

A Research Paper by



The Economic Potential of Protected Public Land in Malheur County, Oregon



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ABOUT HEADWATERS ECONOMICS

Headwaters Economics is an independent, nonprofit research group whose mission is to improve community development and land management decisions in the West.

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I. EXECUTIVE SUMMARY

This report provides an initial analysis of the potential economic impact of protecting federal land in Malheur County. The county, located in southeastern Oregon, has 4.6 million acres of public land within its boundaries (almost four-fifths of its land base), and nearly two million of these acres possess unique natural and recreational values.

Despite its rural nature, Malheur County is part of the Ontario Micropolitan Statistical Area, which is anchored by the city of Ontario, and includes Payette County, Idaho. Because of strong economic connections to Idaho's Treasure Valley and the greater Boise economy, the majority of Malheur County lies in the Mountain Time zone.

During the last four decades, Malheur County's population, employment, and real personal income grew slowly. The county lags behind the non-metro portion of Oregon in each of these growth measures. Services related industries and government account for all long-term net employment gains in Malheur County. This shift in industry makeup, along with strong growth in non-labor sources of income (such as retirement and investment income), also accounts for the growth of real personal income in the county.

Agriculture is important to the economy of Malheur County and is one of the county's larger industries. However, agriculture's relative share of the economy has fallen over time as farming and ranching have failed to keep pace with gains in the broader economy. In recent decades, agricultural employment declined steeply even as farm and ranch personal income increased. Agricultural output (livestock and crops) in the county has expanded over time and recently farm and ranch average earnings have risen, though they remain below overall earnings per job. There is a high degree of volatility in net farm and ranch business income. This volatility is tied to swings in production costs and commodity prices, which are difficult for producers to control.

Going forward, Malheur County should consider how best to capitalize on its abundant federal land as part of any future economic development strategy. Research on the economic role of protected public land in the West, including the non-metro West, is encouraging. Numerous studies show that this land can be an important economic asset that attracts people and business. Western counties with National Parks, National Monuments, or other permanent protections on federal land support above average rates of job growth and are correlated with higher levels of per capita income.

Like Malheur County, the economy of the West has changed dramatically in recent decades. Services industries that employ people in a wide range of occupations—from doctors and engineers to teachers and accountants—are driving economic growth and now make up the large majority of jobs in both metro and non-metro areas. At the same time, non-labor income, which consists largely of investment and retirement income, is the largest and fastest-growing source of new personal income in the region.

Along with these broad changes, the economic role of public land in the West has shifted. Natural resources and commodities associated with federal land will remain important, but increasingly the value of this public land also is tied to recreation opportunities as well as the natural amenities and scenic backgrounds they provide that help attract people and businesses across a range of sectors.

The region's wide-open spaces, mountains, canyons, rivers and other spectacular natural features set communities in the West apart from the rest of the country. These places enjoy benefits that can be measured directly. From 1970 to 2010, western non-metro counties with more than 30 percent of the county's land base in protected federal status increased jobs by 345 percent—more than four times faster than western non-metro counties with no protected federal land.

There is also a meaningful relationship between the amount of protected public land and higher per capita income levels. On average in 2010, for every gain of 10,000 acres of protected public land in a western non-metro county, per capita income increased by \$436.

This research sets the stage for an appraisal of how Malheur County performs compared to similar western, rural counties that have a substantial amount of protected federal land. Key findings are:

- In standard measures of long-term economic growth, Malheur County is among the poorest overall performers relative to peer counties. This is the case despite better transportation access to larger population centers and markets than all but two peers.
- The county fares poorly in sustaining farm and ranch employment compared to protected area peers, while the peer group outperforms the non-metro portion of the United States.
- Malheur County performs a little better in qualitative measures of economic stress and well-being, such as the unemployment rate and per capita income, but it is never a top performer compared to protected area peers.
- The county has a smaller share of its overall private employment in travel and tourism related sectors than all but two peers.

The peer comparison data do not support a cause and effect relationship between the presence of protected areas in peer counties and stronger economic performance. However, the data do show that peer counties with permanent federal land protections on average grow faster, sustain agricultural employment better, have less economic hardship, and benefit from travel and tourism business activity at rates higher than Malheur County.

This comparison to peer counties mirrors the broader body of research and analysis that points to the advantages of protected areas for non-metro counties in the West. These benefits include faster economic growth, higher income levels, increased travel and tourism activity, and visitation that leads to the attraction of people and businesses across a range of sectors.

Natural amenities are not the only element needed for economic success. Other factors such as access to markets and education levels remain important. If economic development efforts in Malheur County were to focus on protecting public land as a way to preserve and brand the unique characteristics of the region while providing access for recreation, the county could see a more promising economic trajectory, especially given its proximity to larger population centers in southwestern Idaho. The experience of protected area peer counties suggests this can be done without burdening the agricultural economy.

How Malheur County utilizes these advantages—through the combination of local leadership, investments, and policy decisions concerning land management—will play a significant role in determining its economic future and prosperity.

II. INTRODUCTION

This report explores the potential economic benefits of permanently protecting select federal lands in Malheur County in southeastern Oregon.

Malheur County has 4.6 million acres of federal land within its boundaries. Of these, nearly two million acres possess unique natural and recreational values.

These include Wilderness Study Areas as well as other areas identified by both the Bureau of Land Management and conservation organizations as possessing wilderness character. Wilderness designation or other management approaches such as the establishment of a National Conservation Area, a National Recreation Area, or additional Wild and Scenic River designations are considered.

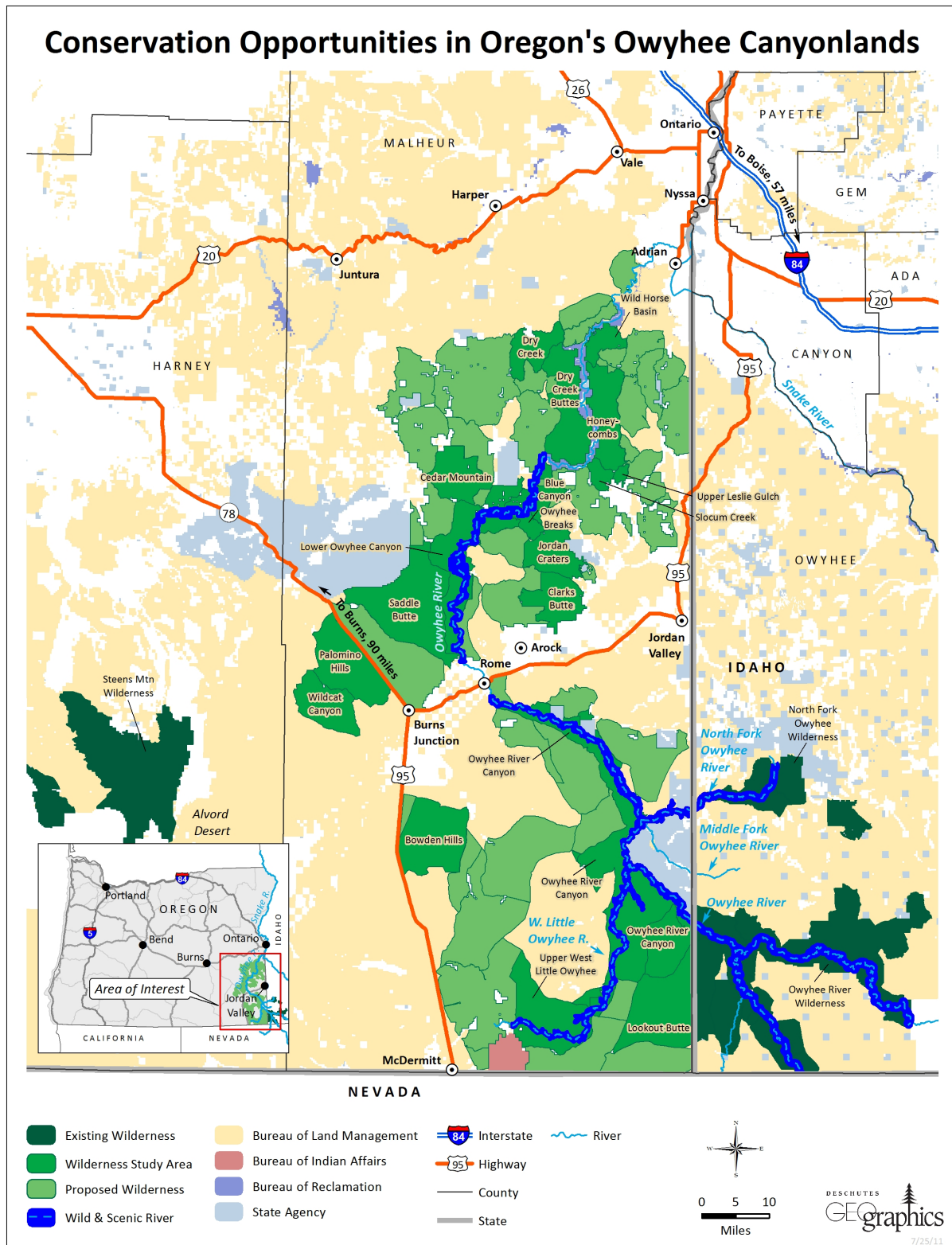
The report first examines trends for Malheur County's people and economy, including agriculture. It also looks at the county's relationship to larger population centers and its ability to attract people, jobs, and investment. This information provides context for understanding the county's economic strengths and weaknesses, and potential advantages of new land protections.

Next this study reviews the recent research and literature on the economics of protected federal land in the West, summarizing findings to help understand the potential implications of protecting federal land in Malheur County.

Finally, the report compares Malheur County to peers in the West with significant protective designations to see how these economies perform and what can be learned from looking at similar counties with significant federal acreage in one or more forms of permanently protected status.

The map on the following page shows land ownership in southeast Oregon and potential areas for protection in Malheur County.

Map: Land Ownership and Status in Malheur County, Oregon



III. METHODS AND DATA SOURCES

Data

This report draws on published statistics from a variety of sources. The principal demographic and economic data sources include: U.S. Department of Commerce, U.S. Census Bureau, U.S. Department of Labor, and others. All data sources are documented in the References section at the end of this report. For more details on regional data, see the Economic Profile System-Human Dimensions Toolkit (EPS-HDT) developed by Headwaters Economics in conjunction with the U.S. Forest Service and Bureau of Land Management: <http://headwaterseconomics.org/tools/eps-hdt>.

All dollar figures in this report are adjusted for inflation; that is, shown in real dollars.

Approach

We use trend analysis to describe the nature and significance of economic change in Malheur County. We do this for established measures of growth (such as population, employment, and personal income), indicators of well-being (such as earnings per job and per capita income), and at the industry level using the Standard Industrial Classification (SIC), from 1970 to 2000, and North American Industry Classification System (NAICS), from 2001 to 2011 (latest year available).

Definition of Protected Areas

These are federal lands protected by the following designations: 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). These areas typically have unique features or pristine characteristics, and greater managerial or commercial use restrictions than multiple-use public lands.

Peer Selection

We identified peers to Malheur County using the following criteria:

1. Population in 2010 < 35,000 (to capture similar-scale rural places)
2. Protected federal acres > 500,000 (to capture significant protected federal areas on par with the opportunity in Malheur)
3. Travel time > 45 minutes to commercial airports (to capture level of remoteness from larger populations centers and markets)¹
4. Less than 50 percent of land cover forested (to capture a similar grassland/shrubland landscape)

These criteria yield 11 counties in the continental western United States for comparison (shown alphabetically by state): Inyo County, CA; Custer County, ID; Owyhee County, ID; Park County, MT; Harney County, OR; Wallowa County, OR; Humboldt County, NV; Lincoln County, NV; Garfield County, UT; Kane County, UT; and San Juan County, UT.

IV. MALHEUR COUNTY ECONOMY

General

Malheur County, Oregon lies in the far southeast corner of the state. It is named after the Malheur River, which runs through the county.

The county is large in size (6,354,985 acres) but has a small population (31,068 people in 2011).² The population centers are in the north of the county. Ontario, which lies on the Idaho border and Interstate 84, is the county's largest town (population 11,268 in 2011), and Vale (population 1,860 in 2011), which sits at the junction of highways 20 and 26, is the county seat.³ Other incorporated towns are Adrian, Jordan Valley, and Nyssa.

