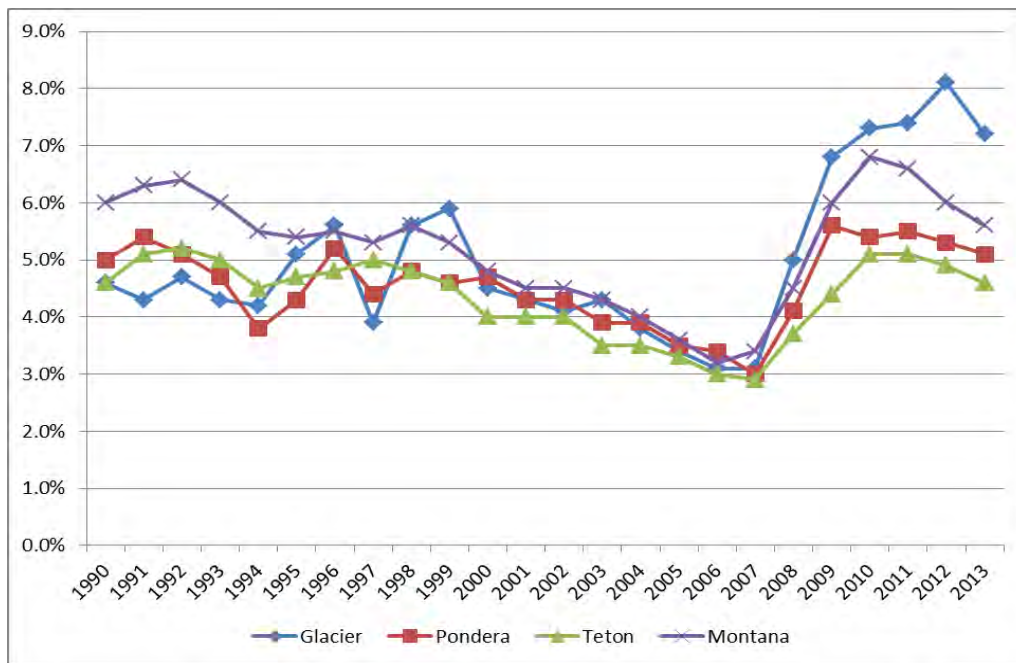


Figure 5.22 Average annual unemployment rate in the north area, 1990-2013

Source: U.S. Department of Labor. 2013. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C. (EPS-HDT 2014)

Central

From 1970 to 2012, the two-county central area saw a lower rate of growth in employment than did the state as a whole. Wage and salary employment (people who work for someone else) in the central area increased from 33,613 in 1970 to 41,856 in 2012, a 25 percent increase, compared to an increase of 100 percent for the state. The number of proprietors grew 61 percent, increasing from 6,702 proprietors in 1970 to 10,773 in 2012. In 2012 the three industry sectors with the largest number of jobs were government (9,961 jobs), health care and social assistance (7,276 jobs), and retail trade (6,406 jobs). From 2001 to 2012, the three industry sectors that added the most new jobs were health care and social assistance (1,087 new jobs), administration and waste services (901 new jobs), and arts, entertainment, recreation (273 new jobs).

Table 5.43 uses Bureau of Economic Analysis (BEA) data to compare employment by type (service or non-service), and industry by individual county and the aggregated two-county area. Results for the two-county area are heavily influenced by the size of the Cascade County economy, which is one of three metropolitan statistical areas in the state of Montana. From 2000 to 2012, Cascade County's employment increased by a much smaller percentage (3.8 percent) than the state of Montana (12.6 percent). Employment in Chouteau County actually *decreased* over this period, falling 1.7 percent. Chouteau County had about the same percentage of employment in service and non-service industries in 2012, at around 42 percent. On the other hand, 70.1 percent of Cascade County's employment is service-related. In 2012, government jobs accounted for 19.1 percent of employment in Cascade County and 16.6 percent in Chouteau.

The three largest industries (of those with available information), in terms of amount of employment, for each of the counties in 2012 were: Cascade – government (19.1 percent), health care and social assistance (14.2 percent), and retail trade (12.5 percent); Chouteau – farming (26.5 percent), government (16.6 percent), and health care and social assistance (7.4 percent). The industry gaining the most employment from 2000 to 2012 in Cascade County was health care and social assistance (1,070 jobs) and for Chouteau County it was mining (142 jobs). The industry that lost the most employment during this time was retail trade in Cascade County (644 jobs) and farming in Chouteau County (149 jobs).

Table 5.43 Total employment and percent of total employment by industry for the central area, 2012, and change from 2000 to 2012.

	Cascade County		Chouteau County		HLC NFs Central	
	Number of Jobs	Change (2000-2012)	Number of Jobs	Change (2000-2012)	Number of Jobs	Change (2000-2012)
Total Employment (number of jobs)	49,661	1,834	2,968	-50	52,629	1,784
Percent change in employment (2000-2012)		3.8%		-1.7%		3.5%
Employment by Industry						
	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)
Non-services related	5,372 (10.8%)	-77	1,221 (41.1%)	23	6,593 (12.5%)	-54
Farm	1,068 (2.2%)	-111	788 (26.5%)	-149	1,856 (3.5%)	-260
Forestry, fishing,	172	-63	120	2	292	-61

	Cascade County		Chouteau County		HLC NFs Central	
	Number of Jobs	Change (2000-2012)	Number of Jobs	Change (2000-2012)	Number of Jobs	Change (2000-2012)
& related activities	(0.3%)		(4.0%)		(0.6%)	
Mining (including fossil fuels)	63 (0.1%)	8	152 (4.0%)	142	215 (0.4%)	150
Construction	3,012 (6.1%)	153	(3.9%)	36	3,129 (5.9%)	189
Manufacturing	1,057 (2.1%)	-64	44 (1.5%)	-8	1,101 (2.1%)	-72
Services related	34,822 (70.1%)	1,790	1,264 (42.6%)	38	36,086 (68.6%)	1,828
Utilities	195 (0.4%)	8	5 (0.2%)	0	200 (0.4%)	8
Wholesale trade	1,522 (0.4%)	-34	101 (3.4%)	36	1,623 (3.1%)	2
Retail trade	6,209 (12.5%)	-644	197 (6.6%)	-68	6,406 (12.2%)	-712
Transportation and warehousing	1,347 (2.7%)	-93	66 (2.2%)	28	1,413 (2.7%)	-65
Information	866 (1.7%)	51	na	na	866 (1.6%)	51
Finance and insurance	2,530 (5.1%)	-202	113 (3.8%)	-29	2,643 (5.0%)	-231
Real estate and rental and leasing	1,583 (3.2%)	48	125 (4.2%)	40	1,708 (3.2%)	88
Professional and technical services	1,997 (4.0%)	94	83 (2.8%)	6	2,080 (4.0%)	100
Management of companies and enterprises	174 (0.4%)	58	0 (0.0%)	0	174 (0.3%)	58
Administrative and waste services	2,448 (4.9%)	901	na	na	2,448 (4.7%)	901
Educational services	723 (1.5%)	-127	21 (0.7%)	1	744 (1.4%)	-126
Health care and social assistance	7,056 (14.2%)	1,070	220 (7.4%)	17	7,276 (13.8%)	1,087
Arts, entertainment, and recreation	1,414 (2.8%)	270	46 (1.5%)	3	1,460 (2.8%)	273
Accommodation and food services	4,216 (8.5%)	250	141 (4.8%)	-4	4,357 (8.3%)	246
Other services, except public administration	2,542 (5.1%)	140	146 (4.9%)	8	2,688 (5.1%)	148
Government	9,467 (19.1%)	109	494 (16.6%)	-58	9,961 (18.9%)	51

Note: 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 in italics in tables. For some industrial sectors, not enough information was available to allow estimation, which is indicated by "na". Sources: U.S. Department of Commerce (multiple years). Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA25N. (EPS-HDT 2014).

The Cascade County Growth Policy Update (Cascade County 2014) states that “the economy of Great Falls and Cascade County is tied to three key elements: Military spending in support of Malmstrom AFB and the Montana Air National Guard, Agricultural Spending, and Health Care Services.” A recent publication by the Bureau of Business and Economic Research (2013) also highlights the importance of the Air Force base and the health care industry to the Cascade County economy. In terms of private employers, Table 5.44 shows the largest employers in Cascade County (data was not available for Chouteau) in terms of number of employees by employment class. Employment classes are as follows: Class 9 (1000+ employees), Class 8 (500-999), Class 7 (250-499), Class 6 (100-249), Class 5 (50-99), Class 4 (20-49), Class 3 (10-19). The largest employer in Cascade County in 2011 was Benefis Hospital, which fell into employment Class 9 (1000+ employees). Two employers also fell into the next highest class, with both National Electronics Warranty and Wal-Mart employing between 500 and 999 employees each.

Table 5.44 Top 20 private employers in Cascade County 2011

Business Name	Size Class	Business Name	Size Class
Albertsons	6	Missouri River Manor	6
Benefis Healthcare	7	National Electronics Warranty	8
Benefis Hospital	9	North Central Independent Living	6
Optimum	6	Opportunities Inc.	6
Centene Corporation	6	Peak Health and Wellness Center	6
Center for Mental Health	6	Quality Life Concepts	6
DA Davidson & Co	6	Sam's Club	6
Easter Seals - Goodwill	7	Town Pump	6
Great Falls Clinic	7	University of Great Falls	6
McDonald's	6	Wal-Mart	8

Note: This list ONLY includes industry employers subject to unemployment insurance. Railroads, tribal entities, and government agencies are excluded. Data was not available for Chouteau County. Source: Montana Department of Labor and Industry, Quarterly Census of Employment of Wages (QCEW) Program (2011).

Figure 5.23 uses Bureau of Labor Statistics data to show trends in unemployment rates in the two counties from 1990 to 2013. At no time since 1990 has Chouteau County’s unemployment rate surpassed that of the state, and it has generally been 2 to 3 percentage points lower than the state rate, including recent years. The unemployment rate in Cascade County closely mirrored the state’s rate during this period and during 2009 and 2010 unemployment in Cascade County was more than a percentage point lower than the state rate.

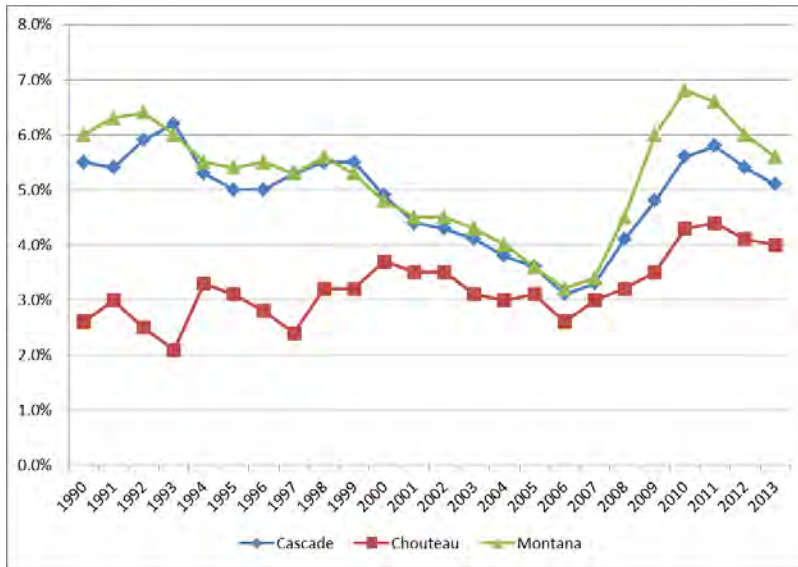


Figure 5.23 Average annual unemployment rate in the central area, 1990-2013

Source: U.S. Department of Labor. 2013. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C. (EPS-HDT 2014)

East

From 1970 to 2012, the four-county east area saw a much lower rate of growth in employment than did the state as a whole. Wage and salary employment (people who work for someone else) in the eastern area increased from 6,618 in 1970 to 6,538 in 2012, a 16 percent increase, compared to an increase of 100 percent for the state. The number of proprietors grew 55 percent, increasing from 5,618 proprietors in 1970 to 6,538 in 2012 (compared to 142 percent for the state). In 2012 the three industry sectors with the largest number of jobs were government (1,546 jobs), farming (1,538 jobs), and retail trade (966 jobs). From 2001 to 2012, the three industry sectors that added the most new jobs were construction (195 new jobs), real estate, rental, leasing (190 new jobs), and finance, insurance (167 new jobs).

Table 5.45 uses Bureau of Economic Analysis (BEA) data to compare employment by type (service or non-service) and industry by individual county and the aggregated four-county area. From 2000 to 2012, Fergus County’s employment increased by a much smaller percentage (2.5 percent) than the state of Montana (12.6 percent). Employment in the other three counties (Judith Basin, Meagher, and Wheatland) increased by a much larger percentage than the state, ranging from a 33 percent increase in Meagher County up to a nearly 40 percent increase in Wheatland. However, the large percentage change in these counties is heavily influenced by the size of their economies, each of which has about one-fifth the employment of Fergus County. Service-related jobs make up the largest percentage of employment in the four counties, but especially in Fergus and Wheatland Counties. For Judith Basin and Meagher, farming was the only non-service related industry sector in 2012, and it accounted for the largest amount of employment in the two counties, 22.9 percent in Judith Basin and 11.6 percent in Meagher County. In 2012, the percentage of government jobs ranged from 9.2 percent in Meagher up to 14.3 percent in Fergus County.

The three largest industries (of those with available information), in terms of amount of employment, for each of the counties in 2012 were: Fergus – government (14.3 percent), farming (11.9%) and retail trade (9.8 percent); Judith Basin – farming (22.9 percent), government (12.8 percent), and health care and social assistance (6.3 percent); Meagher – farming (11.6 percent), government (9.2 percent), and retail trade (6.9 percent); Wheatland – health care and social assistance (14.2 percent), government (11.4 percent), and finance and insurance (11 percent). The industry gaining the most employment in each county from 2000 to 2012 was: Fergus –

construction (162 jobs); Judith Basin - health care and social assistance (68 jobs); Meagher – real estate and rental and leasing (38 jobs); Wheatland - real estate and rental and leasing (141 jobs). The industry that lost the most employment during this time was farming for three of the counties (Fergus County- 97 jobs, Judith Basin – 84 jobs, and Meagher –48 jobs), and in Wheatland the government sector lost the most jobs (63 jobs).

Table 5.45 Total employment and percent of total employment by industry for the east area, 2012, and change from 2000 to 2012.

	Fergus County		Judith Basin County		Meagher County		Wheatland County		HLC NFs East	
	Number of Jobs	Change (2000-2012)	Number of Jobs	Change (2000-2012)	Number of Jobs	Change (2000-2012)	Number of Jobs	Change (2000-2012)	Number of Jobs	Change (2000-2012)
Total Employment (number of jobs)	7,368	179	1,399	353	1,540	375	1,497	425	11,804	1,332
Percent change in employment (2000-2012)		2.5%		33.7%		32.2%		39.6%		12.7%
Employment by Industry										
	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)	Number of jobs (% of total employment)	Change (2000-2012)
Non-services related	2,134 (29.0%)	40	321 (22.9%)	-84	179 (11.6%)	375	425 (28.4%)	100	3,059 (25.9%)	8
Farm	878 (11.9%)	-97	321 (22.9%)	-84	179 (11.6%)	-48	160 (10.7%)	-51	1,538 (13.0%)	-280
Forestry, fishing, & related activities	129 (1.8%)	-9	na	na	na	-48	37 (2.5%)	3	166 (1.4%)	-6
Mining (including fossil fuels)	46 (0.6%)	28	na	na	na	na	75 (5.0%)	65	121 (1.0%)	93
Construction	702 (9.5%)	162	na	na	na	na	51 (3.4%)	33	753 (6.4%)	195
Manufacturing	379 (5.1%)	-44	na	na	na	na	102 (6.8%)	50	481 (4.1%)	6
Services related	3,417 (46.4%)	221	406 (29.0%)	223	446 (29.0%)		953 (63.7%)	465	5,222 (44.2%)	1,030
Utilities	49 (0.7%)	-3	na	na	na	121	12 (0.8%)	na	61 (0.5%)	9
Wholesale trade	283 (3.8%)	51	31 (2.2%)	16	na	na	32 (2.1%)	18	346 (2.9%)	85
Retail trade	722 (9.8%)	-67	46 (3.3%)	-5	107 (6.9%)	na	91 (6.1%)	-16	966 (8.2%)	-58
Transportation and warehousing	205 (2.8%)	46	23 (1.6%)	17	50 (3.2%)	30	60 (4.0%)	12	338 (2.9%)	125
Information	96	12	13	7	na	na	na	na	109	19

	Fergus County		Judith Basin County		Meagher County		Wheatland County		HLC NFs East	
	Number of Jobs	Change (2000-2012)	Number of Jobs	Change (2000-2012)	Number of Jobs	Change (2000-2012)	Number of Jobs	Change (2000-2012)	Number of Jobs	Change (2000-2012)
	(1.3%)		(0.9%)						(0.9%)	
Finance and insurance	261 (3.5%)	39	na	na	na	na	164 (11.0%)	128	425 (3.6%)	167
Real estate and rental and leasing	254 (3.4%)	11	na	na	47 (3.1%)	na	156 (10.4%)	141	457 (3.9%)	190
Professional and technical services	223 (3.0%)	13	53 (3.8%)	28	na	38	na	na	276 (2.3%)	41
Management of companies and enterprises	na	na	0	0	0	na	0	0	na	na
Administrative and waste services	178 (2.4%)	48	57 (4.1%)	52	na	0	39 (2.6%)	34	274 (2.3%)	109
Educational services	36 (0.5%)	17	14 (1.0%)	9	14 (0.9%)	na	19 (1.3%)	14	83 (0.7%)	49
Health care and social assistance	na	na	88 (6.3%)	68	na	9	212 (14.2%)	83	300 (2.5%)	151
Arts, entertainment, and recreation	121 (1.6%)	-21	na	na	87 (5.6%)	na	46 (3.1%)	30	254 (2.2%)	39
Accommodation and food services	602 (8.2%)	69	na	na	95 (6.2%)	30	72 (4.8%)	13	769 (6.5%)	86
Other services, except public administration	387 (5.3%)	6	81 (5.8%)	31	46 (3.0%)	4	50 (3.3%)	-4	564 (4.8%)	18
Government	1,055 (14.3%)	-63	179 (12.8%)	-56	142 (9.2%)	-15	170 (11.4%)	-63	1,546 (13.1%)	-220

Note: 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 in italics in tables. For some industrial sectors, not enough information was available to allow estimation, which is indicated by "na". Sources: U.S. Department of Commerce (multiple years). Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA25N. (EPS-HDT 2014).

Table 5.46 shows the largest employers in Fergus, Judith Basin, and Meagher (data was not available for Wheatland County) in terms of number of employees by employment class. Employment classes are as follows: Class 7 (250-499), Class 6 (100-249), Class 5 (50-99), Class 4 (20-49), Class 3 (10-19). The largest employer in the four-county area is located in Fergus County, Central Montana Medical Center, which fell into employment Class 7 (250-499 employees). Judith Basin's largest employer, Basin State Bank, employed from 20-49 employees in 2011. Mountainview Medical Center was the largest employer in Meagher County in 2011, employing between 50 and 99 employees.

Table 5.46 Top 20 private employers in the east area, 2011

Business Name	Size Class	Business Name	Size Class
Fergus County			
Albertsons	5	McDonald's	5
Allied Steel	5	MK Weeden Construction	5
Central Montana Medical Center	7	Moodie Implement Company	5
Century Construction	5	Valle Vista Manor	5
Hi-Heat Industries	5	Yogo Inn of Montana	5
Judith Basin County			
Basin State Bank	4	Spika Welding & Manufacturing	3
Bos Terra LP	3	Stevenson Angus Ranch	3
Hobson Insurance	3		
Meagher County			
Bank of the Rockies	3	Mountainview Medical Center	5
Branding Iron Café	3	Seventy-One Ranch LP	3
Castle Mountain Ranch Inc.	3	Showdown Ski Area	4
Galt Rach	3	The Equestrian Center at Horse Creek	4
Mathis Food Farm	3	Town Pump	4

Note: This list ONLY includes industry employers subject to unemployment insurance. Railroads, tribal entities, and government agencies are excluded. Data was not available for Wheatland County. Source: Montana Department of Labor and Industry, Quarterly Census of Employment of Wages (QCEW) Program (2011).

Figure 5.24 uses Bureau of Labor Statistics data to show trends in unemployment rates in the four counties from 1990 to 2013. For most of the period, Meagher had the highest unemployment rate, higher than the state rate in many of the years, ranging from 3.8 percent in 1990 up to 8.3 percent in 2010. The unemployment rate in Fergus County has somewhat mirrored that of the state, being within ½ percent of the state rate much of the time. Judith Basin and Wheatland have historically had lower rates of unemployment than the state rate.

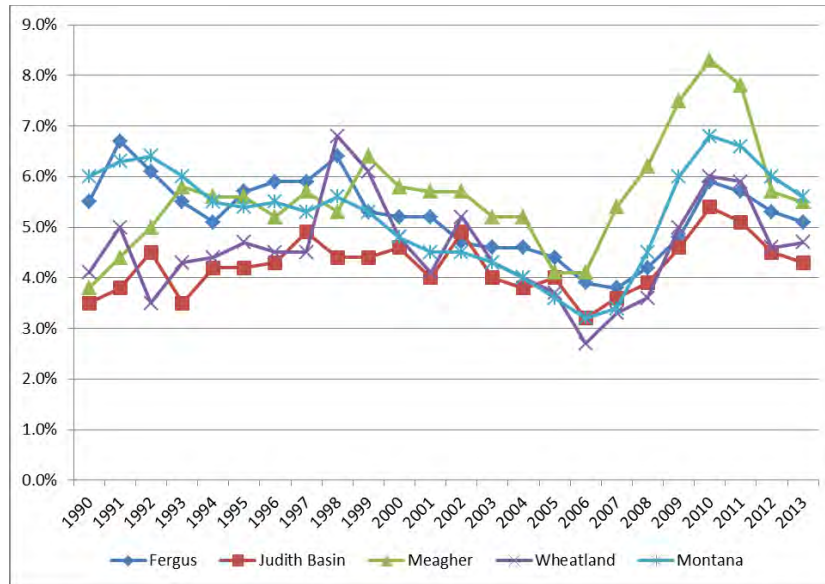


Figure 5.24 Average annual unemployment rate, east area, 1990-2013

Source: U.S. Department of Labor. 2013. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C. (EPS-HDT 2014)

Income

To understand the data on earnings and income, it is important to understand the different types of income. Per capita income is considered one of the most important measures of economic well-being. However, this measure can be misleading. Per capita income is total personal income divided by population. Because total personal income includes non-labor income sources (dividends, interest, rent, and transfer payments), it is possible for per capita income to be relatively high due to the presence of retirees and people with investment income.

