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INTRODUCTION

The relationship between the Shoshone National Forest and the local economy and lifestyle in the surrounding region is highly integrated and complex. Outdoor recreation, tourism, livestock grazing and timber are all important aspects of the Shoshone National Forest to the surrounding region. This report examines the present economic conditions and forecasts for the counties that both influence and are influenced by the Shoshone National Forest.

The Shoshone National Forest's 2.4 million acres is located in portions of five Wyoming counties including: Fremont (845,747 acres), Hot Springs (54,386 acres), Park (1,524,707 acres), Sublette (9,697 acres), and Teton (2,682 acres). Due to the small amount of the Forest located in Teton and Sublette, only Fremont, Hot Springs, and Park were considered in the analysis.

This report is separated into a main report with three sections – Demographics, Economics, and Local Governments. Following the main report are three industry reports – Travel, Livestock Grazing, and Timber. Following the three industry reports is a section on the economic impact of non-labor income and a summary of the economic impact of the SNF on the region's economy. Most dollar amounts in the report are expressed in 2009 dollars, except where noted in the tables.

DEMOGRAPHICS

Population

The population of the three-county region has generally been increasing over time. The region's population increased by 8 percent from 1990 to 2000 (Table 1). The fastest growing county was Park which increased by 11 percent. The slowest growing county was Hot Springs which increased by less than two percent. Between 1990 and 2000 the population of Fremont County increased by over 6 percent. Population growth in the region was fairly modest compared to the national rate of 13 percent between 1990 and 2000. The region's population growth rate was, however, comparable to that for Wyoming (9 percent) during this time period. Wyoming ranked 32nd in population growth in the country between 1990 and 2000.

Region's population increased by 10 percent from 2000 to 2010 (Table 1). Fremont County was the fastest growing county at 12 percent, followed by Park County at 9 percent. Hot Springs County was estimated to have lost more than one percent of its population between 2000 and 2010. Population growth in the region was similar to the national rate between 2000 and 2010 (10 percent). The region's population growth rate was relatively modest comparable to that for Wyoming (14 percent). Wyoming ranked 12th in the country in population growth between 2000 and 2010. On an annual basis the region's average population growth rate increased from 0.8 percent per year between 1990 and 2000 to 1.0 percent per year from 2000 to 2010.

The region's population is forecasted to increase by more than 18 percent between 2010 and 2040 (Table 1). Fremont County is projected to grow the most at 22 percent, followed by Park County at 15 percent. The population of Hot Springs County is projected to increase by 5 percent between 2010 and 2040. Population growth for the region is forecast to lag behind the growth rate for the state (29%) and the nation (31%) during the time period. On an annual basis the region's average population growth rate is projected to be 0.6 percent per year from 2010 to 2040.

Population is an important variable because the ability to attract and retain individuals to live and work is critical to the survival of a community and its economy. Population statistics only account for permanent residents. However, seasonal workers, who are often missed in the April census count and second home owners who are not counted, are temporary residents that are also important to the local economy.

Table 2 focuses on the portion of the region's population that is retirement age (i.e. 65 & over). Historically, all three counties in the region have tended to have populations that are older than either Wyoming or the U.S. In 1990 the percent of the region's population 65 & over was 13 percent. This compares to 10 percent for Wyoming and 13 percent for the U.S. The oldest population was in Hot Springs County where 19 percent of the population was 65 & over. The youngest population was in Fremont County where 12 percent of the population was 65 & over. In Park County the percent of the population 65 & over was 13 percent in 1990.

By 2010, the percent of the region's population 65 & over had increased to 16 percent. This compares to 12 percent for Wyoming and 13 percent for the U.S. Hot Springs County again had the oldest population with 23 percent of its population being 65 & over. Fremont County had the youngest population with 14 percent being 65 & over. In Park County 17 percent of the population was 65 & over. In 2010, Hot Springs had the oldest median age of any county in Wyoming (48.6). However, the median ages for Fremont (38.5) and Park Counties (43.6) were also above the median for the state (36.8) and the nation (37.2).

By 2040 it is projected that 24 percent of the region's population will 65 & over. The range is forecasted to be from 21 percent in Fremont County and 26 percent in Hot Springs County to 28 percent in Park County. This population shift will probably manifest itself in many ways, from preferred outdoor recreation activities on public lands to services provided by local government and the business mix on Main Street.

Ethnicity

Population changes relate not only to the number of residents in the region but also to their ethnicity. Tables 3 and 4 provide demographic statistics for identifying the ethnic component of counties and communities in the analysis region. Except for the American Indian population, the region is not very ethnically diverse with 84 percent of the population being classified as white in 2010. Due to the presence of the Wind River

Indian Reservation, 21 percent of the population in the Fremont County was classified as American Indian in 2010. As a result the three-county region has a higher percent of American Indian population than the state as a whole (12 percent vs. 2 percent). Also as a result of the concentration of the American Indian population in the region the percent of the population classified as white in the region is somewhat lower than that for the state (84 percent vs. 91 percent). The percent of the population for every other non-white racial component is less than the state average. The racial composition of the region did not change dramatically between 2000 and 2010, although the percent of the population classified as white decreased slightly and the percent of the population for other groups increased slightly.

At the community level, the population was somewhat more ethnically diverse. However, only Lander (88 percent) and Riverton (83 percent), among the incorporated communities in the region, had less than 90 percent of their population classified as white. Approximately 7 percent of Lander's population and 10 percent of Riverton's population was classified as American Indian. In addition, 10 percent of Shoshoni's population, 9 percent of Powell and Riverton's population, and 6 percent of Pavillion's population was classified as Hispanic. In some cases the percentage by racial component sum to more than 100 percent. This represents an overlap in the racial categories (people who claim more than one racial affiliation).

School Enrollment

Demographic changes in any region are often first detected in local schools. Due to an aging population, school enrollments in the three-county region have generally declined over time. Region-wide total school enrollment declined by 4 percent between 2001 and 2010 (Table 5). Hot Springs County had the largest decrease with a 14 percent decline, followed by Park County (-6 percent), and Fremont County (-2 percent). These declines compare to a 0.3 percent increase in school enrollment statewide between 2001 and 2010. All the eight school districts in Fremont County had declining enrollments, except for the Fort Washakie and Arapahoe Districts. All three of the Park County school districts and the lone Hot Springs County school district also had declining enrollments. However, all three counties have experienced slight upturns in school enrollment since 2007.

School enrollments in kindergarten classes can provide some indication of future enrollment in local schools. Unlike total enrollment, region-wide kindergarten enrollment was 29 percent higher in 2010 than it was in 2001 (Table 6). Fremont County had the largest growth with a 38 percent increase, followed by Park County (+29 percent). Kindergarten enrollment in Hot Springs County was the exception to this trend with a 35 percent decline between 2001 and 2010. Statewide kindergarten enrollment was 27 percent higher in 2010 than it was in 2001. Except for Hot Springs County, these trends may bode well for future school enrollments in the region.

Housing

The availability of housing is an important issue in most of Wyoming and the three-county region is no exception. The percentage increases in households from 2000 to 2010 exceeded the percentage increases in population for all three counties as well as the state. Meanwhile, the percentage increases in housing units was less than the percentage increases in households for all three counties, except Fremont (Table 7). As a result the vacancy rate declined in both Hot Springs and Park Counties, while increasing in Fremont County. The percentage increase in households was more than the percentage increase in population due to declining average household size. Average household size was declining due to an aging population, families having fewer children, and more single parent families. As a result it requires more housing units to house the same number of people. In addition some of increase in housing units represented second-homes that are typically not available to residents. These trends were also apparent at the state level (Table 7).

Due to the tightening of the regional housing market the average home sale price has increased in all three counties (Table 8). From 2001 to 2010, the average home sale price in Fremont County increased by 53 percent (\$116,384 to \$177,562). For Hot Springs County the average sale price increased by 70 percent (\$79,836 to \$135,289) and for Park County the average sale price increased by 48 percent (\$127,938 to \$189,148). These increases compare with a 75 percent increase in the average sale price at the state level (\$125,970 to \$220,430). Despite these increase the average home sale price in the three counties was significantly lower than the state average. Average home sale prices declined slightly in Fremont, Park, and Wyoming between 2008 and 2009 probably as a result of the recession.

There is tremendous variation in housing prices in Wyoming. In 2009, prices ranged from \$89,239 in Big Horn County to \$1,453,628 in Teton County with the state average being \$220,430 (Table 9). In 2010 the average home sale price in Fremont County was 81 percent of the state average. For Hot Spring County the average sale price was 61 percent of the state average and for Park County the average sale price was 86 percent of the state average. In 2010, Park County ranked 10th among Wyoming Counties in terms of average home sale price, Fremont ranked 13th, and Hot Springs ranked 19th (Table 9.)

Housing is a major determinant of the cost of living in an area. The State of Wyoming's Economic Analysis Division (April, 2011) estimated that the cost-of-living in Fremont County for the fourth quarter of 2010 ranked 12th among counties in the state at 98 percent of the statewide average. Park County ranked 14th at 96 percent of the statewide average and Hot Springs County ranked 22nd at 90 percent of the statewide average.

Commuting

Differences in wage rates, cost-of-living, job opportunities, workforce capabilities, community amenities, household preferences, and the presence of regional business

centers all create the need for individuals to commute to work. Travel time, transportation corridors, and winter weather also become factors in commuting patterns. Commuting can be a significant part of life affecting families, the community, local government finances, and business development. As shown in Table 10, commuting is an important part of life throughout the three-county region and helps define the economic connections between communities.

In recent years both in-commuting and out-commuting in Fremont County has been increasing. The number of in-commuting workers in Fremont County increased by 141 percent from 1,218 in 2002 to 2,931 in 2009 (Table 10). In addition, the number of out-commuting workers increased by 105 percent from 1,899 in 2002 to 3,892 in 2009. Meanwhile, the number of resident workers employed in the county increased by 2 percent from 13,091 to 13,340. The growth in in-commuting workers in the county increased the percentage of nonresident workers in the county's labor force to 18 percent of the total workers employed in the county in 2009. Fremont County was a net importer of labor during every year between 2002 and 2009 with net in-commuting generally increasing over time. In 2009 the three most frequent origins for non-resident workers in Fremont County were: Natrona County, Sweetwater County, and Park County. In 2009 the three most frequent destinations for resident workers out-commuting were: Natrona County, Laramie County, and Sweetwater County.

In recent years both in-commuting and out-commuting in Hot Springs County has also been increasing. The number of in-commuting workers in Hot Springs County increased by 87 percent from 353 in 2002 to 660 in 2009 (Table 10). In addition, the number of out-commuting workers increased by 49 percent from 592 in 2002 to 882 in 2009. Meanwhile, the number of resident workers employed in the county decreased by four percent from 1,603 in 2002 to 1,543 in 2009. The growth in in-commuting workers in the county has increased the percentage of nonresident workers in the county's labor force to 30 percent of total workers employed in the county in 2009. Hot Springs County was a net importer of labor during every year between 2002 and 2009 but the net in-commuting was generally decreasing over time. In 2009 the three most frequent origins for non-resident workers in Hot Springs County were: Washakie County, Park County and Fremont County. In 2009 the three most frequent destinations for resident workers out-commuting were: Natrona County, Fremont County, and Park County.

Both in-commuting and out-commuting in Park County has also been increasing. The number of in-commuting workers in Park County increased by 111 percent from 1,031 in 2002 to 2,172 in 2009 (Table 10). In addition, the number of out-commuting workers increased by 14 percent from 2,011 in 2000 to 2,303 in 2009. Meanwhile, the number of resident workers employed in the county increased by four percent from 9,119 in 2002 to 9,497 in 2009. The growth in in-commuting workers has increased the percentage of nonresident workers in the county's labor force to 19 percent in 2009. Park County was a net importer of labor in seven of the eight years between 2002 and 2009 but the net in-commuting was generally decreasing over time. In 2009 the three most frequent origins for non-resident workers in Park County were: Big Horn County, Natrona County and

Sheridan County. The three most frequent destinations for resident workers out-commuting were: Teton County, Natrona County, and Big Horn County.

ECONOMICS

Employment

The employment data presented here was obtained from the U.S. Department of Commerce; Bureau of Economic Analysis's Regional Economic Information System (REIS) and represents the latest data that is currently available for counties in the United States (2009). REIS data was used because it provides estimates of all employment in a region, including those individuals that are self-employed. In some cases employment for an individual industry is not reported by REIS due to confidentiality requirements. In these cases the industry employment was estimated based on information from Woods and Poole Economics.

In 2009 total employment in the three-county region was 48,754 jobs (Table 11). The five largest employers were Government (21 percent), Retail Trade (11 percent), Health Care and Social Assistance (9 percent), and Accommodations and Food Services (8 percent) and Construction (7 percent). Combined these five sectors represented 57 percent of the total employment in the region. Based on the percent of total employment in the region compared to the national economy, the three-county region was specialized in Mining (regional employment was 6.0 times the national average), Agriculture (regional employment was 3.5 times the national average), Government (regional employment was 1.5 times the national average), Construction (regional employment was 1.4 times the national average), and Accommodations and Food Services (1.2 times the national average). Specialization was defined as having a location quotient greater than 1.10 and representing at least 2 percent of the region's total employment.

In 2009 total employment in Fremont County was 24,752 jobs (Table 11). The five largest employers were Government (24 percent), Retail Trade (11 percent), Health Care and Social Assistance (9 percent), Construction (7 percent) and Accommodations and Food Services (6 percent). Combined these five sectors represented 58 percent of the total employment in the county. Based on the percent of total employment in the county compared to the national economy, the county was specialized in Mining (county employment was 5.8 times the national average), Agriculture (county employment was 4.0 times the national average), Government (county employment was 1.7 times the national average) and Construction (county employment was 1.3 times the national average). Specialization was defined as having a location quotient of greater than 1.10 and representing at least 2 percent of the county's total employment.