Malheur County is part of the Ontario Micropolitan Statistical Area, which is anchored by the city of Ontario, and includes Payette County, Idaho.⁴ Because of strong economic connections to Idaho's Treasure Valley and the greater Boise economy, the majority of Malheur County lies in the Mountain Time zone.⁵

The county's land ownership is just more than one-fifth privately owned (22.1% private land) and a little less than four-fifths publically owned (73.1% federal land and 4.5% state land). The Bureau of Land Management manages almost all of the federal land in the county.⁶

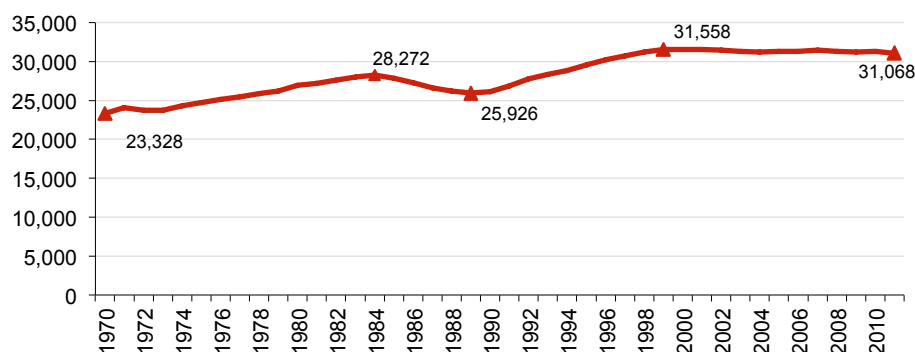
The land cover is largely grassland and shrubland. Grassland covers 3,558,792 acres, or 56 percent of total. Shrubland covers 2,478,444 acres, or 39 percent of total.⁷

People

Malheur County's population has grown slowly, and includes periods of net population gain and loss. From 1970 to 2011, population grew from 23,328 to 31,068, a 33 percent increase. For comparison, population in the non-metro portion of Oregon grew 25 percent faster over this time period.⁸

The 1970s and early 1980s as well as the 1990s were growth periods, adding around 5,000 new people in each of these periods. In contrast, the later 1980s saw a population decline of around 2,000 people. In the 2000s, population declined again by roughly 500 people. Population loss in the last decade is the result of net outmigration.⁹

Population Trends, Malheur County, 1970 to 2011

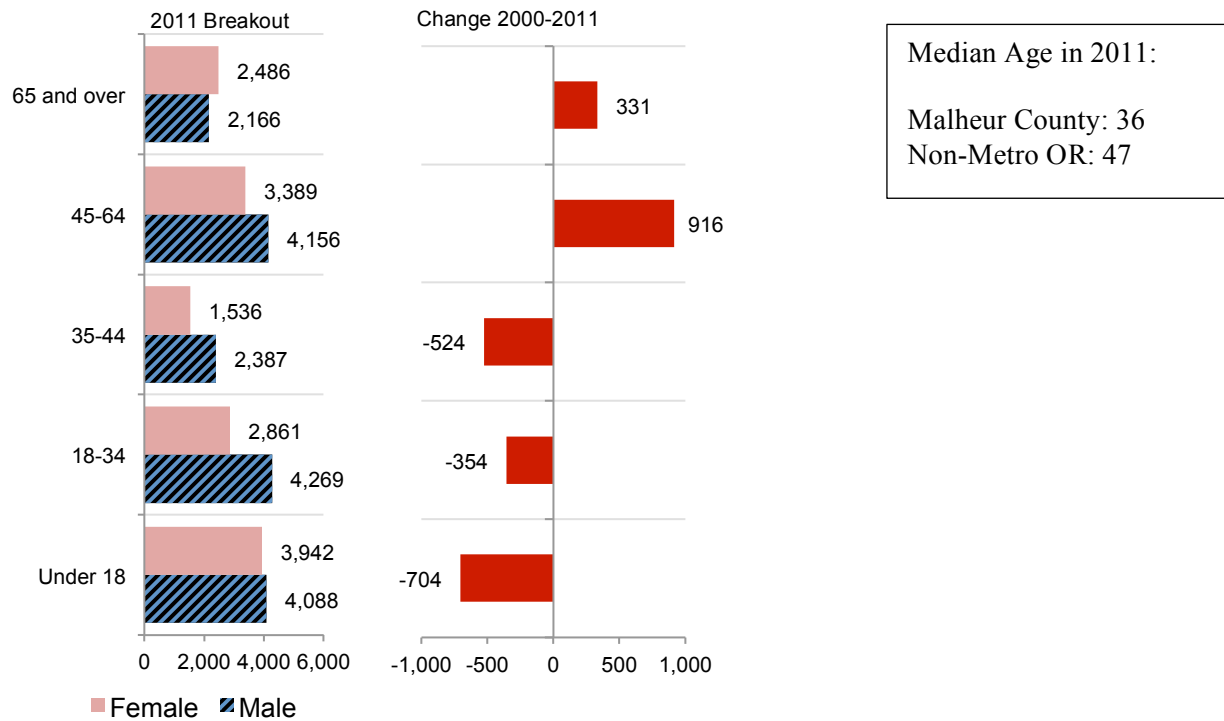


Population Change from 1970 to 2011:

Malheur County: +33%
Non-Metro OR: +58%

The large majority of the county's population (81%) is white by race and almost a third (31%) describe themselves as Hispanic or Latino, which can be of any race.¹⁰

Age and Gender Distribution and Change, Malheur County

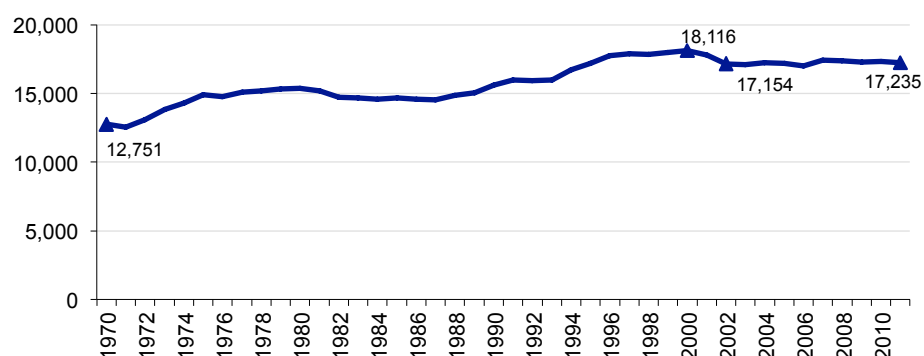


Malheur County's population is aging. From 2000 to 2011, the median age of the population grew from 34 years to 36 years old. Every age group younger than 45 years of age is shrinking, while every age group older than 45 years of age is growing.¹¹ For comparison, the median age in non-metro Oregon as a whole was 47 in 2011.

Economy

Employment and real personal income (i.e., adjusted for inflation) have tracked population trends in the county. From 1970 to 2011, employment in Malheur County grew from 12,751 to 17,235 jobs, a 35 percent increase. For comparison, employment in the non-metro portion of Oregon grew 49 percent faster over this time period. Malheur County employment peaked in 2000 at 18,116 jobs, fell to 17,154 jobs by 2002 during the recession of the early 2000s, and then remained stable through 2011.¹²

Employment Trends, Malheur County, 1970 to 2011

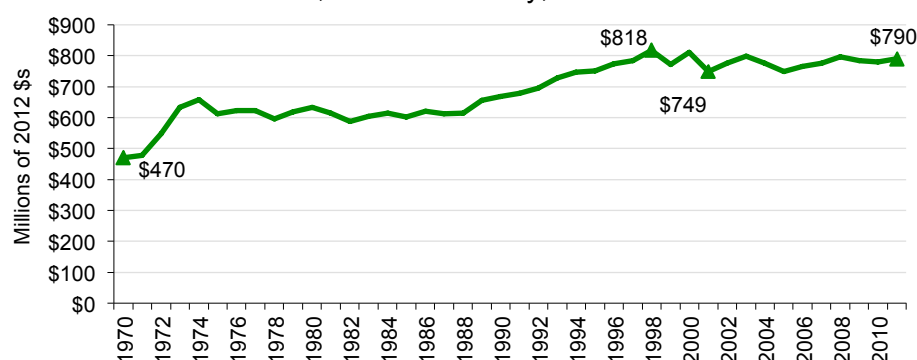


Employment Change
from 1970 to 2011:

Malheur County: +35%
Non-Metro OR: +84%

From 1970 to 2011, personal income in Malheur County grew from \$470 million to \$790 million, in real terms, a 68 percent increase. For comparison, personal income in the non-metro portion of Oregon grew 75 percent faster, in real terms, over this time period. Malheur County's personal income, in real terms, peaked in 1998 at \$818 million, declined to \$749 million by 2001, and gained slightly since then to reach \$790 million in 2011.¹³

Personal Income Trends, Malheur County, 1970 to 2011



Personal Income Change
from 1970 to 2011:

Malheur County: +68%
Non-Metro OR: +143%

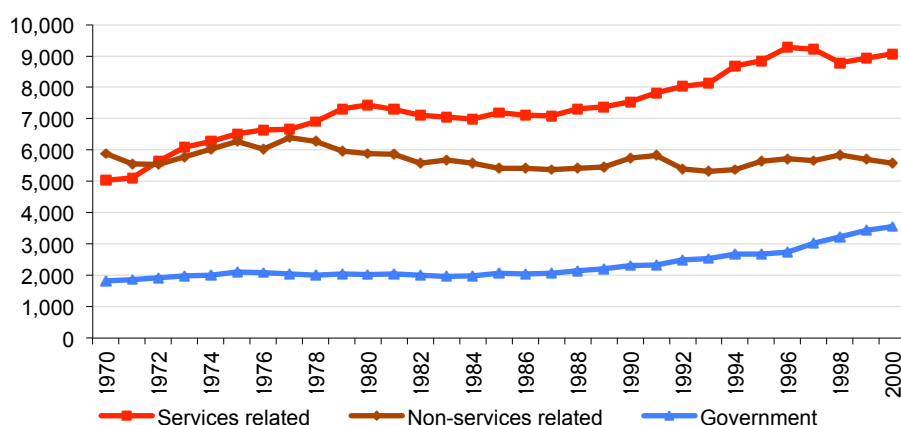
On the next page we show employment trends by major industry over two time frames. The first is from 1970 to 2000 using the Standard Industrial Classification (SIC) system. The second is from 2001 to 2011 using the North American Industrial Classification System (NAICS). The U.S. Department of Commerce shifted from SIC to NAICS in 2001 and many industry classifications are not compatible between SIC and NAICS.¹⁴

Services sectors include a mix of services ranging from doctors and lawyers to hotel maids and retail clerks, and non-services sectors include goods-producing activities such as agriculture, manufacturing, and construction.