Additionally, per capita income is calculated using total population and not the labor force as is average earnings per job; therefore, it is possible for per capita income to be relatively low when there are a disproportionate number of children and/or elderly people in the population.

Earnings per job is the sum of wage and salary disbursements plus other labor and proprietors' income for the area of interest (county or aggregation of counties), divided by total full-time and part-time employment for the area of interest. So when comparing earnings per job to per capita income, it is important to remember that there are differences in both the numerator (labor income versus total personal income) and the denominator (employment versus population). Average earnings per job is an indicator of the quality of local employment. A higher average earning per job indicates that there are relatively more high-wage occupations.

As a whole, the state of Montana tends to lag behind the U.S average, in terms of per capita income. In 2012, Montana's per capita income was \$31,133, substantially below the national average of \$44,391. However, per capital income for the 13-county primary area, at \$40,171 in 2012, was quite high compared to the state. The central county area had the highest per capita income in 2012 at \$41,224 followed closely by the west area at \$40,336. The north and east areas, with lower per capita incomes of \$37,447 and \$38,091 respectively, were still above the state average. The lowest per capita income in the 13-county primary area in 2012 was in Powell County at \$29,962 while the highest was in Jefferson County at \$44.057, just below the national average.

Though the 13-county primary area did not lag too far behind the national average in terms of per capita income; earnings per job was a different story. In 2012, average earnings per job in the U.S. were \$55,501. The average for the state of Montana in 2012 was \$41,368 and the average for the 13-county primary area was \$42,518. Only

the east area fell below the state average in 2012, with average earnings per job of only \$29,910. The highest earnings per job occurred in the central area at \$44,710, which was still substantially below the national average. Earnings per job were \$43,308 in the west area and \$41,594 in the north area. The highest average earnings in 2012 occurred in Lewis and Clark County (\$46,131) and the lowest in Meagher County (17,953). These numbers on earnings per job indicate that per capita income in many of these counties may be high not because of labor earnings, but rather because of non-labor income which is discussed in the next section. More specific information on per capita and average earnings per job is provided by county areas below.

West

In 2012, Jefferson County had the highest per capita income for the four-county western area, at \$44,057, well above the Montana state average (Figure 5.25). Per capita income in Lewis and Clark County (\$41,714) was also above the state average, but Broadwater County at \$30,212 and Powell County at \$29,962 were substantially lower than the state average.

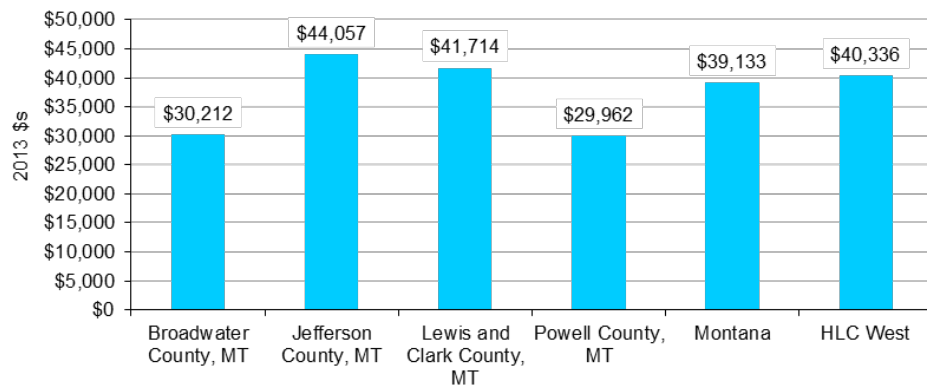


Figure 5.25 Per capita income for the west area, 2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA30 (EPS-HDT 2014)

The picture is somewhat different when looking at average earnings. The highest average earnings occur in Lewis and Clark County (\$46,131), where wages were higher than the state average of \$41,368 in 2012 (Figure 5.26). Jefferson County, on the other hand, lagged substantially behind the state average, with average earnings of only \$33,063. Both Broadwater and Powell County had fairly low average earnings in 2012, at \$30,195 and \$32,373 respectively.

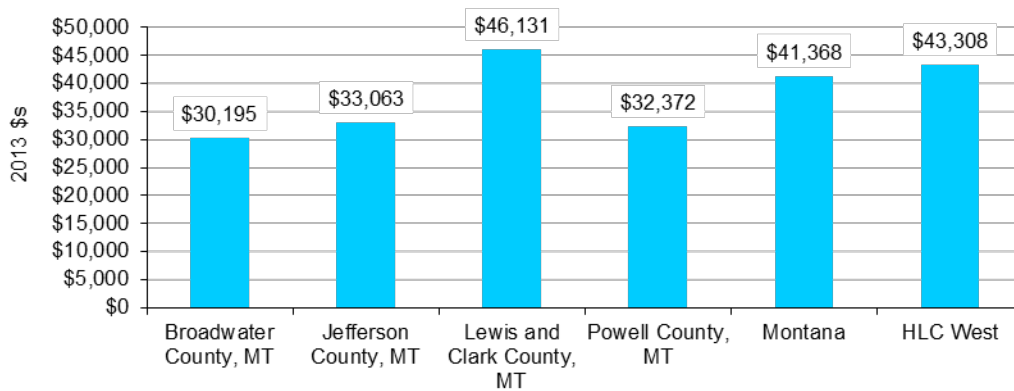


Figure 5.26 Average earnings per job in the west area, 2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA30 (EPS-HDT 2014)

North

In 2012, Teton County had the highest per capita income in the three-county north area, \$43,027, which was higher than the state but lower than the nation (Figure 5.27). Pondera County also had a higher per capita income (\$40,982) than the state average in 2012, but Glacier County’s per capita income was substantially lower than the state average (\$33,394)

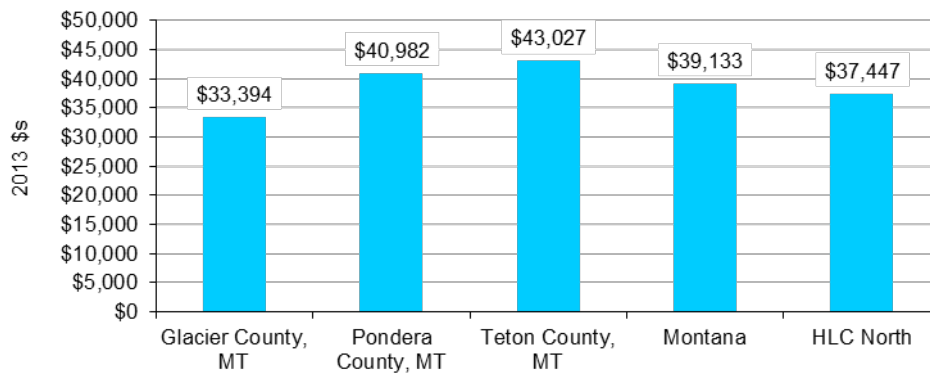


Figure 5.27 Per capita income for the north area, 2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA30 (EPS-HDT 2014)

Again, when looking at average earnings, the story is somewhat different. Pondera County’s average earnings in 2012 (\$40,615) were similar to the state average, and very similar to its per capita income (Figure 5.28). Teton County’s per capita income is much higher than the average earnings in that county and, in fact, average earnings are lower in Teton County than in the other two northern counties. In Glacier County, however, average earnings are much higher than per capita income. In fact, Glacier County has the highest average earnings of the three counties, at \$45,156, higher than the state average.

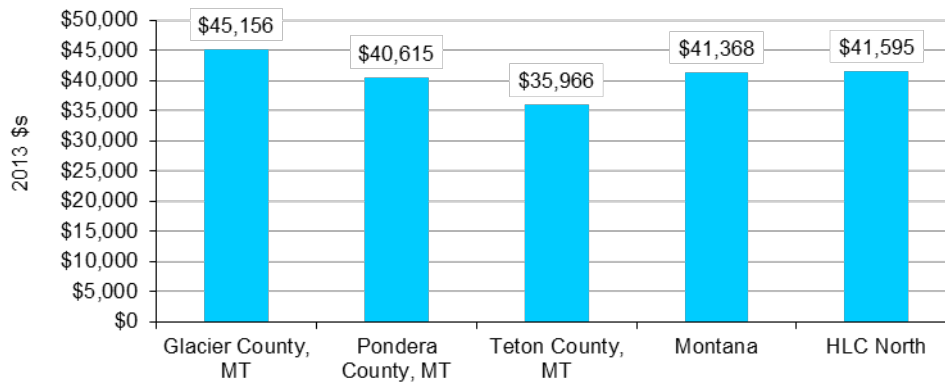


Figure 5.28 Average earnings per job in the north area, 2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA30 (EPS-HDT 2014)

Central

Per capita income in 2012 for Cascade County was \$41,434, higher than the state average of \$39,133 (Figure 5.29). Chouteau County's per capita income (\$38,314) was lower than the state average. However, the fact that the central area as a whole had higher per capita income than the other three county areas (west, north, and east) was due largely to the influence of Cascade County, which as a metropolitan statistical area, has a large and relatively diverse economy and overshadows the much smaller economy of Chouteau County. The per capita income for the other three county areas was pulled down by some of the poorer performing counties in those areas, even though several of the counties (Teton, Jefferson, and Lewis and Clark, and Judith Basin) had higher per capita incomes than Cascade County.

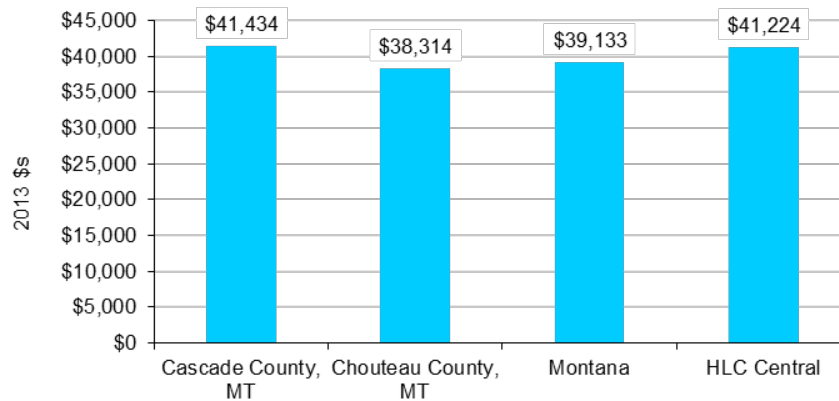


Figure 5.29 Per capita income for the central area, 2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA30 (EPS-HDT 2014)

The relative order of the two counties in the central area does not change when looking at average earnings per job. Cascade County had the highest average earnings (\$45,176), compared to Chouteau County at \$36,910 (Figure 5.30).

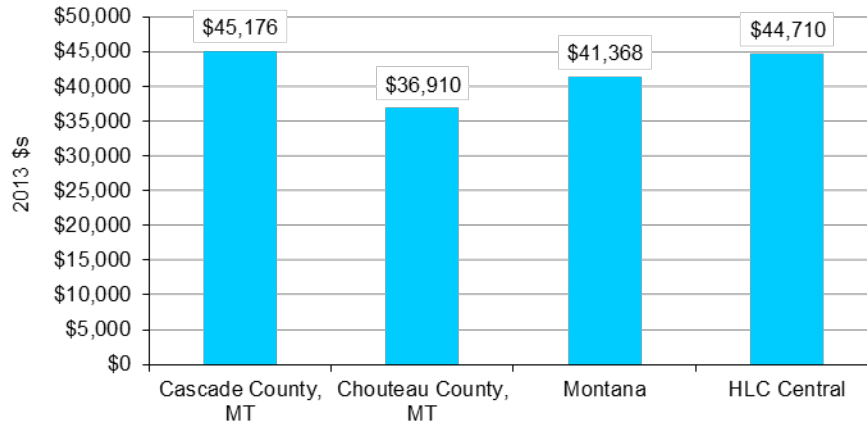


Figure 5.30 Average earnings per job in the central area, 2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA30 (EPS-HDT 2014)

East

In 2012, only one county in the east area, Judith Basin, had per capita income (\$43,699) that was greater than the state average of \$39,133 (Figure 5.31). Wheatland County, at \$34,411, had the lowest per capita income of the four east counties.

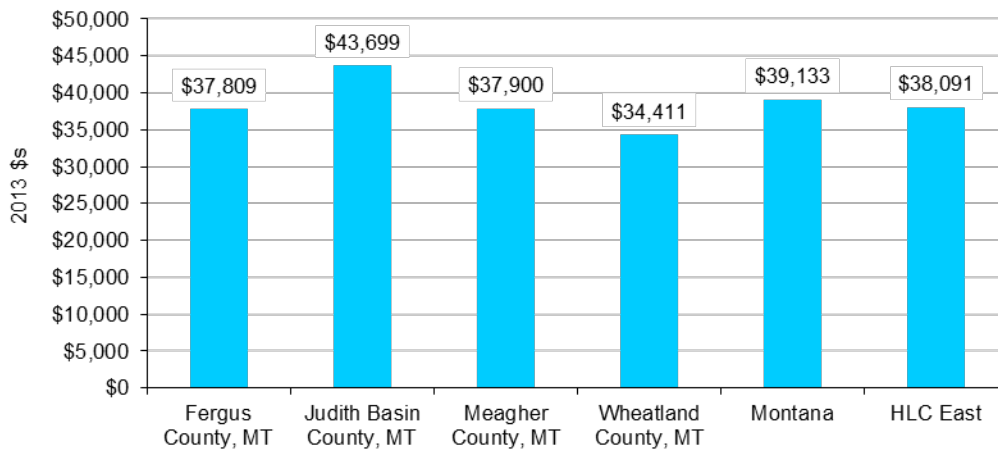


Figure 5.31 Per capita income for the east area, 2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA30 (EPS-HDT 2014)

Average earnings per job for all four counties are substantially lower than the state average of \$41,368 (Figure 5.32). Fergus County had the highest earnings per job in the four-county area in 2012, at \$34,591. The other three counties had extremely low average earnings - \$28,012 for Judith Basin, \$20,934 for Wheatland, and only \$17,963 for Meagher County. The sizable differences between per capita income and earnings per job indicate that non-labor income plays an important role in the economies of these counties.

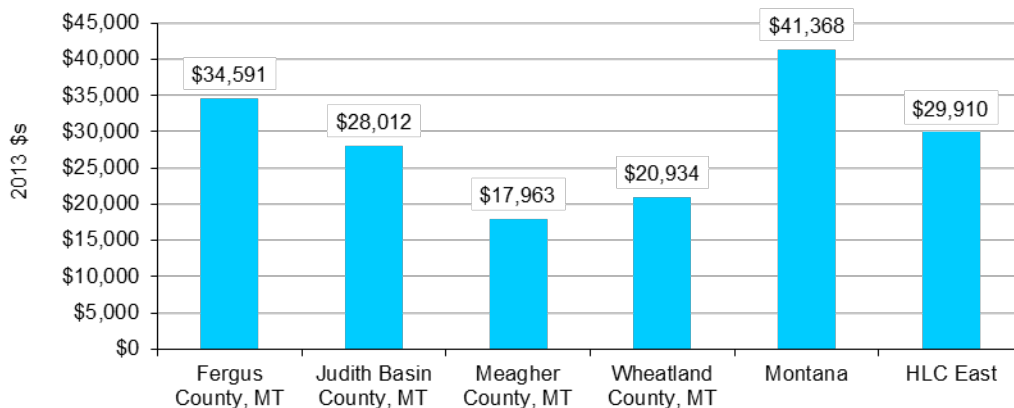


Figure 5.32 Average earnings per job in the east area, 2012

Source: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA30 (EPS-HDT 2014)

Non-labor Income

In many places non-labor income can be the single largest component of total personal income and also the largest source of new personal income. Nationally, non-labor income represented 33 percent of total personal income in 2008 and 26 percent of net new personal income from 1990 to 2008. With the baby boom generation reaching retirement age, it is likely non-labor income will continue to be a growing source of personal income. Unlike most sources of labor income, non-labor income, which often arrives in the form of a dividend check or retirement benefit, can be more difficult to see in a local economy. Because non-labor income is often a large and growing source of personal income, it is important for public land managers to understand this portion of the economy. When investigating non-labor income some important issues for public land managers include whether the area is attracting retirees and people with investment income, the role public lands play in attracting and retaining people with non-labor income, how these people use or enjoy public lands, and whether these uses or ways of enjoying public lands are at odds with current uses or management. If public lands resources are one of the reasons growing areas are able to attract and retain non-labor sources of income, then public lands are important to local economic well-being by contributing to economic growth and per capita income. If, on the other hand, contracting populations or industries result in a shrinking labor market, non-labor income may be important as a remaining source of income and can help stabilize downturns (EPS-HDT 2014).

For the state of Montana, non-labor earnings were a slightly smaller component of total personal income (40.9 percent) in 2012 than were labor earnings, which made up 59.1 percent of total personal income. The percentage of non-labor earnings for the 13-county primary areas was very similar to the state, at 41.8 percent. The percentage of non-labor earnings for the four county areas ranged from 38.2 percent for the west area up to 51.3 percent for the east area. The county with the highest percentage of non-labor income in the 13-county primary area was Meagher County at 64.2 percent, while Jefferson County had the lowest percentage of non-labor income in 2012, at 36.5 percent.

For many of the counties, the percent change between 2000 and 2012 was substantially higher for non-labor income than for labor income. The exceptions were Teton, Chouteau, and Judith Basin, where labor income grew by a greater amount than did non-labor income. This was largely due, however, to a large drop in labor income in 2000, as compared to 1990, followed by a recovery in earnings by 2012. In 2012, dividends, interest, and rent was the largest source of non-labor income in the primary analysis area (23.1 percent), and transfer payments was the smallest (18.6 percent). The biggest percent change in non-labor income over the period was in hardship-

related transfer payments, which are associated with poverty and include Medicaid, Food Stamps (SNAP), Supplemental Security Income (SSI), Unemployment Insurance, and other income maintenance benefits. From 1970 to 2012, hardship-related transfer payments in the 13-county primary area grew from \$61 million to \$417 million, an increase of 583 percent. More detailed information on non-labor income by county group is provided below.

West

In 2012, 38.2 percent of the personal income in the four-county west area was from non-labor sources, compared to 40.9 percent for the state. Broadwater County had the largest percent of total personal income from non-labor sources (49.8 percent) and Jefferson County had the smallest (36.5 percent) (Table 5.47).

Dividends, interest, and rent made up the largest percentage of non-labor income in the four-county area and for each of the counties, ranging from 50.9 percent of non-labor income for Powell County up to 56.4 percent for Jefferson County. Age-related payments in 2012 accounted for between 26.4 percent (Lewis and Clark County) up to 30 percent (Broadwater County) of non-labor income, comparable to the state percentage of 26.5 (and the national percentage of 27.4). Hardship related payments were highest for Powell County, where these payments accounted for 12.8 percent of non-labor income.

Table 5.47 Non-labor income percentages for the west area, 2012

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
Total Personal Income	173,905	502,299	2,706,269	212,610	3,595,083	39,334,133
Percent of Total Income						
Non-Labor Income as a Percent of Total Personal Income	49.8%	36.5%	36.9%	49.0%	38.2%	40.9%
Percent of Non-labor Income						
Dividends, Interest, Rent	53.3%	56.4%	56.2%	50.9%	55.7%	54.9%
Age-Related Transfer Payments	30.0%	27.4%	26.4%	29.3%	27.0%	26.5%
Social Security	19.7%	18.8%	17.9%	18.6%	18.2%	16.8%
Medicare	10.3%	8.6%	8.4%	10.8%	8.7%	9.8%
Hardship-Related Transfer Payments	9.6%	9.5%	9.9%	12.8%	10.1%	11.9%
Medicaid and other medical assistance	4.9%	6.0%	5.1%	7.8%	5.4%	6.7%
Income maintenance ("welfare")	3.2%	2.4%	3.5%	3.5%	3.4%	3.7%
Unemployment ins. compensation	1.5%	1.2%	1.2%	1.5%	1.3%	1.4%
Other Transfer Payments	7.0%	6.7%	7.5%	6.9%	7.3%	6.7%
Veterans	3.7%	3.2%	3.5%	3.3%	1.5%	2.5%

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
benefits						
Education and training assistance	0.6%	0.5%	1.1%	0.5%	0.9%	1.1%
All other payments inc. Workers' comp.	2.7%	2.9%	2.9%	3.2%	2.9%	3.1%

Source U.S. Department of Commerce. 2014. Multiple Years (See Data Sources & Methods page). Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA35. (EPS-HDT 2014)

North

In 2012, 47.5 percent of the personal income in the three-county north area was from non-labor sources, much higher than the state percentage of 40.9. Pondera County had the largest percent of total personal income from non-labor sources (51.9 percent) and Glacier County had the smallest (45 percent) (Table 5.48).

Dividends, interest, and rent made up the largest percentage of non-labor income in the four-county area and for each of the counties, ranging from 45.8 percent of non-labor income for Glacier County up to 63.1 percent for Pondera County. Age-related payments in 2012 accounted ranged from 19 percent (Glacier County) up to 26.3 percent (Teton County) of non-labor income, compared to the state percentage of 26.5 (and the national percentage of 27.4). The most noticeable result shown in Table 5.48 is the large amount of hardship-related transfer payments in Glacier County, where hardship payments make up 27.1 percent of non-labor income, compared to the state percentage of 11.9.

Table 5.48 Non-labor income percentages for the north area, 2012

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
Total Personal Income	457,863	252,653	260,442	970,958	39,334,133
Percent of Total Income					
Non-Labor Income as a Percent of Total Personal Income	45.0%	51.9%	47.9%	47.6%	40.9%
Percent of Non-labor Income					
Dividends, Interest, Rent	45.8%	63.1%	60.8%	54.8%	54.9%
Age-Related Transfer Payments	20.0%	21.2%	26.3%	22.1%	26.5%
Social Security	11.0%	12.5%	15.0%	12.5%	16.8%
Medicare	9.0%	8.8%	11.3%	9.6%	9.8%
Hardship-Related Transfer Payments	27.1%	11.6%	8.5%	17.7%	11.9%
Medicaid and other medical assistance	14.1%	7.0%	5.5%	9.8%	6.7%
Income maintenance	10.7%	3.8%	2.2%	6.4%	3.7%

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
("welfare")					
Unemployment ins. compensation	2.3%	0.8%	0.8%	1.5%	1.4%
Other Transfer Payments	7.0%	4.1%	4.4%	5.5%	6.7%
Veterans benefits	1.7%	1.7%	2.1%	1.1%	2.5%
Education and training assistance	1.8%	0.4%	0.4%	1.0%	1.1%
All other payments inc. Workers' comp.	3.5%	2.0%	1.9%	2.7%	3.1%

Source U.S. Department of Commerce. 2014. Multiple Years (See Data Sources & Methods page). Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA35. (EPS-HDT 2014)

Central

In 2012, 42 percent of the personal income in the two-county central area was from non-labor sources, compared to the state percentage of 40.9. Chouteau County had the largest percent of total personal income from non-labor sources (44.4 percent) and Cascade County had the smallest (41.8 percent) (Table 5.49).