In 2009 total employment in Hot Springs County was 3,304 jobs (Table 11). The five largest employers were Government (19 percent), Health Care and Social Assistance (11 percent), Accommodations and Food Services (10 percent), Mining (9 percent), and Retail Trade (8 percent). Combined these five sectors represented 57 percent of the total employment in the county. Based on the percent of total employment in the county

compared to the national economy, the county was specialized in Mining (county employment was 11.6 times the national average), Agriculture (county employment was 3.8 times the national average), Accommodations and Food Services (county employment was 1.4 times the national average), Government (county employment was 1.3 times the national average), and Arts, Entertainment, and Recreation (county employment was 1.3 times the national average). Specialization was defined as having a location quotient of greater than 1.10 and representing at least 2 percent of the county's total employment.

In 2009 total employment in Park County was 20,698 (Table 11). The five largest employers were Government (18 percent), Retail Trade (12 percent), Accommodations and Food Services (11 percent), Construction (9 percent), and Health Care and Social Assistance (8 percent). Combined these five sectors represented 57 percent of the total employment in the county. Based on the percent of total employment in the county compared to the national economy, the county was specialized in Mining (county employment was 5.3 times the national average), Agriculture (county employment was 3.0 times the national average), Construction (county employment was 1.6 times the national average), Accommodations and Food Services (county employment was 1.5 times the national average), Arts, Entertainment, and Recreation (county employment was 1.4 times the national average), Government (county employment was 1.2 times the national average) and Retail (county employment 1.2 times the national average). Specialization was defined as having a location quotient of greater than 1.10 and representing at least 2 percent of the county's total employment.

Total employment in the three-county region increased by 25 percent from 1990 to 2000 (Table 12). The largest increase was in Park County where employment grew by 28 percent. The smallest increase was in Hot Springs County where employment grew by 11 percent. During this time period, Fremont County's employment increased by 25 percent. The region's employment growth rate was higher than either Wyoming's rate (20 percent) or the national rate (20 percent) between 1990 and 2000.

The region's employment increased by 17 percent from 2000 to 2009 (Table 12). Fremont County was had the largest increase with employment growing by 18 percent. Following Fremont County was Park County with 17 percent employment growth and Hot Springs with 7 percent employment growth. The region's employment growth rate between 2000 and 2009 was higher than the national rate (5 percent), but lower than the Wyoming rate (20 percent). On an annual basis the region's average employment growth rate decreased from 2.2 percent per year between 1990 and 2000 to 1.7 percent per year from 2000 to 2009.

The region's employment is forecasted to increase by nearly 42 percent between 2009 and 2040 (Table 12). Fremont County is projected to increase the most at 64 percent, followed by Park County at 20 percent, and Hot Springs County at 19 percent. The employment growth rate for the region is forecasted to be higher than the state rate between 2009 and 2040 (37 percent) and comparable to the national rate (42 percent). On

an annual basis the region's average employment growth rate is projected to be 1.1 percent per year from 2009 to 2040.

Like most of the U.S., the three-county region has experienced increasing unemployment in recent years due to the recession (Table 13). Fremont County has the average highest unemployment rate peaking at 8.0 percent in 2010. Some of this is probably due to the presence of the Wind River Indian Reservation where unemployment rates tend to be very high. However, the unemployment for the all three counties is substantially below the national rate in 2010 suggesting that the economies of the three counties were less affected by the recession. Except for Fremont County, the unemployment rates are also below the state rate in 2010. Historically the unemployment rates in the three counties have been somewhat higher than the Wyoming rate but less than the U.S. rate.

All three counties experienced a general decrease in unemployment in 2010 as the national economy recovered with some seasonal increase in the fourth quarter of the year. Park County has the highest variability with a coefficient of variation (standard deviation/mean) of 19 percent. Following Park County was Fremont County with a coefficient of variation of 14 percent and Hot Springs County with a coefficient of variation of 10 percent. Park and Fremont Counties' unemployment rates are both more variable than the state rates (coefficient of variation of 13 percent). Hot Springs County's unemployment rates are less variable than the state rates. Some of the variability in unemployment rates in the region for the fourth quarter of the year may be associated with the seasonality of the travel industry in the region.

Personal Income

The sources of a region's personal income provide some insight into the economy of the region. Total personal income for the three-county region was \$2.9 billion (2009). Total personal income for the region ranged from \$192.6 million in Hot Springs County to \$1.5 billion in Fremont County. Labor earnings (including wages, salaries, and proprietor income) were the largest source of personal income for all three counties representing more than 50 percent of total personal income in the region (Table 15). Investment income (representing dividends, interest, rent, and other property income) was the second largest source of personal income in all three counties representing 24 to 32 percent of total personal income in the region. Transfer payments (income received from government sources, such as Social Security, Medicare, Medicaid, and welfare) were the third largest source of personal income in all three counties representing 16 to 24 percent of total personal income in the region.

A comparison of sources of personal income for the three counties with Wyoming and the U.S. indicates that the percentage of personal income from labor earnings in the region is lower than either the state (59 percent) or the nation (64 percent). On the other hand, the percentage of personal income from investment income in all three counties is higher than the nation (18 percent) and the percentage for Park County is also higher than the state (28 percent). In addition, the percentage of personal income from transfer payments in the three counties was also higher than the state (13 percent) and the

percentage for Fremont and Hot Springs Counties was also higher than the nation (17 percent). The greater importance of non-labor income as a source of personal income in the region probably results from the region's older population (for example Hot Springs County), the attractiveness of the region to individuals with outside sources of income (for example Park County), and the presence of the Wind River Indian Reservation (for example Fremont County).

Per capita income is often used as a measure of economic well-being in a region. Per capita income in the three-county region was consistently lower than the Wyoming average of \$48,302 in 2009 (Table 15). Fremont County had the lowest per capita income at \$38,105 which was 21 percent below the state average. Following Fremont was Hot Springs County at \$41,966 which was 13 percent below the state average. Park County had the highest per capita income in the three-county region at \$44,745; which was 7 percent below the state average. It should be noted that Wyoming per capita incomes was 22 percent above the national average in 2009 and that per capita income for both Hot Springs and Park Counties exceed the national average in 2009 (\$39,635).

Another factor of economic well-being is cost-of-living. Wyoming's Economic Analysis Division estimates that the cost-of-living in Fremont County for the second quarter of 2009 was 94 percent of the state average, while per capita income in 2009 was 79 percent of the state average. For Hot Springs County the cost-of-living was 86 percent of the state average, while per capita income was 87 percent of the state average. For Park County the cost-of-living was 93 percent of the state average, while per capita income was 93 percent of the state average. This suggests that, on average, residents of Fremont County were somewhat less well-off economically than at the state level due to the gap between cost-of-living and per capita income, while the lower per capita income for residents of Hot Springs and Park County may have been at least somewhat offset by a lower cost-of-living relative to the state average.

While per capita income is a measure of economic well-being for the total population, average earnings per job is a better measure of the economic well-being of the workforce in a region. Average earnings per job in the three-county region were consistently below the Wyoming average of \$45,343 in 2009 (Table 15). Hot Springs County had the lowest average earnings per job at \$32,243 which was 29 percent below the state average. Following Hot Springs was Fremont County at \$35,424 which was 22 percent below the state average. Park County had the highest average earnings per job in the region at \$36,762 which was still 19 percent below the state average. It should be noted that, unlike per capita income, average earnings per job in Wyoming were 11 percent below the U.S. average of \$50,695 in 2009.

Comparing cost-of-living with average earnings per job indicates that while average earnings per job in Fremont County were 78 percent of the state average, the cost-of-living was 94 percent of the state average. For Hot Spring County while the average earnings per job were 71 percent of the state average, the cost-of-living was 86 percent of the state average. For Park County while the average earnings per job were 81 percent of the state average the cost-of-living was 93 percent of the state average. This suggests that

on average the workforce in the three counties are less well-off than at the state level due to the gap between cost-of-living and average earnings per job.

One of the limitations of the using per capita income and average earnings per job to measure economic well-being is that neither addresses the distribution of income within the region. As a result, the percentage of individual living below the poverty level is usually also considered. As shown in Table 15, the poverty levels in the three-county region were not consistent between counties. Fremont County has the highest poverty rate at 14.7 percent in 2009. This rate was higher than either the state (10.2 percent) or nation (14.3 percent) rate. The presence of the Wind River Indian Reservation in Fremont County probably contributes to the high poverty rate in the county. Hot Springs County has the second highest poverty rate in the region at 11.9 percent. This rate is higher than the state rate but below the national rate. Park County has the lowest poverty rate in the region at 10.4 percent. This rate was above the state rate but below the national rate.

LOCAL GOVERNMENT

Introduction

The fiscal condition of local governments in a region can be affected in several ways by the presence of a National Forest. Tourism, livestock grazing, and timber on the National Forests all may increase the revenues and costs to counties, towns, and special districts. For instance, revenue sources from a national forest's presence can include sales and lodging taxes, property taxes, and federal land related payments from federal land management agencies. Costs could include higher demand for police, fire, and search-and-rescue services; increased needs for road, sewer, and water systems, and public buildings; and more calls for social services such as day care, welfare, schools, and medical facilities. Local officials are well aware of the relationship between the revenues and costs associated of neighboring national forests. The following section examines federal lands related payments and the role they play in local government revenue. While these payments are intended to offset costs borne by local government for the presence of federal land, there is no specific data to determine the extent to which such costs are offset for the Shoshone National Forest.

Payments in Lieu of Taxes and Secure Rural Schools Payments

Payments in Lieu of Taxes (PILT) are annual payments made by the federal government to counties with federal lands within their boundaries. Since counties cannot tax the federal government, these tax dollars would otherwise be revenue "lost" to the counties without PILT payments. PILT payments were first authorized in 1976 (Pub. L 94-565, 31 Chap.69 [as amended by PL98-63 and PL103-397] and have undergone several revisions in the foregoing years.

The first row of Table 16 lists total PILT payments to Shoshone National Forest Counties for the 2010. The total payments for the three-county region were \$3.7 million. PILT payments are based on total eligible federal acres in a county. The second row in Table

16 lists total federal acres used in the PILT calculations for each of the three counties. The total for the three-county region is 7.3 million acres.

Since PILT payments are based on all federally managed lands and because there are significant amounts of other federal lands in the region, including other National Forests, Bureau of Land Management (BLM), and National Park Service (NPS) lands, only a portion of the counties' PILT payments are associated with the Shoshone NF. To determine the percent of PILT payments coming from Shoshone NF lands, the acres of Shoshone NF land in each county (third row in Table 16) were divided by the total federal land in each county (the second row in Table 16) to determine the percent of PILT payments associated with the Shoshone NF. For the three-county region the Shoshone NF represented one-third of the total PILT acres. However, the percentage ranged from less than 10 percent in Hot Springs County to more than 40 percent in Park County.

Based on the percentage of total PILT acres, it is estimated that the Shoshone NF accounted for \$1.2 million of the total PILT payments for the three-county region. Of this total \$502,663 went to Park County, \$491,238 went to Fremont County, and \$66,019 went to Hot Springs County.

In addition to PILT payments, counties with Forest Service land within their borders also share in revenue from the forest. These funds are currently administered through the Secure Rural Schools and Community Self-Determination (SRS) Act of 2000 as reauthorized as part of Public Law 110-343. The sixth line of Table 16 lists these SRS payments from the Shoshone NF. The total SRS payments for the three-county region were \$1.5 million in 2010. Of this total, Park County received the largest share (\$821,087) while Hot Springs County received the smallest share (\$36,185).

The combined total of PILT and SRS payments from the Shoshone NF to local governments in the three-county region was \$2.7 million in 2010. Park County received the largest share (\$1.3 million) while Hot Springs received the smallest share (\$102,204). The combined total of PILT and SRS payments from the Shoshone NF represented 3 percent of the total county revenues for the three-county region in 2010 (line 9 in Table 16). The percentage of total revenue ranges from less than 1 percent in Hot Springs County to 4 percent in Park County.

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Table 1. Population by County in Shoshone NF Region, 1990-2040.

<i>Year</i>	<i>Fremont</i>	<i>Hot Springs</i>	<i>Park</i>	<i>Region</i>
1990a	33,662	4,809	23,178	61,649
2000a	35,804	4,882	25,786	66,472
2010a	40,123	4,812	28,205	73,140
2020b	42,170	4,875	29,510	76,555
2030b	45,490	4,957	31,030	81,477
2040b	48,840	5,052	32,570	86,462
Change 1990-2000	6.4%	1.5%	11.3%	7.8%
Change 2000-2010	12.1%	-1.4%	9.4%	10.0%
Change 2010-2040	21.7%	5.0%	15.5%	18.2%

Note: a = Census Data, b = W&P Forecast

Sources: *Wyoming Economic Analysis Division & Woods & Poole*

Table 2. Share of Population Age 65+ in Shoshone NF Region, 1990-2040.

<i>Year</i>	<i>Fremont</i>	<i>Hot Springs</i>	<i>Park</i>	<i>Region</i>	<i>Wyoming</i>	<i>U.S.</i>
1990a	11.6%	18.9%	13.3%	12.8%	10.4%	12.6%
2000a	13.3%	20.0%	14.5%	14.2%	11.7%	12.4%
2010a	14.5%	22.6%	17.5%	16.2%	12.4%	13.0%
2020b	18.5%	28.2%	24.1%	21.2%	16.4%	16.1%
2030b	21.6%	30.2%	28.7%	24.8%	19.4%	19.4%
2040b	20.8%	26.1%	28.3%	24.0%	18.8%	20.2%

Note: a = Census Data, b = W&P Forecast

Sources: *Wyoming Economic Analysis Division & Woods & Poole*

Table 3. Racial Component of Population by County, 2000-2010.