The industry mix in Malheur County has shifted over time. From 1970 to 2000, services related industries accounted for all net new jobs (+4,028 jobs, an 80% increase) in the private sector, while non-services related jobs declined (-320 jobs, a 5% decrease). During the same time period, government employment also increased (+1,725 jobs, a 95% increase), mainly at the state and local level.¹⁵

To put this change in perspective, services related employment increased from 39 percent of total employment in 1970 to 50 percent of total in 2000, while non-services related employment declined from 46 percent of total employment in 1970 to 31 percent of total in 2000.¹⁶

Employment by Major Industry, Malheur County, 1970 to 2000



Trends in the last decade continue this earlier trajectory, though overall employment decreased due to large losses in non-services related sectors. From 2001 to 2011, services related jobs increased (+489 jobs), and non-services related jobs declined (-981 jobs). The largest services growth was in health care and social assistance (+241 jobs). The largest non-services decline was in manufacturing (-455 jobs). As a result of these trends, in 2011 employment in industries such as health care and social assistance (1,957 jobs, 11.4% of total), and accommodation and food services (1,108 jobs, 6.4% of total) is now larger than employment in manufacturing (997 jobs, 5.8% of total).¹⁷

To put this change in perspective, growth in services related industries accounted for 60 percent of total employment by 2011, while non-services related industries accounted for 20 percent of total employment in the same year.¹⁸

Employment by Industry (NAICS), Malheur County, 2001 to 2011

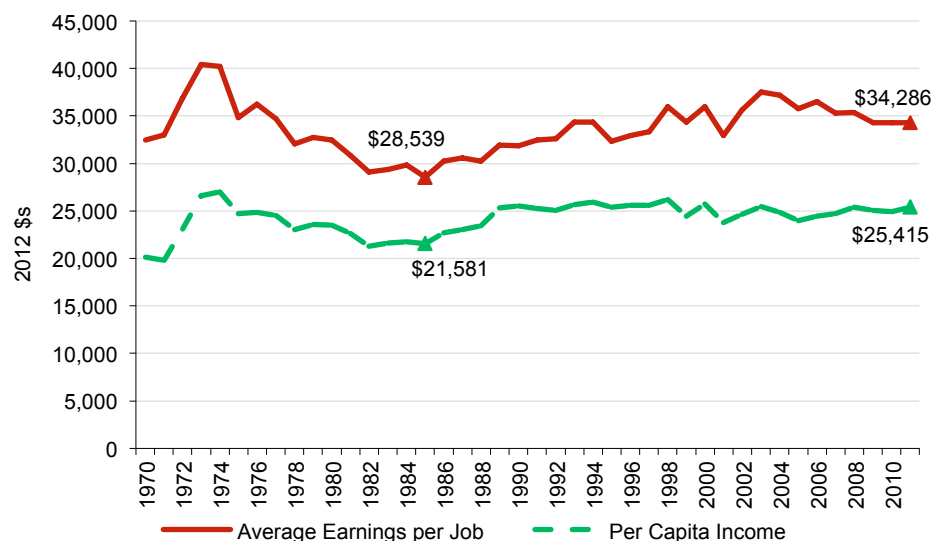
	2001	2011	Change 2001-2011
Total Employment (number of jobs)	17,811	17,235	-576
Non-services related	~4,450	~3,469	-981
Farm	2,431	2,098	-333
Forestry, fishing, & related activities	na	na	na
Mining (including fossil fuels)	na	na	na
Construction	567	374	-193
Manufacturing	1,452	997	-455
Services related	~9,143	~9,632	489
Utilities	47	25	-22
Wholesale trade	716	815	99
Retail trade	2,392	2,183	-209
Transportation and warehousing	535	605	70
Information	160	159	-1
Finance and insurance	377	465	88
Real estate and rental and leasing	366	425	59
Professional and technical services	~388	~467	78
Management of companies and enterprises	na	na	na
Administrative and waste services	389	396	7
Educational services	~47	79	32
Health care and social assistance	~1,716	1,957	241
Arts, entertainment, and recreation	135	119	-16
Accommodation and food services	1,019	1,108	89
Other services, except public administration	856	829	-27
Government	3,448	3,299	-149

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

The broader shifts in the county's economy have been accompanied by increases in both average earnings per job and per capita income since the middle 1980s—the higher figures in the early 1970s are attributable to unusually high farm commodity prices that have not since repeated.

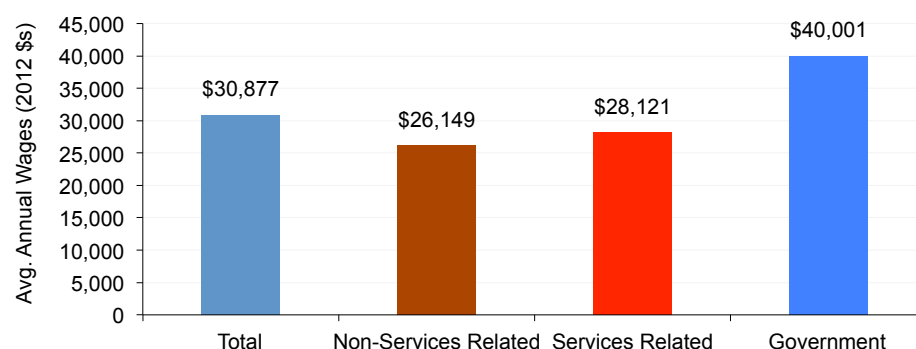
From 1985 to 2011, Malheur County's average earnings per job grew from \$28,539 to \$34,286 and per capita income increased from \$21,581 to \$25,415, in real terms. By comparison, for the non-metropolitan portion of Oregon average earnings per job were \$37,649 (or \$2,363 higher than Malheur County) and per capita income was \$32,433 (or \$7,018 higher than Malheur County) in 2011.¹⁹

Average Earnings per Job and Per Capita Income, Malheur County, 1970 to 2011



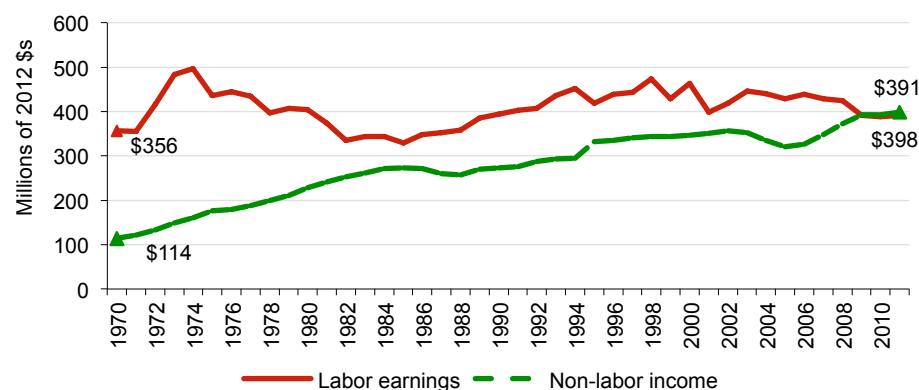
The growth in earnings per job in Malheur County can be explained by the expansion of higher-paying government jobs (\$40,001 avg. annual wage in 2011) and services related industries (\$28,121 avg. annual wage in 2011), including sectors such as professional and business services, and education and health services. Declines in non-services related employment (\$26,149 avg. annual wage in 2011) also contributed to the overall rise in earnings because industries in this category pay below average wages in the county.²⁰

Average Annual Wages by Industry, Malheur County, 2011



The rise in non-labor income is a major reason per capita income is increasing. Non-labor income is made up of government transfer payments to individuals, including retirement, medical, income maintenance, and other payments, and investment income, which is dividend, interest, and rental income.

Labor Earnings and Non-Labor Income, Malheur County, 1970 to 2011



Whereas labor earnings overall grew modestly from \$356 to \$391 million, in real terms, between 1970 and 2011, non-labor income increased from \$114 to \$398 million, in real terms, an increase of 249 percent. Non-labor income now surpasses labor earnings in the county.²¹

Agriculture

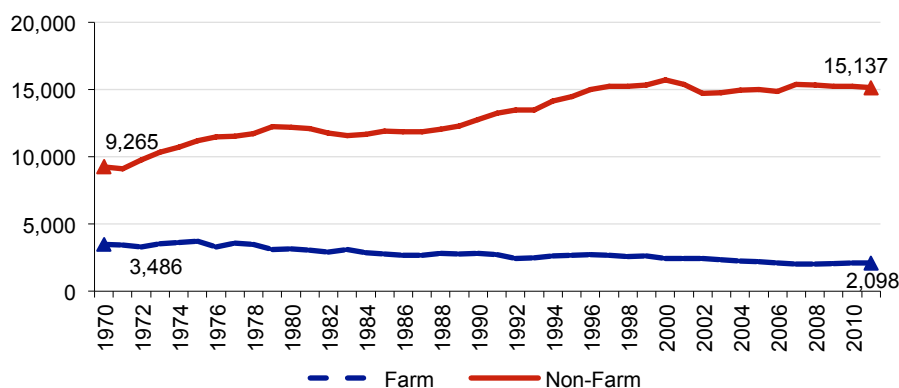
Agriculture (including farming and ranching) is the most extensive land use in Malheur County. The U.S. Department of Agriculture estimates there were 1,170,664 acres in farms in 2007 (the latest estimate available). Permanent pasture and rangeland covered 901,879 acres and cropland 240,143 acres in the same year.²²

Agriculture is one of the largest economic sectors in Malheur County. (Note: The U.S. Department of Commerce uses the term “farm” to denote farming and ranching.) However, during the last four decades it has declined in absolute terms (as measured by employment) and as a share (as measured by employment and personal income) of the larger county economy.

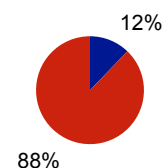
From 1970 to 2011 in Malheur County, farm and ranch employment, including proprietors, fell from 3,486 to 2,089, a 40 percent decline. Farm and ranch businesses employed 965 people and another 1,133 were farm and ranch proprietors for a total of 2,089 jobs/self-employed. This was 12 percent of total employment in 2011.²³

By contrast, from 1970 to 2011, non-farm employment in Malheur County grew from 9,265 to 15,137 jobs, a 63 percent increase, and was 88 percent of total employment in 2011.

Farm and Non-Farm Jobs, Malheur County, 1970 to 2011



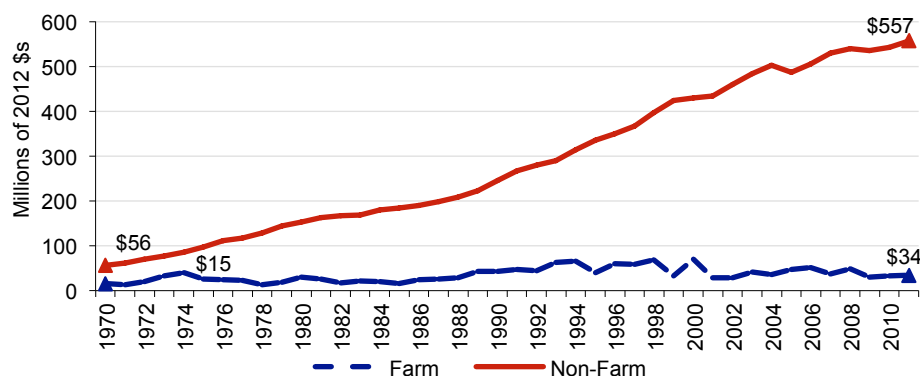
Percent of Total, 2011



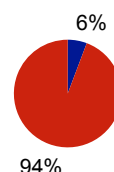
Unlike agricultural employment, farm and ranch personal income has grown during the last four decades. From 1970 to 2011, farm and ranch personal income, including proprietors' income, grew from \$15 million to \$34 million, in real terms, a 123 percent increase. In 2011, farm and ranch personal income was six percent of all labor earnings in Malheur County.²⁴

By contrast, from 1970 to 2011, non-farm earnings in Malheur County grew from \$56 million to \$557 million, in real terms, an 890 percent increase, and were 94 percent of total earnings in 2011.