Dividends, interest, and rent made up the largest percentage of non-labor income in the two-county area and for each of the counties, at 54.2 percent of non-labor income for Cascade County and 61.5 percent for Chouteau County. Age-related payments in 2012 were similar to the state average of 26.5 percent. Hardship related payments in Chouteau County were a small percentage (6.7 percent) of nonlabor income compared to the state at 11.9 percent.

Table 5.49 Non-labor income percentages for the central area, 2012

	Cascade County	Chouteau County	HLC NFs Central	Montana
Total Personal Income	3,386,148	226,207	3,612,355	39,334,133
Percent of Total Income				
Non-Labor Income as a Percent of Total Personal Income	41.8%	44.4%	42.0%	40.9%
Percent of Non-labor Income				
Dividends, Interest, Rent	54.2%	61.5%	54.7%	54.9%
Age-Related Transfer Payments	26.0%	27.1%	26.1%	26.5%
Social Security	16.0%	15.6%	15.9%	16.8%
Medicare	10.1%	11.5%	10.2%	9.8%
Hardship-Related Transfer Payments	11.4%	6.7%	11.1%	11.9%
Medicaid and other medical assistance	6.6%	4.1%	6.4%	6.7%
Income maintenance ("welfare")	3.7%	1.9%	3.5%	3.7%
Unemployment ins. compensation	1.1%	0.7%	1.1%	1.4%
Other Transfer Payments	8.4%	4.7%	8.1%	6.7%
Veterans benefits	4.6%	1.8%	1.5%	2.5%

	Cascade County	Chouteau County	HLC NFs Central	Montana
Education and training assistance	1.0%	0.5%	1.0%	1.1%
All other payments inc. Workers' comp.	2.8%	2.4%	2.8%	3.1%

Source U.S. Department of Commerce. 2014. Multiple Years (See Data Sources & Methods page). Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA35. (EPS-HDT 2014)

East

In 2012, 51.3 percent of the personal income in the four-county east area was from non-labor sources, much higher than the state percentage of 40.9. Meagher County had the largest percent of total personal income from non-labor sources (64.2 percent) and Fergus County had the smallest (48.1 percent) (Table 5.50).

Dividends, interest, and rent made up the largest percentage of non-labor income in the four-county area (57.9 percent) and for all four counties, accounting for a larger percentage of nonlabor income than the state average of 54.9 percent. For the four counties, dividends, interest, and rent ranged from a low of 56.1 percent for Fergus County up to 64.2 percent for Meagher County. Age-related payments in 2012 accounted for between 24.3 percent (Wheatland County) up to 29.7 percent (Meagher County) of non-labor income, compared to the state percentage of 26.5 (and the national percentage of 27.4). Hardship-related transfer payments made up a smaller percentage of nonlabor income for each of the counties than for the state as whole.

Table 5.50 Non-labor income percentages for the east area, 2012

	Fergus County	Judith Basin County	Meagher County	Wheatland County	HLC NFs East	Montana
Total Personal Income	432,339	88,446	72,921	72,399	666,105	39,334,133
Percent of Total Income						
Non-Labor Income as a Percent of Total Personal Income	48.1%	50.3%	64.2%	59.0%	51.3%	40.9%
Percent of Non-labor Income						
Dividends, Interest, Rent	56.1%	63.1%	57.5%	61.4%	57.9%	54.9%
Age-Related Transfer Payments	29.4%	26.7%	29.7%	24.3%	28.5%	26.5%
Social Security	18.5%	14.8%	15.3%	12.7%	16.9%	16.8%
Medicare	10.9%	11.9%	14.4%	11.6%	11.6%	9.8%
Hardship-Related Transfer Payments	9.2%	5.5%	9.1%	7.9%	8.6%	11.9%
Medicaid and other medical assistance	5.6%	3.2%	6.0%	5.0%	5.2%	6.7%
Income maintenance ("welfare")	2.5%	1.6%	2.4%	2.1%	2.3%	3.7%
Unemployment ins. compensation	1.1%	0.8%	0.8%	0.9%	1.0%	1.4%

	Fergus County	Judith Basin County	Meagher County	Wheatland County	HLC NFs East	Montana
Other Transfer Payments	5.2%	na	na	na	5.1%	6.7%
Veterans benefits	2.2%	2.4%	1.8%	2.0%	1.4%	2.5%
Education and training assistance	0.5%	0.4%	0.3%	0.4%	0.4%	1.1%
All other payments inc. Workers' comp.	2.6%	na	na	na	2.5%	3.1%

Source U.S. Department of Commerce. 2014. Multiple Years (See Data Sources & Methods page). Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA35. (EPS-HDT 2014)

Wildland Dependency

Wildland dependency is a measure of a community's reliance on industries tied to natural resource-based industries. Wildland dependency is calculated as the percentage of county total labor income (employee compensation and proprietor income) earned in five wildland resource areas (timber, mining, grazing, recreation and wildlife, and Federal wildland-related employment (e.g. Forest Service, Department of Interior agencies, etc.)) (Gebert and Odell 2007). The National Forest-Dependent Rural Communities Economic Diversification Act of 1990 (Public Law 101-624) defined a county as being wildland dependent if 15 percent or more of their total county labor income (primary and secondary income) came from industries associated with forest resources. Primary income is income derived directly from the industrial sectors constituting the primary wildland industries and secondary income is that derived from indirect and induced effects associated with primary income (the multiplier effect) (Gebert and Odell 2007). Indirect effects are felt by the producers of materials used by the directly affected industries. Induced effects occur when employees of the directly and indirectly affected industries spend the wages they receive. Wildland dependency calculations for the primary analysis area are provided below by county grouping.

West

Data from the 2007 Gebert and Odell study showed that, of the four counties in the west area, three were highly reliant on primary natural resource industries in 2000 (Table 5.51), with Broadwater County deriving nearly 34 percent of its total county labor income from primary natural resource-based industries, Powell 25 percent, and Jefferson 20 percent. Lewis and Clark County, which is more highly populated with a more diverse economy, derived only about 3 percent of its labor income from primary natural resource based industries. Even when counting both primary and secondary labor income derived from natural resource industries, Lewis and Clark County still derived less than 5 percent of its total county labor income from natural resource industries. The other three counties substantially exceeded the 15 percent criterion for wildland dependence with Broadwater County deriving 59 percent, Jefferson County 47 percent, and Powell County 43 percent of total county labor income from natural resource dependent economic activities and the associated indirect and induced effects.

The wildland dependency numbers were recently updated using data from 2010. These numbers show a drop in wildland dependency for all counties. The decrease in primary dependency was greatest for Powell County, where the percentage labor income coming from primary wildland-based industries fell 12.1 points, from 25.4 percent to 13.2 percent, mainly due to a drop in timber dependency. Broadwater's primary dependency fell 8.1 percent (mainly due to a drop in timber dependency), and Jefferson's dependency decreased 5.6 percent (mainly due to a decrease in mining). In 2010, Broadwater, Jefferson, and Powell Counties all still met the 15 percent criterion for wildland dependency, at 33.7 percent for Broadwater County, 17.4 percent for Jefferson County and 19.3 percent for Powell County.

Additionally, the secondary impacts (the indirect and induced effects associated with the primary income) are much smaller than those calculated in 2000. This is primarily due to both the decrease in the direct impacts as well as the multipliers used to compute the secondary impacts. In the earlier study, multi-county impact areas, called component economic areas (labor areas defined by the Bureau of Economic analysis), were purchased from Micro-IMPLAN Group ([MIG] located in Stillwater, MN). Therefore, each county in the multi-county impact areas had the same multipliers. When the dependency calculations were redone, county-level impact models were ran, allowing for county- and sector-specific multipliers to be calculated. This was not possible in the earlier 2000 analysis due to computing limitations. Multipliers for a larger geographical area (for example, a state or multi-county area) are generally larger than those for a smaller area (for example, a county). Larger geographical areas generally have a greater capacity to respond primary (direct) income, the multiplier effect, than do smaller areas. A larger portion of the primary income received by smaller units is commonly spent in areas outside the county for goods and services, a process called “leakage.”

Table 5.51 Comparison of wildland dependency (percent of total county labor income derived from wildland-based industries) for the west area for 2000 and 2010

Year	County	Percent Primary					Total Primary	Secondary	Total
		Grazing	Timber	Mining	Govt.	Rec.			
2000	Broadwater	2.13%	19.94%	5.25%	2.35%	4.18%	33.85%	25.58%	59.43%
	Jefferson	1.45%	1.14%	13.80%	1.05%	2.63%	20.07%	26.75%	46.82%
	Lewis and Clark	0.15%	0.12%	1.52%	0.60%	0.96%	3.35%	1.43%	4.78%
	Powell	2.27%	15.25%	0.71%	1.73%	5.50%	25.47%	17.97%	43.44%
2010	Broadwater	0.95%	15.27%	5.10%	3.06%	1.31%	25.69%	8.05%	33.74%
	Jefferson	0.49%	1.50%	10.15%	1.07%	1.21%	14.42%	3.01%	17.43%
	Lewis and Clark	0.95%	0.06%	0.93%	0.22%	0.17%	2.32%	0.87%	3.20%
	Powell	2.01%	8.12%	0.11%	2.01%	2.28%	13.37%	5.92%	19.29%

Note: Government (Govt.) includes the labor income associated with employment by Federal government wildland management agencies.

North

In 2000, two of the three counties in the north area were substantially reliant on natural resource industries (Table 5.52). Glacier County derived 18 percent of its total county labor income from primary natural resource-based industries, primarily recreation. Teton County’s primary dependency in 2000 was 10.6 percent, mainly due to grazing and recreation. Pondera County’s primary dependency was only 5.7 percent. Even when counting both primary and secondary labor income derived from natural resource industries, Pondera’s dependency, at 11 percent, still did not meet the 15 percent criterion for wildland dependency. The other two counties exceeded the 15 percent criterion for wildland dependence in 2000 with Glacier deriving 27 percent and Teton County deriving 20 percent of total county labor income from natural resource dependent economic activities and the associated indirect and induced effects.

The 2010 numbers show a drop in wildland dependency for all counties. The decrease in primary dependency was greatest for Glacier County, where the percentage labor income coming from primary wildland-based industries fell 4.6 points, from 18 percent to 13.4 percent, mainly due to the drop in recreation dependency. At the same time, mining dependency in Glacier County increased from 2000 to 2010, from 1.4 percent to 4.7 percent. However, despite the drop in primary dependency, when including the secondary effects, Glacier County still met the 15 percent dependency criterion in 2010. Teton County’s dependency, however, fell below the 15 percent

criterion in 2010, with primary dependency falling from 10.6 to 8.7 and total dependency falling to 11.7 due to a variety of changes - mining and government dependency increased while grazing, timber, and recreation decreased.

Table 5.52 .Comparison of wildland dependency (percent of total county labor income derived from wildland-based industries) for the north area for 2000 and 2010

Year	County	Percent Primary					Total Primary	Secondary	Total
		Grazing	Timber	Mining	Govt.	Rec.			
2000	Glacier	1.01%	0.42%	1.44%	4.53%	10.61%	18.00%	9.21%	27.21%
	Pondera	1.73%	1.08%	1.51%	0.42%	0.99%	5.74%	5.33%	11.06%
	Teton	3.97%	1.05%	0.51%	1.36%	3.72%	10.59%	9.06%	19.65%
2010	Glacier	0.51%	0.11%	4.69%	4.00%	4.10%	13.41%	2.41%	15.82%
	Pondera	1.44%	0.01%	2.90%	0.69%	0.36%	5.40%	2.39%	7.80%
	Teton	1.62%	0.14%	3.45%	2.64%	0.90%	8.74%	2.97%	11.71%

Note: Government (Govt.) includes the labor income associated with employment by Federal government wildland management agencies.

Central

In 2000, Chouteau County derived 10.7 percent of its total county labor income from primary natural resource-based industries, primarily grazing (Table 5.53). Cascade County, with the much larger and more diverse economy, derived only 1.2 percent of its total county labor income from primary natural resource industries. When counting both primary and secondary labor income derived from natural resource industries, Chouteau County exceeded the 15 percent criterion for wildland dependence in 2000 at 19.7 percent dependency.

The 2010 numbers showed a drop in wildland dependency, especially for Chouteau County where primary dependency fell nearly 5 points to 5.5 percent. This decrease was due to declines in grazing, timber, and recreation. With these decreases (and the drop in secondary impacts), in 2010 Chouteau County no longer met the 15 percent criterion for wildland dependency.

Table 5.53 Comparison of wildland dependency (percent of total county labor income derived from wildland-based industries) for the central area for 2000 and 2010

Year	County	Percent Primary					Total Primary	Secondary	Total
		Grazing	Timber	Mining	Govt.	Rec.			
2000	Cascade	0.31%	0.06%	0.29%	0.34%	0.17%	1.17%	1.04%	2.21%
	Chouteau	4.12%	2.73%	0.45%	0.71%	2.68%	10.68%	8.70%	19.38%
2010	Cascade	0.08%	0.10%	0.18%	0.60%	0.04%	0.99%	0.50%	1.49%
	Chouteau	1.94%	0.07%	1.47%	1.37%	0.62%	5.47%	1.74%	7.21%

Note: Government (Govt.) includes the labor income associated with employment by Federal government wildland management agencies.

East

In 2000, all of the counties in the east area were substantially reliant on natural resource industries (Table 5.54). With regard to primary dependency, Meagher had the highest primary dependency in 2000 at 26.8 percent, mainly due to recreation dependency. Judith Basin was a close second, at 25.2 percent primary dependency, mainly related to grazing and recreation. Wheatland and Fergus had substantially lower primary dependency, at 14.6 percent and 8.8 percent, respectively. When counting both primary and secondary labor income derived from natural resource industries, all four counties exceeded the 15 percent criterion for wildland dependence in 2000,

ranging from a high of 47 percent dependent for Judith Basin down to just barely over 15 percent for Fergus County.

The 2010 numbers show a drop in wildland dependency for all counties, with the exception of Meagher County. The drop in dependency caused both Fergus County and Wheatland County to fall below the 15 percent dependency criterion in 2010. For Fergus County, the drop below the 15 percent criterion was mainly due to the smaller secondary effects in 2010. For Wheatland County, the fall below 15 percent was due to both the smaller secondary effects and decreases in most of the income categories. Judith Basin remained above the 15 percent criterion despite a large drop in dependency, from 47.08 down to 22.89 (total dependency). This was due to both a fall in primary dependency of 6 percentage points and a large drop in the secondary income percentage. The interesting story is Meagher, where dependency grew due to a large increase in mining dependency in 2010 up to 40.7 percent, compared to less than 1 percent in 2000. This appears to be a blip in the data due to a high point in the exploration activity for the Tintina Black Butte mining project. Mining employment in both 2009 and 2011 was minimal. However, if this proposed mine goes through in 2016, it is anticipated that the operation will employ approximately 238 employees (Meagher County 2014).

Table 5.54 Comparison of wildland dependency (percent of total county labor income derived from wildland-based industries) for the east area for 2000 and 2010

Year	County	Percent Primary					Total Primary	Secondary	Total
		Grazing	Timber	Mining	Govt.	Rec.			
2000	Fergus	2.63%	0.43%	0.36%	2.59%	2.74%	8.75%	6.71%	15.46%
	Judith Basin	9.02%	2.76%	3.28%	2.54%	7.62%	25.22%	21.86%	47.08%
	Meagher	5.57%	6.68%	0.23%	2.83%	11.49%	26.79%	17.12%	43.92%
	Wheatland	4.89%	2.97%	0.49%	3.77%	2.43%	14.55%	11.82%	26.38%
2010	Fergus	0.84%	0.59%	2.26%	4.14%	0.71%	8.55%	3.59%	12.13%
	Judith Basin	3.05%	0.06%	7.04%	5.35%	3.66%	19.16%	3.74%	22.89%
	Meagher	1.60%	0.25%	40.69% ¹	4.45%	3.64%	50.63%	3.93%	54.56%
	Wheatland	2.85%	0.05%	0.44%	4.61%	0.66%	8.61%	3.46%	12.07%

Note: Government (Govt.) includes the labor income associated with employment by Federal government wildland management agencies. ¹The increase in mining dependence in 2010 for Meagher County was due to exploration activity for the TinTina Black Butte mining project.

Federal Land Payments to States

In recognition that states cannot tax federal lands within their boundaries, policies provide for funding from federal lands to local governments through two programs: Payments in Lieu of Taxes (PILT) and what is commonly termed “Payments to States”, “Revenue-Sharing Payments” or “Secure Schools and Roads” funding. In rural counties these funds can be an important source of funding to maintain roads and provide support for schools. It is important to note that at the time this report was written (early 2015) the Secure Rural Schools Act had not been reauthorized for another year. If the Act is not reauthorized, all counties would revert back to 25-percent fund payments which are discussed below. This would be a substantial drop in income for many counties.

PILT funds derive from a 1976 law (Public Law 94-565) that provides funds to local governments based on the amount of federal lands within their jurisdiction. These payments are affected by federal funding limitations, prior year “Payments to States”, and formulas based on county populations. Based on annual congressional appropriation decisions, PILT payments may not always be fully funded and historically have not been. By 2000 this lack of funding had caused counties to receive only about 42 percent of what was authorized (Schuster and Gebert 2001). However, on October 3, 2008, Congress enacted the Emergency Economic Stabilization Act of 2008 (Public Law 110-343), which authorized counties to receive their full PILT entitlement from 2008 through

2012, and payments increased substantially. On July 6, 2012, the President signed the Moving Ahead for Progress in the 21st Century Act (Public Law 112-141), which reauthorized the program for 2013. On February 7, 2014, the President signed the Agriculture Act of 2014 (Public Law 113-79) which authorized funding for the program in 2014.

“Payments to States” or “Revenue-Sharing Payments” to counties are based on a 1908 law that allocated ten percent of the gross revenues generated from timber harvest, grazing, mining, and all other uses from the federal lands within their jurisdictions. The Weeks Law of 1911 increased the amount of payments from ten to twenty-five percent. These “twenty-five percent monies” were mandated to be used for schools and roads. With diminishing commercial uses of federal lands, in 2000 the President signed the Craig-Wyden bill that became the Secure Rural Schools and Community Self Determination Act (PL 106-393). The purpose of this Act was to address diminishing amounts of the twenty-five percent monies. The new law allowed counties the option of continuing to receive the twenty-five percent amount or to elect to receive a fixed amount based on the average of the three highest years between 1986 and 1999. On October 3, 2008 the Secure Rural Schools and Community Self-Determination Act of 2000 (SRS Act) was amended and reauthorized in P.L. 110-343. The amended SRS Act gives counties the option between two payment methods. The payment options were (1) a newly modified 25 percent seven year rolling average payment of receipts from national forest lands or (2) a share of the State payment as calculated under the new SRS Act. The new formula uses multiple factors, including acres of federal land within an eligible county, average three highest 25-percent payments, and an income adjustment based on the per capita personal income for each county. This Act was reauthorized for one more year in both 2013 and 2014.

Table 5.55 shows the trends in PILT payments for the thirteen western states. The state of Montana ranks in about the middle of the 13 western states with respect to PILT payments, receiving \$26.2 million in 2012. The largest PILT payment went to the state of California, while the lowest (not counting Hawaii) went to the state of Oregon. Looking at Table 5.55, it is easy to see the jump in payments that occurred in 2008 as a result of the Emergency Economic Stabilization Act. For the state of Montana, payments went from \$17.2 million in 2007 to \$27.3 million in 2008.

Table 5.55 Payment (millions of dollars) in lieu of taxes for thirteen western states from 1995-2012

State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
California	9.6	11.0	11.1	12.0	12.8	14.3	20.9	22.8	19.2	19.1	19.0	21.1	21.0	33.2	34.4	36.8	38.0	40.3
Utah	8.7	9.6	9.3	9.5	9.8	10.4	15.4	16.1	18.7	19.1	19.6	20.1	20.1	32.2	33.1	34.3	34.7	36.0
New Mexico	10.5	11.8	11.2	11.4	11.6	12.3	18.0	19.0	21.4	22.0	22.4	22.8	22.7	36.1	37.0	32.2	32.9	34.8
Arizona	8.4	9.6	9.4	10.0	10.3	11.0	16.1	16.9	18.0	18.7	19.2	19.0	19.1	30.7	31.7	27.8	31.5	32.9
Colorado	6.6	7.8	8.1	8.5	9.3	10.3	15.2	14.5	17.6	17.6	16.8	17.5	17.4	28.3	28.7	24.3	27.0	27.7
Alaska	4.7	4.9	6.8	8.1	8.7	9.1	13.3	14.0	15.2	15.6	15.8	16.1	16.2	25.1	25.7	24.9	25.5	26.9
Idaho	7.1	8.0	7.7	8.0	8.4	8.8	13.5	13.9	15.0	15.3	15.9	16.3	16.6	25.8	26.4	25.3	25.6	26.6
Montana	7.7	8.9	8.9	9.3	9.8	10.1	15.7	16.2	16.9	16.7	17.2	17.3	17.2	27.3	28.1	23.5	24.7	26.2
Wyoming	5.7	7.2	7.5	7.7	8.0	8.3	12.2	12.9	14.3	14.6	14.8	15.2	15.4	24.2	25.6	22.7	25.7	25.3
Nevada	6.5	7.1	6.9	7.0	7.2	7.6	11.0	11.5	13.1	13.5	13.7	14.1	13.9	22.6	23.3	22.8	22.9	23.9
Washington	4.8	2.2	2.8	3.3	3.7	4.2	6.6	7.2	5.1	5.9	6.3	6.6	6.7	10.7	10.8	12.8	13.8	15.3
Oregon	2.8	3.5	3.5	3.8	3.7	4.5	6.9	7.6	6.0	6.2	6.4	6.6	6.6	10.1	15.0	12.7	13.1	14.0
Hawaii	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3

Source: U.S. Department of Interior, Payments in Lieu of Taxes, (<http://www.doi.gov/pilt/index.cfm>)

Table 5.56 shows PILT entitlement acres, PILT payments, and PILT payments per entitlement acre for 1999 and 2012 for the 13 western states, sorted by the payment per acre in 2012. Hawaii and New Mexico receive the highest payments per acre of entitlement land, at \$2.47 per acre and \$1.55 per acre, respectively. Hawaii, however, receives little in overall funds. New Mexico, on the other hand, ranks third in overall funding. The states with the smallest amount of PILT payment per acre are Alaska and Nevada, at \$0.12 per acre and \$0.42 per acre. Montana ranks 7th out of the 13 western states, with a per acre PILT payment of \$0.96 in 2012. The table also illustrates the jump in payments that occurred after 2007. In 1999, Montana’s PILT payment per acre was only \$0.36.