County	Total	White	Black	American	Asian or	Other/Multi	Hispanic,
	Population	2000	2000	Indian	Pacific	-Race	Any
	2000	2000	2000	2000	Islander	2000	Race
					2000		2000
Fremont	35,804	76.5%	0.1%	19.7%	0.3%	3.4%	4.4%
Hot Springs	4,882	96.0%	0.3%	1.5%	0.2%	1.9%	2.4%
Park	25,786	96.5%	0.1%	0.5%	0.5%	2.5%	3.7%
Region	66,472	85.7%	0.1%	10.9%	0.4%	2.9%	4.0%
Wyoming	493,782	92.1%	0.8%	2.3%	0.6%	4.3%	6.4%
County	Total	White	Black	American	Asian or	Other/Multi	Hispanic,
	Population	2010	2010	Indian	Pacific	-Race	Any
	2010	2010	2010	2010	Islander	2010	Race
					2010		2010
Fremont	40,123	74.3%	0.3%	21.2%	0.4%	3.8%	5.6%
Hot Springs	4,812	95.8%	0.2%	1.5%	0.5%	2.0%	2.2%
Park	28,205	95.6%	0.2%	0.6%	0.7%	3.0%	4.8%
Region	73,140	83.9%	0.2%	11.9%	0.5%	3.4%	5.1%
Wyoming	563,626	90.7%	0.8%	2.4%	0.9%	5.2%	8.9%

Source: Wyoming Economic Analysis Division

Table 4. Racial Component of Population by Community, 2010.

<i>Community</i>	<i>Total Population</i>	<i>White</i>	<i>Black</i>	<i>American Indian</i>	<i>Asian/Pacific Islander</i>	<i>Other/Multi- Race</i>	<i>Hispanic, Any Race</i>
Fremont							
Dubois	971	930	4	9	12	16	4
Hudson	458	413	0	31	0	14	17
Lander	7,487	6,590	14	550	46	287	362
Pavillion	231	215	0	7	1	8	13
Riverton	10,615	8,862	50	1,099	41	563	956
Shoshoni	649	591	7	33	4	14	62
Hot Springs							
East	254	238	2	10	0	4	2
Thermopolis							
Kirby	92	88	0	0	0	4	4
Thermopolis	3,009	2,901	8	28	16	56	65
Park							
Cody	9,520	9,126	16	69	50	259	291
Meeteetse	327	319	2	2	0	4	6
Powell	6,314	5,914	24	35	80	261	591
Fremont							
Dubois	971	95.8%	0.4%	0.9%	1.2%	1.6%	0.4%
Hudson	458	90.2%	0.0%	6.8%	0.0%	3.1%	3.7%
Lander	7,487	88.0%	0.2%	7.3%	0.6%	3.8%	4.8%
Pavillion	231	93.1%	0.0%	3.0%	0.4%	3.5%	5.6%
Riverton	10,615	83.5%	0.5%	10.4%	0.4%	5.3%	9.0%
Shoshoni	649	91.1%	1.1%	5.1%	0.6%	2.2%	9.6%
Hot Springs							
East	254	93.7%	0.8%	3.9%	0.0%	1.6%	0.8%
Thermopolis							
Kirby	92	95.7%	0.0%	0.0%	0.0%	4.3%	4.3%
Thermopolis	3,009	96.4%	0.3%	0.9%	0.5%	1.9%	2.2%
Park							
Cody	9,520	95.9%	0.2%	0.7%	0.5%	2.7%	3.1%
Meeteetse	327	97.6%	0.6%	0.6%	0.0%	1.2%	1.8%
Powell	6,314	93.7%	0.4%	0.6%	1.3%	4.1%	9.4%

Source: Wyoming Economic Analysis Division

Table 5. Total School Enrollments by County in Shoshone NF Region, 2001-2010.

<i>Year</i>	<i>Hot</i>				<i>Wyoming</i>
	<i>Fremont</i>	<i>Springs</i>	<i>Park</i>	<i>Region</i>	
2001	6,639	752	4,226	11,617	87,897
2002	6,504	702	4,055	11,261	86,116
2003	6,344	699	3,941	10,984	84,739
2004	6,299	679	3,893	10,871	83,772
2005	6,373	634	3,896	10,903	83,705
2006	6,362	623	3,938	10,923	84,629
2007	6,280	642	3,935	10,857	85,578
2008	6,342	655	3,952	10,949	86,519
2009	6,329	652	3,970	10,951	87,420
2010	6,493	650	3,973	11,116	88,165
Pct. Change 2001-2010	-2.2%	-13.6%	-6.0%	-4.3%	0.3%

Source: *Wyoming Department of Education*

Table 6. Kindergarten Enrollments by County in Shoshone NF Region, 2001-2010.

<i>Year</i>	<i>Hot</i>				<i>Wyoming</i>
	<i>Fremont</i>	<i>Springs</i>	<i>Park</i>	<i>Region</i>	
2001	442	57	269	768	6,002
2002	464	44	291	799	6,165
2003	469	43	309	821	6,224
2004	473	51	259	783	6,263
2005	474	55	270	799	6,381
2006	464	54	285	803	6,576
2007	498	54	308	860	6,891
2008	514	39	303	856	7,215
2009	533	44	312	889	7,422
2010	609	37	348	994	7,611
Pct. Change 2001-2010	37.8%	-35.1%	29.4%	29.4%	26.8%

Source: *Wyoming Department of Education*

Table 7. Percent Changes in Population, Households, Housing Units, and Vacancy Rates between 2000 and 2010 in the Shoshone NF Region.

<i>Region</i>	<i>Total Population Percent Change</i>	<i>Total Households Percent Change</i>	<i>Total Housing Units Percent Change</i>	<i>Vacancy Rate Percent Change</i>
Wyoming	14.1%	17.2%	17.0%	-0.7%
Fremont	12.1%	14.1%	14.5%	3.1%
Dubois	0.9%	12.4%	12.4%	0.0%
Hudson	12.5%	12.9%	10.0%	-11.5%
Lander	9.0%	13.1%	11.5%	-17.5%
Pavillion	40.0%	23.4%	21.3%	-11.1%
Riverton	14.0%	11.4%	7.4%	-33.0%
Shoshoni	2.2%	13.0%	4.7%	-25.8%
Hot Springs	-1.4%	3.7%	1.8%	-8.9%
East				
Thermopolis	-7.3%	4.7%	12.0%	62.5%
Kirby	61.4%	3.4%	2.7%	-2.3%
Thermopolis	-5.1%	3.5%	-0.9%	-14.6%
Park	9.4%	15.3%	14.3%	-5.3%
Cody	7.8%	12.8%	13.1%	2.6%
Meeteetse	-6.8%	1.3%	-5.9%	-31.0%
Powell	17.5%	18.2%	16.8%	-16.2%

Source: Wyoming Economic Analysis Division

Table 8. Average Home Sale Prices by County 2000-2009 (2005\$).

<i>Year</i>	<i>Fremont</i>	<i>Hot Springs</i>	<i>Park</i>	<i>Wyoming</i>
2000	\$116,384	\$79,836	\$127,938	\$125,970
2001	\$123,873	\$96,357	\$132,300	\$129,233
2002	\$124,508	\$94,753	\$145,320	\$132,506
2003	\$134,438	\$84,131	\$148,521	\$141,858
2004	\$137,184	\$88,812	\$157,594	\$147,823
2005	\$140,975	\$97,453	\$161,866	\$159,776
2006	\$158,420	\$118,537	\$177,332	\$181,727
2007	\$174,689	\$117,992	\$202,669	\$249,036
2008	\$179,553	\$121,498	\$196,418	\$233,165
2009	\$177,562	\$135,289	\$189,148	\$220,430
Change 2000-2009	52.6%	69.5%	47.8%	75.0%
Percent of Wyoming	80.6%	61.4%	85.8%	100.0%

Source: Wyoming Housing Database Partnership

Table 9. Average Home Sale Prices by County, 2009 (2009\$).

<i>County</i>	<i>Price</i>	<i>Rank</i>
Teton	\$1,453,628	1
Campbell	\$249,507	2
Sublette	\$247,842	3
Sheridan	\$233,281	4
Sweetwater	\$232,959	5
Crook	\$224,241	6
Lincoln	\$218,350	7
Johnson	\$215,744	8
Albany	\$215,069	9
Park	\$207,333	10
Natrona	\$202,006	11
Uinta	\$194,928	12
Fremont	\$194,633	13
Laramie	\$193,759	14
Converse	\$178,401	15
Weston	\$164,337	16
Carbon	\$155,259	17
Washakie	\$150,202	18
Hot Springs	\$148,296	19
Platte	\$126,479	20
Goshen	\$119,207	21
Niobrara	\$96,643	22
Big Horn	\$89,239	23

Source: Wyoming Housing Database Partnership

Table 10. In and Out Commuting of Workers in the Shoshone NF Region, 2002-2009.

Fremont						
<i>Year</i>	<i>In-Commuting Workers</i>	<i>Resident Workers</i>	<i>Out-Commuting Workers</i>	<i>Workers Employed In-County</i>	<i>Workers Living In-County</i>	<i>Net Labor In-Flow</i>
2002	1,218	13,091	1,899	14,309	14,990	-681
2003	1,354	12,776	1,752	14,130	14,528	-398
2004	1,353	13,041	1,939	14,394	14,980	-586
2005	1,473	13,256	2,062	14,729	15,318	-589
2006	1,583	13,540	2,087	15,123	15,627	-504
2007	2,222	13,565	4,074	15,787	17,639	-1,852
2008	2,739	13,404	4,040	16,143	17,444	-1,301
2009	2,931	13,340	3,892	16,271	17,232	-961
Change	140.6%	1.9%	104.9%	13.7%	15.0%	41.1%

Hot Springs						
<i>Year</i>	<i>In-Commuting Workers</i>	<i>Resident Workers</i>	<i>Out-Commuting Workers</i>	<i>Workers Employed In-County</i>	<i>Workers Living In-County</i>	<i>Net Labor In-Flow</i>
2002	353	1,603	592	1,956	2,195	-239
2003	340	1,583	664	1,923	2,247	-324
2004	375	1,634	582	2,009	2,216	-207
2005	399	1,660	565	2,059	2,225	-166
2006	443	1,625	618	2,068	2,243	-175
2007	594	1,571	772	2,165	2,343	-178
2008	603	1,638	868	2,241	2,506	-265
2009	660	1,534	882	2,194	2,416	-222
Change	87.0%	-4.3%	49.0%	12.2%	10.1%	-7.1%

Park						
<i>Year</i>	<i>In-Commuting Workers</i>	<i>Resident Workers</i>	<i>Out-Commuting Workers</i>	<i>Workers Employed In-County</i>	<i>Workers Living In-County</i>	<i>Net Labor In-Flow</i>
2002	1,031	9,119	2,011	10,150	11,130	-980
2003	980	9,189	1,936	10,169	11,125	-956
2004	1,157	9,467	2,027	10,624	11,494	-870
2005	1,175	9,788	1,952	10,963	11,740	-777
2006	1,360	9,832	2,003	11,192	11,835	-643
2007	2,127	9,362	2,101	11,489	11,463	26
2008	1,950	9,922	2,397	11,872	12,319	-447
2009	2,172	9,497	2,303	11,669	11,800	-131
Change	110.7%	4.1%	14.5%	15.0%	6.0%	-86.6%

Source: U.S. Census Bureau

Table 11. Employment by Major Industry and County, 2009.

	<i>Fremont</i>	<i>Hot Springs</i>	<i>Park</i>	<i>Region</i>	<i>U.S.</i>
Farm employment	1,481	188	928	2,597	2,632,000
Forestry, fishing, related activities, and other	215	17	227	459	836,300
Mining	1,117	299	860	2,276	1,358,500
Utilities	78	34	76	188	600,200
Construction	1,724	167	1,758	3,649	9,505,000
Manufacturing	549	98	659	1,306	12,393,700
Wholesale trade	416	42	327	785	6,161,900
Retail trade	2,631	282	2,462	5,375	17,702,100
Transportation and warehousing	591	107	387	1,085	5,499,300
Information	301	49	238	588	3,359,300
Finance and insurance	733	128	960	1,821	9,432,000
Real estate and rental and leasing	1,192	108	951	2,251	7,534,100
Professional and technical services	899	116	963	1,978	11,828,800
Management of companies and enterprises	37	0	43	80	1,962,600
Administrative and waste services	526	51	573	1,150	9,939,300
Educational services	454	18	187	659	3,923,400
Health care and social assistance	2,346	366	1,703	4,415	18,782,100
Arts, entertainment, and recreation	418	94	622	1,134	3,822,000
Accommodation and food services	1,613	314	2,174	4,101	12,005,100
Other services, except public administration	1,384	209	946	2,539	9,882,500
Government and government enterprises	6,047	617	3,654	10,318	24,649,000
Total	24,752	3,304	20,698	48,754	173,809,200

Table 11 continued.