Farm and Non-Farm Earnings, Malheur County, 1970 to 2011

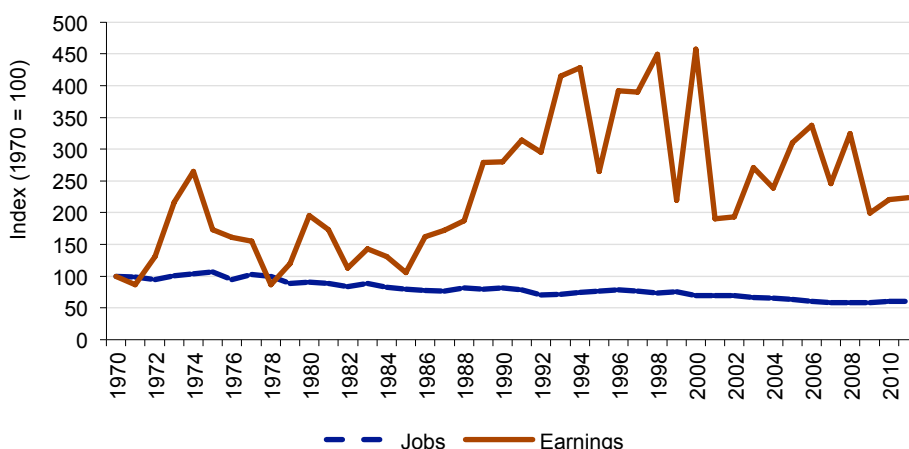


Percent of Total, 2011



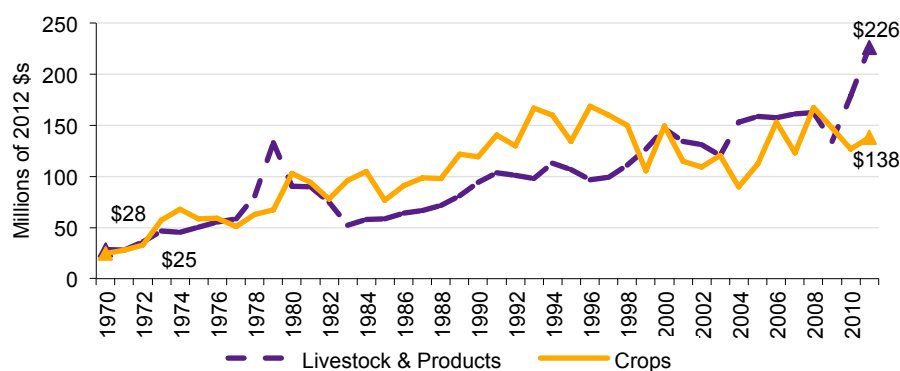
The indexed graph below shows the long-term divide between agricultural employment and real personal income trends.²⁵ Increasing efficiencies—more output with fewer workers—have cut into employment and raised earnings in livestock and crop production. However, farm and ranch earnings remain below overall average earnings per job in Malheur County. In 2011, average annual wages in livestock production were \$29,485 and in crop production they were \$24,214, compared to \$30,877 overall in the county.²⁶

Change in Farm Jobs and Earnings, Malheur County, 1970-2011



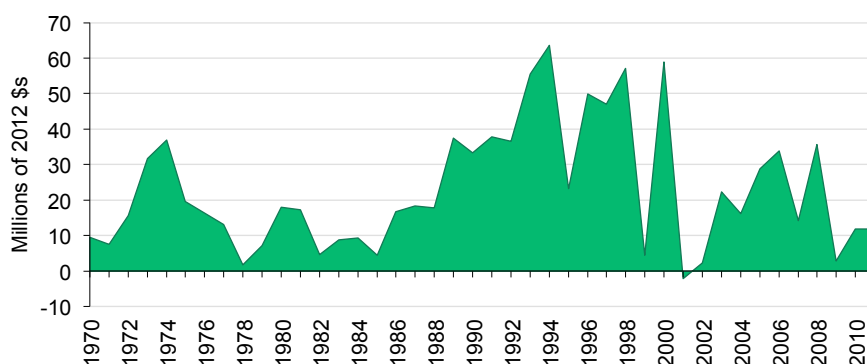
Since the 1970s, there has been a significant amount of growth and volatility in Malheur County agricultural output (livestock and crops). The graph below shows trends in cash receipts for businesses in Malheur County from the marketing of livestock and crops. From 1970 to 2011, livestock cash receipts grew from \$28 million to \$226 million, in real terms, and crop cash receipts grew from \$25 million to \$138 million, in real terms.²⁷

Cash Receipts from Livestock and Crops, Malheur County, 1970 to 2011



Despite the overall growth of sales, net farm and ranch business income has been highly erratic, showing the challenges farm and ranch businesses have in sustaining consistent profits. The graph on the next page shows trends in net farm and ranch business income, in real terms, in Malheur County. During the last four decades, total net income has generally been positive, ranging from a high of \$64 million in 1994 to a low of -\$2 million in 2001.²⁸ The year-to-year volatility in net business income is largely explained by the relationship between production costs and commodity prices. These are difficult for local producers to control.

Total Net Farm Business Income, Malheur County, 1970 to 2011



Summary

Malheur County is a small-population county with almost four-fifths of its land base in public ownership, mainly managed by the Bureau of Land Management.

Despite its rural nature, Malheur County is part of the Ontario Micropolitan Statistical Area because of its connectedness to population centers and business activity in southwestern Idaho.

During the last four decades, Malheur County's population, employment, and real personal income grew slowly. In each of these growth measures, Malheur County lags behind the non-metro portion of Oregon.

Despite long-term growth, county population declined in the last decade. This was caused by net out-migration. The population is also aging.

Growth in services related industries and government, mainly at the state and local level, account for all long-term net employment gains in the county. A mix of services industries and government now account for the large majority of Malheur County employment. This shift in industry makeup, along with strong growth in non-labor sources of income, including government transfer payments and investment income, also accounts for the growth of real personal income in the county.

From the middle 1980s, earnings per job and per capita income increased in Malheur County, although they remain below levels for the non-metro portion of Oregon. Higher-paying government jobs and services industry employment, such as in health care and professional and business services, along with the growth of non-labor income largely explain these increases.

Agriculture is important to the economy of Malheur County. It is one of the county's larger industries. However, agriculture's relative share of the economy has fallen over time as farming and ranching have failed to keep pace with gains in the broader economy.

In recent decades, agricultural employment declined steeply even as farm and ranch personal income increased. Agricultural output (livestock and crops) in the county has expanded over time and recently farm and ranch average earnings have risen, though they remain below overall earnings per job.

There is a high degree of volatility in net farm and ranch business income. This volatility is tied to swings in production costs and commodity prices, which are difficult for producers to control.

V. PROTECTED AREA ECONOMICS

This section summarizes recent research on the economics of protected federal land in the West and is applicable to considering the potential impacts of establishing new protected areas in Malheur County.

The economic role of public land in Oregon and across the West has been a hot button issue for many decades, and the recent recession and ongoing recovery have accentuated the discussion concerning the “best use” of federal land and the level of protection it should enjoy.

Work by Headwaters Economics and many others show that protected public land can be an important driver of economic growth in Oregon and across the West. This land and associated natural amenities provide an economic advantage by attracting people and businesses across a range of sectors critical to the region’s economic future.²⁹

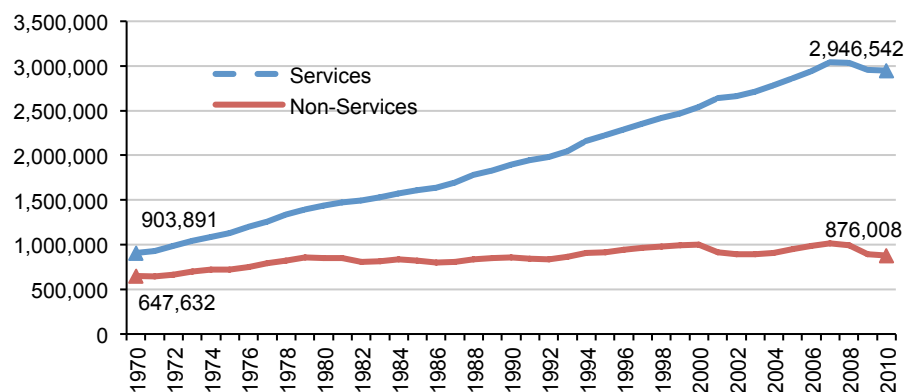
Shifting Economy

The value of protected public land has been enhanced by changes that have occurred during recent decades in the economy of the West. Services industries that employ a wide range of people—from doctors and engineers to teachers and accountants—are driving economic growth and now make up the large majority of jobs, even in rural areas. These changes were discussed briefly in the previous section on Malheur County’s economy and are detailed here for the West.

Across the entire West during the last four decades, services sectors created 19.3 million net new jobs, or almost 100 percent of net new jobs in the West. Non-services sectors as a whole are holding steady from an employment standpoint as the broader economy expands.³⁰

This trend also held in the non-metro West. In these areas, from 1970 to 2010, services sectors created more than two million net new jobs, or nearly 100 percent of net new job growth in the non-metro West. Non-services were roughly flat over this same period.³¹

Services and Non-Services Jobs, Non-Metro West, 1970 to 2010



During the last decade, the leading job creators in the non-metro West were all services sectors, many of them higher-paying. In fact, they are the same industries posting top job gains in the West as a whole. From 2001 to 2010, health care added 78,700 new jobs, real estate 64,948 new jobs, and finance and insurance 46,068 new jobs. By contrast, non-services industries such as manufacturing (-32,607 jobs) and construction (-28,025 jobs) were the leading source of job losses in the non-metro West in the last decade.

In 2010, services sectors as a whole accounted for 64 percent and non-services for 19 percent of total employment in the non-metro West. Government jobs also are important in the region and made up 18 percent of total employment in the same year.³²

At the same time, non-labor income, which consists largely of investment and retirement income, is the fastest-growing source of new personal income for both metro and non-metro counties in the region. From 1970 to 2010, non-labor income in the West grew from \$211 billion to \$1 trillion, in real terms, a 385 percent increase. In 2010, non-labor income represented 35 cents of every dollar of personal income in the West.³³

As a result, some rural economies now look more like their urban counterparts, particularly when they find ways to connect to larger economies or attract parts of these economies. The shift towards services, more “footloose” businesses that operate with fewer location constraints, and the attractiveness of communities in many rural western counties with public land, have changed the economic geography of much of the rural West.

Changing Role of Public Land

Along with these changes to the economy, the economic role of public land has shifted. Today, the natural resources and commodities that can be produced from federal land remain important, but increasingly the value of this public land also is tied to recreation opportunities as well as the natural amenities and scenic backgrounds they provide that help attract people and businesses across a range of sectors.³⁴

Traditional industries will continue to play an important role across the West and in Malheur County, but the efficiencies of agricultural, forestry and wood products manufacturing, and mining enterprises today often mean that expansions of these industries do not lead to higher employment levels. These mature sectors have made significant investments in technology that in turn greatly increase their productivity.

In Oregon, this trend can be seen in wood products manufacturing in recent decades where real output per worker increased while the number of workers declined, and the number of sawmills declined while average output increased.³⁵ And during the last four decades in non-metro Oregon, the same trend is evident in agriculture where farm and ranch employment fell while crop and livestock receipts grew.³⁶

Tourism and recreation sectors also will continue to utilize public land and play a substantial role in the economy, especially in rural communities. In 2012, the Outdoor Industry Association released a national study, *The Outdoor Recreation Economy*, which reviews the broad impact of outdoor recreation, including these highlights: 6.1 million American jobs, \$646 billion in outdoor recreation spending each year, \$39.9 billion in federal tax revenue, and \$39.7 billion in state and local tax revenue. In addition, the report notes that the outdoor recreation industry grew at roughly five percent annually during 2005-2011, while many other industries and sectors struggled during the latest recession.³⁷

In Oregon, outdoor recreation generates \$12.8 billion in consumer spending, 141,000 direct jobs, \$4 billion in annual wages and salaries, and \$955 million in state and local tax revenue.³⁸ The role of travel and tourism in Malheur County is discussed in greater detail in the next section.

While the recreation economy in Oregon and the West remains closely tied to public land, research increasingly shows that outdoor activities are part of a larger amenity, or quality of life, economy related to public land generally and protected public land specifically. Public lands in the West are accessed and enjoyed by the region’s residents at higher rates than in the rest of the country.³⁹ Researchers also have found that public land—including canyons, mountains, wild rivers, and other spectacular natural features—serves as an important attractant to both business owners and retirees.⁴⁰

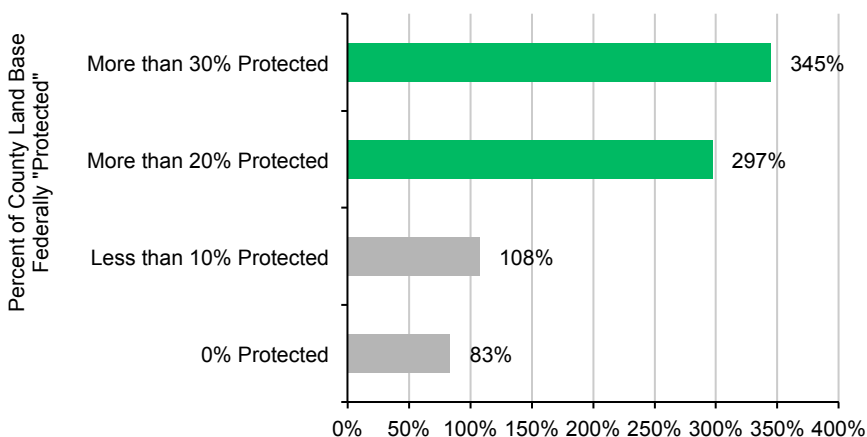
Measuring the Value of Protected Public Land

A large and growing body of research has analyzed the economic role of federal public land and more specifically the economic role of protected federal public land. The research shows that communities and counties with protected public land generally outperform those without protected public land in economic performance measures.⁴¹

Recent research by Headwaters Economics found that for the non-metro West there are important employment and personal income benefits associated with the presence in a county of protected federal public land.