Table 5.56 Entitlement acres, payments in lieu of taxes and payments in lieu of taxes per entitlement acre for thirteen western states in 1999 and 2012

State	1999			2012		
	Entitlement Acres	Total PILT	PILT per Entitlement Acre	Entitlement Acres	Total PILT	PILT per Entitlement Acre
Hawaii	13,267	\$14,500	\$1.09	135,457	\$334,977	\$2.47
New Mexico	22,571,110	\$11,597,426	\$0.51	22,510,418	\$34,805,383	\$1.55
Washington	11,485,941	\$3,707,574	\$0.32	11,823,901	\$15,340,025	\$1.30
Colorado	23,617,846	\$9,294,770	\$0.39	23,722,680	\$27,724,576	\$1.17
Arizona	27,539,895	\$10,275,296	\$0.37	28,207,029	\$32,886,575	\$1.17
Utah	32,440,085	\$9,783,359	\$0.30	32,827,408	\$36,038,626	\$1.10
Montana	27,210,659	\$9,846,022	\$0.36	27,294,552	\$26,151,999	\$0.96
California	42,820,923	\$12,789,337	\$0.30	43,919,805	\$40,272,053	\$0.92
Wyoming	29,933,836	\$7,969,204	\$0.27	29,865,607	\$25,315,295	\$0.85
Idaho	32,328,703	\$8,354,480	\$0.26	32,596,479	\$26,560,218	\$0.81
Oregon	28,733,148	\$3,720,267	\$0.13	31,220,951	\$14,004,966	\$0.45
Nevada	56,856,175	\$7,180,805	\$0.13	56,706,000	\$23,917,845	\$0.42
Alaska	104,823,543	\$8,734,619	\$0.08	225,334,609	\$26,894,462	\$0.12
Rest of U.S.	39,395,740	\$21,313,318	\$0.54	42,205,109	62,797,454	\$1.49
TOTAL	479,770,871	\$124,580,977	\$0.26	608,370,005	\$393,044,454	\$0.65

Source: U.S. Department of Interior, Payments in Lieu of Taxes, (<http://www.doi.gov/pilt/index.cfm>)

Table 5.57 shows total PILT payments and payments per acre of entitlement land for all of the Montana counties, ranked by the total amount received in 2012. Lewis and Clark County received the highest PILT payment in 2012, \$2.2 million. Treasure County received the smallest payment, \$254 (Daniels County received no PILT payments in 2012). The 13 counties in the primary analysis area are highlighted in. In 2012, Fergus, Jefferson, and Glacier Counties ranked 6th, 7th, and 8th in the state in terms of PILT payments, receiving around \$1 million each. Teton and Broadwater ranked 17th and 18th, at \$585 and \$535 thousand, respectively. Cascade, Chouteau, and Powell (ranked 21st, 25th, and 29th) received payments between \$250,000 and \$500,000. The remaining counties received less than \$200,000 in PILT payments. Many counties in Montana saw a significant increase in PILT payments after 2008. The number of total entitlement acres for the 13 counties changed little during this time.

Table 5.57 Comparison of payments in lieu of taxes, entitlement acres and average payments in lieu of taxes per entitlement acre by county for all Montana counties for 2000 to 2002 and 2010 to 2012

County	2000	2001	2002	2002 Entitlement Acres	Average PILT/Acre 2000-2002	2010	2011	2012	2012 Entitlement Acres	Average PILT/Acre 2010-2012
Lewis & Clark	\$684,888	\$1,125,350	\$1,187,404	1,070,978	\$0.93	\$1,965,079	\$2,092,542	\$2,175,469	1,081,937	\$1.92
Flathead	\$797,240	\$1,368,715	\$1,441,781	2,440,181	\$0.49	\$1,885,849	\$2,127,334	\$2,132,009	2,440,075	\$0.84
Ravalli	\$819,363	\$1,218,182	\$1,282,827	1,109,623	\$1.00	\$1,608,295	\$1,772,260	\$1,868,478	1,115,675	\$1.57
Missoula	\$385,544	\$697,444	\$740,216	711,563	\$0.85	\$1,079,855	\$1,392,854	\$1,424,700	821,436	\$1.58
Gallatin	\$539,958	\$774,200	\$815,683	703,199	\$1.01	\$1,334,492	\$1,397,768	\$1,414,172	706,624	\$1.96
Fergus	\$367,478	\$538,997	\$557,567	486,084	\$1.00	\$1,075,618	\$1,055,743	\$1,108,040	484,296	\$2.23
Jefferson	\$307,704	\$476,105	\$501,736	555,697	\$0.77	\$886,716	\$1,020,848	\$973,669	553,157	\$1.74
Glacier	\$312,615	\$450,365	\$473,847	401,496	\$1.03	\$913,838	\$930,049	\$953,988	401,497	\$2.32
Park	\$478,301	\$688,024	\$723,202	945,492	\$0.67	\$854,743	\$956,382	\$932,369	951,391	\$0.96
Valley	\$329,520	\$488,471	\$480,083	1,122,308	\$0.39	\$914,126	\$801,090	\$927,676	1,122,580	\$0.78
Carbon	\$354,231	\$515,820	\$541,960	572,524	\$0.82	\$780,486	\$836,308	\$856,905	574,660	\$1.43
Custer	\$262,700	\$381,486	\$389,742	334,095	\$1.03	\$779,269	\$781,125	\$813,416	333,580	\$2.37
Blaine	\$287,161	\$464,651	\$358,310	453,106	\$0.82	\$678,004	\$474,362	\$804,974	451,657	\$1.44
Beaverhead	\$321,656	\$476,624	\$502,724	2,047,829	\$0.21	\$674,049	\$674,685	\$695,163	2,046,632	\$0.33
Madison	\$295,573	\$435,001	\$457,383	1,052,173	\$0.38	\$442,872	\$518,689	\$639,238	1,054,000	\$0.51
Lincoln	\$184,332	\$267,350	\$281,797	1,748,177	\$0.14	\$576,277	\$576,238	\$593,728	1,747,997	\$0.33
Teton	\$190,817	\$296,438	\$312,686	284,568	\$0.94	\$492,450	\$520,980	\$585,351	284,568	\$1.87
Broadwater	\$187,405	\$308,834	\$325,315	282,537	\$0.97	\$460,024	\$506,774	\$535,924	287,805	\$1.74
Silver Bow Census Ct	\$165,341	\$244,121	\$256,609	233,632	\$0.95	\$447,501	\$465,768	\$482,796	233,605	\$1.99
Phillips	\$187,897	\$337,034	\$244,702	1,382,944	\$0.19	\$453,961	\$453,927	\$467,706	1,376,973	\$0.33

County	2000	2001	2002	2002 Entitlement Acres	Average PILT/Acre 2000-2002	2010	2011	2012	2012 Entitlement Acres	Average PILT/Acre 2010-2012
Cascade	\$144,259	\$224,245	\$236,641	215,467	\$0.94	\$366,922	\$395,071	\$414,987	215,467	\$1.82
Lake	\$102,458	\$166,115	\$175,103	155,444	\$0.95	\$339,262	\$382,923	\$390,091	173,937	\$2.13
Sweet Grass	\$172,118	\$262,470	\$275,850	303,397	\$0.78	\$310,177	\$362,619	\$379,973	302,039	\$1.16
Stillwater	\$147,172	\$209,436	\$220,596	191,880	\$1.00	\$325,465	\$347,745	\$361,204	191,193	\$1.80
Chouteau	\$118,073	\$172,083	\$181,126	157,892	\$0.99	\$313,572	\$336,623	\$342,751	156,184	\$2.12
Anaconda Deer Lodge	\$138,183	\$202,745	\$221,332	197,219	\$0.95	\$277,933	\$316,570	\$341,018	215,181	\$1.45
Sanders	\$96,473	\$139,894	\$147,452	914,740	\$0.14	\$301,577	\$301,556	\$310,821	915,087	\$0.33
McCone	\$101,774	\$147,062	\$154,437	273,745	\$0.49	\$257,343	\$269,036	\$277,867	274,105	\$0.98
Powell	\$213,927	\$404,755	\$427,143	720,108	\$0.48	\$241,717	\$244,833	\$252,252	742,655	\$0.33
Granite	\$74,263	\$116,085	\$125,143	703,947	\$0.15	\$232,007	\$232,019	\$239,279	704,462	\$0.33
Mineral	\$67,779	\$176,941	\$189,797	642,654	\$0.23	\$211,767	\$212,209	\$216,972	638,789	\$0.33
Garfield	\$73,326	\$96,588	\$101,396	814,977	\$0.11	\$189,115	\$186,092	\$207,722	814,977	\$0.24
Powder River	\$86,458	\$124,482	\$131,131	594,815	\$0.19	\$196,098	\$196,724	\$202,695	596,756	\$0.33
Pondera	\$69,969	\$110,651	\$116,819	107,919	\$0.92	\$143,019	\$151,224	\$193,722	107,919	\$1.51
Carter	\$75,353	\$94,327	\$99,002	594,642	\$0.15	\$193,790	\$191,464	\$191,284	593,361	\$0.32
Yellowstone	\$58,800	\$87,028	\$89,540	77,952	\$1.01	\$185,829	\$178,773	\$186,980	78,235	\$2.35
Meagher	\$51,032	\$100,636	\$107,187	483,883	\$0.18	\$159,050	\$159,419	\$164,366	483,912	\$0.33
Musselshell	\$59,392	\$98,526	\$82,895	87,517	\$0.92	\$197,837	\$28,851	\$158,324	87,517	\$1.47
Prairie	\$56,749	\$89,995	\$69,150	411,364	\$0.17	\$141,592	\$141,582	\$145,880	429,486	\$0.33
Rosebud	\$255,334	\$365,274	\$384,326	329,949	\$1.02	\$107,434	\$107,427	\$110,688	325,876	\$0.33
Hill	\$37,458	\$53,627	\$56,430	47,790	\$1.03	\$50,690	\$94,284	\$105,383	47,718	\$1.75
Wheatland	\$42,754	\$67,624	\$71,330	65,924	\$0.92	\$69,573	\$102,611	\$105,173	65,924	\$1.40
Judith Basin	\$78,381	\$144,502	\$152,810	308,427	\$0.41	\$101,682	\$101,675	\$104,761	308,427	\$0.33
Petroleum	\$26,267	\$37,230	\$39,084	335,040	\$0.10	\$70,938	\$72,288	\$81,528	335,040	\$0.22
Liberty	\$26,146	\$37,475	\$39,490	33,656	\$1.02	\$60,614	\$68,747	\$69,596	33,656	\$1.97
Golden Valley	\$21,497	\$33,128	\$34,930	31,537	\$0.95	\$43,115	\$48,844	\$54,329	31,537	\$1.55
Toole	\$35,314	\$50,547	\$53,313	45,579	\$1.02	\$20,603	\$28,368	\$51,522	45,459	\$0.74

County	2000	2001	2002	2002 Entitlement Acres	Average PILT/Acre 2000-2002	2010	2011	2012	2012 Entitlement Acres	Average PILT/Acre 2010-2012
Fallon	\$69,073	\$134,157	\$80,287	115,901	\$0.82	\$37,999	\$38,207	\$39,367	115,901	\$0.33
Dawson	\$52,102	\$71,616	\$75,341	63,960	\$1.04	\$21,059	\$21,085	\$21,724	63,960	\$0.33
Richland	\$41,028	\$58,730	\$62,076	54,194	\$1.00	\$17,565	\$17,869	\$18,412	54,206	\$0.33
Big Horn	\$31,683	\$45,669	\$48,148	41,434	\$1.01	\$13,660	\$13,659	\$14,073	41,433	\$0.33
Wibaux	\$20,464	\$29,287	\$30,973	26,995	\$1.00	\$8,583	\$8,899	\$9,169	26,995	\$0.33
Roosevelt	\$3,101	\$4,534	\$4,820	4,284	\$0.97	\$1,413	\$1,413	\$1,456	4,284	\$0.33
Sheridan	\$1,398	\$2,002	\$2,106	1,781	\$1.03	\$587	\$587	\$605	1,781	\$0.33
Treasure	\$345	\$845	\$877	748	\$0.92	\$247	\$247	\$254	748	\$0.33
Daniels	\$151	\$222	\$233	200	\$1.01	\$0	\$0	\$0	200	\$0.00
Total	\$10,109,778	\$15,713,745	\$16,163,888	27,095,167	\$0.52	\$23,513,338	\$24,717,269	\$26,151,999	27,294,552	\$0.91

Source: U.S. Department of Interior, Payments in Lieu of Taxes, (<http://www.doi.gov/pilt/index.cfm>)

Table 5.58 shows Forest Service revenue sharing payments, ranked by the 1991 to 2000 county average, for each county in Montana with the 13 counties in the primary analysis area highlighted in grey (counties not listed received no FS revenue sharing payment). These are the funds counties received as “Forest Receipts” or “twenty five percent” monies. Lincoln County was ranked 1st, having received an average of \$6.7 million annually from 1986 to 2000. Golden Valley ranked last, with an average payment of only \$9,000. Lewis and Clark County ranked 6th and Powell County ranked 8th, with average payments of \$502,000 and \$481,000 respectively. Jefferson, Meagher and Judith Basin had average payments of more than \$100,000. However, of the 5 counties receiving more than \$100,000 in payments, Judith Basin funds were entirely due to activities on the HLC NFs, while the other counties also received money from activities on other NFs within their boundaries. The remaining 8 counties in the 13-county area received payments lower than \$100,000 on average.

Table 5.58 Forest Service revenue sharing payments (millions of dollars) for all counties in Montana from 1986 to 2000

County	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Avg. Pmt. 1991-2000
Lincoln	5.880	4.323	5.117	5.420	8.667	7.618	8.856	10.680	9.492	6.814	5.867	4.845	5.144	3.196	4.240	6.675
Sanders	1.261	1.515	1.881	1.578	2.423	1.777	2.608	2.307	2.893	1.944	1.720	1.352	1.763	1.323	1.584	1.927
Flathead	2.357	2.121	3.701	2.127	1.824	1.630	2.212	2.581	1.300	1.482	1.164	0.909	1.281	0.697	0.481	1.374
Mineral	0.476	0.452	0.425	0.498	1.193	0.563	0.879	1.380	1.994	0.682	0.630	0.880	0.939	0.406	0.396	0.875
Missoula	0.602	0.564	0.696	0.597	1.108	0.590	0.892	1.321	1.680	0.671	0.602	0.779	0.863	0.385	0.352	0.813
Lewis & Clark	0.314	0.472	0.321	0.306	0.574	0.364	0.575	0.423	0.645	0.611	0.483	0.544	0.797	0.298	0.282	0.502

County	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Avg. Pmt. 1991-2000
Granite	0.282	0.270	0.371	0.443	0.685	0.285	0.480	0.589	0.943	0.521	0.394	0.456	0.592	0.248	0.331	0.484
Powell	0.502	0.509	0.703	0.498	0.664	0.411	0.614	0.694	0.713	0.505	0.395	0.455	0.554	0.256	0.207	0.481
Ravalli	0.982	0.927	0.749	0.795	0.486	0.376	0.259	0.338	0.134	0.329	0.244	0.303	0.259	0.136	0.119	0.250
Beaverhead	0.309	0.296	0.273	0.124	0.263	0.219	0.202	0.138	0.310	0.204	0.347	0.190	0.164	0.308	0.109	0.219
Jefferson	0.133	0.156	0.212	0.253	0.305	0.117	0.212	0.120	0.264	0.307	0.196	0.203	0.303	0.124	0.177	0.202
Meagher	0.071	0.136	0.081	0.086	0.107	0.107	0.174	0.137	0.218	0.221	0.195	0.133	0.333	0.095	0.153	0.177
Park	0.139	0.196	0.199	0.200	0.158	0.165	0.136	0.182	0.281	0.152	0.180	0.193	0.096	0.096	0.088	0.157
Madison	0.180	0.181	0.191	0.132	0.190	0.138	0.141	0.109	0.224	0.162	0.212	0.139	0.134	0.169	0.095	0.152
Gallatin	0.106	0.151	0.154	0.154	0.121	0.125	0.101	0.137	0.211	0.112	0.136	0.148	0.071	0.068	0.065	0.117
Judith Basin	0.035	0.071	0.048	0.051	0.044	0.061	0.103	0.092	0.139	0.131	0.121	0.061	0.212	0.053	0.106	0.108
Lake	0.197	0.180	0.323	0.178	0.140	0.127	0.175	0.203	0.088	0.115	0.089	0.069	0.101	0.054	0.032	0.105
Broadwater	0.063	0.110	0.049	0.053	0.135	0.073	0.115	0.035	0.081	0.129	0.089	0.136	0.149	0.066	0.033	0.090
Teton	0.028	0.056	0.038	0.040	0.034	0.049	0.082	0.072	0.110	0.103	0.096	0.048	0.167	0.042	0.084	0.085
Silver Bow	0.050	0.049	0.085	0.097	0.104	0.038	0.068	0.046	0.101	0.105	0.072	0.059	0.098	0.046	0.070	0.070
Cascade	0.021	0.043	0.029	0.030	0.026	0.037	0.062	0.055	0.083	0.078	0.073	0.036	0.127	0.032	0.064	0.065
Powder River	0.056	0.055	0.054	0.065	0.055	0.052	0.068	0.057	0.067	0.085	0.055	0.042	0.037	0.092	0.044	0.060
Carbon	0.054	0.056	0.055	0.065	0.054	0.052	0.064	0.057	0.070	0.078	0.055	0.044	0.036	0.081	0.041	0.058
Sweetgrass	0.049	0.064	0.064	0.067	0.054	0.055	0.051	0.060	0.087	0.058	0.058	0.058	0.034	0.044	0.033	0.054
Deer Lodge	0.044	0.042	0.058	0.054	0.066	0.032	0.045	0.031	0.068	0.063	0.056	0.040	0.062	0.043	0.044	0.048
Pondera	0.013	0.025	0.017	0.018	0.016	0.022	0.037	0.033	0.050	0.047	0.043	0.022	0.076	0.019	0.038	0.039
Fergus	0.011	0.023	0.015	0.016	0.014	0.020	0.033	0.029	0.044	0.042	0.039	0.019	0.068	0.017	0.034	0.034
Stillwater	0.031	0.030	0.029	0.036	0.030	0.029	0.038	0.031	0.037	0.046	0.030	0.023	0.020	0.050	0.024	0.033
Wheatland	0.006	0.012	0.010	0.011	0.009	0.013	0.022	0.020	0.030	0.028	0.026	0.013	0.046	0.011	0.023	0.023
Rosebud	0.016	0.016	0.015	0.018	0.016	0.015	0.019	0.016	0.019	0.024	0.015	0.012	0.010	0.026	0.012	0.017
Carter	0.015	0.015	0.014	0.017	0.015	0.014	0.018	0.015	0.018	0.022	0.014	0.011	0.010	0.024	0.012	0.016
Chouteau	0.004	0.007	0.005	0.005	0.004	0.006	0.011	0.009	0.014	0.013	0.012	0.006	0.022	0.005	0.011	0.011
Glacier	0.003	0.007	0.005	0.005	0.004	0.006	0.010	0.009	0.013	0.013	0.012	0.006	0.020	0.005	0.010	0.010
Golden Valley	0.003	0.006	0.004	0.004	0.003	0.005	0.008	0.007	0.011	0.010	0.010	0.005	0.017	0.004	0.008	0.009

Source: U.S. Forest Service, Secure Rural Schools, <http://www.fs.usda.gov/pts/> (EPS-HDT 2014)

Table 5.59 shows the Secure Rural School Act payments for Montana’s Counties, ranked by the 2001 to 2012 average of payments. As with revenue sharing payments, Lincoln County again had the highest payment out of all of Montana’s counties. From 2001 to 2012, Lincoln County averaged \$6.7 million in SRSA payments, which was very close to their average revenue sharing payments of the previous decade. For the 13-county primary analysis area, Powell County (5th in the state in terms of average payments) had the highest average payment at just under \$1 million. Lewis and Clark County ranked 9th in the state, having an average SRSA payment of \$716 thousand. Other plan area counties receiving more than \$250,000, on average, from 2000 to 2012 included Meagher, Jefferson, and Judith Basin. Chouteau County had the lowest average SRSA payment of the 13 counties, at \$19,000. In 2008, the formula for computing SRSA payments changed (and was retroactive to 2008). This change had a substantial impact on the payment received by some counties and little effect on others. For the 13-counties in the analysis area, Judith Basin’s payment from 2007 to 2008 increased by the largest percentage, with their payment increasing by seven times from 2007 to 2008, from \$92 thousand to \$658 thousand. Powell County saw the largest dollar increase, receiving \$1.3 million more in 2008 than in 2007.