	<i>Fremont</i>	<i>Hot Springs</i>	<i>Park</i>	<i>Region</i>	<i>U.S.</i>
Farm employment	6.0%	5.7%	4.5%	5.3%	1.5%
Forestry, fishing, related activities, and other	0.9%	0.5%	1.1%	0.9%	0.5%
Mining	4.5%	9.0%	4.2%	4.7%	0.8%
Utilities	0.3%	1.0%	0.4%	0.4%	0.3%
Construction	7.0%	5.1%	8.5%	7.5%	5.5%
Manufacturing	2.2%	3.0%	3.2%	2.7%	7.1%
Wholesale trade	1.7%	1.3%	1.6%	1.6%	3.5%
Retail trade	10.6%	8.5%	11.9%	11.0%	10.2%
Transportation and warehousing	2.4%	3.2%	1.9%	2.2%	3.2%
Information	1.2%	1.5%	1.1%	1.2%	1.9%
Finance and insurance	3.0%	3.9%	4.6%	3.7%	5.4%
Real estate and rental and leasing	4.8%	3.3%	4.6%	4.6%	4.3%
Professional and technical services	3.6%	3.5%	4.7%	4.1%	6.8%
Management of companies and enterprises	0.1%	0.0%	0.2%	0.2%	1.1%
Administrative and waste services	2.1%	1.5%	2.8%	2.4%	5.7%
Educational services	1.8%	0.5%	0.9%	1.4%	2.3%
Health care and social assistance	9.5%	11.1%	8.2%	9.1%	10.8%
Arts, entertainment, and recreation	1.7%	2.8%	3.0%	2.3%	2.2%
Accommodation and food services	6.5%	9.5%	10.5%	8.4%	6.9%
Other services, except public administration	5.6%	6.3%	4.6%	5.2%	5.7%
Government and government enterprises	24.4%	18.7%	17.7%	21.2%	14.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Note: Numbers in Italics are estimated from Woods & Poole

Source: *Bureau of Economic Analysis*

Table 12. Employment by County in Shoshone NF Region, 1990-2040.

<i>Year</i>	<i>Hot</i>			<i>Region</i>	<i>Wyoming</i>	<i>U.S.</i>
	<i>Fremont</i>	<i>Springs</i>	<i>Park</i>			
1990a	16,828	2,794	13,800	33,422	270,832	138,330,900
2000a	21,002	3,089	17,624	41,715	325,674	165,370,800
2009a	24,752	3,304	20,698	48,754	392,431	173,809,200
2020b	30,010	3,620	22,500	56,130	436,380	197,896,710
2030b	35,000	3,790	23,740	62,530	484,620	221,271,160
2040b	40,630	3,940	24,850	69,420	535,910	246,861,230
Pct. Change 1990-2000	24.8%	10.6%	27.7%	24.8%	20.2%	19.5%
Pct. Change 2000-2009	17.9%	7.0%	17.4%	16.9%	20.5%	5.1%
Pct. Change 2009-2040	64.1%	19.2%	20.1%	42.4%	36.6%	42.0%

Note: a = BEA estimates, b = W&P Forecast

Source: *Bureau of Economic Analysis & Woods & Poole*

Table 13. Unemployment Rates in the Shoshone NF Region, 2001-2010.

<i>Year</i>	<i>Hot</i>			<i>State</i>	<i>U.S.</i>
	<i>Fremont</i>	<i>Springs</i>	<i>Park</i>		
2001	5.2%	4.2%	4.3%	3.9%	4.7%
2002	5.4%	4.8%	4.6%	4.2%	5.8%
2003	5.8%	4.3%	4.6%	4.5%	6.0%
2004	5.2%	4.0%	3.9%	3.9%	5.5%
2005	4.8%	4.1%	4.1%	3.7%	5.1%
2006	4.3%	3.9%	3.6%	3.2%	4.6%
2007	3.7%	3.3%	3.1%	2.8%	4.6%
2008	4.2%	3.3%	3.6%	3.1%	5.8%
2009	7.9%	6.1%	6.3%	6.5%	9.3%
2010	8.0%	5.5%	6.9%	7.0%	9.6%
Average	5.5%	4.4%	4.5%	4.3%	6.1%

Source: *Bureau of Labor Statistics*

Table 14. Unemployment Rates by Month by County, 2010.

<i>Month</i>	<i>Hot</i>			
	<i>Fremont</i>	<i>Springs</i>	<i>Park</i>	<i>Wyoming</i>
Jan	10.3%	6.8%	9.5%	8.7%
Feb	9.6%	6.0%	8.9%	8.2%
Mar	9.3%	6.0%	8.6%	8.0%
Apr	8.3%	5.1%	7.6%	7.4%
May	8.0%	5.1%	6.5%	7.0%
Jun	8.0%	5.2%	5.9%	6.7%
Jul	7.6%	5.1%	5.6%	6.4%
Aug	7.3%	5.1%	5.6%	6.3%
Sep	6.8%	4.9%	5.6%	6.0%
Oct	6.7%	5.1%	5.9%	6.0%
Nov	7.0%	5.6%	6.9%	6.3%
Dec	7.3%	5.8%	7.2%	6.4%
Mean	8.0%	5.5%	7.0%	7.0%
Standard Deviation	1.1%	0.5%	1.3%	0.9%
Coefficient of Variation	13.9%	9.9%	19.1%	12.6%

Source: *Wyoming Department of Employment*

Table 15. Personal Income by Source and County, 2009 (2009\$).

<i>Income</i>	<i>Fremont</i> (000\$)	<i>Hot Springs</i> (000\$)	<i>Park</i> (000\$)	<i>Wyoming</i> (000\$)	<i>U.S.</i> (000\$)
Net Labor Earnings	\$790,408	\$100,376	\$648,046	\$15,571,828	\$7,843,321,000
Investment Income	\$372,190	\$46,329	\$404,917	\$7,360,057	\$2,192,960,000
Transfer Payments	\$312,790	\$45,917	\$198,827	\$3,357,177	\$2,131,880,000
Total	\$1,475,388	\$192,622	\$1,251,790	\$26,289,062	\$12,168,161,000
Net Labor Earnings	53.6%	52.1%	51.8%	59.2%	64.5%
Investment Income	25.2%	24.1%	32.3%	28.0%	18.0%
Transfer Payments	21.2%	23.8%	15.9%	12.8%	17.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Per Capita Income	\$38,105	\$41,966	\$44,745	\$48,302	\$39,635
Average Earnings	\$35,424	\$32,243	\$36,762	\$45,343	\$50,695
Cost-of-Living (2009Q2)	94%	86%	93%	100%	
Poverty Level	14.7%	11.9%	10.4%	10.2%	14.3%

Source: Bureau of Economic Analysis, Wyoming Economic Analysis Division, and U.S. Census Bureau

Table 16. PILT & SRS Payments, 2010 (\$2010).

<i>Type</i>	<i>Fremont</i>	<i>Hot Springs</i>	<i>Park</i>	<i>Region</i>
Total PILT	\$1,849,591	\$692,106	\$1,183,971	\$3,725,668
Total Acres	3,186,309	570,156	3,591,287	7,347,752
SNF Acres	846,261	54,386	1,524,705	2,425,352
Percent SNF	26.6%	9.5%	42.5%	33.0%
SNF PILT	\$491,238	\$66,019	\$502,663	\$1,229,772
SRS Payment	\$637,846	\$36,185	\$821,087	\$1,495,118
Total Payment	\$1,129,084	\$102,204	\$1,323,750	\$2,724,890
Total Revenue	\$40,248,194	\$21,524,596	\$32,691,734	\$94,464,524
Percent SNF	2.8%	0.5%	4.0%	2.9%

Source: *BLM, USFS, Wyoming Department of Audit*

TRAVEL

Total Visitor Spending

Dean Runyan Associates provides an annual report to the Wyoming Travel and Tourism on the economic impact of travel by county in Wyoming. The following information was taken from their most recent report (April 2011). Dean Runyan Associates estimated that total visitor spending in the three-county region during 2010 was \$425.9 million. These expenditures represented overnight trips and day trips to the region that were not of a local or commuting nature and presumably included trips to the Shoshone National Forest. Both business and pleasure trips were included in the estimates. Of the total spending, \$274.3 million was in Park County (64 percent), \$126.6 million was in Fremont County (30 percent), and \$25.0 million was in Hot Springs County (6 percent).

Table 1 shows that, after adjusting for inflation, total visitor spending in the three-county region increased from \$289.0 million in 1998 to \$383.9 million in 2010 (+33 percent). This represents a compound average growth rate of 2.4 percent per year. Among the individual counties, the fastest growth rate for visitor spending was in Fremont County which increased by 46 percent between 1998 and 2010 or 3.2 percent per year. Following Fremont County was Hot Springs County which grew by 33 percent between 1998 and 2010 or 2.4 percent per year and Park County which grew by 27 percent between 1998 and 2010 or 2.0 percent per year.

In terms of the types of accommodations used by visitors, 47 percent of the total visitor spending in the three-county region was by visitors staying in Hotels/Motels, 31 percent was by visitors staying in campgrounds, 10 percent was by visitors staying in private homes (i.e. with friends and relatives), 9 percent was by visitors on day trips, and 3 percent was by visitors staying in their own vacation home (Table 2). Fremont County had a lower percent of expenditures from visitors staying in hotel/motel and campgrounds and a higher percent of expenditures from visitors staying in private homes, vacation homes, and on day trips (Table 2). Hot Springs County had a higher percent of expenditures from visitor staying in hotel/motel and campgrounds and a lower percent of expenditures from visitor staying in private homes, vacation homes, and on day trips. Park County had a higher percent of expenditures from visitors staying in hotel/motel campgrounds, but a lower percent of expenditures from visitors staying in private homes, vacation homes, and on day trips.

Labor Earnings

The Dean Runyan report also provides information on industry earnings generated by travel spending in Wyoming. These earnings represent direct earnings in sectors that sell directly to travelers. The report indicated that direct labor earnings from travel spending in the three-county region were \$127.6 million for 2010. Of this total, 61 percent of the labor earnings were in Park County (\$78.0 million), with 33 percent in Fremont County (\$42.6 million) and 6 percent in Hot Springs County (\$7.0 million).

Table 3 shows that, after adjusting for inflation, labor earnings from travel spending in the three-county region increased from \$85.0 million in 1998 to \$115.0 million in 2010 (+35 percent). This represents a compound average growth rate of 2.5 percent per year. Among individual counties, the fastest growth rate for labor earning from travel spending was Fremont County which increased by 47 percent between 1998 and 2010 or 3.3 percent annually. Following Fremont County was Park County which grew by 30 percent between 1998 and 2010 or 2.2 percent annually and Hot Springs County which grew by 28 percent between 1998 and 2010 or 2.1 percent annually.

Employment

The Dean Runyan report indicated that direct travel employment in the three-county region was 5,540 jobs in 2010 (Table 4). Of this total, 65 percent of the jobs were in Park County (3,590 jobs), with 29 percent in Fremont County (1,620 jobs), and 6 percent in Hot Springs County (330 jobs).

Table 4 indicates the travel industry employment in the three-county region increased from 4,840 jobs in 1998 to 5,540 jobs in 2010 (+14 percent). This represents a compound average growth rate of 1.1 percent per year. Among individual counties, the fastest growth rate for employment from traveler spending was Fremont County which increased by 23 percent between 1998 and 2010 or 1.7 percent annually. Following Fremont County was Park County which grew by 13 percent between 1998 and 2010 or 1.0 percent annually and Hot Springs County which decreased by -2.9 percent between 1998 and 2010 or -0.2 percent annually.

Local Tax Revenue

The Dean Runyan report for Wyoming indicated that local tax revenue from travel spending in the three-county region was \$5.2 million for 2010. Of this total 69 percent was in Park County (\$3.6 million), with 21 percent in Fremont County (\$1.1 million) and 10 percent in Hot Springs County (\$500,000).

Table 5 indicates that after adjusting for inflation, local tax revenue from travel spending in the three-county region increased from \$3.3 million in 1998 to \$4.7 million in 2010 (+43 percent). This represents a compound average growth rate of 3.0 percent per year. Among individual counties the fastest growth rate for local tax revenue was Hot Springs County which increased by 93 percent between 1998 and 2010 or 5.6 percent annually. Following Hot Springs County was Park County which grew by 46 percent between 1998 and 2010 or 3.2 percent per year and Fremont County which grew by 21 percent between 1998 and 2010 or 1.6 percent per year. The large increase in local tax revenue for Hot Springs County is partially due to the increase in the county's lodging tax rate from 2 percent to 4 percent in 2006.

Seasonality

Changes in monthly private employment in the Leisure & Hospitality sector suggest that the travel industry in the three-county region is seasonal in nature. In 2010 region employment in the Leisure & Hospitality sector peaked during the summer in July at 5,508 jobs (Table 6). June (5,162) and August (5,385) also had high levels of Leisure & Hospitality employment. The July level of employment was nearly 1.7 times higher than the lowest monthly level of employment which was in February (3,326 jobs). By county, the largest difference between high and low levels of employment in the Leisure & Hospitality sector was in Park County which had more than twice as many Leisure and Hospitality jobs in July (3,307 jobs) as in January (1,588 jobs). For Hot Springs County the difference was 34 percent and for Fremont the difference was 30 percent. August (389 jobs) was the peak month for Hot Springs County with February (290 jobs) being the low month. For Fremont County, July (1,815 jobs) was the peak month and December (1,393 jobs) was the low month.

Average Earnings Per Job

Based on the Dean Runyan report, average earnings per job for the travel industry in the three-county were \$23,032 in 2010. For individual counties, average earnings per job for the travel industry ranged from a low of \$21,212 in Hot Springs County to a high of \$26,296 in Fremont County. For Park County the average earnings per job in 2010 were \$21,727.

Table 7 shows that average earnings per job for the travel industry in the three-county region increased in inflation-adjusted dollars from \$17,566 in 1998 to \$20,763 (+18 percent). Hot Springs County had the largest increase in average earnings per job (+32 percent). Following Hot Springs County were Fremont County (+20 percent) and Park County (+15 percent).