From 1970 to 2010, western non-metro counties with more than 30 percent of the county's land base in protected federal status increased jobs by 345 percent. As the share of federal land in protected status goes down, the rate of job growth declines as well. Non-metro counties with no protected federal land increased jobs by 83 percent. In other words, western non-metro counties with significant protected federal land added jobs more than four times faster than peers without protected federal land.⁴²

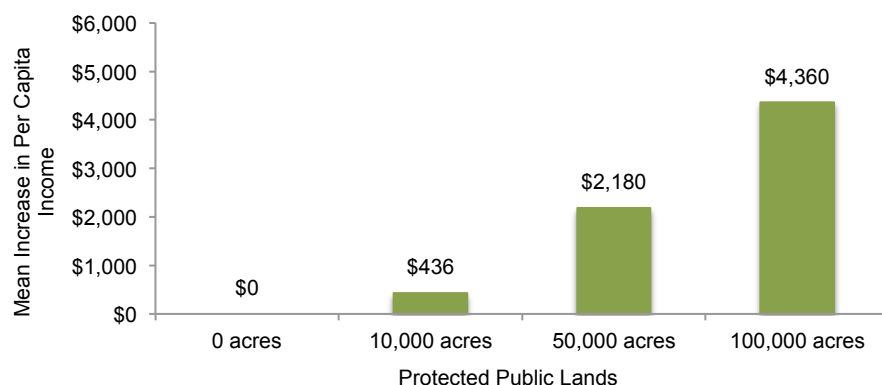
Employment Percent Change, Non-Metro West, 1970 to 2010



There is also evidence that people are better off economically when they live near protected public land. In addition to employment benefits, there are personal income rewards—in particular, higher per capita income.

Looking at the West's 286 non-metro-counties, a statistical analysis found a meaningful relationship between the amount of protected public land and higher per capita income levels in 2010. On average, for every gain of 10,000 acres of protected public land, per capita income in 2010 increased by \$436. In other words, if counties A & B were identical in every way, but county A had 50,000 acres of protected public land and county B had none, one would expect income in county A to be \$2180 higher per person.⁴³

Avg. Increase in Per Capita Income from Protected Public Acreage, Non-Metro West, 2010



The chart above shows four scenarios, ranging from 0 to 100,000 acres of protected public land in non-metro western counties. The increase in per capita income explained by protected public land ranges from \$0 to \$4,360. So, for example, a non-metro western county with 100,000 acres of protected public land will have on average a per capita income that is \$4,360 higher than a county with no protected public land. To put this premium in perspective, the average per capita income for all non-metro western counties was \$38,687 in 2010.⁴⁴

Our research and that of others show that protected public land is a competitive economic advantage in the West, supporting faster rates of job growth and higher levels of per capita income. These benefits should increase as the region, including non-metro counties, continues to shift toward a services economy.

Challenges for Rural Communities

Environmental amenities are not the only element needed for economic success and an emerging literature has established a more complex picture of the links between natural amenities and other drivers of growth.⁴⁵ For example, recent studies have shown that it is easier to capitalize on environmental amenities if the local economy also has access to larger markets, especially via air travel.⁴⁶

The structural shift in the economy towards a primarily services-based economy also underscores the importance of education. If almost all new jobs are in services industries, one key to economic success, and what will differentiate one county from another, is the ability to capture the relatively higher-wage component of services industries. According to analysis by the Bureau of Labor Statistics, jobs that are projected to be in highest demand and are growing the fastest also require a college degree. These sectors pay well and include the fields of health care and education, and occupations in management, engineering, and business and financial services.⁴⁷

Summary

Research on the economic role of protected public land in the West, including the non-metro West, shows that this land can be an important economic asset that attracts people and business. Western counties with National Parks, Monuments, or other permanent protections on federal land support above average rates of job growth and are correlated with higher levels of per capita income.

The economy of the West has changed dramatically in recent decades. Services industries that employ people in a wide range of occupations—from doctors and engineers to teachers and accountants—are driving economic growth and now make up the large majority of jobs in both metro and non-metro areas. At the same time, non-labor income, which consists largely of investment and retirement income, is the largest and fastest-growing source of new personal income in the region.

Along with these broad changes, the economic role of public land in the West has shifted. Natural resources and commodities associated with federal land will remain important, but increasingly the value of this public land also is tied to recreation opportunities as well as the natural amenities and scenic backgrounds they provide that help attract people and businesses across a range of sectors.

The region's wide-open spaces, mountains, canyons, rivers, and other spectacular natural features set communities in the West apart from the rest of the country. These places enjoy benefits that can be measured directly. From 1970 to 2010, western non-metro counties with more than 30 percent of the county's land base in protected federal status increased jobs by 345 percent—more than four times faster than western non-metro counties with no protected federal land.

There is also a meaningful relationship between the amount of protected public land and higher per capita income levels. On average in 2010, for every gain of 10,000 acres of protected public land in a western non-metro county, per capita income increased by \$436.

These employment and income benefits should increase as the West, including non-metro counties, continues to shift toward a services economy.

Environmental amenities are not the only element needed for economic success, and other factors such as access to markets and education levels remain important.

Malheur County is relatively close to a major metropolitan area in Boise and has a large inventory of scenic public land. These attributes suggest the possibility of a more promising economic trajectory if economic development efforts focus on these assets, including the chance to protect public land in a way that preserves what is unique while also establishing new branding and access for recreation.

How Malheur County utilizes these advantages—through the combination of local leadership, investments, and policy decisions concerning land management—will play a significant role in determining its economic future and prosperity.

VI. PEER ANALYSIS

While the rural West as a whole is experiencing competitive pressures similar to those in Malheur County, every region has distinct opportunities at its disposal. One way to explore how similar counties are taking advantage of protected federal land is to examine the economies of peers to Malheur County.

This section looks at counties in the West like Malheur County that have significant protected federal designations in order to investigate whether these protected area peers point to a more favorable economic trajectory for southeast Oregon.

Based on the scale of the opportunity to protect federal land in Malheur County and defining characteristics of the county, we identified peers from across the West. We looked at small population counties with significant protected federal land that are not directly adjacent to commercially viable airports and whose land cover is largely made up of grassland and shrubland. Specific criteria are shown below.

Counties included meet the following criteria:

1. Population in 2010 < 35,000 (to capture similar scale rural places)
2. Protected federal acres > 500,000 (to capture significant protected federal areas on par with the opportunity in Malheur)
3. Travel time > 45 minutes to commercial airports (to capture level of remoteness from larger population centers and markets)
4. Less than 50 percent of land cover forested (to capture a similar grassland/shrubland landscape)

It is important to note that among peers there is a wide range of travel times to commercial airports. The average travel time from peer county population centers with greater than five percent of the county's population to the nearest commercial airport ranges from 0.9 hours in Park County, MT to 4.6 hours in San Juan County, UT. For comparison, in Malheur County the main population centers are on average a 1.2-hour drive from Boise Airport.⁴⁸

These criteria yield the following 11 western counties in six states (shown alphabetically by state):

1. Inyo County, CA
2. Custer County, ID
3. Owyhee County, ID
4. Park County, MT
5. Harney County, OR
6. Wallowa County, OR
7. Humboldt County, NV
8. Lincoln County, NV
9. Garfield County, UT
10. Kane County, UT
11. San Juan County, UT

The table on the next page shows the major protected areas and total protected acreage for these 11 peers.

Peer Counties, Total Acres Protected, and Major Protected Areas

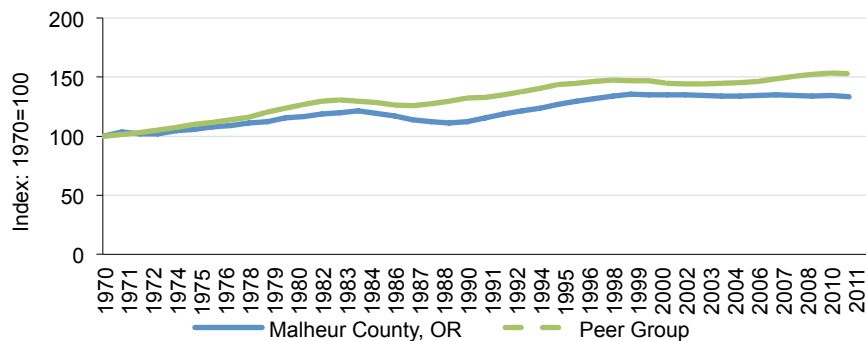
Peers	Total Acres Protected	Major Protected Areas (> 100,000 Acres)
Inyo, CA	4,342,859	Death Valley National Park John Muir Wilderness Inyo Mountains Wilderness Nopah Range Wilderness
Custer, ID	620,595	Frank Church-River Of No Return Wilderness BLM NLCS Wilderness
Owyhee, ID	737,033	Owyhee River Wilderness Morley Nelson Snake River Birds of Prey National Conservation Area
Park, MT	607,623	Absaroka Beartooth Wilderness Area
Humboldt, NV	1,224,234	Charles Sheldon National Wildlife Refuge Black Rock Desert Wilderness Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area
Lincoln, NV	1,711,217	Desert National Wildlife Range Mormon Mountains Wilderness Meadow Valley Range Wilderness Delamar Mountains Wilderness
Harney, OR	493,707	Steens Mountain Wilderness Malheur National Wildlife Refuge
Wallowa, OR	491,441	Eagle Cap Wilderness Hells Canyon Wilderness
Garfield, UT	1,041,293	Glen Canyon National Recreation Area Grand Staircase-Escalante National Monument
Kane, UT	1,763,643	Glen Canyon National Recreation Area Grand Staircase-Escalante National Monument
San Juan, UT	973,007	Glen Canyon National Recreation Area Canyonlands National Park Grand Gulch Complex Cedar Mesa Area of Critical Environmental Concern

Growth Measures

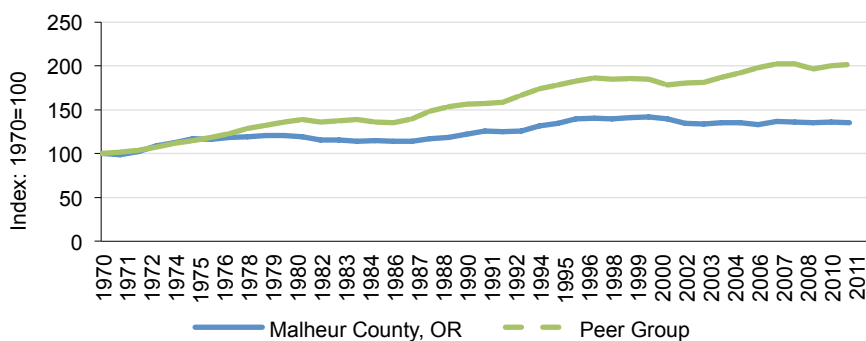
We first look at well-accepted measures of economic growth—population, employment, and real personal income—to compare the performance of Malheur County to the protected area peer group as a whole.