Table 5.59 Secure rural school act payments (millions of dollars) for all counties in Montana from 2001 to 2012

County	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Payment 2001-2012	Percent Change 2001-2012 Compared to 1991-2000
Lincoln	7.334	7.278	7.204	7.105	7.035	6.882	6.675	7.645	6.884	6.037	4.853	5.066	6.667	-0.13%
Sanders	2.110	2.094	2.072	2.044	2.024	1.980	1.920	3.545	3.151	2.790	2.318	2.315	2.364	18.47%
Flathead	1.945	1.930	1.910	1.884	1.866	1.825	1.770	2.521	2.135	2.212	2.036	1.873	1.992	31.03%
Mineral	0.928	0.921	0.912	0.899	0.891	0.871	0.845	1.714	1.516	1.453	1.145	1.202	1.108	21.03%
Powell	0.591	0.586	0.580	0.572	0.567	0.554	0.538	1.862	1.769	1.629	1.397	1.160	0.984	51.11%
Missoula	0.468	0.464	0.460	0.453	0.449	0.439	0.426	2.009	1.748	1.645	1.382	1.355	0.942	73.45%
Ravalli	0.913	0.906	0.896	0.884	0.875	0.856	0.831	1.111	0.974	0.997	0.891	0.893	0.919	11.53%
Granite	0.266	0.264	0.248	0.245	0.243	0.237	0.230	1.752	1.604	1.576	1.332	1.228	0.769	71.51%
Lewis & Clark	0.531	0.527	0.522	0.514	0.509	0.498	0.483	1.238	1.025	1.041	0.875	0.832	0.716	32.43%
Beaverhead	0.547	0.543	0.538	0.530	0.525	0.514	0.498	1.164	0.974	0.911	0.791	0.787	0.694	27.61%
Park	0.188	0.186	0.185	0.182	0.180	0.176	0.171	1.122	0.981	0.930	0.828	0.719	0.487	67.78%
Madison	0.183	0.182	0.180	0.178	0.176	0.172	0.167	0.961	0.838	0.818	0.754	0.694	0.442	65.60%
Meagher	0.173	0.172	0.170	0.168	0.166	0.162	0.158	0.835	0.739	0.752	0.683	0.517	0.391	54.76%
Jefferson	0.060*	0.000	0.066	0.065	0.065	0.063	0.061	0.901	0.763	0.718	0.593	0.451	0.341	82.38%
Powder River	0.142	0.141	0.139	0.137	0.136	0.133	0.129	0.674	0.586	0.607	0.577	0.538	0.328	64.36%
Gallatin	0.234	0.232	0.230	0.227	0.224	0.219	0.213	0.570	0.489	0.474	0.415	0.356	0.324	37.57%
Judith Basin	0.101	0.101	0.100	0.098	0.097	0.095	0.092	0.658	0.483	0.402	0.342	0.232	0.233	53.73%
Sweetgrass	0.064	0.063	0.063	0.062	0.061	0.060	0.058	0.500	0.425	0.408	0.380	0.378	0.210	74.31%
Broadwater	0.029*	0.000	0.102	0.101	0.100	0.098	0.095	0.393	0.344	0.312	0.254	0.285	0.189	52.50%

County	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Payment 2001-2012	Percent Change 2001-2012 Compared to 1991-2000
Deer Lodge	0.057	0.056	0.056	0.055	0.054	0.053	0.051	0.399	0.342	0.314	0.250	0.273	0.163	70.61%
Teton	0.080	0.079	0.079	0.078	0.077	0.075	0.073	0.282	0.248	0.216	0.191	0.165	0.137	37.92%
Lake	0.082	0.081	0.080	0.079	0.078	0.077	0.074	0.211	0.187	0.174	0.154	0.147	0.119	41.01%
Silver Bow	0.155	0.154	0.152	0.150	0.149	0.146	0.141	0.058	0.060	0.062	0.058	0.049	0.111	5.55%
Cascade	0.061	0.060	0.060	0.059	0.058	0.057	0.055	0.221	0.187	0.170	0.144	0.130	0.105	38.19%
Stillwater	0.037	0.037	0.036	0.036	0.035	0.035	0.034	0.229	0.209	0.199	0.147	0.149	0.099	66.53%
Pondera	0.035	0.036	0.036	0.035	0.035	0.034	0.033	0.161	0.152	0.120	0.105	0.083	0.072	45.90%
Carter	0.018	0.018	0.017	0.017	0.017	0.017	0.016	0.214	0.138	0.104	0.100	0.121	0.066	75.91%
Fergus	0.032	0.032	0.032	0.031	0.031	0.030	0.030	0.138	0.111	0.103	0.091	0.091	0.063	45.74%
Carbon	0.017*	0.000	0.019	0.018	0.018	0.018	0.017	0.132	0.124	0.105	0.093	0.077	0.056	69.89%
Rosebud	0.022	0.021	0.021	0.021	0.021	0.020	0.020	0.131	0.107	0.106	0.093	0.076	0.055	58.12%
Wheatland	0.066	0.065	0.064	0.064	0.063	0.062	0.060	0.042	0.042	0.041	0.037	0.031	0.053	-9.26%
Glacier	0.010	0.010	0.010	0.009	0.009	0.009	0.009	0.062	0.055	0.049	0.042	0.036	0.026	61.29%
Chouteau	0.011	0.010	0.010	0.010	0.010	0.010	0.010	0.044	0.036	0.025	0.031	0.026	0.019	43.35%
Golden Valley	0.008	0.008	0.008	0.008	0.008	0.008	0.007	0.047	0.039	0.032	0.026	0.016	0.018	49.77%

Source: U.S. Forest Service, Secure Rural Schools, <http://www.fs.usda.gov/pts/> (EPS-HDT 2014)

Figure 5.33 shows the breakdown of federal land payments by county. Most of the counties in the plan area receive more money from PILT payments than from SRSA payments. The exceptions are Judith Basin, Meagher, and Powell. These three counties would be the most impacted if the SRSA was not reauthorized and counties had to revert back to 25% fund payments. Powell County also receives a sizable amount of payments from the Bureau of Land Management (BLM), which include Taylor Grazing Act funds.

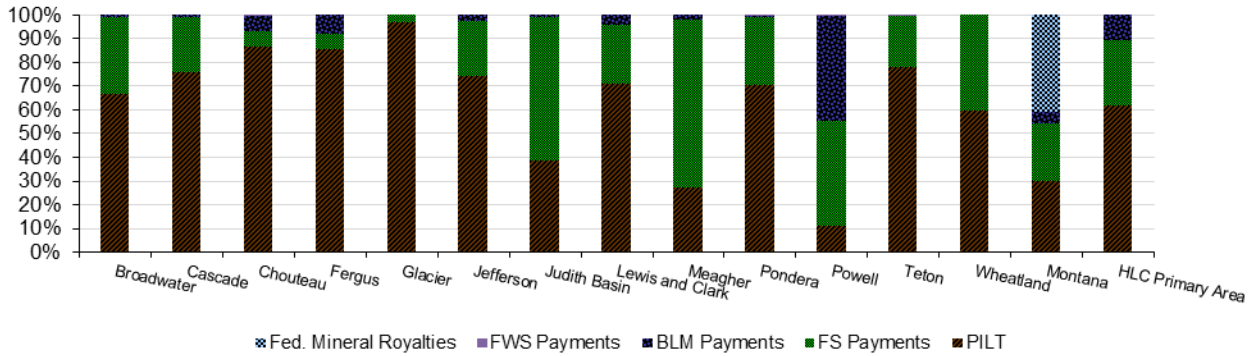


Figure 5.33 Components of Federal land payments, FY 2013

Sources: U.S. Department of Interior. 2009. Payments in Lieu of Taxes (PILT), Washington D.C.; U.S. Department of Agriculture. 2009. Forest Service, Washington, D.C.; U.S. Department of Interior. 2009. Bureau of Land Management, Washington, D.C.; U.S. Department of Interior. 2007. U.S. Fish and Wildlife Service, Washington, D.C.; U.S. Department of Interior. 2012. Office of Natural Resources Revenue. Washington, D.C.; Additional sources and methods available at www.headwaterseconomics.org/eps-hdt. (EPS-HDT 2014)

The importance of these payments to some of the plan area counties is illustrated in Figure 5.34, which compares federal land payments to total county general revenue in 2007 (the most recent data available from the Census of Governments). Overall, federal land payments make up approximately 4.4 percent of the total county general revenue in the 13-county analysis area. Powell County is the most dependent on federal land payments, with more than 15 percent of the county’s general revenue coming from federal land payments. Cascade County is the least dependent on these payments with federal land payments making up less than one percent of the county’s general revenue.

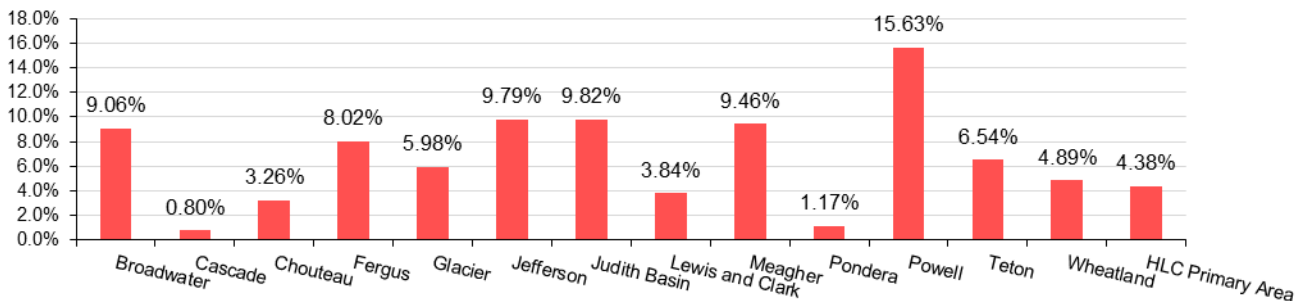


Figure 5.34 Federal land payments, percent of total general government revenue, FY 2007

Source: Census of Governments, 2007, (EPS-HDT 2014)

Helena and Lewis & Clark National Forest's Contributions to the Plan Area Economy

This section provides general information on assessing economic contributions and economic drivers, contrasts two different ways of describing the employment and labor income associated with major industries in the HLC NFs plan area (or any other) economy, and looks at the contribution of the HLC NFs to the thirteen-county plan area. The information in this section differs somewhat from the information provided in the Economic Conditions and Trends section in the following ways : (1) the source of the data used (EPS-HDT versus IMPLAN), (2) the aggregation of the economic sectors (in this section, economic sectors have been aggregated to highlight those sectors particularly relevant to the management of the NFs), and (3) how employment and labor income are allocated amongst the sectors (e.g., employment in an industry versus employment “driven” by an industry).

Process and Methods

Both the analysis of the HLC NFs plan area economy and the contributions of the HLC NFs were estimated using input-output analysis. Input-output analysis is a means of examining relationships within an economy, both between businesses and between businesses and final consumers. It captures all monetary market transactions for consumption in a given time period. The input-output analysis was done using the IMPLAN (IMPact analysis for PLANning) modeling system (MIG 2003) and 2012 IMPLAN data. The IMPLAN modeling system allows the user to build regional economic models of one or more counties for a particular year. The analysis of the Forests' economic contribution to the counties in the plan area also used FEAST (Forest Economic Analysis Spreadsheet Tool) (Alward et al. 2010). FEAST is a spreadsheet modeling tool developed by the FS that serves as an interface between user inputs and imported data from an existing IMPLAN model.

By using FS expenditure data, resource output data, and other economic information, IMPLAN can describe, among other things, the jobs and income that are supported by NFS management activities. The direct employment and labor income benefits employees (or contractors) and their families and therefore directly affects the local economy. Additional indirect, and induced, multiplier effects (ripple effects) are generated by the direct activities. Together the direct and multiplier effects comprise the total economic contribution to the local economy. The data used to estimate the direct effects from timber harvest are information provided by University of Montana's Bureau of Business and Economic Research. Grazing contributions are estimated using a method developed by the Bureau of Land Management (BLM) for use in their annual contribution report for FY 2011 (DOI 2012). This new approach uses information from the National Agricultural Statistics Service Census of Agriculture (NASS 2009) and the American Community Survey (US Census 2011b) (along with IMPLAN) to calculate: 1) direct employment and labor income associated with grazing, 2) unpaid labor associated with grazing, and 3) jobs and labor income associated with purchase of supplies and services and employee spending. The economic effects tied to other forest service programs and the multiplier effects were estimated using IMPLAN. Resource specific data (recreation visits, range head months, timber volume harvested, etc.) were collected from agency databases and input into FEAST. For current management levels, a 3-year average using 2010-2013 data was calculated to eliminate the year-to-year variability inherent in the data (described in next section), except for recreation visits which are only collected periodically, not annually.

A job (as defined in IMPLAN) is an annual average of monthly jobs. Thus, one job lasting 12 months = two jobs lasting six months each = three jobs lasting four months each. Each of those examples would appear as one job. The one job lasting 12 months can be either full-time or part-time; but it does last for 12 months. When jobs are counted this way, one cannot tell from the data the number of hours worked or the proportion that are full or part-time or anything about seasonality; only that they are yearlong. These jobs are different than full-time equivalent (FTE) jobs. However, they can be converted to average FTE jobs by using industry-specific FTE to Employment ratios (number of FTE jobs in an industry divided by total employment in the industry). These ratios are all less than one because employment contains part-time jobs (so there are more jobs than there are FTEs).

Resource Program Data Used

Forest-based recreation

Public lands can play an important role in stimulating local employment by providing opportunities for recreation. Communities adjacent to public lands can benefit economically from visitors who spend money in hotels, restaurants, ski resorts, gift shops, and elsewhere. Data about the types and numbers of visits by recreation users on the HLC NFs were obtained from the National Visitor Use Monitoring Survey (NVUM), the Forest Service's recreation use inventory system (Zarnoch et al. 2011, English et al. 2002). In order to maintain consistency between the two forests, Round 2 data (data collected from 2005 to 2009) were used for both forests since Round 3 data (collected from 2010 to 2014) was only available for the Lewis and Clark NF at the time this assessment was completed. In Round 2, annual national forest visits were estimated to be 454,000 (+/- 32.4 percent) on the Helena NF and 404,000 (+/- 14.1 percent) on the Lewis and Clark NF (NVUM 2012, NVUM 2014). A national forest visit is the entry of one person on a national forest to participate in recreational activities for an unspecified period of time. A site visit is the entry of one person onto a national forest site or area to participate in recreational activities for an unspecified period of time. A national forest visit can be comprised of numerous site visits.

Data on local versus non-local visitors, day use versus overnight trips, and average spending per visit were also used in the analysis. For the Helena NF, 27 percent of visits were non-local (coming from more than 50 miles away) and 73 percent were local. The vast majority of visitation (66 percent) was associated with local day use. For the Lewis and Clark NF, the opposite was true, with 62 percent of visits being non-local, 25 percent local, and 12 percent associated with downhill skiing. The majority (39 percent) of visitation was associated with non-local day use. Average expenditures per visit used in the analysis were as follows: non-local day - \$25.64, non-local overnight on the NF - \$83.10, non-local overnight off the NF - \$204.82; local day - \$15.92, local overnight on the NF - \$61.63, and local overnight off the NF - \$89.07.

Minerals

The use of mineral materials from the forests or mining activities occurring on the forests also provides an economic benefit to local communities. Though the counties in the plan area have a rich history of mining activity, little mining occurs in this area now and very little on NF land. There are three general types of mineral resources associated with national forests: leasable minerals, locatable minerals, and mineral materials. For the HLC NFs, mineral materials has been the predominant use in recent years, with free-use permits being issued for 6,200 short tons, on average, over the past three years (2011-2013). A small amount of gold and silver, as well as quartz crystals and other specialty minerals were also extracted on the forest, but the exact amount is unknown and so was not accounted for in this analysis. For more information on the importance of mining to the local area, refer to the "Mining" section of this chapter. For more information on the mineral resources coming from the HLC NFs, refer to the mineral resources section of this assessment.

Grazing

Montana has a grazing history tied to open range and public lands, and cattle ranching is an important economic sector in many of the plan area counties. Subsequently, a substantial amount of grazing occurs on the range lands of the HLC NFs. The HLC NFs' grazing programs consists of cattle, horses, and sheep allotments. Over the past several years (2011-2013), authorized grazing on the Helena NF has averaged 59,171 animal unit months (AUMs) for cattle; 2,595 AUMs for sheep; and 50 AUMs for horses. Authorized grazing on the Lewis and Clark NF has averaged 76,525 AUMs for cattle and 96 AUMs for horses. For more information on grazing, see the Range section of the Multiple Use and Ecosystem Services chapter in this assessment.

Timber

For counties with NF land, the production of timber can support jobs in the timber industries surrounding the forest. However, the timber program on the HLC NFs is relatively small. For the years 2011 to 2013, timber harvested on the HNF averaged 32,142 CCFs (hundreds of cubic feet) or 11,539 MBFs (thousands of board feet).

The majority of this was classified as non-saw material. For the LCF, the timber harvest averaged 7,587 CCFs, or 2,161 MBFs, with the majority of that material being fuelwood.

Forest Service Employment and Expenditures

Employees of the Forest Service and the administrative operations of the HLC NFs contribute to local economies through demand for local goods and services. Direct economic contributions from Forest Service expenditures of the plan unit include direct employment and income of Forest Service employees and non-salary expenditures of the Forest Service. From 2010 to 2012 (2013 information was not available at the time of this assessment) annual employment on the HNF averaged 144 permanent employees and 99 temporary employees. Employment on the LCNF averaged 106 permanent employees and 70 temporary employees. Non-salary expenditures for each of the forests averaged around \$8 million annually.

Payment to States

Revenue sharing payments paid to states by the FS also provide economic benefits to local communities (see earlier section on “Federal land payments”). From 2011 to 2013, payments associated with land on the HNF averaged a little over \$1 million, while payments on the LCNF averaged \$1.6 million.

Assessing the Economic Contributions of Major Industries in the HLC NFs Plan Area

Assessing the economic contributions of any industry or government entity is a difficult process. The economies surrounding the HLC NFs, like any economies, are a web of interactions between businesses, households, and governments. Goods and services are generally produced by businesses using labor by local households. Households, in turn, use earnings from their jobs to purchase some of these products to meet their needs and desires. Governments take a share of business profits and household income to fund the purchase of other goods and services used in the provision of public services. Other products are sold to local businesses that use them as part of their own production process to meet demand by households and governments. With all these interactions – thousands of them that connect households, governments, and businesses – the HLC NFs plan area economy is a highly complex web that may appear to have no beginning or end. But in fact, the web can be unraveled to find a starting point. That starting point is money coming from outside the area.

When most people hear “outside dollars” they think of exports, and that is true. But there is far more to “outside dollars” than exports. Federal and state governments provide Social Security and Medicare to households, make purchases from local businesses, provide grants to nonprofits and local governments, expend money on agency operations to manage public lands, and provide funds for a myriad of other local uses. Financial institutions lend capital for local investments. Businesses located outside the area hire local residents who return home with income. Corporations return dividends to local households owning stock and bonds through mutual funds. All of these – and more – are sources of “outside money” used to purchase goods and services produced in the HLC NFs area.

When asked “What are the most important businesses in the northwestern part of Montana?” most people think of businesses with the largest payrolls or with the largest number of employees. The employment breakdown by industrial sector, shown in the “Economic Conditions and Trends” section of this chapter, provides this type of information. However, while these businesses are indeed important, the most important businesses are those that generate the largest payrolls throughout the economy – not just their own. These businesses are the ones that make sales to parties using outside dollars. The sales may be to businesses located on the east coast, tourists from the west coast, or simply local households using income they have received from Social Security. Firms that sell to these parties are the true engines or drivers of the economy. The amount of area-wide employment or earnings attributable to an industry driver is a good indicator of the contribution of that industry to the economy.

These contributions can be discerned by breaking down employment or earnings into three components: direct, indirect, and induced. The direct component is that which brings money in from outside the area, such as sales to

tourists or exports by agriculture and mining. While these industries are often viewed as the principal exporters of a region, they are not alone. In fact, a portion of virtually every industry sells goods and services to those using outside dollars. Once spending in the local economy is started by one of four types of sales – exports, sales to governments, capital investments, and sales to local households using outside income – indirect and induced effects are triggered.

The indirect component of an economy supports the production of goods and services sold to parties using outside dollars. It may be thought of as the local supply-chain for producing exports. For example, a local mill may sell lumber to a local lumber yard that, in turn, provides building materials to local contractors who build second homes for nonresidents. Supply-chains throughout a local economy may be thought of as a web of interactions among local businesses, all supporting sales paid for by outside dollars.

The induced component of an economy is the final piece. This component starts with the payrolls of local businesses. Area residents who earn wages at a local business spend a portion of their income to purchase goods and services from local merchants. These local household purchases include such things as groceries, gasoline, health care, and recreation equipment.

Indirect and induced effects throughout the economy can be assigned to the industry that triggered the economic reaction, just like falling dominoes. Each industry that starts the falling dominoes with outside dollars is a driver. By accounting for all the drivers and their effects throughout the area, every job and every dollar of earnings in the economy are included.

An example may be helpful here to better understand the effects of an economic driver. Consider a tourist from California who goes fly fishing in northwestern Montana. The Californian chooses to hire a guide in hopes of a great experience. The sale of guiding services starts the economic reaction – a direct effect since the sale is to a nonlocal. The guide buys gas at a local gas station and food at a local grocery store. Because transportation and food are included in the guide's fees, these are part of the guide's supply chain. A share of the jobs at the gas station and the grocery store caused by sales to the guide are a part of the indirect effect. Finally, the guide, gas station employees, and grocery store employees are all local residents and all receive a paycheck, some of which was triggered by the California tourist. These locals now spend a portion of their paycheck at local stores and shops. A share of their local spending is a part of the induced effect. Successive rounds of spending occur throughout the area – some caused by the guide's business supply-chain and some caused by locals spending their paycheck. All of these jobs and earnings started with the tourist from California who hired a local fly fishing guide. All the local jobs and earnings that resulted from that one sale to the tourist – no matter what business they occurred in – are counted as jobs driven by the recreation industry.

Before giving all the credit to drivers of the economy, we must acknowledge that businesses who support the supply-chains and provide household services keep local dollars from leaving the area quickly. Jobs provided by these businesses are no less important than jobs at firms who attract outside money. Firms who sell to local businesses or households keep multipliers higher than they would be otherwise. While drivers of the economy start the dominoes, other local firms keep them going.

Table 5.60 shows the major industries of the 13-county HLC NFs plan area and their employment in 2012. Industries with particular importance to activities on national forests, such as ranching and forest products, are separated out. Columns two and three are the traditional way to view industry employment in an area. The second column displays the number of employees on the payroll of each major industry. The third column shows each industry's employees as a share of total area employment. However, columns four and five view industry employment in the way discussed above. Column four displays employment generated throughout the area – in any industry – that started with sales by that industry paid for using outside dollars. This is the driving component of the industry. Every industry is an economic driver to some extent, some more than others. The final column gives the share of total area employment driven by this industry. Because every job in the area can be traced back

to driver sales, the total economy is represented. Columns four and five provide a good indicator of economic dependencies in the HLC NFs plan area.

Industries with the largest number of hires in the HLC NFs plan area economy were services (“all other”), government, trade, and “all other” agriculture (not counting ranching and logging). For the most part, these were also the largest drivers in the economy; however, their rankings shift when viewed as drivers (e.g., government jumped ahead of services). Why? Some industries drove more jobs than their own payrolls, while others drove fewer jobs. How is this possible? Industries that drive more jobs are those that sell a large portion of their total production to those using outside dollars. Consequently, many other jobs are triggered throughout the economy. Industries that drive fewer jobs sell a small portion of their total production to those using outside dollars. When an industry drives fewer jobs than it employs directly, it indicates that a relatively large share of its business depends upon the activity of other industries in the area. These industries are players in local supply-chains or rely upon sales to residents employed by driving industries. Most of the employees in these industries are “falling dominoes” triggered by sales of driving industries.