2010 data on average earnings per job for all jobs in the region is not currently available from the U.S. Department of Commerce. However, in 2009 the average earning per job for all jobs in Park County was \$36,762. Following Park County was Fremont County at \$35,424 per job and Hot Springs County at \$32,243. Average earnings per job for the travel industry ranged from 26 percent below the county average for Fremont County to 41 percent below the county average for Park County.

Characteristics of Visitors to the Shoshone NF

Information from the National Visitor Use Monitoring Project report for the Shoshone NF provided a description of visitors to the Forest (USDA Forest Service, 2010). This report was based on an intercept survey of visitors to the Forest conducted by the Forest Service during fiscal year 2009. Data from a total of 580 visitors was collected during the survey. The following discussion is based on the results from that survey.

In terms of age distribution, most of the visitors to the Forest were adults over 40 years of age (58 percent). As shown in Table 8, the largest individual category of visitors was the 50 to 59 years old category (22 percent). The second largest general age group was young adults 20 to 39 years of age which represented 30 percent of the recreation visitors to the Forest. The smallest age groups were youth under 20 years of age which represented 12 percent of the recreation visitors to the Forest and individuals 70 or more years of age which represented 4 percent of the recreation visitors to the Forest. Recreational visitors to the Forest were predominately white (99 percent) and the Forest was the primary destination of the trip for 86 percent of the visitors surveyed (Table 8).

In terms of visitor origin, 49 percent of the visitors to the Forest were from the three-county region (Table 9). Among the three counties, Fremont County residents represented 36 percent of total visitors, with Park County representing 13 percent and Hot Springs County representing 0.5 percent. Regional residents from other Wyoming counties and bordering states represented 24 percent of the total visitors to the Forest. Among neighboring states, Montana had the largest proportion of Forest visitors (7 percent). The rest of the Forest visitors were from other states (24 percent) or other counties (2 percent).

In terms of travel distance, nearly two-thirds of the visitors traveled 100 miles or less to get to the Forest with 48 percent traveling 50 miles or less and 30 percent traveling 25 miles or less (Table 10). Another 9 percent traveled 101 to 200 miles and 7 percent traveled 201 to 500 miles. On the other hand, nearly 20 percent of visitors traveled 500 miles or more to get to the Forest.

The average length of stay per visit on the Forest was 32.6 hours with a median of 8.4 hours (Table 11). For individual site visits the median stay ranged from 8.5 hours for undeveloped area use to 1.0 hours for developed day use. The median site visit for developed overnight use was 5.5 hours and for designated wilderness areas was 4.8 hours. The median for all site visits was 4.0 hours. The average values for all visits were substantially higher than the median values indicating that the averages were being significantly affected by a small number extended stay on the forest. On average, visitors went to 1.2 sites during each visit to the Forest. About 3 percent of the total site visits on the Forest were to designated wilderness areas.

The NVUM report provides information on both participation rates by recreation activity and what the primary recreation activity was for visits to the Forest (Table 12). In terms of participations rates, the five top recreation activities were Viewing Natural Features (53 percent), Hiking/Walking (40 percent), Relaxing (32 percent), Viewing Wildlife (24 percent), and Driving for Pleasure (23 percent). Rounding out the top ten were Snowmobiling (14 percent), Picnicking (13 percent), Fishing (10 percent), Hunting (9 percent), and Other Activities (8 percent).

In terms of the primary activity for the trip, the top five recreation activities were Viewing Natural Features (24 percent), Hiking/Walking (15 percent), Snowmobiling (14 percent), Hunting (8 percent), and Other Activities (7 percent). Rounding out the top 10

were Driving for Pleasure (6%), Fishing (5 percent), Horseback Riding (3 percent), Cross-Country Skiing (3 percent), and Viewing Wildlife (2 percent). For some activities such as Snowmobiling, Cross-County Skiing, and Hiking the percentage for primary activity was nearly the same as the percentage for participation which indicates that when visitors participate in these activities they are typically the primary activity participated in during the visits. For other activities such as Relaxing, Picnicking, and Viewing Wildlife the percentage for primary activity was much lower than the percentage for participation indicating that when visitors participate in these activities they tend to not be the primary activity engaged in during the visit. There were also several activities such as Nature Study, Visiting Historical Sites, or Nature Center Activities that were not indicated as primary activities by the respondents.

In terms of special facilities and areas on the Shoshone NF, Table 13 shows that nearly one-half of the visitors did not use special facilities or areas on the Forest. For those visitors that did use special facilities and areas the most frequently used sites were related to motorized activities on the Forest including: Scenic Byways (30 percent), Forest Roads (27 percent), Motorized Dual Track Trails (17 percent), Designated ORV Areas (13 percent), and Motorized Single Track Trails (7%).

Economic Impact of Visitors to the Shoshone NF

Estimates of the economic impact of visitors to the Shoshone NF were based on the latest National Visitor Use Monitoring Results (NVUM) for the Forest (U.S. Forest Service, 2011). The NVUM results were developed from an intercept survey of 580 visitors to the Shoshone NF between October 2008 and September 2009. The survey results represent only visitors who indicated that they were on the Forest to recreate during the site visit.

In order to estimate visitor spending the Forest Service divided the NVUM visitation data in seven trip segments or types. These types include: 1) Non-local residents on day trips, 2) Non-local residents staying overnight on the national forest, 3) Non-local resident staying overnight off the national forest, 4) Local residents on day trips, 5) Local residents staying overnight on the national forest, 6) Local residents staying overnight off the national forest, and 7) Visits where recreating on the national forest was not the primary trip purpose of the overall trip.

Table 14 summarizes the estimated total recreation visits to the Shoshone NF by type of visit. Total visits to the forest were estimated to be more than 646,000. A visit is defined as the entry of one person upon the national forest to participate in recreation activities for an unspecified period of time. Of the total visits, 35 percent (226,121) were estimated to be visits by non-local residents and 51 percent (329,490) were estimated to be by local residents. Fourteen percent (90,448) were estimated to be non-primary visits. Local visitors were defined as individuals living within 50 miles of the recreation site. Visits by local residents tended to be day visits while non-local resident visits usually involved a day trip or an overnight stay in the area adjacent to the forest.

Because only one-third of the visitors sampled in the NVUM process were asked questions about their spending, there was not a large enough sample to reliably estimate visitor spending by individual forest. Instead the Forest Service estimated visitor spending for three categories of forests: 1) Above Average Spending Forests, 2) Average Spending Forests, and 3) Below Average Spending Forests (Stynes and White, 2005). The Average Spending Forests estimates were used for the Shoshone NF based on the NVUM data. Table 15 summarizes the per-group, per-visit spending estimates used in the analysis. These spending estimates are expressed in 2009 dollars. Visitor expenditures for non-primary visits were not considered in the analysis. Although a downhill ski area on Shoshone NF is currently in operation, no visits to downhill ski were reported in 2009.

By combining the recreation visits information in Table 14 and the per visit spending estimates from Table 15 it was possible to estimate total visitor spending for the Shoshone NF. These results are summarized in Table 16. Because recreation visits were reported on an individual basis while spending was reported on a per group basis the individual visit estimates in Table 14 were converted to per party visits. Total visitor spending for the Shoshone NF was estimated to be \$33.6 million. Of this total, \$25.5 million (76 percent) was estimated to be by non-local residents, primarily from visitors staying overnight off the Forest with \$8.1 million (24 percent) by local residents, primarily on day visits. Non-locals represent a higher proportion of total spending despite being a lower proportion of total visits due to their higher expenditures per visit.

The economic impact of visitor expenditures was estimated using the modified IMPLAN model for the three-county region. In this analysis the economic activity generated by recreation opportunities on the Forest was based on the net spending associated with recreation visitation. Thus, the analysis considers all expenditures by non-local visitors and any spending by local visitors who indicated that they would have gone to another site located outside the local area if they had not been able to recreate on the Shoshone NF, as part of the overall economic impact. Both types of expenditures are part of the net contribution of the recreational opportunities on the Forest to the local economy under the “with and without” principle of economics. The spending associated with local visitors who indicated that they would have participated in other activities in the area if they had not been able to recreate on the Shoshone NF was not considered as part of the economic impact of visitation to the Forest since there is no loss but only a redistribution within the local economy. The NVUM data indicates that the expenditures associated with 17 percent of local day trips, 36 percent of local overnight trips on the Forest and 46 percent of local overnight trips off the forest would have been lost to the local economy without the recreation resources of the Forest (White and Stynes, 2010). As shown in Table 16 the net economic activity associated with visitation to the Shoshone NF from this perspective was estimated to be \$27.7 million.

Table 17 summarizes the estimated economic impact of Shoshone NF visitor spending reported by the IMPLAN model. The results indicate that the \$27.7 million in visitor expenditures supported a total of 388 jobs and \$10.2 million in labor earnings within the economy of the three-county region. Non-local visitors staying overnight off the Forest generated more than three-fourths of the total jobs and nearly three-fourths of the total

labor earnings. Average earnings per job ranged from an estimated \$25,731 for spending associated with non-local staying overnight off the Forest to an estimated \$33,314 for spending associated with local visitors staying overnight on the forest. The average for all visitors spending was an estimated \$26,350 per job.

Commercial Recreation on Shoshone NF

In addition to the general recreation use of the Shoshone NF, a number of commercial recreation businesses operate on the Forest. Information from the Forest indicated that it administers 133 special use permits for recreation related activities. This total includes 110 outfitters and guides permits, 17 resort permits, 2 winter recreation permits, 3 organization camps permits, and 1 commercial campground (Table 18). Approximately 47 percent of these permits were in the north zone of the Forest, including 47 outfitter and guide permits, 13 resort permits, 2 winter recreation permits, and 1 organization camp permit. The other 53 percent of the permits in the south zone of the Forest include 63 outfitter and guide permits, 4 resort permits, 2 organization camp permits and 1 commercial campground permit.

Since many commercial recreation permit fees are based on a percentage of the permit holder's gross revenue, it was possible to estimate the gross revenue for these commercial recreation activities on the Forest based on the fees paid to the Forest Service by the permit holders. In other cases some commercial permit holders are required to report their gross revenues to the Forest Service. Table 18 indicates that the gross revenue for commercial recreation permits, excluding organization camps, on the Shoshone NF totaled \$16.0 million. This amount includes \$8.7 million for outfitters and guides, \$7.1 million for resorts, more than \$226,000 for winter recreation and more than \$22,000 for commercial campgrounds. Although total gross revenues were fairly evenly divided between the north and south zones of the Forest, most of the outfitter and guide revenue occurred on the south zone of the Forest (\$6.2 million vs. \$2.4 million), while most of the resort revenue occurred on the north zone of the Forest (\$5.2 million vs. \$2.0 million). The \$16.0 million in gross revenue is a conservative estimate of the spending by visitors using these recreation services since it only accounts for expenditures with the permit holder and does not consider expenditures with other local businesses during the visitors stay in the area.

Since this spending presumably represents new money to the region's economy that is not accounted for in the NVUM analysis, the economic impact of these expenditures was estimated using a modified IMPLAN model of Fremont County to represent the south zone of the Forest and modified IMPLAN model of Park and Hot Springs Counties to represent the north zone of the Forest. The lower part of Table 18 summarizes the estimated economic impact of that this visitor spending generated by the IMPLAN models. The results indicate that the \$7.8 million in gross revenue from commercial recreation resulted in \$10.7 million of total economic activity in the north zone of the Forest. The \$10.7 million in economic activity was estimated to have supported more than 173 jobs and \$3.5 million in labor income within the Fremont County economy.

The average earnings per job associated with this employment were estimated to be \$20,382.

For the south zone of the Forest the results indicate that the \$8.2 million in gross revenue from commercial recreation resulted in \$10.7 million of total economic activity. The \$10.8 million in economic activity was estimated to have supported nearly 180 jobs and \$4.0 million in labor income within the Park and Hot Springs economy. The average earnings per job associated with this employment were estimated to be \$22,216.

Combining the results for the north and south zone of the Forest, the \$16.0 million in gross revenue from commercial recreation, forest-wide, resulted in \$21.6 million in economic activity in the three-county region. The \$21.6 million in economic activity is estimated to have supported 353 jobs and \$7.5 million in labor income in the three-county region. The forest-wide economic impact includes the economic impact specific to Fremont County and Park/Hot Springs Counties as well as the interaction between the two regions.