Finding: From 1970 to 2011, the protected area peers as a group grew faster than Malheur County in terms of population (20% more growth), employment (67% more growth), and real personal income (85% more growth).⁴⁹

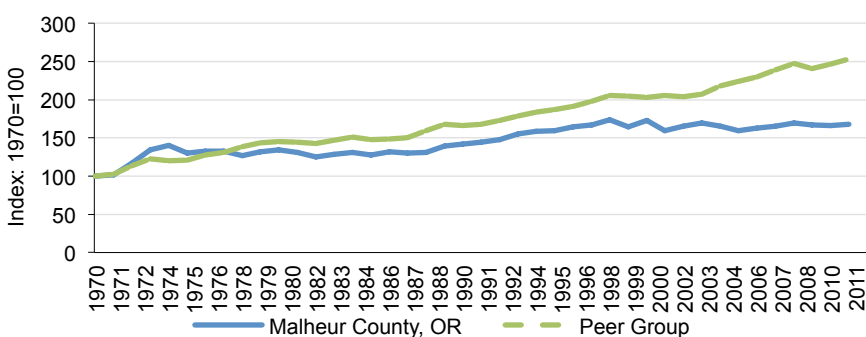
Population, Malheur County vs. Peer Group, 1970-2011



Employment, Malheur County vs. Peer Group, 1970-2011

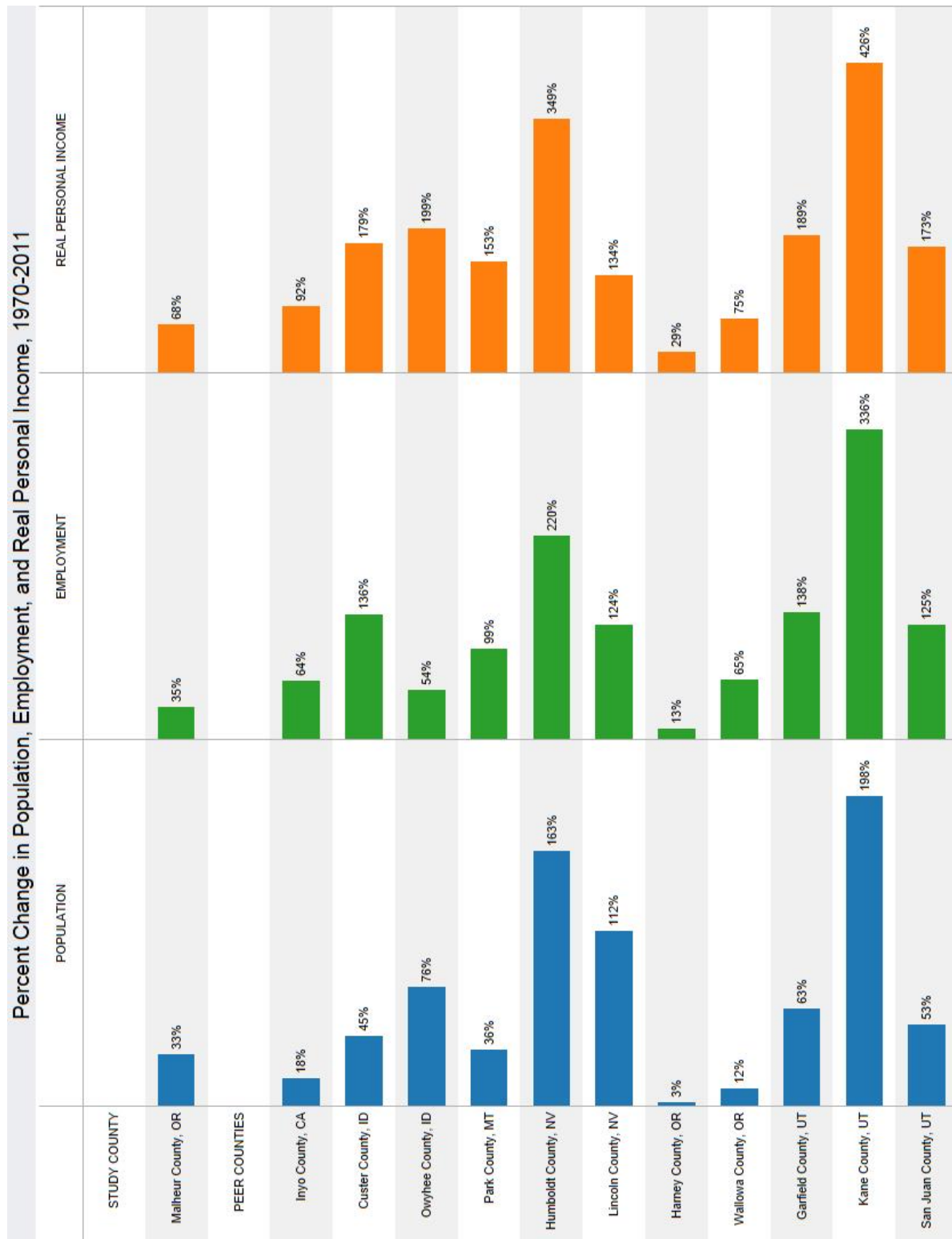


Real Personal Income, Malheur County vs. Peer Group, 1970-2011



We next explore how Malheur County compares to individual protected area peer counties using the same growth measures and time period.

Finding: Malheur County is among the poorest overall performers in this group of protected area counties using standard measures of economic growth.⁵⁰



The only county that consistently performs more poorly than Malheur County is Harney County, its neighbor to the west. Harney County has faced a number of challenges that may explain its poor growth performance: a population base and economy that is about four times smaller; a much more remote location; a significant decline in manufacturing, including wood products manufacturing; and, in the last decade, a net loss of government employment.

Two peers—Kane County, Utah and Humboldt County, Nevada—stand out as particularly strong growth performers.

Kane County is home to the majority of the Grand Staircase-Escalante National Monument and its county seat, Kanab, is the southern gateway to this National Monument. Kane County has a population base and economy that is similar in size to Harney County's, but it has been able to overcome the challenges of size with strong in-migration; expanding services sectors, including accommodation and food services, finance and insurance, real estate, and professional and technical services; growing government employment; and increases in non-labor sources of personal income. In 2011, Kane County travel and tourism related industries made up 32 percent of total private employment—double the amount for Malheur County.⁵¹

Humboldt County has a population and economy about half the size of Malheur County's. Growth has been driven largely by the mining industry. The 1980s and 2000s were characterized by explosive growth in mineral mining employment and personal income, in stark contrast to the 1990s, which saw a devastating decline in mining employment and personal income. The county, home to the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area, also promotes travel and tourism activity, and these sectors made up 16 percent of total private employment in 2011, roughly comparable to Malheur County.⁵²

Despite better access to a significant commercial airport than all but two protected area peers, Malheur County has not taken advantage of this desirable condition to achieve more robust growth.

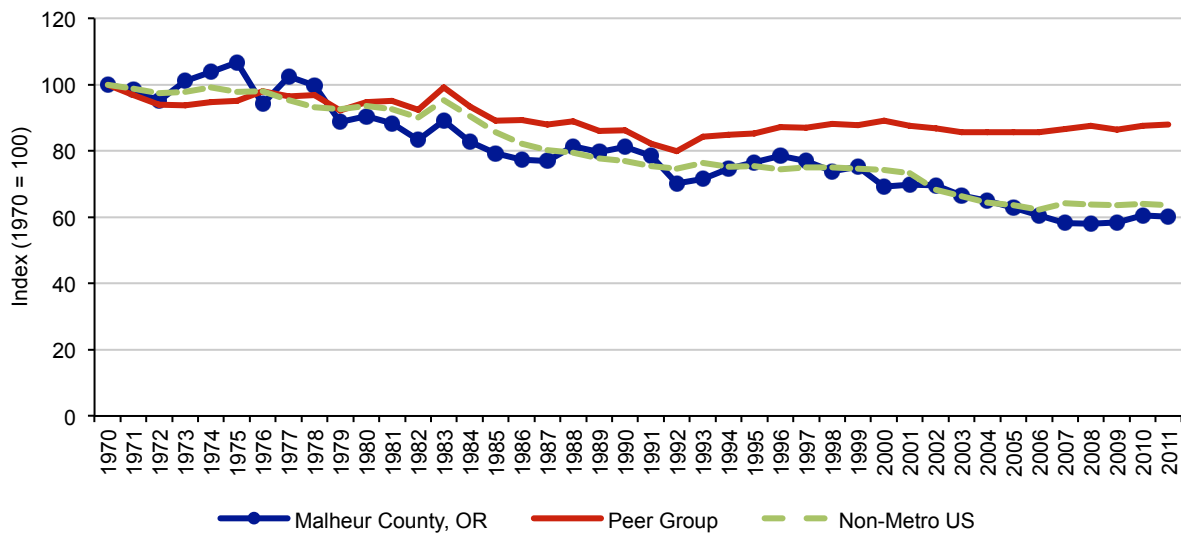
Agricultural Measures

We now turn to the performance of the agricultural economy and compare farm and ranch employment trends in Malheur County to the protected area peers as a group and individually.

Finding: During the last four decades, Malheur County lost a larger share of its farm and ranch employment than all of the protected area peer counties, while the peer group as a whole sustained agricultural employment better than the non-metro portion of the United States.⁵³

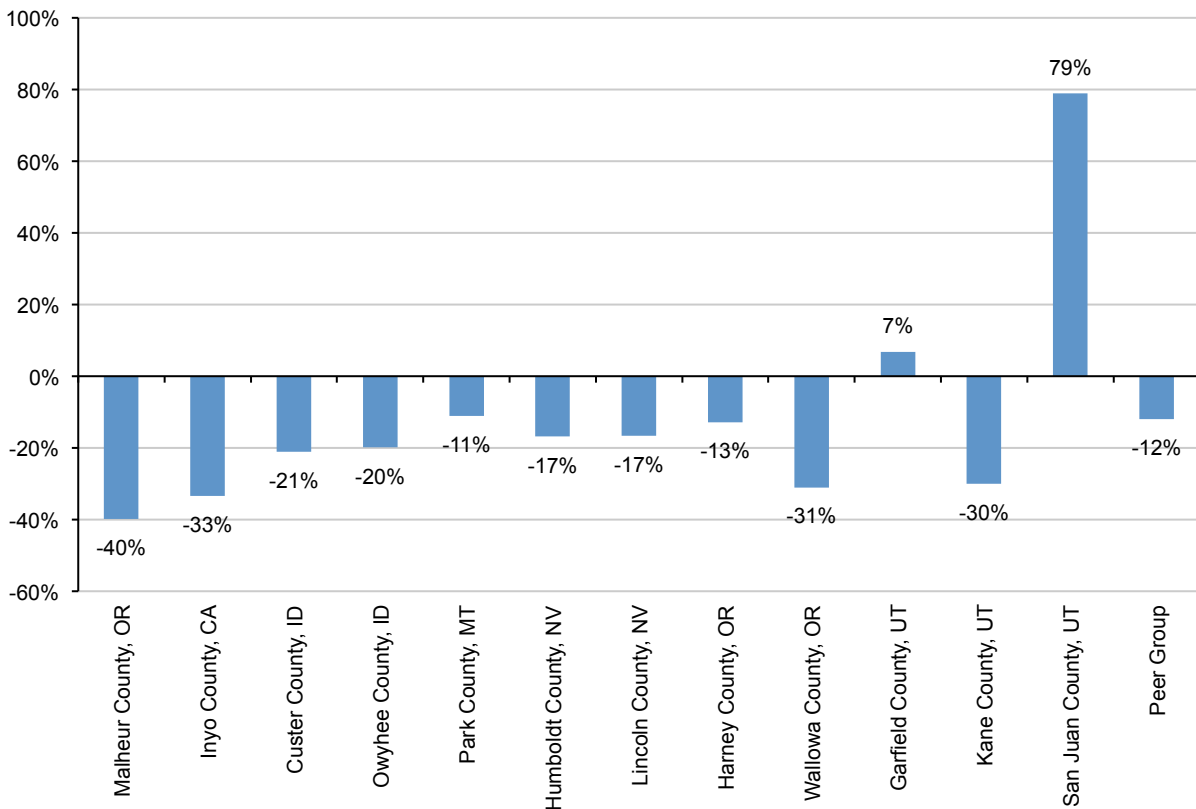
From 1970 to 2011, Malheur County's rate of farm and ranch employment declined faster than that of the protected area peer group as a whole and the non-metro portion of the United States. The protected area peer group outperformed the non-metro United States. Malheur County's agricultural employment fell by 40 percent, while the peer group fell by 11 percent and the non-metro United States fell by 36 percent during this time period.

Farm Job Trends, 1970 to 2011



Looking at farm and ranch employment trends at the county level from 1970 to 2011, Malheur County experienced a faster rate of agricultural employment loss (-40%) than any of the peer counties. Among peers, San Juan County, Utah had the fastest rate of farm and ranch job growth (+79%) and Inyo County, California had the fastest rate of farm and ranch job decline (-33%) during this time period.

Percent Change in Farm Jobs, 1970-2011



Using long-term farm and ranch employment trends as a measure, there is no evidence to suggest protecting federal land leads to poorer agricultural economic performance. In fact, the peer counties with protected federal land have sustained farm and ranch employment levels better than both Malheur County and the non-metro portion of the United States.