This can be illustrated using the example above. For this case, we will assume that the fly fishing guide service had 20 employees and the local grocery store that sold food to the guide service had 10 employees. If the grocery store’s only customer was the guide service, then none of its employees would count as a driver. All of its employees would be counted as part of the driving effect by the guide service. In this example, all 10 store employees would be counted in column two of, but zero employees would be counted in column four. All 20 of the guide service employees would be counted in column two, but 30 employees would be counted in column four. So, the recreation industry (represented by the guide service) would drive more employees than are on its payroll, but the retail trade industry (represented by the grocery store) would drive fewer employees than are on its payroll.

In Table 5.60, “Government” is the number one driver in the HLC NFs area, and it generated 9,775 more jobs as a driver compared with its own payroll. Services, on the other hand, employed 51,068 employees but drove only 38,203 jobs. Likewise with trade, which employed 17,699 people but drove only 13,508 jobs in the 13 county area. Because employment driven by these industries is smaller than their own payrolls, it indicates that “all other services” and trade play important support roles in the economy. Conversely, government and construction both generated more jobs as a driver compared with their payrolls. These are major drivers in the economy. Driver relationships, then, indicate the dependence of some industries on other industries.

Bolded entries in Table 5.60 indicate those industries that drove more of the economy in 2012 than indicated by their own payrolls. Agriculture (ranching and all other), mining; construction; manufacturing; transportation, warehousing, and utilities; and government all generated more employment in the area than their own payrolls.

Table 5.61 shows earnings by major industry in the same way employment is displayed in Table 5.60. The results by earnings generally follow the same pattern discussed above for employment, although shares by industry vary somewhat compared with employment.

Table 5.60 Employment by major industry and driven by major industry throughout the HLC NFs area, 2012

Major Industry	Employment by Industry		Area Employment Driven by Industry	
	(jobs)	(percent of total)	(jobs)	(percent of total)
Agriculture				
Ranching	1,264	0.9%	1,568	1.1%
Logging	206	0.1%	119	0.1%
All other	8,137	5.9%	10,638	7.7%
Mining				
Oil & gas	498	0.4%	885	0.6%

Major Industry	Employment by Industry		Area Employment Driven by Industry	
All other	700	0.5%	1,177	0.9%
Construction	7,789	5.6%	12,223	8.9%
Manufacturing				
Forest products	641	0.5%	1,199	0.9%
All other	2,665	1.9%	5,418	3.9%
Trade	17,699	12.8%	13,508	9.8%
Transportation, warehousing, & utilities	3,851	2.8%	4,088	3.0%
Services				
Visitor services				
Arts, entertainment, & recreation	3,527	2.6%	2,443	1.8%
Lodging & food	10,216	7.4%	7,017	5.1%
All other	51,068	37.0%	38,203	27.7%
Government	29,622	21.5%	39,397	28.6%
Total	137,883	100.0%	137,883	100%

Table 5.61 Earnings by major industries and driven by major industries throughout the HLC NFs plan area, 2012

Major Industry	Earnings Paid by Industry		Area Earnings Driven by Industry	
	(millions of 2012 dollars)	(percent of total)	(millions of 2012 dollars)	(percent of total)
Agriculture				
Ranching	24.7	0.4%	39.1	0.7%
Logging	7.2	0.1%	4.4	0.1%
All other	195.0	3.4%	288.4	5.1%
Mining				
Oil & gas	21.3	0.4%	37.3	0.7%
All other	57.3	1.0%	75.0	1.3%
Construction	374.3	6.6%	539.2	9.5%
Manufacturing				
Forest products	23.1	0.4%	46.9	0.8%
All other	129.2	2.3%	239.7	4.2%
Trade	606.5	10.7%	459.8	8.1%
Transportation, warehousing, & utilities	230.9	4.1%	204.3	3.6%
Services				
Visitor services				
Arts, entertainment, & recreation	48.6	0.9%	47.6	0.8%
Lodging & food	193.9	3.4%	162.4	2.9%
All other	2,042.7	36.0%	1,490.1	26.3%

Major Industry	Earnings Paid by Industry		Area Earnings Driven by Industry	
Government	1,721.4	30.3%	2,042.1	36.0%
Total	5,676.2	100.0%	39.1	0.7%

HLC NFs Contributions to the Plan Area Economy

On average, management of the HLC NFs contributes 1,833 jobs and \$63.1 million in labor income annually to the 13-county area. However, compared to the size of the rest of the economy, HLC NFs management drove only a small share of the larger economy in 2012, only 1.3 percent. If Cascade County, with its larger metropolitan economy had not been included, the share would have been somewhat larger (around 1.8 percent).

Table 5.62 and Table 5.63 show the employment and earnings, respectively, driven by current forest management. The export portions of forest management were primarily grazing, wood products, and tourism. Operation impacts resulted from local forest (Federal) expenditures on personnel, office space, vehicles, equipment, and supplies. Impacts from payments to local governments occurred when local governments spend the funds on roads, schools, resource improvements, and general government operations.

From an employment standpoint, of all major industries, HLC NFs management has the largest share of the ranching driver (the timber sector was second). Sixteen percent of all jobs driven by ranching were directly attributable to the HLC NFs grazing management program (Table 5.62). When looking at labor income, however, HLC NFs management had the biggest impact on forest products manufacturing, with 12 percent of the labor income driven by that sector being attributable to the HLC NFs timber program (Table 5.63). After ranching and wood products manufacturing, the next largest share of an area driver was lodging and food. About 5 percent of all jobs and labor income driven by this industry were directly attributable to forest management. Tourists and locals using outside dollars who recreate on the forest spend their money in this industry as a part of their recreation experience, causing “dominoes to fall” across many industries throughout the area. These same visitors also spend money on arts, entertainment and recreation, the third largest share of an area driver at five percent of employment and four percent of earnings. However, the largest number of jobs and the highest amount of labor income, in absolute rather than percentage terms, was government, with 679 jobs and \$30.5 million in labor income attributable to management of the HLC NFs. The remaining drivers were not largely affected by HLC NFs programs but still accounted for about 325 jobs and \$13.1 million in earnings.

Table 5.62 Area employment driven by major industry and by HLC NFs management, 2012

Major Industry	Area Employment Driven by Industry	Area Employment Driven by HLC NFs Management	
		(jobs)	(percent of total driven)
Agriculture			
Ranching	1,568	258	16%
Logging	119	-	0%
All other	10,638	24	0%
Mining			
Oil & gas	885	0	0%
All other	1,177	1	0%
Construction	12,223	27	0%
Manufacturing			
Forest products	1,199	117	10%

Major Industry	Area Employment Driven by Industry	Area Employment Driven by HLC NFs Management	
All other	5,418	24	0%
Trade	13,508	133	1%
Transportation, warehousing, & utilities	4,088	19	0%
Services			
Visitor services			
Arts, entertainment, & recreation	2,443	104	4%
Lodging & food	7,017	353	5%
All other	38,203	94	0%
Government	39,397	679	2%
Total	137,883	1,833	1.3%

Table 5.63 Area earnings driven by major industry: total and HLC NFs management, 2012

Major Industry	Earnings by Industry	Area-wide Earnings Driven by Industry for HLC NFs Programs	Area-wide Earnings Driven by Industry for HLC NFs Management
	(Millions of 2012 dollars)	(Millions of 2012 dollars)	(percent of industry total)
Agriculture			
Ranching	39.1	3.4	8.7%
Logging	4.4	-	
All other	288.4	0.7	0.2%
Mining			
Oil & gas	37.3	0.0	0.0%
All other	75.0	0.0	0.0%
Construction	539.2	1.2	0.2%
Manufacturing			
Forest products	46.9	5.4	12.0%
All other	239.7	0.9	0.4%
Trade	459.8	4.7	1.0%
Transportation, warehousing, & utilities	204.3	0.7	0.3%
Services			
Visitor services			
Arts, entertainment, & recreation	47.6	2.4	5.0%
Lodging & food	162.4	8.3	5.1%
All other	1,490.1	4.9	0.3%

Major Industry	Earnings by Industry	Area-wide Earnings Driven by Industry for HLC NFs Programs	Area-wide Earnings Driven by Industry for HLC NFs Management
Government	2,042.1	30.5	1.5%
Total	5,676.2	63.1	

Table 5.64 shows the contribution (jobs and labor income) of FS activities on the HLC NFs by FS program, rather than by sector of the economy. The largest contribution in terms of employment is Forest Service expenditures, contributing 791 jobs and \$35.6 million in labor income. Recreation and wildlife and fish combined, which account for 612 jobs and \$11.2 million in labor income, comes in second. The next largest employment contribution is associated with the grazing program, contributing 258 jobs and \$3.4 million in labor income. Payments to states, which in this case are the Secure Rural School Act payments received by the counties, account for another 54 jobs and \$2.2 million in labor income.

Table 5.64 Current HLC NFs related job contributions to the plan area economy, by resource area

Resource Area	Jobs	Labor Income (Thousands of 2012\$)
Recreation*	476	\$12,484
Wildlife and Fish*	136	\$3,876
Grazing	258	\$3,433
Timber	117	\$6,044
Minerals	0	\$0
Payments to States/Counties	54	\$2,169
Forest Service Expenditures	791	\$35,560
Total Forest Management	1,833	\$63,106

a Employment: The total full-and part-time wage, salaried, and self-employed jobs in the region.

b Labor income: Includes the wages, salaries, and benefits of workers who are paid by employers and income paid to proprietors.

*Recreation contributions come from tourists spending outside dollars and by local residents spending money they earned from outside the area (e.g. social security).

Recreation – A Special Case

Nearly all programs of the HLC NFs result in exports that bring in outside dollars and therefore drive economic activity in the 13-county plan area. For recreation, however, the story is more complex. Both locals and tourists enjoy outdoor activities on the Forest and spend money in the area as part of the experience. Money spent by tourists is a type of export that brings outside dollars to the area and therefore is an economic driver. Money spent by locals, however, includes a mix of outside and “inside” dollars. Since locals receive a portion of their income from outside sources - like Social Security - that portion of their spending drives economic activity. But locals also spend money earned at jobs located within the area – jobs that are generated by drivers already identified in the tables above. This income is including in the “dominoes” that fall because of drivers like mining, ranching, and manufacturing. We called this the induced effect above. So when we focus on just the economic contributions of the HLC NFs recreation program, we recognize that some part of the program drives economic activity and another part is already counted as part of other drivers.

Table 5.65 breaks down the economic contribution of the recreation, wildlife, and fish programs on the HLC NFs in 2012. Out of 677 jobs generated by spending to recreate on the HLC NFs, over 556 were driven by tourists. Locals using outside dollars drove another 56 jobs. (Notice that recreation visitors spend their outside money in eight different industry groups, each of which is a driver in its own right. Sometimes tourism is discussed as if it was a distinct single industry, but in fact there are many industries that participate in tourism.) Finally, about 65

jobs were generated by locals who spent earnings that originated with other drivers - like construction, trucking, and health care. In fact, the “dominoes” of every driver in the HLC NFs plan area include locals who enjoy recreating on the HLC NFs and spend some of their earnings to do it. With a total of 677 jobs, HLC NFs recreation and wildlife programs are an important contributor to the economy of northwest Montana.

Table 5.65 Employment generated by spending of HLC NFs visitors by economic driver, 2012

Major Industry	Tourist Spending	Locals Spending Outside Dollars	Locals Spending Income Generated by Other Drivers	All Spending by Forest Visitors
	(Jobs)	(Jobs)	(Jobs)	(Jobs)
Agriculture				
Ranching	0	0	1	1
Logging	0	0	0	0
All other	8	1	4	12
Mining				
Oil & gas	0	0	1	1
All other	0	0	1	1
Construction	0	0	8	8
Manufacturing				
Forest products	0	0	1	1
All other	15	3	3	21
Trade	93	21	3	116
Transportation, warehousing, & utilities	9	2	2	13
Services				
Visitor services				
Arts, entertainment, & recreation	96	8	0	104
Lodging & food	325	19	1	345
All other	1	0	11	12
Government	10	2	29	41
Total	556	56	65	677

Note: a zero indicates a number that rounds to less than one, a dash indicates no entry.

The Secondary Area of Influence

Missoula, Anaconda-Deer Lodge, Gallatin, Park, Sweet Grass, Golden Valley, Yellowstone Counties

There are several counties that have fewer, but still meaningful, connections to the management of the HLC NFs, including: counties where timber from HLC NFs lands is processed; where there is a small amount of only infrequently accessed NFS land; where there is an element of recreational use; and/or there are very few grazing allotments. These counties are considered the “Secondary Area of Influence” (Secondary Areas). Missoula County is an example of this; it has no lands administered by the Helena and Lewis & Clark National Forests, but is considered in this analysis because it processes some of the timber coming off of HLC NFs land. For the secondary area counties, this assessment will contain limited information, focused on the specific ties that these counties have to the HLC NFs.

Missoula County

Missoula County is located in western Montana, to the west of the primary analysis area. It is approximately 2,600 square miles in size, with approximately 43.5 percent of the land federally managed (mainly by the FS). However, Missoula County contains no land administered by the HLC NFs. The FS land in Missoula County is administered by the Lolo, Bitterroot, and Flathead NFs.

As one of only three metropolitan statistical areas in Montana (the other two being Cascade and Yellowstone Counties), Missoula has a larger and more diverse economy than the majority of the counties in the primary analysis area. The metropolitan city of Missoula is the county seat of Missoula County. It is home to the Regional Office for the Northern Region of the Forest Service. It also is home to the Supervisor's Office of the Lolo National Forest. The University of Montana is located in Missoula. Missoula County was incorporated in 1860. It is governed by a commission of three county commissioners.

The population in Missoula County has had strong growth (39.3 percent from 1990 to 2010), and the population continues to grow (Table 5.66). Missoula County is currently the second most populous county in the State (Table 5.66).

From the County Health Rankings and Roadmaps study, for health outcomes, Missoula County ranked sixth out of the 46 counties ranked for the state. For all health factors, Missoula County ranked fifth out of the 46 counties. (See explanation of County Health rankings study on page 3.

Management of the HLC NFs is impacted by Missoula County through residents of Missoula recreating on the HLC NFs. However, Missoula County is not contained within the market area for either forest (the counties within which 75 percent of visitors originated).

Management of the HLC NFs could cause some impacts to Missoula County, primarily through the processing of wood that is harvested on the forests. In 2009, Missoula County had 16 primary wood processing facilities (including 5 sawmills) (McIver et al. 2013). In 2012, approximately 1.2 percent of Missoula's employment was in timber-related industries. Recreationists from Missoula visiting the forests could also be impacted by changes in recreation opportunities or access.

Anaconda-Deer Lodge County

Anaconda-Deer Lodge County is located southwest of the primary analysis area. It is approximately 741 square miles in size with approximately 41.8 percent of the land federally managed (mainly by the FS). However, Anaconda-Deer Lodge contains no land administered by the HLC NFs. Forest Service System lands in Anaconda-Deer Lodge County are administered by the Beaverhead and Deer Lodge NFs.

Deer Lodge County and the city of Anaconda are a consolidated city-county government. The county seat is Anaconda, which was planned in 1883. The Anaconda Copper Mining Company, once the largest copper mining, smelting, and fabricating organization in the world, gave its name to the town of Anaconda, which was the site of the company's smelter. The smelter operation, Anaconda's historic economic base, was shut down in 1980. Since then, Anaconda has reinvented itself as a recreation community, drawing on the Deer Lodge Valley's wealth of natural amenities, such as the Anaconda Mountain Range, Georgetown Lake, and the Mount Haggin wildlife management area (Montana's largest at 54,000 acres) (Montana Department of Labor and Industry 2014).

Anaconda-Deer Lodge County experienced a sizeable decrease in population from 1990 to 2012 (Table 5.66). It decreased by 10.7 percent during that time. The population peaked in 1960 and has steadily decreased since the closure of the copper smelter.

From the "County Health Rankings and Roadmaps," for health outcomes, Anaconda-Deer Lodge County ranked close to the bottom, at 43rd of the 46 counties ranked for Montana. For all health factors, the county was ranked

37th. Management of the HLC NFs is primarily influenced by and influences Anaconda-Deer Lodge County through recreation. According to NVUM, Anaconda-Deer Lodge County is considered in the 50 percent market area for the Helena NF, indicating that recreation opportunities on the HLC NFs are important to Anaconda-Deer Lodge residents.

Gallatin County

Gallatin County is located south and adjacent to the east and west sections of the primary analysis area and according to the Montana Department of Labor and Industry, is one of Montana's most popular tourist destinations. It serves as an entrance to Yellowstone National Park (though less than 3 percent of the National Park is located within the county border), boasts two world-class ski resorts, blue ribbon trout streams, and the Museum of the Rockies.

Gallatin County is approximately 2,517 square miles in size, with approximately 43.3 percent of the land federally managed (primarily by the FS). However, Gallatin County contains no land administered by the HLC NFs. The FS lands in Gallatin County are administered almost entirely by the Gallatin NF.

The county seat of Gallatin County is Bozeman. Gallatin County was established in 1863. Gallatin County's economy is relatively diverse, with construction, government, manufacturing, technology, retail, service, and agriculture all playing significant roles (MDLI 2014). It is home to Montana State University, a land grant college, established in 1893, which is the largest employer in the area.

Gallatin County has witnessed tremendous population growth in the 22-year period between 1990 and 2012 (Table 5.66). It has increased by 82.3 percent, much higher than any other county in the analysis area. Bozeman (and Gallatin County) is a Micropolitan statistical area (urban areas in the United States based around an urban cluster with a population of 10,000 to 49,999).²

From the "County Health Rankings and Roadmaps," for health outcomes, Gallatin County ranked first of the 46 counties in Montana which were ranked. For all health factors, the county was also ranked number one.

Management of the HLC NFs is primarily influenced by and influences Gallatin County through recreation. However, the Round 2 NVUM data did not indicate a great deal of visitation to the HLC NFs by Gallatin County residents. It was not included in the market area for either forest. In the latest round of surveys (Round 3), Gallatin County fell within the 75 percent market area for the Lewis and Clark NF.

Park County

Park County is adjacent and to the east of Gallatin County. It is approximately 2,814 square miles in size with approximately 54.5 percent of the land federally managed (primarily by the FS). The majority of the National Forest System land is administered by the Custer and Gallatin NFs, with only 1,700 acres administered by the Lewis and Clark NF. The highest peak in the state of Montana is located in the county – Granite Peak, which is 12,807 feet in elevation.

The county seat of Park County is Livingston. Park County is named for Yellowstone National Park, because the southern edge of the county forms the northern edge of the park. The town of Gardiner boasts the original (and only year-round) entrance to Yellowstone Park. Yellowstone, being a major tourist draw, makes tourism and

² The term "Core Based Statistical Area" (CBSA) is a collective term for both metro and micro areas. A metropolitan statistical area contains a core urban area of 50,000 or more population, and a micropolitan statistical area contains an urban core of at least 10,000 (but less than 50,000) population. Each metro or micro area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core (U.S. Census Bureau 2014).

recreation an important part of Park County's economy. Other important industries include agriculture, logging, mining, and health care (MDLI 2012).

The population of Park County has grown only slightly since 1990, up 6.3 percent from 1990 to 2012 (Table 5.66).

From the "County Health Rankings and Roadmaps," for health outcomes, Park County ranked fourteenth of the 46 counties in Montana which were ranked. For all health factors, the county was ranked ninth.

Management of the HLC NFs is primarily influenced by and influences Park County through recreation. According to NVUM, Park County is considered in the 75 percent market area for the Lewis and Clark NF, indicating that recreation opportunities on the HLC NFs are important to Park County residents.

Sweet Grass County

Sweet Grass County is adjacent to Park County to the east; it is south of the east subset of the primary analysis area. It is approximately 1,862 square miles in size, with the majority of the land being in private ownership. Only 26 percent of the land in Sweet Grass County is federally managed (primarily by the FS). Substantial portions of the Custer, Gallatin NFs and a small amount of the Lewis & Clark National Forest (3,077 acres) are located within the county boundaries and provide a scenic, mountainous backdrop. Natural amenities include the Absaroka-Beartooth Wilderness; the Absaroka, Beartooth, and Crazy Mountain Ranges; and the the Yellowstone and Boulder Rivers.

The county seat of Sweet Grass County is Big Timber. Natural resource industries are important to Sweet Grass County, with significant mining and agricultural activity. The Stillwater Mining Company provides substantial employment in the county and has the distinction of being the only significant producer of palladium in the United States. Agriculture is prevalent throughout the eastern and northern sections of the county, where the primary livestock are cattle and sheep. Some crops are also raised, particularly those which require little moisture, such as hay, wheat, barley, and oats. (MBLI 2012)

Sweet Grass County experienced a moderate amount of population growth from 1990 until 2012. Population grew by 14.6 percent (Table 5.66).

From the County Health Rankings and Roadmaps," for health outcomes, Sweet Grass County ranked 25th of the 46 counties ranked in Montana. For all health factors, the county was ranked seventh.

Sweet Grass County is impacted by and impacts management of the HLC NFs due to having Lewis and Clark NF land within its boundaries, through recreation and access to national forest lands, and through some ties with grazing. In Round 2 of the NVUM data, Sweet Grass County was not within the market area for either forest. However, in the latest round of surveys (Round 3), Sweet Grass County was in the 50 percent market area for the Lewis and Clark NF.

Golden Valley County

Golden Valley County shares a small corner of Sweet Grass County's eastern border. It is located at the southern base of the Snowy Mountains. It is 1,172 square miles with 89 percent of its land being privately owned. Only 4.3 percent of the land area is federally managed. The majority of this is managed by the Lewis and Clark NF, which manages 23,693 acres.

The county was established in 1820. Ryegate is its county seat, located on the Musselshell River. It is governed by a commission of three county commissioners. Golden Valley County is part of the Metropolitan Statistical Area that includes Yellowstone County (the principal county) and Carbon County.

The population of Golden Valley County experienced a decrease from 1990 to 2012. From 1990 to 2000 population had increased, but then a relatively large decrease occurred from 2000 to 2012. Population in 1990 was 911; it was 1,019 in 2000, then down to 839 people in 2012, a decrease of 7.9 percent (Table 5.66).

Golden Valley County was not considered in the county health study.