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Table 1. Traveler Destination Spending in Shoshone NF Region, 1998-2010 (2005\$)

Year	<i>Fremont Deflated (000\$)</i>	<i>Hot Springs Deflated (000\$)</i>	<i>Park Deflated (000\$)</i>	<i>Region Deflated (000\$)</i>
1998	\$78,002	\$16,957	\$194,010	\$288,969
2000	\$85,620	\$19,516	\$205,309	\$310,445
2002	\$85,977	\$18,672	\$212,011	\$316,659
2004	\$93,624	\$19,221	\$208,226	\$321,071
2006	\$107,499	\$24,115	\$210,155	\$341,769
2007	\$113,739	\$24,460	\$232,370	\$370,569
2008	\$125,669	\$25,686	\$240,842	\$392,197
2009	\$106,646	\$22,716	\$231,903	\$361,264
2010 preliminary	\$114,126	\$22,537	\$247,272	\$383,935
Total Change 1998 to 2010	46.3%	32.9%	27.5%	32.9%
Annual Change 1998 to 2010	3.2%	2.4%	2.0%	2.4%

Source: Dean Runyan Associates

Table 2. Traveler Spending by Lodging Type for Shoshone NF Region, 2010 (Preliminary – 2010\$)

Type	<i>Fremont (000\$)</i>	<i>Hot Springs (000\$)</i>	<i>Park (000\$)</i>	<i>Total (000\$)</i>
Hotel/Motel	\$45,000	\$12,600	\$142,100	\$199,700
Campground	\$31,400	\$7,800	\$91,500	\$130,700
Private Home	\$24,100	\$1,900	\$16,100	\$42,100
Day Travel	\$19,900	\$2,000	\$18,600	\$40,500
Vacation Home	\$6,100	\$700	\$5,900	\$12,700
Total	\$126,500	\$25,000	\$274,200	\$425,700

Source Dean Runyan Associates

Table 3. Travel Industry Earnings for Shoshone NF Region, 1998-2010p (2005\$)

<i>Year</i>	<i>Deflated Fremont (000\$)</i>	<i>Deflated Hot Springs (000\$)</i>	<i>Deflated Park (000\$)</i>	<i>Deflated Region (000\$)</i>
1998	\$26,079	\$4,912	\$54,028	\$85,018
2000	\$26,622	\$5,302	\$55,614	\$87,538
2002	\$27,682	\$5,319	\$57,752	\$90,753
2004	\$30,278	\$5,374	\$59,523	\$95,174
2006	\$32,153	\$6,392	\$56,364	\$94,909
2007	\$34,714	\$6,491	\$64,255	\$105,460
2008	\$39,128	\$6,629	\$67,576	\$113,332
2009	\$37,495	\$6,933	\$68,421	\$112,850
2010 preliminary	\$38,402	\$6,310	\$70,314	\$115,027
Total Change 1998 to 2010p	47.3%	28.5%	30.1%	35.3%
Annual Change 1998 to 2010p	3.3%	2.1%	2.2%	2.5%

Source: Dean Runyan Associates

Table 4. Travel Industry Employment for Shoshone NF Region, 1998-2010 (2005\$)

<i>Year</i>	<i>Fremont</i>	<i>Hot Springs</i>	<i>Park</i>	<i>Region</i>
1998	1,320	340	3,180	4,840
2000	1,340	330	3,280	4,950
2002	1,350	320	3,370	5,040
2004	1,470	330	3,500	5,300
2006	1,400	380	3,230	5,010
2007	1,500	360	3,480	5,340
2008	1,650	340	3,530	5,520
2009	1,580	360	3,540	5,480
2010 preliminary	1,620	330	3,590	5,540
Total Change 1998 to 2010p	22.7%	-2.9%	12.9%	14.5%
Annual Change 1998 to 2010p	1.7%	-0.2%	1.0%	1.1%

Source: Dean Runyan Associates

Table 5. Travel Industry Local Tax Receipts for Shoshone NF Region, 1998-2010 (2005\$)

<i>Year</i>	<i>Deflated Fremont (000\$)</i>	<i>Deflated Hot Springs (000\$)</i>	<i>Deflated Park (000\$)</i>	<i>Deflated Region (000\$)</i>
1998	\$819	\$234	\$2,222	\$3,274
2000	\$902	\$338	\$2,369	\$3,610
2002	\$760	\$326	\$2,497	\$3,582
2004	\$723	\$310	\$2,480	\$3,513
2006	\$872	\$387	\$2,615	\$3,874
2007	\$941	\$376	\$2,916	\$4,233
2008	\$1,013	\$460	\$3,038	\$4,511
2009	\$912	\$365	\$3,011	\$4,288
2010 preliminary	\$992	\$451	\$3,245	\$4,688
Total Change 1998 to 2010	21.1%	92.7%	46.1%	43.2%
Annual Change 1998 to 2010	1.6%	5.6%	3.2%	3.0%

Source: Dean Runyan Associates

Table 6. Private Leisure & Hospitality Employment in Shoshone NF, 2009

<i>Month</i>	<i>Fremont Employment</i>	<i>Hot Springs Employment</i>	<i>Park Employment</i>	<i>Region Employment</i>
Jan	1,457	300	1,588	3,345
Feb	1,445	290	1,591	3,326
Mar	1,475	304	1,615	3,394
Apr	1,442	318	1,785	3,545
May	1,489	356	2,364	4,209
Jun	1,668	381	3,113	5,162
Jul	1,815	386	3,307	5,508
Aug	1,781	389	3,215	5,385
Sep	1,628	350	2,878	4,856
Oct	1,470	303	2,231	4,004
Nov	1,417	299	1,768	3,484
Dec	1,393	295	1,716	3,404
Average	1,540	331	2,264	4,135
Peak	1,815	389	3,307	5,508
Low	1,393	290	1,588	3,326
Difference	30.3%	34.1%	108.2%	65.6%

Source: Bureau of Labor Statistics

Table 7. Travel Industry Average Earnings/Job in Shoshone NF Region, 1998-2010 (2005\$)

<i>Year</i>	<i>Fremont Average Earnings Per job</i>	<i>Hot Springs Average Earnings Per job</i>	<i>Park Average Earnings Per job</i>	<i>Region Average Earnings Per job</i>
1998	\$19,756	\$14,446	\$16,990	\$17,566
2000	\$19,867	\$16,066	\$16,955	\$17,684
2002	\$20,505	\$16,623	\$17,137	\$18,007
2004	\$20,597	\$16,284	\$17,006	\$17,957
2006	\$22,966	\$16,821	\$17,450	\$18,944
2007	\$23,143	\$18,031	\$18,464	\$19,749
2008	\$23,714	\$19,496	\$19,143	\$20,531
2009	\$23,731	\$19,259	\$19,328	\$20,593
2010 preliminary	\$23,705	\$19,122	\$19,586	\$20,763
Change	20.0%	32.4%	15.3%	18.2%

Source: Dean Runyan Associates

Table 8. Description of Visitors to Shoshone NF, FY2009

Age of Shoshone NF Recreation Visitors

Under 16	10.0%
16 to 19	2.1%
20 to 29	15.2%
30 to 39	14.5%
40 to 49	17.5%
50 to 59	21.8%
60 to 69	14.6%
70 Plus	4.3%
Total	100.0%

Race/Ethnicity of Shoshone NF Recreation Visitors

White	98.6%
Hispanic	4.4%
Native American	1.3%
Asian	0.2%
Pacific Islander	0.1%
Black	0.0%

Recreation on Forest was Primary Trip Destination

Yes	86.0%
No	14.0%
Total	100.0%

Source: Shoshone NF NVUM

Table 9. Origin of Shoshone NF Recreation Visitors, FY2009

Local	
Fremont Park	35.9%
Hot Springs	12.6%
	0.5%
Total Local	49.0%
Regional	
Other Wyoming	10.5%
Montana	6.6%
Colorado	3.8%
Utah	2.2%
Idaho	0.7%
Total Regional	23.8%
Other States	23.8%
Other Countries	1.7%
Unknown	1.7%
Total	100.0%

Source: Shoshone NF NVUM

Table 10. Distance Traveled to Shoshone NF for Recreation Visitors, FY2009

	<i>Percent</i>	<i>Cumulative</i>
25 Miles of Less	29.9%	29.9%
26-50 Miles	18.3%	48.2%
51-75 Miles	6.7%	54.9%
76-100 Miles	11.0%	65.9%
101-200 miles	8.5%	74.4%
201-500 Miles	6.8%	81.2%
500+ Miles	18.8%	100.0%
Total	100.0%	

Source: Shoshone NF NVUM

Table 11. Forest and Site Visit Length of Stay by Site Type, FY2009

	<i>Average (Hours)</i>	<i>Median (Hours)</i>
Site Visits:		
Developed Day Use	1.5	1.0
Developed Overnight Use	23.5	5.5
Undeveloped Areas	9.4	8.5
Designated Wilderness	34.4	4.8
Average - All Sites	21.5	4.0
National Forest Visit	32.6	8.4

Source: Shoshone NF NVUM

Table 12. Recreation Activities on Shoshone NF, FY2009

<i>Activity</i>	<i>Participation Rate*</i>	<i>Primary Activity</i>	<i>Percent Primary*</i>
Viewing Natural Features	53.5%	24.5%	45.8%
Hiking/Walking	39.9%	15.5%	38.8%
Relaxing	32.1%	2.0%	6.2%
Viewing Wildlife	24.0%	2.3%	9.6%
Driving for Pleasure	23.3%	5.7%	24.5%
Snowmobiling	14.3%	14.0%	97.9%
Picnicking	12.7%	1.2%	9.4%
Fishing	10.4%	4.8%	46.2%
Hunting	9.1%	8.0%	87.9%
Some Other Activity	7.6%	6.6%	86.8%
Nature Study	5.6%	0.0%	0.0%
Motorized Trail Activity	5.2%	0.7%	13.5%
Primitive Camping	4.7%	1.1%	23.4%
OHV Use	4.2%	1.5%	35.7%
Developed Camping	4.1%	1.7%	41.5%
Resort Use	3.9%	0.5%	12.8%
Horseback Riding	3.7%	2.9%	78.4%
Visiting Historic Sites	3.0%	0.0%	0.0%
Cross-Country Skiing	3.0%	2.9%	96.7%
Gathering Forest Products	2.6%	0.4%	15.4%
No Activity Reported	2.2%	2.2%	0.0%
Backpacking	1.9%	0.6%	31.6%
Bicycling	1.2%	0.5%	41.7%
Non-Motorized Water	1.1%	0.5%	45.5%
Nature Center Activities	1.0%	0.0%	0.0%
Motorized Water Activities	0.8%	0.0%	0.0%
Other Non-Motorized	0.7%	0.2%	28.6%
Other Motorized Activities	0.0%	0.0%	0.0%
Downhill Skiing	0.0%	0.0%	0.0%

* Individuals may indicate more than one activity

Source: Shoshone NF NVUM

Table 13. Use of Special Facilities and Regions on Shoshone NF, FY2009

<i>Facility/Area</i>	<i>Visitor Use</i>
None of These	48.2%
Scenic Byway	30.0%
Forest Roads	26.9%
Motorized Dual Track Trail	17.5%
Designated ORV Area	13.3%
Motorized Single Track Trail	6.7%
Information Sites	5.3%
Visitor Center or Museum	3.4%
Developed Swimming Site	2.8%
Developed Fishing Site	2.7%
Interpretive Displays	2.4%
Source: Shoshone NF NVUM	

Table 14. Total Recreation Visits to Shoshone NF, FY2009

<i>Trip Type</i>	<i>Visits</i>	<i>Percent</i>
Non-local Day Trips	96,909	15.0%
Non-local Overnight on Forest	32,303	5.0%
Non-local Overnight off Forest	96,909	15.0%
Total Non-local Visits	226,121	35.0%
Local Day Trips	284,266	44.0%
Local Overnight on Forest	25,842	4.0%
Local Overnight off Forest	19,382	3.0%
Total Local Visits	329,490	51.0%
Non Primary Visits	90,448	14.0%
Total Visits	646,059	100.0%
Source: Shoshone NF NVUM		

Table 15. Visitor Spending Estimates for Shoshone NF, 2009 (2009\$)

<i>Trip Type</i>	<i>Per Party Per Trip (2009\$)</i>	<i>Per Party Per Day (2009\$)</i>
Non-local Day Trips	\$62.91	\$62.91
Non-local Overnight on Forest	\$237.42	\$72.83
Non-local Overnight off Forest	\$539.63	\$122.09
Local Day Trips	\$34.75	\$34.75
Local Overnight on Forest	\$174.79	\$73.44
Local Overnight off Forest	\$209.89	\$56.73
Non Primary Visits	\$412.78	\$140.88
Average Spending	\$181.82	\$90.93
Source: National NVUM Data		

Table 16. Total Visitor Spending for the Shoshone NF, FY2009 (2009\$)

<i>Trip Type</i>	<i>Individual Visits</i>	<i>Party Size</i>	<i>Party Visits</i>	<i>Spending Per Visit</i>	<i>Total Spending</i>	<i>Economic Impact</i>
NL Day Trips	96,909	2.5	38,764	\$62.91	\$2,438,711	\$2,438,711
NL Overnight on Forest	32,303	2.6	12,424	\$237.42	\$2,949,784	\$2,949,784
NL Overnight off Forest	96,909	2.6	37,273	\$539.63	\$20,113,390	\$20,113,390
Local Day Trips	284,266	2.1	135,365	\$34.75	\$4,703,908	\$799,664
Local Overnight on Forest	25,842	2.8	9,229	\$174.79	\$1,613,145	\$580,732
Local Overnight off Forest	19,382	2.3	8,427	\$209.89	\$1,768,757	\$813,628
Non Primary Visits	90,448	2.5	36,179	N.A.	N.A.	
Total Spending	646,059	2.3	277,661		\$33,587,695	\$27,695,910
Non-local					\$25,501,885	\$25,501,885
Local					\$8,085,810	\$2,194,025
Total					\$33,587,695	\$27,695,910

Table 17. Economic Impact of Visitor Spending for Shoshone NF (2009\$)

<i>Type</i>	<i>Direct Spending</i>	<i>Total Employment</i>	<i>Total Earnings</i>	<i>Total Output</i>	<i>Average Earnings Per Job</i>
Non-local Day Trips	\$2,438,711	31.1	\$810,052	\$3,001,315	\$26,047
Non-local Overnight on Forest	\$2,949,784	35.5	\$1,061,218	\$3,695,421	\$29,893
Non-local Overnight off Forest	\$20,113,390	297.0	\$7,642,134	\$26,003,938	\$25,731
Local Day Trips	\$799,664	9.0	\$246,671	\$969,414	\$27,408
Local Overnight on Forest	\$580,732	5.7	\$189,892	\$705,159	\$33,314
Local Overnight off Forest	\$813,628	10.1	\$284,443	\$1,020,164	\$28,163
Total	\$27,695,910	388.4	\$10,234,410	\$35,395,412	\$26,350
Source: Modified IMPLAN Model					

Table 18. Commercial Recreation on Shoshone NF, 2010 (20010\$)

<i>Type</i>	North Zone		South Zone		Forest	
	<i>North Zone Number of Permits</i>	<i>North Zone Estimated Gross Revenue</i>	<i>South Zone Number of Permits</i>	<i>South Zone Estimated Gross Revenue</i>	<i>Forest Number of Permits</i>	<i>Forest Estimated Gross Revenue</i>
Gross Revenue						
Outfitters & Guides	47	\$2,445,038	63	\$6,220,752	110	\$8,665,790
Resorts	13	\$5,117,988	4	\$1,994,354	17	\$7,112,342
Winter Recreation	2	\$226,485	0	\$0	2	\$226,485
Organization Camps	1	N.A.	2	N.A.	3	N.A.
Campgrounds	0	\$0	1	\$22,044	1	\$22,044
Total	63	\$7,789,511	70	\$8,237,150	133	\$16,026,661
Source: Shoshone NF						
Economic Impact						
		North Zone		South Zone		Forest (1)
Gross Revenue		\$7,789,511		\$8,237,150		\$16,026,661
Total Economic Activity		\$10,687,318		\$10,841,808		\$21,597,888
Total Employment		173.1		179.6		353.0
Total Earnings		\$3,528,127		\$3,989,961		\$7,539,476
Average Earning Per Job		\$20,382		\$22,216		\$21,356
(1) Forest total includes interaction impacts between the two zones						
Source: IMPLAN						

AGRICULTURE

Gross Income

Data from the U.S. Department of Commerce's Bureau of Economic Analysis indicates that the gross income for agriculture in the three-county region totaled \$177.9 million in 2009 (Table 1). Of this total \$86.9 million (49 percent) was from livestock marketing, \$63.0 million (35 percent) was from crop marketing, and \$28.0 million (16 percent) was from other sources. Other sources of income include government payments, value of home consumption, machine/custom work income, rental income, and income from forest products.