Qualitative Measures

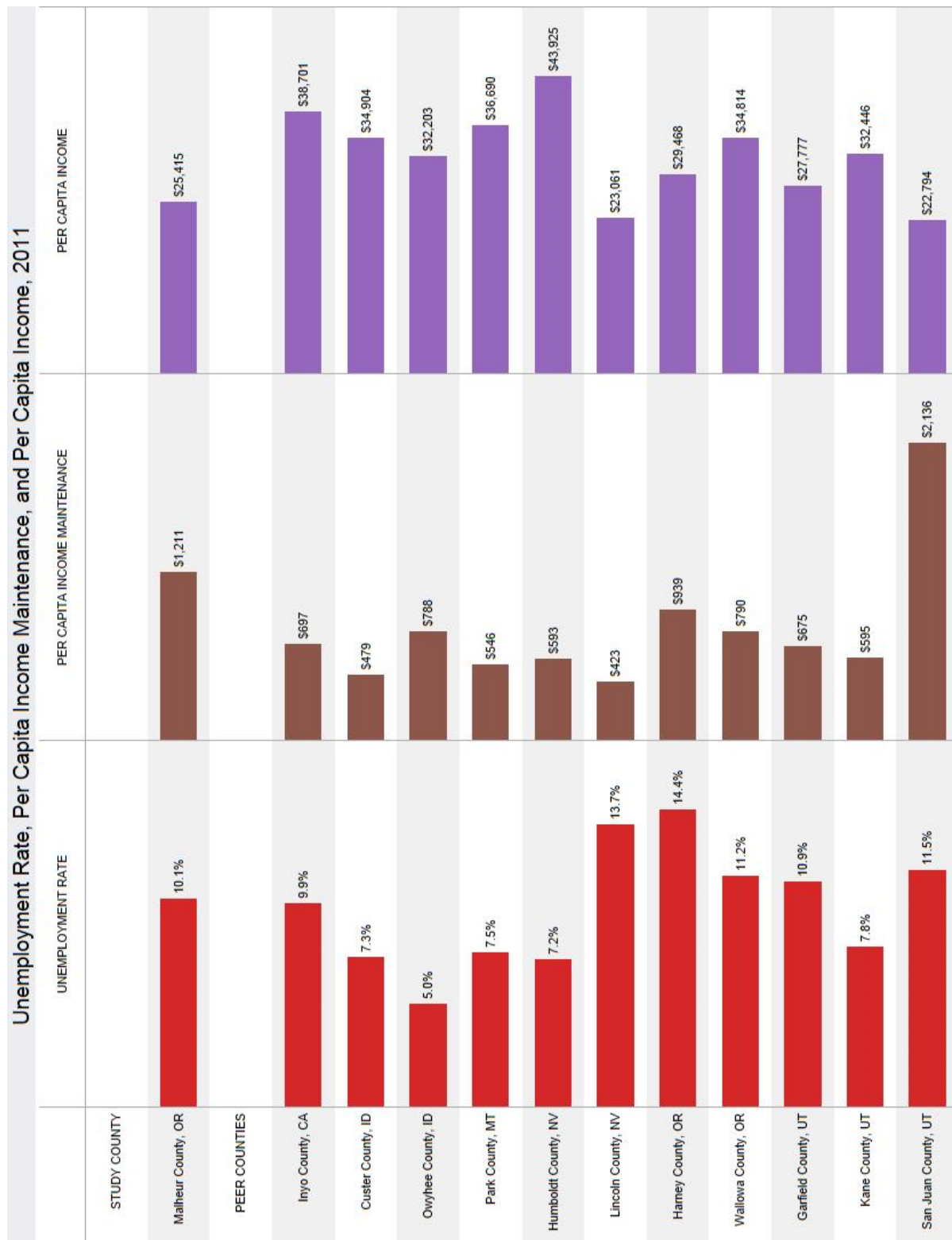
We next turn to qualitative indicators of economic performance to explore financial stress and well-being. We use unemployment rate, per capita income maintenance, and per capita income in 2011 as measures.⁵⁴

The unemployment rate is the number of people who are jobless, looking for jobs, and available for work, divided by the labor force.

Per capita income maintenance is a measure of government support to alleviate economic hardship. It consists largely of supplemental security income payments, family assistance, food stamp payments, and other assistance payments, including general assistance.

Per capita income is a measure of income per person. Unlike earnings per job, it is a measure of income for the entire population and includes non-labor sources of income.

Finding: Malheur County performs slightly better in qualitative measures, but it is never a top performer compared to the protected area peers.⁵⁵



On *unemployment*, Malheur County performs better (10.1% in 2011) than five of the 12 peers. Owyhee County has the lowest unemployment rate among the peer counties. This is likely the case because farm and manufacturing sectors in the county did not lose significant jobs in the last decade, while proximity to the greater Boise area economy continued to offer employment opportunities for residents. In addition, travel and tourism related jobs increased over the last decade, outpacing overall employment growth. It is not clear whether this activity is related to the Morley Nelson Snake River Birds of Prey National Conservation Area or Owyhee River Wilderness.

Two peers stand out with the worst unemployment rates in 2011: Harney County, Oregon and Lincoln County, Nevada. Harney County's challenges are spelled out above, but it is worth reiterating the difficulty communities have replacing lost manufacturing employment, as this sector shrank from a combination of changing public values, competitive pressures, and technological efficiencies. In contrast, Lincoln County to the north of Las Vegas found itself vulnerable to the economic contraction that hit the country's fastest-growing cities following the collapse of the finance, real estate, and construction bubble in the late 2000s. These two counties represent cautionary tales. In the first case, a failing resource economy that struggled to adapt its core resource sectors to competitive shifts or foster growth in regionally expanding services industries. In the other case, a county at the margins of a bubble economy was exposed, due to smaller size and lack of economic diversity, to the fallout of speculative fervor.

On *per capita income maintenance*, Malheur County performs better (\$1,211 in 2011) than San Juan County, Utah but more poorly than the rest of the peer counties. San Juan County's much higher welfare rate is largely, and unfortunately, related to the sizeable portion of the county's population, nearly half, that is Native American—the Navajo Nation extends into southern San Juan County. Beyond this example, Malheur County has higher per capita income maintenance than the rest of the protected area peers, and in half the cases more than twice as much income maintenance per person.

On *per capita income*, Malheur County performs near the bottom (\$25,415 in 2011) of peer counties. Only Lincoln County, Nevada and San Juan County, Utah had lower per capita income. In Lincoln County's case, this is likely due to a predominance of lower-paying services occupations, while in San Juan County's case it may be due to economic hardships associated with the Navajo Nation.

The two peers with the highest per capita income are Humboldt County, Nevada and Inyo County, California. The size of Humboldt County's mining sector and its higher wages explain higher income levels in this county. In Inyo County, an unusually large share of higher-paying government jobs account for higher income levels. Most other protected area peers with higher per capita income have more successfully created higher-paying services jobs and captured non-labor sources of personal income.

Travel and Tourism Measures

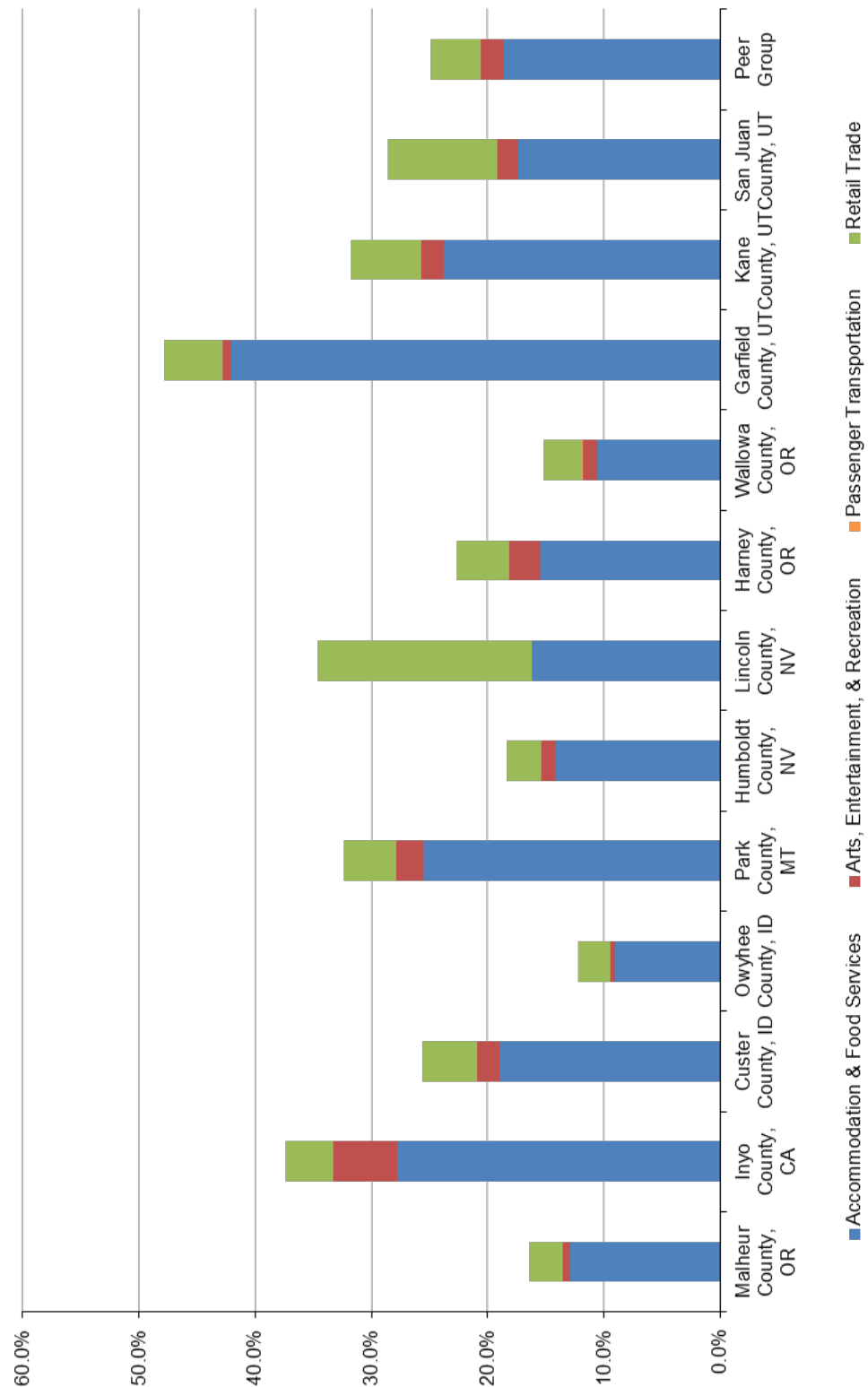
Since protected federal land attracts people and businesses interested in outdoor recreation, it is useful to see how Malheur County compares to its protected area peers in the share of private employment associated with travel and tourism related sectors.

A larger travel and tourism sector is not by itself a good thing, but these industries represent potential economic growth opportunities for Malheur County if new land protections are enacted. Beyond the prospect of expanding travel and tourism sectors, it is also possible to attract younger people and businesses across a wider range of sectors through visitation for recreation purposes.⁵⁶

The industries we use to describe travel and tourism related sectors are: retail trade; passenger transportation; arts, entertainment, and recreation; and accommodation and food.⁵⁷

Finding: Malheur County is at the lower end of its peers with protected areas with 16 percent of total private jobs in travel and tourism related sectors in 2010.⁵⁸

Percent of Total Private Employment, Travel and Tourism Related Industries, 2010



Only Owyhee County, Idaho (12%) and Wallowa County, Oregon (15%) have a smaller share of private employment in travel and tourism related sectors. The principal protective designations in these counties (Owyhee River Wilderness in Owyhee County and Eagle Cap Wilderness in Wallowa County) are rugged and remote landscapes without significant visitor infrastructure.

Some counties, such as Garfield County, Utah (37%) and Inyo County, California (48%), have significantly more travel and tourism related employment. Garfield County is home to less than half of the Grand Staircase-Escalante National Monument, and Inyo County encompasses Death Valley National Park and 22 Wilderness areas, including the popular John Muir Wilderness.