Golden Valley County is impacted by and impacts management of the HLC NFs due to having Lewis and Clark NF land within its boundaries and through recreation and access to national forest lands and through some ties with grazing. In Round 2 of the NVUM data, Golden Valley County was not within the market area for either forest. However, in the latest round of surveys (Round 3), Golden Valley County was in the 50 percent market area for the Lewis and Clark NF.

Yellowstone County

Yellowstone County is located to the south and east of Golden Valley County. It is approximately 2,649 square miles in size, with the majority of the land (77 percent) being privately owned. Federally-managed lands account for only 4.5 percent of the land base. No Lewis & Clark or Helena National Forest lands are located within the county boundaries, however people do recreate in the nearby NFS lands.

Yellowstone County was established in 1883. It is named for the Yellowstone River, the “yellow stone” being the color of the sandstone cliffs. Its county seat is Billings. Billings is part of the metropolitan statistical area that includes Yellowstone County (the principal county) along with the counties of Carbon and Golden Valley, and Yellowstone County is the most populous county in the State. The county is governed by a 3-person board of county commissioners. Yellowstone County has witnessed a continued population growth through the years. From 1990 until 2012, the population grew by over a third, 33.7 percent. Population in 2012 was 151, 882 (Table 5.66).

A portion of the Crow Indian Reservation is located in the southeastern corner of Yellowstone County. The tribal headquarters are located in Crow Agency, MT (Big Horn County, MT). The Crow Indian Reservation is about 2,000,000 acres in size, and includes three mountain ranges. No Helena and Lewis & Clark NFS lands lie within the reservation. The Crow Nation has a population of over 13,000 members.

From the “County Health Rankings and Roadmaps,” for health outcomes, Yellowstone County ranked just about in the middle, at number 22 out of the 46 counties ranked. For all health factors, the county was ranked 12th.

Yellowstone County is impacted by and impacts HLC NF management primarily through recreation. In Round 2 of the NVUM data, Yellowstone County was not within the market area for either forest. However, in the latest round of surveys (Round 3), Yellowstone County was in the 75 percent market area for the Lewis and Clark NF.

Table 5.66 Population change in the secondary area of influence, 1990-2012

	Deer Lodge County	Gallatin County	Golden Valley County	Missoula County	Park County	Sweet Grass County	Yellowstone County
Population 1990	10,335	50,811	911	79,080	14,643	3,146	113,557
Population 2000	9,409	68,375	1,019	96,178	15,710	3,633	129,570
Population 2012	9,227	92,614	839	110,977	15,567	3,605	151,882
Population Change 1990-2012	-1,108	41,803	-72	31,897	924	459	38,325
Percent	-10.7%	82.3%	-7.9%	40.3%	6.3%	14.6%	33.7%

	Deer Lodge County	Gallatin County	Golden Valley County	Missoula County	Park County	Sweet Grass County	Yellowstone County
Change 1990-2012							

Climate Change Impacts

Social and economic vulnerability to climate change is the degree to which social and economic systems are unable to cope with the impacts of climate change (IPCC 2007) and is a function of an area’s social and economic characteristics and potential changes in natural resources and ecosystems. Climate change and its effect on the national forests can affect populations of people in a variety of ways. How vulnerable a community is to climate change impacts is dependent not only on biophysical changes that may occur as a result of climate change, which can affect the supply of important resources, but also on the community’s vulnerability and adaptive capacity. Vulnerability is defined as “the degree to which a system is susceptible to and unable to cope with adverse effects of climate change, including climate variability and extremes” (IPCC 2007). The Forest Service can play a critical role in shaping community vulnerability, resilience, and adaptive capacity because of its responsibility for managing natural resources and through direct employment, contracts, and partnerships that benefit local economies.

The impacts of climate change can be broadly grouped under three headings (Lal et al. 2011a, 2011b): ecological, social, and economic. This section will focus on the characteristics of the counties in the plan area that make them more or less vulnerable to the impacts of climate change as well as the possible social and economic impacts associated with potential ecological impacts.

Vulnerability of Rural Communities

Rural counties have several important characteristics that, in general, differ from more urban communities, many of which affect the ability of rural communities to adapt to change. Some of the characteristics of rural communities discussed in Lal et al. 2011 that are particularly relevant for the plan area counties are discussed below:

- Rural communities have fewer people and smaller economies, and tend to be isolated from larger population centers and their markets, making economic development more difficult. Isolated counties can be less prosperous, making them more vulnerable to the effects of climate change on natural resources.
- Rural communities tend to be poorer than urban communities, and unemployment is often higher in rural areas; both of these facts suggest a higher sensitivity to the adverse impacts of climate change and a lower capacity to cope with those impacts.
- Higher poverty and unemployment in rural communities mean that many of these counties depend on government transfer payments such as Medicare and welfare. This dependence adds to the vulnerability of rural areas, unless government transfer payments can keep up with increasing needs resulting from climate change, such as health care and natural disaster mitigation and recovery.
- Rural communities often have less diverse economies, with greater economic dependence on natural resources. Changes in climate that affect these natural resources could be extremely disruptive to the economies.
- Dependence on federal land payments, such as 25% Funds Payments, Secure Rural School Payments, and Payments in Lieu of Taxes (PILT), also add to a community’s vulnerability as the future of these payments is uncertain.

- Outdoor recreation spending and jobs can be important to the economy of rural areas. If climate change reduces or shifts recreation-related opportunities to other areas, some rural communities could experience disproportionate economic impacts.
- Rural communities often have older populations, which are more vulnerable to the health-related impacts of climate change, and rural residents often have less access to health care resources.
- Within rural areas, Native American communities may be particularly vulnerable to climate change, due to their cultural and subsistence ties to natural resources and traditional ways of collecting and sharing resources.

Scale and Isolation

Across western counties, there are varying degrees of economic opportunity. Where a county lies on an opportunity spectrum can be a function of both its size and its connection to larger markets. Rural communities like those found in the HLC NFs plan area (with the exception of Cascade) have fewer people (U.S. Department of Commerce, 2012a) and smaller economies than metropolitan or micropolitan communities, whether measured in terms of employment or income (U.S. Department of Commerce, 2012). When these smaller communities are also far from larger population centers and markets, they tend to have fewer options for economic growth and diversification.

Using the typology developed in Rasker et al. (2009), Cascade County is the only county in the 13-county plan area that is classified as “metropolitan.” This type of county tends to have a more resilient economy and have higher earnings and income, with faster population, income, and job growth, higher educational attainment, lower dependence on retirement income and government transfer payments, and higher employment in manufacturing and services. Six of the counties are classified as “connected”: Broadwater, Chouteau, Jefferson, Lewis and Clark, Powell, and Teton. Connected counties are rural but benefit from proximity to a larger population center and access to larger population centers and markets. This type of county tends to perform economically more like a metropolitan community and can be more resilient in the face of climate change circumstances. The remaining six counties (Fergus, Glacier, Judith Basin, Meagher, Pondera, and Wheatland) all qualify as “isolated” rural communities, with social and economic conditions that make them particularly vulnerable to economic change, including changes in climate that affect natural resources, infrastructure, and human health. Communities with fewer economic opportunities may be less able to afford adaptation strategies such as more rigorous water treatment, less resilient to the impacts of climate change on infrastructure, and less able to shift their economies to a new mix of industries.

Employment and Income

The Intergovernmental Panel on Climate Change (IPCC) identifies the following significant features of adaptive capacity: wealth; technology; information and skills; infrastructure; institutions; and equity (Smith et al., 2001). Wealthier communities tend to have greater access to technology, information, developed infrastructure, and stable institutions, and thus have a higher adaptive capacity. Although rural communities generally have a lower cost of living, they also tend to be poorer than urban communities, with higher unemployment (U.S. Department of Commerce, 2012), suggesting a higher sensitivity to the adverse impacts of climate change and a lower capacity to cope with those impacts.

The social and economic data described earlier in this chapter indicate that many of the counties in the plan area tend to have fairly high per capita income, close to the national average, particularly in the west and central areas. Though lower, per capita income in the north and east areas was still above the state average. The lowest per capita income in 2012 was in Powell County (\$29,962 compared to a state average of 39,133 and a national average of \$44,391).

Though the 13-county primary area did not lag too far behind the national average in terms of per capita income; earnings per job were a different story. Average earnings in several of the counties are extremely low, in particular Meagher (\$17,963), Wheatland (\$20,934), and Judith Basin (\$28,012), compared to a state average of \$41,368 and a national average of \$55,501. This discrepancy between per capita income and average earnings (one being high and the other low) indicates that much of the income comes from non-labor sources and is likely tied to agricultural earnings.

Data on the poverty status of families and children in the plan area counties shows that 4 of the 13 counties have poverty rates that are above the national average. These include Glacier County, which has the highest percentage of people living below the poverty level (29.1 percent), Chouteau, Meagher and Pondera counties (see Environmental Justice section at the end of this chapter for more information on poverty).

Government Transfer Payments

High poverty levels can mean that a county may depend on government transfer payments such as Medicare and welfare. The biggest percent change in non-labor income over the period 2000 to 2012 in the plan area was in hardship-related transfer payments, which are associated with poverty and include Medicaid, Food Stamps (SNAP), Supplemental Security Income (SSI), Unemployment Insurance, and other income maintenance benefits. From 1970 to 2012, hardship-related transfer payments in the 13-county primary area grew from \$61 million to \$417 million, an increase of 583 percent. (See the non-labor income section for more information on transfer payments.) The county most dependent on hardship related payments was Glacier County, where hardship related payments made up 27.1 percent of non-labor income in 2012. However, although Chouteau, Meagher, and Pondera had higher than average poverty levels in 2012, the percentage of non-labor income coming from hardship payments was either lower or equal to the state average.

Federal Land Payments

As with dependence on government transfer payments, dependence on federal land payments can reduce a community's adaptive capacity if these payments do not keep up with a community's increased need for additional revenue or if other county revenue sources decline, making these payments a bigger portion of county revenue. Additionally, climate change impacts can affect these payments if they are tied to resource extraction activities and changes in those resources occur. Currently counties receive three types of federal land payments: payments in lieu of taxes (PILT), revenue-sharing payments, and Secure Rural Schools Act payments. Though many of these payments have not been tied to resource extraction activities during recent years due to the passage of the Secure Rural Schools Act in 2000, the Act expired at the end of 2014 and has not yet been reauthorized at the time this report was written.

The uncertainty around land payment legislation makes it difficult for counties to plan long-term budgets. Powell County derives more than 15 percent of its county revenue from federal land payments, indicating a greater vulnerability relative to the other counties in the plan area. Other counties that rely on federal land payments for between 8 and 10 percent of their county revenue include Broadwater (9 percent), Fergus (8 percent), Jefferson (9.8 percent), Judith Basin (9.8 percent), and Meagher (9.5 percent)

Natural Resource Dependence and Economic Diversity

Wildland dependency is a measure of a community's reliance on industries tied to the natural resource-base. Wildland dependency is calculated as the percentage of a county's total labor income (employee compensation and proprietor income) earned in five wildland resource areas: timber, mining, grazing, recreation and wildlife, and federal wildland-related employment (e.g., jobs with the Forest Service or Department of the Interior agencies) (Gebert and Odell 2007). The National Forest-Dependent Rural Communities Economic Diversification Act of 1990 (Public Law 101-624) defines a county as "wildland dependent" if 15 percent or more of the total county labor income (including direct, indirect, and induced labor income) comes from industries associated with forest resources.

Changes in natural resources due to climate change can make counties that are dependent on these resources vulnerable to the impacts of climate change. Although dependency on wildland industries has declined since 2000, in 2010, 6 of the 13 counties in the plan area (Broadwater, Jefferson, Powell, Glacier, Judith Basin, and Meagher) still met the definition of “wildland dependent,” with more than 15 percent of total county labor income coming from wildland-based sectors in the economy. Broadwater and Powell Counties’ dependency is tied mainly to timber, Jefferson’s to mining, Judith Basin’s and Glacier’s to both mining and recreation, and Meagher’s to recreation.

Travel and Tourism

Public lands can play a key role in contributions to local employment by providing opportunities for recreation. Communities adjacent to public lands can benefit economically from visitors who spend money in hotels, restaurants, ski resorts, gift shops, on outfitters and guides, and elsewhere. From 15 to 20 percent of total private employment in the primary area is associated with industries connected to travel and tourism with most of that associated with the Accommodation and Food sector. In 2012, Meagher County had the largest percent of total travel and tourism employment (37.7 percent), and Teton County had the smallest (15.1 percent). In comparison, travel and tourism employment accounted for about 20 percent of employment in the state of Montana and 15.2 percent for the nation.

The National Visitor Use Monitoring Survey estimates that approximately 454,000 visitors come to the Helena NF annually and 404,000 to the Lewis and Clark (NVUM 2012, NVUM 2014). These visitors spend money in the local economy on a variety of items, including food, gas, and sometimes lodging. Economic analysis done for the Assessment indicates that recreation (including hunting and fishing and visits by local as well as non-local residents) on the Forests contributes approximately 677 jobs annually. See chapter 7 - Recreation Settings, Opportunities, Access, and Scenic Character for more information related to recreation on the Forests and the section entitled “Helena and Lewis & Clark National Forest’s Contributions to the Analysis Area Economy” in this chapter for information related to the economic contribution of recreation and other NPC programs.

Age of the Population

The elderly are more susceptible to health-related impacts of climate change such as diminished air quality and extreme heat events. Most of the counties in the plan area have a substantially higher median age than the nation, with the exception of Cascade County.

Native American Communities

Native American communities may be particularly vulnerable to climate change due to their tie to natural resources and traditional ways of collecting and sharing food. In ceding lands and resources to the US, tribes were guaranteed the rights to hunt, fish, and gather on their usual and accustomed places both on and off reservation lands. In order for tribal members to hunt, fish or gather, there must be healthy and sustainable populations of game, fish, roots, berries, medicinal plants, etc. These all have the potential of being impacted by climate change.

Glacier County, Chouteau County, and Pondera County have the largest percentage of Native Americans with 64.8 percent, 20.7 percent, and 14.3 percent of their populations being Native American, respectively.

Vulnerability associated with biophysical changes in the ecosystem

Though in general, rural communities have lower adaptive capacity than their urban counterparts, climate change impacts differ by region and sector of the country. Differences in biophysical impacts, population demographics, the dependency of local economies on natural resources, and other community characteristics make communities more or less vulnerable to the effects of climate change. Social and economic impacts particularly relevant to the communities impacted by climate-related biophysical changes that may potentially occur on the HLC NFs are listed below:

- *Forestry and timber:* Current research suggests that timber supply will expand nationally due to climate change; however, regional impacts are more uncertain due to shifts in forest distributions and types and differences in wildfire risk, pest attacks and diseases, and adverse impacts on biodiversity. However, where increased temperature coincides with possible decreased precipitation (western Alaska, Interior West, Southwest), forest growth is expected to be lower (Ryan et al. 2008). Additionally, increasing harvests in the nation as a whole would tend to lead to lower prices, and as a consequence, reducing harvests in regions with higher production costs even if productivity increases. (Perez-Garcia et al 2002, Sohngen and Sedjo 2005). Warmer winters with more sporadic freezing and thawing would likely increase erosion and landslides on forest roads and reduce access for winter harvesting (USGCRP 2009), in turn increasing costs and further reducing the supply of forest products. Under these conditions, a shrinking forest industry would lead to loss of employment for many rural communities. However, adaptation in US timber and wood product markets may offset some of the potential negative effects of climate change and, overall, consumers and mill owners would lose welfare but consumers would gain. Some of the potential adaptations in the wood products industry might include using alternative species, changing the nature or location of capital and machinery, changing reliance on imports or exports, or adopting new technologies (Irland et al. 2001).

The counties in the 13-county plan area are not heavily dependent on timber-related industries, with the exception of Broadwater and Powell Counties.

- *Water supply:* In the western US, studies indicate there is likely to be increasing spring rainfall and lower snowpack. (Bell and Sloan 2006, USGCRP 2009). This could pose problems in terms of the timing of snowmelt runoff and a loss of natural water storage. Changes in precipitation combined with increased severity of droughts and heat waves could negatively impact the available water supply. Peak river runoff could shift to winter and early spring, away from summer and autumn when demand is highest (Barnett et al. 2005). The timing of snowmelt runoff could also threaten storage efficiencies for reservoirs (Raymondi et al 2013). Besides providing water supply, reservoirs are operated for flood-protection purposes and consequently may release large amounts of otherwise useful water during the winter and early spring. In such facilities, earlier flows would place more of the year's runoff into the category of hazard rather than resource. This would tend to increase the length of the summer drought that is anticipated to occur in much of western North America (Stewart et al. 2004).

For the HLC NFs plan area, changes in water supply due to climate change could impact the people and economies in a variety of ways, including (Raymondi et al. 2013):

- Increased flooding, which can damage infrastructure and private property, increase maintenance costs, and lead to landslides. It can also increase sediment loads in streams and rivers, thereby affecting aquatic species habitats.
- With a projected increase in the demand for water, due to increasing populations, and warmer temperatures, current water infrastructure in municipal watersheds may not be able to keep up with demand.
- If the water supply decreases, important irrigation sources could be impacted.
- *Recreation and tourism:* Outdoor recreation activities depend on the availability and quality of natural resources such as forests, wetlands, snow, and wildlife (USGCRP 2009). Climate change could affect recreation through three pathways: winter activities such as downhill and cross country skiing, snowshoeing, and snowmobiling; nature tourism and related activities such as biking, walking, hunting, and water-related sports such as boating and fishing.

Snow and ice-dependent activities could be adversely affected by even small increases in temperature, especially in areas with marginal snow conditions. Shorter seasons, due to warmer springs and falls, would affect the profitability of ski areas, particularly if it affected the winter holiday season between Christmas and the New Year. Although some ski areas have the ability to make snow, snowmobiling is wholly dependent upon natural snowfall, and since it often occurs in lower elevation areas, could be adversely impacted by less snow.

For nature-based activities the length of season and desirability of activities such as hiking, lakeshore or river visits, sightseeing, swimming, etc., may increase because of small near-term increases in temperature and longer seasons. However, altered biodiversity and increases in fire and insect infestations could adversely affect nature tourism if certain species that tourists are wanting to see are affected; if smoke in the air restricts outdoor activities, or if there are safety considerations due to falling dead trees. Hunting opportunities will also likely change as animal's habitats shift due to climate change. Lower water levels in reservoirs and rivers during the summer months could affect boating activities; however, warmer temperatures could lead to increased demand for water-related activities. (USGCRP 2009, Sussman et al. 2008). Numerous studies project that the habitats of coldwater fish species, such as salmon and trout are likely to contract in response to global warming (Janetos et al. 2008).

See the "Fish and Wildlife" section of the chapter 6, Multiple Use and Ecosystem Services for information on the importance of hunting and recreational fisheries to the local area.

- Increased forest disturbances:

Wildfire risk – Warmer summer temperatures and reduced rainfall in the west are projected to extend the annual window of wildfire risk by 10 to 30 percent (Brown et al. 2004, Westerling 2006). An increase in wildfires may lead to a loss of forest recreation opportunities in some areas (or a shift in where those activities occur) and visitors to mountain areas may experience more restrictions on their activities, campfire bans; and trail and campground closures. Increases in wildfire may also lead to the destruction of timber resources and increased costs for fire suppression and recovery.

Studies also indicate that climate change may increase summertime organic carbon aerosol concentration over the western US by 40 percent and elemental carbon by 20 percent from 2000 to 2050. Most of this change would be from an expected increase in smoke emission from wildfires with the rest caused by changes in meteorology. These changes would have important consequences for western U.S. air quality and visibility (Spraklen et al. 2009)

Besides the impacts to recreation mentioned above, many areas of the HLC NFs are enjoyed for their scenic beauty (see chapter 7, Recreation Settings, Opportunities, Access, and Scenic Character). Increases in wildfire smoke emissions can affect view sheds thereby impacting recreation experiences and perhaps visitation numbers during the time of the fires. Also, the increased cost of suppression and recovery associated with more wildfires could affect the budgets of local governments. Increases in smoke may also cause health-related impacts. Fine particles associated with smoke from wildfires can be especially problematic for those with ongoing health problems, such as lung disease or heart problems, or the elderly putting them a more risk of hospital and emergency room visits, or even death. These effects have been associated with short-term exposures lasting 24 hours or less (EPA 2003).

Insects and disease – Climate change may likely result in more disturbance from insects, invasive species, and disease (Alig et al. 2004, Logan et al. 2003). Ryan et al. 2008 estimates an increase in the frequency and intensity of mountain pine beetle and other insect attacks due to drought stress and higher temperatures which increases fire risk and has the potential to reduce timber production. Milder winters increase the survival rate and populations of such insects. Increases in tree mortality resulting from insect outbreaks further increase fire risk, decrease timber supply, and impact public safety, thereby increasing the impacts to the counties in the plan area.

Environmental Justice

As stated in Executive Order 12898 (1994), it is required that all federal actions consider the potential of disproportionate effects on minority and low-income populations in the local region. The principals of Environmental Justice require agencies to address the equity and fairness implications associated with Federal land management actions. The Council on Environmental Quality (CEQ) (1997) provides the following definitions in order to provide guidance with the compliance of Environmental Justice requirements:

- “Minority population: Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis...”
- “Low-income population: Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census' Current Population Reports, Series P-60 on Income and Poverty. In identifying low-income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.”

In 2014, President Obama issued a proclamation to the Executive Order, stating “By effectively implementing environmental laws, we can improve quality of life and expand economic opportunity in overburdened communities” (Obama 2014). In the proclamation, the President challenges Federal agencies to identify, aid and empower low-income and minority communities.

The 2012 Planning Rule specifies the need to collaborate and conduct outreach to low-income and minority populations, as well as to federally recognized tribal or Alaska Native groups and corporations. This collaboration and outreach begins as one of the early steps in the planning process, including the planning assessment, to help ensure equal opportunities for participation in the planning process. Under the 2012 Rule, 15 assessments are required, 10 of which relate to social and/or economic conditions and trends on the planning unit. Collaboration and outreach to environmental justice populations are meant to provide such groups an opportunity to provide input and information that may be useful for assessing current ecological, social, cultural, and economic conditions and trends on the forest; and to comment on the finished planning assessments.

Under section 219.4 (a) Providing Opportunities for Participation, (1) Outreach, the 2012 Rule states that the “responsible official shall engage the public—including Tribes and Alaska Native Corporations, . . . governments, individuals, and public and private organizations or entities—early and throughout the planning process as required by this part, using collaborative processes where feasible and appropriate.