Fremont County had the largest agricultural gross income in the region with \$87.1 million (49 percent of the total). Park County was second with \$76.3 million (43 percent of the total), and Hot Springs county was third with \$14.5 million (8 percent of the total). Livestock marketing was the largest source of gross income for agriculture in both Fremont and Hot Springs Counties, ranging from 74 percent in Hot Springs County to 52 percent in Fremont County. In Park County, crop marketing was the largest source of gross income for agriculture (51 percent).

Between 1990 and 2009 the gross income for agriculture for the three-county region averaged \$174.7 million (Table 2). During this time period gross income for agriculture has ranged from a high of \$189.0 million in 2006 to a low of \$154.3 million in 1996. Since 2006 there has been a general decline in gross income for agriculture in the region. Livestock marketing has remained the largest source of gross income for agriculture in the region, averaging 57 percent of the total from 1990 to 2009. Livestock marketing ranged from a high of 65 percent of total gross income in 2004 to a low of 49 percent in 2009. There has been a general decline in gross income from livestock marketing in the region since 2004.

Employment

In 2009 there were a total of 2,597 agricultural jobs in the three-county region (U.S. Department of Commerce, 2011). Fifty-seven percent of these jobs were in Fremont County, with 36 percent in Park County and 7 percent in Hot Springs County (Table 3). Although subject to some fluctuations, agricultural employment in the region has generally been growing between 1990 and 2009. In 1990 there were 2,157 agricultural jobs in the region. By 2009 that number had increased to by 440 to 2,597 (+20 percent). In 2001 the federal government changed the classification system they used to report employment; as a result employment estimates for 2001 through 2009 may not be entirely comparable to the previous years. Between 2001 and 2009 agricultural employment in the region, under the new classification system, increased by 193 jobs from 2,404 in 2001 to 2,597 in 2009 (+8 percent).

The changes in agricultural employment varied between county. For example agricultural employment in Fremont County increased by 355 jobs between 1990 and 2009 (+31

percent). Meanwhile, agricultural employment in Hot Springs County declined by 18 jobs (-9 percent) between 1990 and 2009. For Park County, agricultural employment increased by 103 jobs (+12 percent) between 1990 and 2009. All three counties have experienced increases in agricultural employment since 2006.

Labor Earnings

In 2009, labor earnings for agriculture in the three-county region totaled \$7.7 million (U.S. Department of Commerce, 2011). By individual county labor earnings for agriculture in 2009 ranged from -\$2.0 million in Fremont County to \$1.0 million in Hot Springs County, and \$8.7 million in Park County. In contrast to the relative increase in agricultural employment between 1990 and 2009, labor earnings for agriculture in the region have general been declining since 1992, falling from \$56.0 million in 1992 to \$7.0 million in 2009 (Table 4). This decline probably reflects price variability resulting from the cyclical nature of cattle prices, increasing production costs, and declines associated with weather conditions, particularly drought.

For Fremont County labor earning for agriculture ranged from highs of \$25 million in 1991 to a low of -\$1.8 million in 2009. For Hot Springs County labor earnings for agriculture ranged from a high of \$6.3 million in 1993 to a low of -\$526,000 in 1996. In 2009 labor earnings for agriculture in Hot Springs County were \$924,000 in 2005 dollars. For Park County labor earnings for agriculture ranged from a high of \$28.2 million in 1992 to a low \$6.7 million in 2007. Perhaps due to greater diversification in its agriculture production, Park County did not experience any years of negative labor earnings for agriculture between 1990 and 2009. In 2009 labor earnings for agriculture in Park County were \$7.9 million in 2005 dollars. Due to the federal government's change in classification systems for reporting employment, labor earnings estimates for 2001 through 2009 may not be entirely comparable to the previous years.

Average Earnings Per Job

In 2009 average earnings per job for agriculture in the three-county region averaged \$7,032 (U.S. Department of Commerce, 2011). Park County had the highest average earnings per job with \$7,939. Hot Springs County was next with average earnings per job of \$924. Fremont County had the lowest average earnings per job with -\$1,831. Average earnings per job have generally been declining in the region (Table 5). This is not surprising since agricultural employment has been increasing while agricultural labor earnings have been declining. Between 1990 and 2009 average earnings per job for agriculture in the region has varied from a high of \$25,923 in 1992 to a low of \$2,708 in 2009 (2005 dollars). Between 1990 and 2000, average earnings per job for agriculture in the region averaged \$17,086. However, between 2000 and 2009, average earnings per job for agriculture in the region averaged \$8,138.

Among individual counties, average earnings per job for agriculture in Fremont County ranged from a high \$22,230 in 1991 to a low of -\$1,236 in 2009 (2005 dollars). Average earnings per job have been negative in Fremont for only one year between 1990 and

2009. For the other counties, average earnings per job for agriculture ranged from a high of \$32,776 in 1993 to a low of -\$2,670 in 1996 for Hot Springs County. Average earnings per job have been negative in Hot Springs County for two years between 1990 and 2009. For Park County average earnings per job for agriculture have ranged from a high of \$34,395 in 1992 to a low of \$7,126 in 2007. Average earnings per job were not negative in Park County for any of the years between 1990 and 2009. When viewing average earnings per job for agriculture it is important to remember that the figures include a large number of part-time operators who receive very little income from agriculture but are still counted as employed in agriculture. Again, due to the federal government's change in classification systems for reporting employment, average earnings per job estimates for 2001 through 2009 may not be entirely comparable to the previous years.

Beef Cow Inventory

In 2010, the beef cow inventory in the region stood at 85,000 head (Table 6). Fifty-three percent of the inventory was in Fremont County, with 18 percent in Hot Springs County and 29 percent in Park County. From 1990 through 2000 the beef cow herd in the three-county region increased by 52 percent from 77,100 head in 1990 to 116,900 head in 2000. However, between 2002 and 2006 the beef cow inventory in the three-county region declined by 22 percent from 114,900 head in 2002 to 90,010 head in 2003 due to drought. The beef cow inventory in the region has remained fairly constant since 2002 averaging slightly more than 90,000 head between 2003 and 2010. Overall, in 2010 the region's beef cow inventory was 10 percent larger than it was in 1990.

The rates of growth and decline in the beef cow inventory varied by county. In Fremont County, the beef cow inventory increased by 63 percent between 1990 and 2000 and then declined by 17 percent between 2002 and 2003. In Hot Springs County, the beef cow inventory increased by 6 percent between 1990 and 2000 and then declined by 18 percent between 2002 and 2003. In Park County, the beef cow inventory increased by 68 percent between 1990 and 2000 and then declined by 22 percent between 2002 and 2003.

Breeding Sheep Inventory

In 2008, the breeding sheep inventory in the region was 21,000 head (Table 7). Fifty-two percent of the inventory was in Fremont County, with 29 percent in Hot Springs, and 19 percent in Park County. In contrast to beef cattle, the sheep inventory in the three-county region has declined substantially over time. Between 1990 and 1999 the number of breeding sheep in the region decline by 40,000 head (-64 percent). Since 1999 however, the sheep inventory in the three-county region has been fairly stable averaging slightly more than 21,000 head per year.

The majority of the regional decline in breeding sheep inventory occurred in Fremont County where the number of sheep decreased from 40,000 head in 1990 to 11,000 head in 2008 (-75 percent). In Hot Springs County the breeding sheep inventory decreased from 7,000 head in 1990 to 6,000 head in 2007 (-14 percent). In Park County, the breeding sheep inventory decreased from 15,000 head in 1990 to 4,000 head in 2007 (-73

percent). These declines were consistent with an overall decline in the sheep industry in the Western United States due a variety of factors including low commodity prices, predators, and lack of labor availability. In 2009, the National Agricultural Statistics Service began reporting sheep inventories in Wyoming in terms of all sheep and lambs rather than just breeding sheep as they had in the past. As a result it is not possible to compare county sheep inventories estimates from before 2009 with the sheep inventory estimates after 2009.

Land Use

Agriculture is the dominate private land use in the three-county region. Agricultural land accounts for 1.8 million of the 2.0 million acres (90 percent) of private land in the region (Table 8). Approximately 1.5 million acres of the private land in the region is classified as range land. This represents 77 percent of the private land in the region. The percentage of private land in agriculture ranged from 90 percent in Fremont County to 96 percent in Hot Springs County and 86 percent in Park County. The percentage of private land classified as range land ranged from 75 percent in Fremont County and 72 percent in Park County, to 90 percent in Hot Springs County. Due to its importance as a landholder agriculture plays a major role in private land use in the region.

Agricultural operations holding grazing permits are particularly important in terms of private land use in the region. Fifty-one percent of the ranches in the region (434) hold grazing permits (Table 9). This ranges from approximately 50 percent in Fremont and Park Counties to 63 percent in Hot Springs County. Approximately two-thirds of these grazing permits are federal permits (either Forest Service or Bureau of Land Management) with some operations holding more than one type of permit. This ranges from 59 percent in Fremont County to 76 percent in Park County and 84 percent in Hot Springs County. Agricultural operations holding grazing permits tend to be the larger operations in the region. Because of this, they represent 2.6 million of the 3.0 million acres (87 percent) of agricultural land in the region (Note: not all land in agricultural use is private). Because much of the agricultural land in the region is tied to grazing permits, changes in permitted grazing may have implications for private land use in the region. The 1997 Census of Agriculture was the last census to publish this information.

Amenity Value

In addition to food and fiber production, the agricultural industry enjoys a long tradition in Wyoming and directly influences the majority of private land within the region. The open spaces associated with agriculture offer landscapes, lifestyles, and wildlife habitat. As a result, significant changes in the economic viability of the industry, regardless of cause, are likely to have important economic, social, cultural, and environmental implications. A recent survey conducted for a group including the Wyoming Stock Growers Association, the Ruckelshaus Institute of Environment and Natural Resources, and the Nature Conservancy (Public Opinion Strategies and FMMA, 2007) found that nearly three-fourths of state residents felt that they personally benefit from the presence of farms and ranches in Wyoming. In addition nearly 60 percent of respondents were

concerned about the availability of water for farming and ranching in Wyoming and nearly 50 percent were concerned with the loss of family farms and ranches in the State. The concerns regarding agriculture, water and retaining farms and ranches ranked 3rd and 5th out of 17 possible concerns facing Wyoming residents.

Much of the agricultural land in the region is productive rangeland for both livestock and wildlife. The American Farmland Trust (AFT) classified 1.4 million acres of the private land in the three-county region as “prime” rangeland (American Farmland Trust, 2002). This includes 464,000 acres in Fremont County, 217,600 acres in Hot Springs County, and 697,600 acres in Park County. The AFT defines “prime” rangeland as high quality land with desirable wildlife characteristics including proximity to publicly owned lands, year-round water availability, mixed grass and tree cover, and a variety of vegetation. The AFT has also estimated that, due to the proximity of the “prime” rangeland to developed areas, up to 46 percent of the “prime” rangeland in the region could potentially be developed by 2020. This would represent the conversion of more than 631,040 acres of agricultural land in the region to residential development. Such a conversion would affect 64 percent of the “prime” rangeland in Fremont County and 48 percent of the “prime” rangeland in Park County. The AFT study ranked Park County (15th) and Fremont County (21st) among the top 25 counties in the Rocky Mountain Region in terms of acres that potentially could be developed by 2020.