Some of the advantages of officially protected federal lands—as opposed to less prominent and temporary designations like Wilderness Study Areas or other pristine lands—are the brand recognition these designations have, their placement on all major online and print maps, and in some cases enhanced access and visitor infrastructure.

National Parks are widely recognized to have the best brand from a travel and tourism standpoint. Many of our nation’s most iconic landscapes are protected and managed for visitor activity as National Parks.⁵⁹

National Recreation Areas are specifically created to enhance recreation opportunities. A number of National Recreation Areas, even when adjacent to National Parks, attract greater visitation and have larger economic impacts on local economies than nearby National Parks.⁶⁰

National Monuments and National Conservation Areas, often with Wilderness as a component of these designations, also stimulate recreational activity and are closely associated with growing rural western economies. Our analysis of the economic performance of all significant National Monuments in the West created since the early 1980s found, in every case, that trends in important economic indicators—such as population, employment, personal income, and per capita income growth—either continued or improved in each of the regions surrounding the National Monuments after designation.⁶¹

Summary

Malheur County is among the poorest overall performers compared to protected area peers according to standard measures of long-term economic growth. This is the case despite better transportation access to larger population centers and markets than all but two peers.

In addition, Malheur County lost a larger share of its farm and ranch employment than all of the protected area peer counties, while the peer group as a whole sustained agricultural employment better than the non-metro portion of the United States during the last four decades.

Malheur County performs slightly better in qualitative indicators that gauge financial stress and well-being, but the county is never a top performer compared to protected area peers.

Finally, Malheur County has a smaller share of its overall private employment in travel and tourism related sectors than all but two protected area peers.

The peer comparison data do not support a cause and effect relationship between the presence of protected areas in peer counties and stronger economic performance. However, the data do show that peer counties with permanent federal land protections on average grow faster, sustain agricultural employment better, have less economic hardship, and benefit from travel and tourism business activity at rates higher than Malheur County.

This comparison to peer counties mirrors the broader body of research and analysis that points to the advantages of protected areas for non-metro counties in the West. These benefits include faster economic growth, higher income levels, increased travel and tourism activity, and visitation that leads to the attraction of people and business across a range of business sectors.

VII. REFERENCES

- ¹ Using this travel time threshold eliminates places that are directly adjacent to metropolitan areas or commercial airports from consideration. Malheur County's population centers with > 5% of the county's population are on average a 1.2 hour drive from Boise Airport. Among peers selected here, the average travel time from population centers to commercial airports varies significantly. Travel times are listed here from shortest to longest: Park County, MT 0.9 hours; Owyhee County, ID, 1.0 hours; Kane County, UT 2.1 hours; Humboldt County, NV 2.6 hours; Lincoln County, NV 2.8 hours; Wallowa County, OR 3.0 hours; Garfield County, UT 3.4 hours; Harney County, OR 3.7 hours; Custer County, ID 3.8 hours; Inyo County, CA 4.6 hours; and San Juan County, UT 4.6 hours.
- ² U.S. Geological Survey, Gap Analysis Program. 2012. Protected Areas Database of the United States (PADUS) version 1.3. U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA30.
- ³ U.S. Department of Commerce. 2012. Census Bureau, Population Division, Washington, D.C. Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2011.
- ⁴ <http://www.landsoforegon.com/County-Data-For-Malheur-County-Oregon>.
- ⁵ <http://www.timetemperature.com/us-county-or/malheur-county-oregon.shtml>.
- ⁶ U.S. Geological Survey, Gap Analysis Program. 2012. Protected Areas Database of the United States (PADUS) version 1.3.
- ⁷ NASA MODIS Land Cover Type Yearly L3 Global 1km MOD12Q1, 2006.
- ⁸ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA30. Non-metropolitan counties are counties that do not have an urbanized area of 50,000 or more in population. U.S. Department of Commerce. 2008. Census Bureau, Population Division, Washington, D.C.
- ⁹ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA30; U.S. Department of Commerce. 2012. Census Bureau, Population Division, Washington, D.C.
- ¹⁰ U.S. Department of Commerce. 2012. Census Bureau, American Community Survey Office, Washington, D.C.
- ¹¹ U.S. Department of Commerce. 2012. Census Bureau, American Community Survey Office, Washington, D.C.; U.S. Department of Commerce. 2000. Census Bureau, Systems Support Division, Washington, D.C. The data in this bar chart are calculated by ACS using annual surveys conducted during 2007-2011 and are representative of average characteristics during this period.
- ¹² U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA30.
- ¹³ Ibid.
- ¹⁴ For more details on the switch from SIC to NAICS, including where they are and are not compatible, see: <http://bls.gov/bls/NAICS.htm>.
- ¹⁵ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA25.
- ¹⁶ Ibid.
- ¹⁷ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA25N.
- ¹⁸ Ibid.
- ¹⁹ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA30.
- ²⁰ U.S. Department of Labor. 2012. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.
- ²¹ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05 & CA05N.
- ²² U.S. Department of Agriculture. 2009. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C., Table 8.
- ²³ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA25 & CA25N. There was likely additional related employment in "forestry, fishing, and related activities," which includes "agricultural support" such as soil preparation, planting, harvesting, and management on a contract or fee basis, but these jobs were small enough that the U.S. Department of Commerce does not disclose the actual number for Malheur County. More significant may be "food manufacturing," a subset of manufacturing, which includes sectors that "transform livestock and agricultural products into products for intermediate or final consumption." In Malheur County, manufacturing employed 997 people in 2011. It not possible to determine how many of these work in food manufacturing. For details on NAICS industry codes, see: <http://www.census.gov/eos/www/naics/index.html>.
- ²⁴ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05 & CA05N.

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- ²⁵ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA25 & CA25N; U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05 & CA05N.
- ²⁶ U.S. Department of Labor. 2012. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.
- ²⁷ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA45.
- ²⁸ Ibid.
- ²⁹ See, for example, literature cited here: <http://headwaterseconomics.org/land/reports/protected-lands-value/>.
- ³⁰ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA25 and CA25N. For a recent, detailed description of changes to the broader western economy, why the West outperforms the rest of the country, and the economic role of public land, see Headwaters Economics, "West Is Best: How Public Lands in the West Create a Competitive Economic Advantage," available at: <http://headwaterseconomics.org/land/west-is-best-value-of-public-lands>.
- ³¹ Ibid.
- ³² U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA25N. Because this employment aggregation consists of county-level data, some underlying values at the industry level have been withheld by the U.S. Department of Commerce in accordance with federal data reporting guidelines and totals do not add to 100%.
- ³³ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA30.
- ³⁴ Travis W.R. 2007. "New Geographies of the American West: Land Use and the Changing Patterns of Place." Washington, D.C.: Island Press. McGranahan, D.A. 1999. "Natural Amenities Drive Rural Population Change." Agricultural Economic Report No. (AER781) 32 pp. Frey, W.H. 2006. "America's Regional Demographics in the '00 Decade: The Role of Seniors, Boomers and New Minorities." The Brookings Institution, Washington, D.C. Vias, A. C. 1999. "Jobs Follow People in the Rural Rocky Mountain West." Rural Development Perspectives, 14(2), 14–23.
- ³⁵ Oregon Office of Economic Analysis. See: <http://oregoneconomicanalysis.wordpress.com/>.
- ³⁶ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA25 & CA25N & CA45.
- ³⁷ Outdoor Industry Foundation. 2012. "The Outdoor Recreation Economy: Take it Outside for American Jobs and a Strong Economy." And Oregon report: http://www.outdoorindustry.org/images/ore_reports/OR-oregon-outdoorrecreationeconomy-oia.pdf.
- ³⁸ Ibid.
- ³⁹ See, for example, Outdoor Foundation, Outdoor Recreation Participation Report 2012, available at: http://www.outdoorindustry.org/images/researchfiles/OIA_OutdoorRecreationParticipationReport2012.pdf?170.
- ⁴⁰ Winkler R., D.R. Field, A.E. Lulogg, R.S. Krannich and T. Williams 2007. "Social Landscapes of the Inter-Mountain West: a Comparison of 'Old West' and 'New West' communities." Rural Sociology 72 (3): 478-501. McGranahan, David A., Timothy R. Wojan, Dayton M. Lambert, "The rural growth trifecta: outdoor amenities, creative class and entrepreneurial context," Journal of Economic Geography. May 17, 2010.
- ⁴¹ For resources on this topic, see: http://headwaterseconomics.org/wphw/wp-content/uploads/Annotated_Bib_Value_Public_Lands.pdf.
- ⁴² See above references for protected public land and metro/non-metro definitions. Employment data are from: U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA30.
- ⁴³ See: <http://headwaterseconomics.org/land/protected-public-lands-increase-per-capita-income/>; and "The Effect of Protected Federal Lands on Economic Prosperity in the Non-Metropolitan West," available at: http://headwaterseconomics.org/wphw/wp-content/uploads/TechnicalReport_ProtectedLands_Prosperty_2012.pdf.
- ⁴⁴ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA30.
- ⁴⁵ Deller et al. 2001. Green, G.P., S.C. Deller, D.W. Marcouiller, eds. 2005. "Amenities and Rural Development: Theory, Methods, and Public Policy." Cheltenham, U.K.: Edward Elgar Publishing. Gude et al. 2006. Rasker, R., P.H. Gude, J.A. Gude, J. van den Noort. 2009. "The Economic Importance of Air Travel in High-Amenity Rural Areas." Journal of Rural Studies 25(2009): 343-353. Rasker, R., P.H. Gude, M. Delorey. 2013. In Review. "The Effect of Protected Federal Lands on Economic Prosperity in the Non-Metropolitan West." Journal of Regional Analysis and Policy.
- ⁴⁶ Rasker, R., P.H. Gude, J.A. Gude, J. van den Noort. 2009. "The Economic Importance of Air Travel in High-Amenity Rural Areas." Journal of Rural Studies 25(2009): 343-353.
- ⁴⁷ Liming D. and M. Wolf 2008. "Job Outlook by Education, 2006-16." Occupational Outlook Quarterly Fall: 2-29.
- ⁴⁸ Travel times for peers are listed here from shortest to longest: Park County, MT 0.9 hours; Owyhee County, ID, 1.0 hours; Kane County, UT 2.1 hours; Humboldt County, NV 2.6 hours; Lincoln County, NV 2.8 hours; Wallowa County,

OR 3.0 hours; Garfield County, UT 3.4 hours; Harney County, OR 3.7 hours; Custer County, ID 3.8 hours; Inyo County, CA 4.6 hours; and San Juan County, UT 4.6 hours.

⁴⁹ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA30.

⁵⁰ Ibid.

⁵¹ U.S. Department of Commerce. 2012. Census Bureau, County Business Patterns, Washington, D.C.

⁵² Ibid.

⁵³ U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA25 & CA25N.

⁵⁴ Definitions are available here: http://www.bls.gov/cps/cps_htgm.htm and <http://www.bea.gov/regional/definitions>.

⁵⁵ U.S. Department of Labor. 2012. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C.; U.S. Department of Commerce. 2012. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05N & CA35 & CA30.

⁵⁶ Snepenger D., J. Johnson and R. Rasker. 1994. "Travel Stimulated Entrepreneurial Migration." *Journal of Travel Research*. Vol. 34(1): 40-44.

⁵⁷ These industries provide goods and services to visitors to the local economy, as well as to the local population. It is not known, without additional research such as surveys, what exact proportion of the jobs in these sectors is attributable to expenditures by visitors, including business and pleasure travelers, versus by local residents. For more information on the definition of travel and tourism, see: Marcouiller, D.W. and X. Xia. 2008. "Distribution of Income from Tourism-Sensitive Employment." *Tourism Economics*. 14(3): 545-565.

⁵⁸ U.S. Department of Commerce. 2012. Census Bureau, County Business Patterns, Washington, D.C.

⁵⁹ To view an interactive display of visitor impacts at all National Park Service units in the country, see: <http://headwaterseconomics.org/apps-public/nps/impacts>.

⁶⁰ To see a recent analysis that includes National Recreation Area economic contributions, see: http://headwaterseconomics.org/wphw/wp-content/uploads/Maine_Peer_Report.pdf.

⁶¹ To explore, the economic impact of National Monuments, see: <http://headwaterseconomics.org/interactive/national-monuments>.