When considering “low-income populations, “the federal poverty line is used to determine eligibility and appropriations for all types of federal, state, and local aid, including food stamps, Temporary Assistance for Needy Families (TANF), and Medicaid. Social science researchers O’Brien and Pedull (2010) found that “[H]ow the line is determined has real material implications for low-income families. The poverty line is also the most important way that America measures how well it is treating its most disadvantaged members. A large and growing percentage of people below the poverty line indicates that we are not doing enough. A small and declining percentage of people in poverty tells us that we might be on the right track.” Poverty level factors into the determination of compliance with the E.O. 12898 Environmental Justice.

West

Minority Populations

None of the counties in the four-county west area meet the criteria for a minority population based upon either of the two criteria mentioned in the introduction to this section. None have a minority population that exceeds 50 percent of the total population and none have a minority population that is meaningfully greater than that of the larger geographic area (the state). The largest minority population occurs in Powell County, where 3.6 percent of the population is American Indian (Table 5.67). According to the U.S. Census Bureau, the Hispanic population in the four counties is also lower than the state average, with Lewis and Clark County having the largest Hispanic population (2.5 percent), which is lower than the state average of 2.9 percent.

Table 5.67 Population by race in the west area, 2012

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana
Total Population	5,575	11,360	63,432	7,067	87,434	990,785
White alone	5,325	10,864	59,516	6,534	82,239	887,924
Black or African American alone	36	73	266	27	402	4,145
American Indian alone	8	90	1,471	253	1,822	62,398
Asian alone	26	51	292	38	407	6,034
Native Hawaiian & Other Pacific Is. alone	0	0	23	16	39	674
Some other race alone	1	37	231	16	285	5,731
Two or more races	179	245	1,633	183	2,240	23,879
Percent of Total						
White alone	95.5%	95.6%	93.8%	92.5%	94.1%	89.6%
Black or African American alone	0.6%	0.6%	0.4%	0.4%	0.5%	0.4%
American Indian alone	0.1%	0.8%	2.3%	3.6%	2.1%	6.3%
Asian alone	0.5%	0.4%	0.5%	0.5%	0.5%	0.6%
Native Hawaiian & Other Pacific Is. alone	0.0%	0.0%	0.0%	0.2%	0.0%	0.1%
Some other race alone	0.0%	0.3%	0.4%	0.2%	0.3%	0.6%
Two or more races	3.2%	2.2%	2.6%	2.6%	2.6%	2.4%

Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.

Low Income Populations

None of the counties in the four-county west area have a meaningfully greater rate of poverty than the state as a whole (14.8 percent). Powell County has the highest poverty rate for the four counties, with 14.8 percent of people living below the poverty level and 10.8 percent of families in poverty (Table 5.68).

Table 5.68 Poverty in the west area, 2012

	Broadwater County	Jefferson County	Lewis and Clark County	Powell County	HLC NFs West	Montana	U.S.
People	5,492	11,135	61,767	5,588	83,982	966,486	301,333,410
Families	1,672	3,187	16,314	1,549	22,722	256,237	76,595,548
People Below Poverty	453	869	6,001	809	8,132	143,119	44,852,527
Families below poverty	97	116	1,061	168	1,442	25,160	8,363,024
Percent of Total							
People Below Poverty	8.2%	7.8%	9.7%	14.5%	9.7%	14.8%	14.9%
Families below poverty	5.8%	3.6%	6.5%	10.8%	6.3%	9.8%	10.9%

* The data in this table are calculated by ACS using annual surveys conducted during 2008-2012 and are representative of average characteristics during this period.

North

Minority Populations

Table 5.69 indicates that two of the three counties in the north area meet the criteria of an environmental justice population in terms of minority population, Glacier and Pondera Counties. Glacier County meets the more than 50 percent criterion, with 64.8 percent of its population being American Indian. Pondera County's American Indian population, at 14.3 percent, is substantially higher than the state percentage of 6.3 percent. With regard to the Hispanic population, none of the counties exceed the state percentage of 2.9 percent.

Table 5.69 Population by race in the north area, 2012

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
Total Population	13,422	6,147	6,082	25,651	990,785
White alone	4,244	5,105	5,833	15,182	887,924
Black or African American alone	1	30	5	36	4,145
American Indian alone	8,696	882	113	9,691	62,398
Asian alone	50	14	11	75	6,034
Native Hawaiian & Other Pacific Is. alone	13	0	0	13	674
Some other race alone	83	26	41	150	5,731
Two or more races	335	90	79	504	23,879
Percent of Total					
White alone	31.6%	83.0%	95.9%	59.2%	89.6%
Black or African American alone	0.0%	0.5%	0.1%	0.1%	0.4%
American Indian alone	64.8%	14.3%	1.9%	37.8%	6.3%
Asian alone	0.4%	0.2%	0.2%	0.3%	0.6%
Native Hawaiian & Other Pacific Is. alone	0.1%	0.0%	0.0%	0.1%	0.1%
Some other race alone	0.6%	0.4%	0.7%	0.6%	0.6%
Two or more races	2.5%	1.5%	1.3%	2.0%	2.4%

Table 5.70 displays the composition of the American Indian population by tribe. The majority of the individuals in the environmental justice population are members of the Blackfeet tribe and the Cheyenne and Sioux Tribes have the next largest tribal memberships.

Table 5.70 American Indian and Alaska Native population in the north area, 2012

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
Total Population	13,422	6,147	6,082	25,651	990,785
Total Native American	8,696	882	113	9,691	62,398
American Indian Tribes; Specified	8,631	857	68	9,556	58,288
Apache	11	0	4	15	201
Blackfeet	7,185	735	22	7,942	11,135
Cherokee	0	0	0	0	879
Cheyenne	104	35	5	144	5,464
Chickasaw	0	0	0	0	77

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
Chippewa	53	5	6	64	3,101
Choctaw	0	0	0	0	136
Colville	0	0	0	0	80
Comanche	0	0	0	0	0
Cree	52	0	0	52	394
Creek	0	0	0	0	23
Crow	79	2	10	91	8,789
Delaware	0	0	0	0	5
Houma	0	0	0	0	0
Iroquois	19	23	0	42	164
Kiowa	0	0	0	0	0
Lumbee	0	0	0	0	0
Menominee	0	0	0	0	0
Navajo	36	1	0	37	495
Osage	0	0	0	0	38
Ottawa	0	0	0	0	0
Paiute	0	0	0	0	51
Pima	0	0	0	0	0
Potawatomi	0	0	0	0	174
Pueblo	4	0	0	4	33
Puget Sound Salish	3	0	20	23	76
Seminole	0	0	0	0	7
Shoshone	7	0	0	7	246
Sioux	205	12	1	218	5,445
Tohono O'Odham	0	0	0	0	17
Ute	0	0	0	0	27
Yakama	0	0	0	0	16
Yaqui	0	0	0	0	0
Yuman	0	0	0	0	8
All other tribes	873	44	0	917	21,207
American Indian; Not Specified	7	14	14	35	438
Alaska Native Tribes; Specified	34	0	0	34	282
Alaska Athabaskan	34	0	0	34	66
Aleut	0	0	0	0	33
Eskimo	0	0	0	0	79
Tlingit-Haida	0	0	0	0	100
All other tribes	0	0	0	0	4
Alaska Native; Not Specified	0	0	0	0	32
American Indian or Alaska Native; Not Specified	24	11	31	66	3,358

Low Income Populations

Glacier and Pondera Counties also meet the definition of a low income population. Glacier County's poverty rate is substantially higher than the state average, with 29.1 percent of people and 24.3 percent of families below the poverty level (compared to 14.8 percent and 9.8 percent for the state) as shown in Table 5.71. Table 5.72 indicates that the high rate of poverty in Glacier County primarily occurs in the American Indian population. For Pondera County, the highest incidence of poverty occurs in the white population though poverty in the American Indian population is greater than the state level.

Table 5.71 Poverty in the north area, 2012

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
People	13,180	6,079	6,021	25,280	966,486
Families	3,015	1,534	1,704	6,253	256,237
People Below Poverty	3,834	1,102	824	5,760	143,119
Families below poverty	733	176	152	1,061	25,160
Percent of Total					
People Below Poverty	29.1%	18.1%	13.7%	22.8%	14.8%
Families below poverty	24.3%	11.5%	8.9%	17.0%	9.8%

Table 5.72 Poverty by race and ethnicity in the north area, 2012*

	Glacier County	Pondera County	Teton County	HLC NFs North	Montana
Total Population (all races) in Poverty	3,834	1,102	824	5,760	143,119
White alone	426	716	741	1,883	112,673
Black or African American alone	0	0	0	0	1,226
American Indian alone	3,319	357	30	3,706	21,185
Asian alone	0	2	0	2	1,010
Native Hawaiian & Other Pacific Is. alone	13	0	0	13	85
Some other race	26	16	23	65	1,595
Two or more races	50	11	30	91	5,345
All Ethnicities in Poverty					
Hispanic or Latino (of any race)	41	5	26	72	7,465
Not Hispanic or Latino (of any race)	3,793	1,097	798	5,688	135,654
Percent of Total (Total = all individuals in poverty)					
White alone	11.1%	65.0%	89.9%	32.7%	78.7%
Black or African American alone	0.0%	0.0%	0.0%	0.0%	0.9%
American Indian alone	86.6%	32.4%	3.6%	64.3%	14.8%
Asian alone	0.0%	0.2%	0.0%	0.0%	0.7%
Native Hawaiian & Other Pacific Is. alone	0.3%	0.0%	0.0%	0.2%	0.1%
Some other race	0.7%	1.5%	2.8%	1.1%	1.1%
Two or more races	1.3%	1.0%	3.6%	1.6%	3.7%
Hispanic or Latino (of any race)	1.1%	0.5%	3.2%	1.3%	5.2%
Not Hispanic or Latino (of any race)	98.9%	99.5%	96.8%	98.8%	94.8%

Central

Minority Populations

For the two-county HLC NFs central area, Chouteau County meets the criteria for a minority population. Chouteau County's American Indian population, at 20.7 percent, is meaningfully greater than the state average of 6.3 percent as shown in Table 5.73. For Cascade County, the Hispanic population percentage of 3.5 percent indicated in Table 5.74 is slightly higher than the state average of 2.9 percent.

Table 5.73 Population by race in the central area, 2012

	Cascade County	Chouteau County	HLC NFs Central	Montana
Total Population	81,248	5,811	87,059	990,785
White alone	72,665	4,469	77,134	887,924
Black or African American alone	951	0	951	4,145
American Indian alone	3,519	1,202	4,721	62,398
Asian alone	467	25	492	6,034
Native Hawaiian & Other Pacific Is. alone	2	0	2	674
Some other race alone	424	6	430	5,731
Two or more races	3,220	109	3,329	23,879
Percent of Total				
White alone	89.4%	76.9%	88.6%	89.6%
Black or African American alone	1.2%	0.0%	1.1%	0.4%
American Indian alone	4.3%	20.7%	5.4%	6.3%
Asian alone	0.6%	0.4%	0.6%	0.6%
Native Hawaiian & Other Pacific Is. alone	0.0%	0.0%	0.0%	0.1%
Some other race alone	0.5%	0.1%	0.5%	0.6%
Two or more races	4.0%	1.9%	3.8%	2.4%

Table 5.74 describes the number of people who self-identify as Hispanic. The information also is presented according to race. The term "Hispanic" refers to a cultural identification, and Hispanics can be of any race.

Table 5.74 Hispanic population in the central area, 2012

	Cascade County	Chouteau County	HLC NFs Central	Montana
Total Population	81,248	5,811	87,059	990,785
Hispanic or Latino (of any race)	2,810	96	2,906	28,984
Not Hispanic or Latino	78,438	5,715	84,153	961,801
White alone	70,888	4,415	75,303	868,906
Black or African American alone	836	0	836	3,936
American Indian alone	3,120	1,166	4,286	60,410
Asian alone	463	25	488	5,872
Native Hawaiian & Oth. Pacific Is. alone	2	0	2	645
Some other race	133	0	133	583

	Cascade County	Chouteau County	HLC NFs Central	Montana
Two or more races	2,996	109	3,105	21,449
Percent of Total				
Hispanic or Latino (of any race)	3.5%	1.7%	3.3%	2.9%
Not Hispanic or Latino	96.5%	98.3%	96.7%	97.1%
White alone	87.2%	76.0%	86.5%	87.7%
Black or African American alone	1.0%	0.0%	1.0%	0.4%
American Indian alone	3.8%	20.1%	4.9%	6.1%
Asian alone	0.6%	0.4%	0.6%	0.6%
Native Hawaiian & Oth.Pacific Is. alone	0.0%	0.0%	0.0%	0.1%
Some other race	0.2%	0.0%	0.2%	0.1%
Two or more races	3.7%	1.9%	3.6%	2.2%

As discussed above, the minority population in the HLC NFs central area is primarily American Indian. Table 5.75 shows the breakdown of the American Indian population by tribe. The largest number of American Indians in the area are unidentified as to tribal affiliation. The largest identified tribal membership is to the Cree Tribe.

Table 5.75 American Indian and Alaska Native population in the central area, 2012

	Cascade County,	Chouteau County	HLC NFs Central	Montana
Total Population	81,248	5,811	87,059	990,785
Total Native American	3,519	1,202	4,721	62,398
American Indian Tribes; Specified	3,031	1,178	4,209	58,288
Apache	0	0	0	201
Blackfeet	876	9	885	11,135
Cherokee	183	0	183	879
Cheyenne	47	0	47	5,464
Chickasaw	36	0	36	77
Chippewa	585	35	620	3,101
Choctaw	5	0	5	136
Colville	0	0	0	80
Comanche	0	0	0	0
Cree	63	183	246	394
Creek	0	0	0	23
Crow	34	1	35	8,789
Delaware	0	0	0	5
Houma	0	0	0	0
Iroquois	26	0	26	164
Kiowa	0	0	0	0
Lumbee	0	0	0	0
Menominee	0	0	0	0
Navajo	72	0	72	495
Osage	0	0	0	38

	Cascade County,	Chouteau County	HLC NFs Central	Montana
Ottawa	0	0	0	0
Paiute	0	0	0	51
Pima	0	0	0	0
Potawatomi	0	0	0	174
Pueblo	0	0	0	33
Puget Sound Salish	0	0	0	76
Seminole	0	0	0	7
Shoshone	0	0	0	246
Sioux	51	15	66	5,445
Tohono O'Odham	0	0	0	17
Ute	0	0	0	27
Yakama	0	0	0	16
Yaqui	0	0	0	0
Yuman	0	0	0	8
All other tribes	1,053	935	1,988	21,207
American Indian; Not Specified	20	13	33	438
Alaska Native Tribes; Specified	17	0	17	282
Alaska Athabaskan	17	0	17	66
Aleut	0	0	0	33
Eskimo	0	0	0	79
Tlingit-Haida	0	0	0	100
All other tribes	0	0	0	4
Alaska Native; Not Specified	0	0	0	32
American Indian or Alaska Native; Not Specified	451	11	462	3,358

Low Income Populations

Examining Table 5.76, Chouteau County has a higher incidence of poverty than the state, with 18.6 percent of people in poverty and 13.8 percent of families, compared to 14.8 percent and 9.8 percent for the state, respectively. Cascade County's poverty levels are fairly similar to the state. For Choteau County the high rate of poverty is primarily associated with the American Indian population, while in Cascade County the majority of the poverty occurs in the white population as indicated in Table 5.77.

Table 5.76 Poverty in the central area, 2012

	Cascade County	Chouteau County	HLC NFs Central	Montana
People	79,296	5,693	84,989	966,486
Families	21,414	1,538	22,952	256,237
People Below Poverty	11,808	1,060	12,868	143,119
Families below poverty	2,443	213	2,656	25,160
Percent of Total				
People Below Poverty	14.9%	18.6%	15.1%	14.8%
Families below poverty	11.4%	13.8%	11.6%	9.8%

Table 5.77 Poverty by race and ethnicity in the central area, 2012*

	Cascade County	Chouteau County	HLC NFs Central	Montana
Total Population (all races) in Poverty	11,808	1,060	12,868	143,119
White alone	9,057	402	9,459	112,673
Black or African American alone	368	0	368	1,226
American Indian alone	1,109	658	1,767	21,185
Asian alone	99	0	99	1,010
Native Hawaiian & Other Pacific Is. alone	0	0	0	85
Some other race	165	0	165	1,595
Two or more races	1,010	0	1,010	5,345
All Ethnicities in Poverty				
Hispanic or Latino (of any race)	815	12	827	7,465
Not Hispanic or Latino (of any race)	10,993	1,048	12,041	135,654
Percent of Total (Total = all individuals in poverty)				
White alone	76.7%	37.9%	73.5%	78.7%
Black or African American alone	3.1%	0.0%	2.9%	0.9%
American Indian alone	9.4%	62.1%	13.7%	14.8%
Asian alone	0.8%	0.0%	0.8%	0.7%
Native Hawaiian & Other Pacific Is. alone	0.0%	0.0%	0.0%	0.1%
Some other race	1.4%	0.0%	1.3%	1.1%
Two or more races	8.6%	0.0%	7.8%	3.7%
Hispanic or Latino (of any race)	6.9%	1.1%	6.4%	5.2%
Not Hispanic or Latino (of any race)	93.1%	98.9%	93.6%	94.8%

East

Minority Populations

None of the counties in the four-county HLC NFs east area meet the criteria for a minority population based upon either of the two criteria mentioned in the introduction to this section. None have a minority population that exceeds 50 percent of the total population and none have a minority population that is meaningfully greater than that of the larger State of Montana geographic area which is shown in Table 5.78

Table 5.78 Population by race in the east area, 2012

	Fergus County	Judith Basin County	Meagher County	Wheatland County	HLC NFs East	Montana
Total Population	11,507	2,052	1,900	2,142	17,601	990,785
White alone	11,122	2,026	1,876	2,096	17,120	887,924
Black or African American alone	11	0	0	0	11	4,145
American Indian alone	188	5	5	9	207	62,398
Asian alone	4	0	5	0	9	6,034
Native Hawaiian & Other Pacific Is. alone	0	0	0	0	0	674
Some other race alone	47	2	6	3	58	5,731

	Fergus County	Judith Basin County	Meagher County	Wheatland County	HLC NFs East	Montana
Two or more races	135	19	8	34	196	23,879
Percent of Total						
White alone	96.7%	98.7%	98.7%	97.9%	97.3%	89.6%
Black or African American alone	0.1%	0.0%	0.0%	0.0%	0.1%	0.4%
American Indian alone	1.6%	0.2%	0.3%	0.4%	1.2%	6.3%
Asian alone	0.0%	0.0%	0.3%	0.0%	0.1%	0.6%
Native Hawaiian & Other Pacific Is. alone	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Some other race alone	0.4%	0.1%	0.3%	0.1%	0.3%	0.6%
Two or more races	1.2%	0.9%	0.4%	1.6%	1.1%	2.4%

Low Income Populations

The incidence of poverty in Meagher County is slightly higher than that of the state, at 15.9 percent of families in poverty and 10.7 percent of families, compared to 14.8 percent and 9.8 percent for the state, respectively. The other three counties have poverty rates that fall below that of the state which Table 5.79 displays. Almost all of this is within the White population as Table 5.80 indicates.

Table 5.79 Poverty in the east area, 2012

	Fergus County	Judith Basin County	Meagher County	Wheatland County, MT	HLC NFs East	Montana
People	11,203	2,052	1,856	2,118	17,229	966,486
Families	3,024	533	458	533	4,548	256,237
People Below Poverty	1,473	257	296	268	2,294	143,119
Families below Poverty	245	57	49	24	375	25,160
Percent of Total						
People Below Poverty	13.1%	12.5%	15.9%	12.7%	13.3%	14.8%
Families below poverty	8.1%	10.7%	10.7%	4.5%	8.2%	9.8%

Table 5.80 Poverty by race and ethnicity in the east area, 2012*

	Fergus County	Judith Basin County	Meagher County	Wheatland County	HLC NFs East	Montana
Total Population (all races) in Poverty	1,473	257	296	268	2,294	143,119
White alone	1,424	256	288	245	2,213	112,673
Black or African American alone	10	0	0	0	10	1,226
American Indian alone	17	0	0	0	17	21,185
Asian alone	4	0	0	0	4	1,010
Native Hawaiian & Oth.Pacific Is. alone	0	0	0	0	0	85
Some other race	13	1	6	0	20	1,595
Two or more races	5	0	2	23	30	5,345
All Ethnicities in Poverty						

	Fergus County	Judith Basin County	Meagher County	Wheatland County	HLC NFs East	Montana
Hispanic or Latino (of any race)	34	0	6	0	40	7,465
Not Hispanic or Latino (of any race)	1,439	257	290	268	2,254	135,654
Percent of Total (Total = all individuals in poverty)						
White alone	96.7%	99.6%	97.3%	91.4%	96.5%	78.7%
Black or African American alone	0.7%	0.0%	0.0%	0.0%	0.4%	0.9%
American Indian alone	1.2%	0.0%	0.0%	0.0%	0.7%	14.8%
Asian alone	0.3%	0.0%	0.0%	0.0%	0.2%	0.7%
Native Hawaiian & Oth.Pacific Is. alone	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Some other race	0.9%	0.4%	2.0%	0.0%	0.9%	1.1%
Two or more races	0.3%	0.0%	0.7%	8.6%	1.3%	3.7%
Hispanic or Latino (of any race)	2.3%	0.0%	2.0%	0.0%	1.7%	5.2%
Not Hispanic or Latino (of any race)	97.7%	100.0%	98.0%	100.0%	98.3%	94.8%

Trends and Drivers

The potential influence of social and economic trends on forest management and the influence of Forest Service management on social and economic conditions are described throughout this chapter.

Information Needs

To gain an understanding of the social and economic environment, a combination of data collection methods is usually used -- both quantitative and qualitative methods. Much of the information presented in this chapter is derived from sources of Census information, which is quantitative data. The social environment descriptions are gathered in large part from perusal of Chambers of Commerce webpages, county planning documents, economic development groups and the like. This information, however, does not provide us with “primary” types of data – which would include information about how people define and explain their ties and connections to the land, how they explain the issues of importance – in this case Forest Plan Revision – from their own point of view. This assessment would have benefitted from an assessment similar to those done utilizing an ethnographic method for the Kootenai National Forest (Impact Assessment, Inc. 1996, Adams-Russell Consulting 2004), the Idaho Panhandle National Forest (Parker et.al. 2002), and the Nez Perce and Clearwater National Forests (Adams-Russell Consulting 2004).

Additionally, although a lot of information on the use of the resources of the forests is available, there is little information available on the demand for the goods and services provided by the national forests.

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