In addition to the social, cultural, and environmental implications of the conversion of “prime” rangeland in the region, there would also be significant economic implications beyond food and fiber production. Studies in Colorado have found that rangeland provides important economic benefits to both residents and visitors. Magnan et al (2005) found that the natural environment, rangelands, and western historical preservation were the three most important contributors to local quality of life in Routt County. The analysis indicated that the value of rangelands to current Routt County residents is likely to be \$20-\$30 million. Ellingson et al (2005) found that the natural environment, ranch open space, western historical preservation, and recreational amenities are local assets that strongly add to the summer visitors’ experience. The analysis indicated that 50 percent of Routt County’s summer tourists would reduce their expenditures and time spent in the area if existing rangelands were converted to urban uses. This reduction would cost the county about \$8 million per year in lost direct revenue. Orens and Seidl (2004) found that Gunnison’s public open space and private working landscapes contribute to the quality of the winter tourism in the area. Their analysis indicates that wholesale conversion of local rangeland to tourism infrastructure and second homes may reduce winter tourism by as much as 40 percent. The impact of such a change could reach \$14 million dollars and 350 jobs per year. While it is unclear precisely how these economic values might translate to the three-county region considered in this analysis, it does seem likely that there are significant amenity values closely associated with agricultural lands in the region.

Livestock Grazing on the Shoshone NF

Livestock grazing on the Shoshone NF has been declining over time. In the 1940's there were an average of 231,577 AUM of grazing actually used on the Forest, including 183,812 AUM of sheep grazing and 47,765 AUM of cattle grazing (Table 10). Since 2000 the average has been 55,987 AUM including 55,199 AUM of cattle grazing and 789 AUM of sheep grazing. This represents a 76 percent decrease in livestock grazing on the Forest and was almost exclusively a result of declining sheep grazing. This decrease was consistent with the previously discussed decline in sheep numbers in the region. In contrast, cattle grazing AUM's have remained relatively stable over time.

Table 11 summarizes permitted livestock grazing on the Shoshone NF since the last Forest Plan. After generally declining between 1986 and 1994, permitted cattle/horse AUM's have generally been increasing since 1994. In 2010, permitted cattle/horse AUM's were 33 percent higher than they were in 1986. On the other hand, permitted sheep AUM's on the Forest continued to decline from 1986 through 2005 going from 13,700 in 1986 to 500 AUM's in 2005. Since 2005, permitted sheep AUM's on the Forest have ranged between 500 and 600 AUM's. The net effect of the increase in cattle/horse AUM's and the decline in sheep AUM's has been a moderate increase total permitted AUM's of grazing on the Forest going from 60,000 in 1986 to as high as 68,100 in 2008. In 2010 total permitted AUM's on the Forest were 62,240.

Information from the Shoshone NF indicated that historically approximately 60 percent of the grazing was on the north end of the Forest with the other 40 percent being on the south end of the Forest. This means that 37,344 AUMs of grazing were in the north zone of the Forest and 24,896 AUMs were in the south zone of the Forest in 2010. Sheep grazing occurred only in the south end of the Forest.

Ranch Simulation Model

Although ranches in the region are typically only dependent on federal land grazing for forage during certain times of the year, this forage source can be a critical part of their livestock operation. Greer (1994) and Taylor et al (1992) both found that while the reliance of ranchers on forage from federal land grazing can appear relatively unimportant when calculated on an acreage or AUM basis, they become quite important when calculated on a seasonal dependency basis. The rigidity of seasonal forage availability means that the optimal use of other forages and resources are impacted when federal AUMs are not available, Torell et al (2002). Bartlett (1983), Gee (1983), Hahn et al (1989), Bartlett et al (1979), Gee (1981), Perryman and Olson (1975), Rowe and Bartlett (2001), Torell et al (1981), and Van Tassell and Richardson (1998) have all found that potential reductions in income and net ranch returns are greater than just the direct economic loss from reductions in federal grazing.

In order to account for the overall importance of federal grazing, a multi-year linear programming model of cattle ranching was used to evaluate the economic importance of

Shoshone NF grazing. This model solves for the profit maximizing livestock production given a defined forage base. Profit maximization was evaluated over a 40-year time period using 100 sets of random prices that ranchers would likely face over the 40-year planning horizon. The reported “optimal” solution is the average level of production and profit realized across the 100 alternative beef price scenarios. The model was used to define an optimal solution given the base forage resources of the ranching operation. Changes in production and profitability levels were then observed with reductions or elimination of Forest Service grazing. Within the model, losses from reduced livestock production are partially offset by increased hay sales. The Western Wyoming USFS Grazing Model used for the Shoshone NF analysis is an updated version of previous work in Fremont and Park Counties (Taylor et al, 2004, 2005). The purpose of reducing Forest Service grazing in the analysis was not to imply that such reductions are likely. Rather the purpose was to evaluate its importance by comparing ranch profitability with and without Forest Service grazing.

The results from the updated ranch model simulation are summarized in Table 12. In the base line scenario the model ranch was running 610 brood cows and replacement heifers and was selling 170 tons of grass hay. This was estimated to generate on average \$244,163 in gross revenue and \$27,822 in profits for the ranching operation. The cow herd decreases by 12 percent to 539 head with a 25 percent reduction in Forest Service grazing. This reduction decreased gross ranch revenue for the ranch by 7 percent to \$226,513 and reduces profitability by 17 percent to \$23,056. The loss of livestock revenue is partially offset by increased hay sales from 170 tons to 271 tons. The cow herd is reduced by 23 percent to 467 head with a 50 percent reduction in Forest Service grazing. This reduction decreases gross ranch revenue for the ranch by 15 percent to \$206,238 and reduces profitability by 39 percent to \$16,836. The loss of livestock revenue is again partially offset by increased hay sales from 170 tons to 386 tons. The cow herd is reduced by 34 percent to 403 head with a 75 percent reduction in Forest Service grazing. This reduction decreases gross ranch revenue by 25 percent to \$184,166 and reduces profitability by 67 percent to \$9,293. The loss of livestock revenue is once again partially offset by increased hay sales from 170 tons to 510 tons. Finally, the cow herd is reduced by 45 percent to 332 head with a 100 percent reduction in Forest Service grazing. This reduction decreases gross ranch revenue for the ranch by 33 percent to \$162,910 and reduces profitability by 139 percent to -\$10,803. The loss of livestock revenue is only partially offset by increased hay sales from 170 tons to 627 tons. It should be noted that the analysis assumes that there is a market for the increased hay sales. If this is not the case, the reduction in profitability would be much greater.

Economic Impact

Results from the ranch model simulations indicate the economic importance of Forest Service grazing to ranching operations in region. Because ranching operations have economic linkages with other sectors of the region’s economy, changes in Shoshone NF grazing also have implications for the overall regional economy. Results from the ranch level analysis suggest that that there are at least three possible approaches to evaluating the economic importance of federal grazing to local communities: 1) evaluating Forest

Service AUMs only, 2) evaluating Forest Service AUMs and the effects on total production, and 3) evaluating Forest Service AUMs and their effect on the economic viability of the ranch operation. The following considers the economic impact of Shoshone NF grazing on the local economy under each of the three perspectives. For the analysis cattle and sheep grazing have been combined due to the small amount of sheep grazing on the Forest and the changes estimated for cattle ranching from a change in Forest Service grazing were assumed to apply to sheep ranching. The analysis estimates the economic impact for both the north and south zones of the Forest and the total impact for the three-county region including the economic interactions between the economies in the two zones.

1.) Forest Service grazing only perspective

The second and fifth columns at the top of Table 13 summarize the estimated economic impact per AUM of Shoshone NF grazing to the region's economy if the Forest Service grazing is considered in isolation. This information was estimated from a modified 2009 IMPLAN model for the north and south zones of the Forest. Due to the variability of cattle prices the estimates were based on the 2000-2009 average value of production for cow/calf operations in the Basin and Range region of the United States (USDA-ERS), which includes the Shoshone NF region and a 2010 University of Idaho cow/calf budget. On a per AUM basis, the average value of production was estimated to be \$53.95. Due to economic linkages between ranching and the rest of the region's economy, the total economic impact from the production per AUM of grazing was estimated to be \$97.87 for the north zone of the Forest and \$95.54 in the south zone of the Forest. This represents the total economic activity that occurs within the region as a result of production from one AUM of livestock grazing. As a result of this economic activity it is estimated that labor income of \$34.19 in the north zone of the Forest and \$33.61 in the south zone of the Forest were generated throughout the local economies. These labor earnings represented 0.001068 jobs in the north zone of and .001030 jobs in the south zone per AUM of livestock grazing. This represents one job per 936 AUMS of livestock grazing in the north zone and one job per 971 AUMS of livestock grazing in the south zone. Average earnings per job for this employment ranged from \$32,020 in the north zone to \$32,632 per year in the south zone.

From the Forest Service Grazing Only Perspective, the 37,344 AUMS of livestock grazing in the north zone of the Shoshone NF resulted in \$2.0 million of production, \$3.6 million in total economic activity, \$1.3 million in labor earnings, and nearly 40 jobs in the north zone (middle of Table 13). The 24,896 AUMS of livestock grazing in the south zone of the Forest resulted in \$1.3 million of production, \$2.4 million in total economic activity, more than \$836,700 in labor earnings, and nearly 26 jobs. The combined total for both zones of the Forest from livestock grazing was \$3.4 million of production, \$6.0 million in total economic activity, \$2.1 million in labor earnings, and nearly 66 jobs (bottom of Table 13). This perspective assumes that the only effect on the ranching operation from Forest Service grazing is the direct production associated with the Forest Service AUMS.

2.) Ranch production perspective

As noted in the ranch simulation discussion above, estimating the economic impact of federal grazing based solely on federal AUMS may underestimate the actual importance of federal grazing to the ranching operation. The results from the Western Wyoming USFS Grazing Model indicate that, in terms of ranch production, one AUM of Forest Service grazing generates an estimated \$75.53 of livestock production (top part of the third column and the sixth column in Table 13). This reflects that since Forest Service AUMs are part of an overall grazing system, a change in Forest Service grazing affects the profit maximizing use of the rest of the forage resources. Under this scenario, the total economic impact of the production associated with a Shoshone NF AUM of grazing throughout the economy is \$137.02 in the north zone of the Forest and \$133.76 in the south zone of the Forest. As a result of this economic activity it is estimated that \$47.86 of labor earnings are generated per AUM and 0.001495 jobs were supported in the north zone of the Forest. The 0.001495 jobs represent one job per 669 AUMs of livestock grazing. For the south end of the Forest under this scenario, it was estimated that \$47.05 of labor earnings were generated per AUM and 0.001442 jobs were supported by livestock grazing. The 0.01442 jobs represents one job per 693 AUMs of grazing.

From the Ranch Production Perspective, the 37,344 AUMS of livestock grazing in the north zone of the Shoshone NF resulted in \$2.8 million of production, \$5.1 million in total economic activity, \$1.8 million in labor earnings, and nearly 56 jobs in the north zone (middle of Table 13). The 24,896 AUMs of livestock grazing in the south zone of the Forest resulted in \$1.9 million of production, \$3.3 million in total economic activity, \$1.2 million in labor earnings, and nearly 36 jobs. The combined total for both zones of the Forest from livestock grazing was \$4.7 million of production, \$8.5 million in total economic activity, \$3.0 million in labor earnings, and more than 92 jobs (bottom of Table 13). This perspective considers the change in total ranch production resulting from a change in Shoshone NF grazing assuming that the ranch can still remain in operation.

3.) Ranch viability perspective

Previous research and the results from the Western Wyoming USFS Grazing Model indicate that the availability of federal grazing may be critical to the economic viability of many federal grazing dependent ranches. As was observed in the ranch simulation model, the net profit for a Forest Service grazing dependent ranch without any Forest Service grazing was negative.

The results from the Western Wyoming USFS Grazing Model indicate that if Forest Service grazing is critical to the economic viability of the ranch, one AUM of Forest Service grazing actually represents an estimated \$164.55 of livestock production (columns 4 and 7 in Table 13). Under this scenario, the total economic impact of the production associated with one Shoshone NF AUM of grazing is \$298.50 in the north zone of the Forest and \$291.40 in the south zone of the Forest. As a result of this economic activity, it is estimated that \$104.27 of labor earnings are generated per AUM and 0.003257 jobs are supported in the north zone economy. The 0.003257 jobs

represents about one job for every 307 AUMS of grazing. For the south end of the Forest under this scenario it was estimated that \$102.51 of labor earnings were generated per AUM and 0.003141 jobs were supported by livestock grazing. The 0.003141 jobs represents one job per 318 AUMs of grazing.

From the Ranch Viability Perspective, the 37,344 AUMS of livestock grazing in the north zone of the Shoshone NF represents \$6.1 million of production, \$11.1 million in total economic activity, \$3.9 million in labor earnings, and nearly 122 jobs in the north zone economy (middle of Table 13). The 24,896 AUMs of livestock grazing in the south zone of the Forest represents \$4.1 million of production, \$7.2 million in total economic activity, \$2.5 million in labor earnings, and more than 78 jobs. The combined total for both zones of the Forest from livestock grazing was \$10.2 million of production, \$18.4 million in total economic activity, \$6.5 million in labor earnings, and more than 200 jobs (bottom of Table 13). This perspective considers the change in total ranch production resulting from the change in Shoshone NF grazing assuming that the ranch would have to cease operation without Forest Service grazing.

Livestock grazing summary and conclusions

The total economic impact estimates for Shoshone NF livestock grazing range from 66 to 200 jobs and \$2.1 million to \$6.5 million in labor earnings. Which of the three values is the most relevant depends on a number of factors including the individual ranch's level of dependency on Forest Service grazing, the magnitude of the proposed change in grazing, the financial solvency of the ranch, the availability of alternative sources of forage, and the desire of the rancher to remain in ranching. For small changes in Shoshone NF grazing the Forest Service Grazing Only perspective may be the most appropriate. For larger changes where the ranching operation might stay in operation at a reduced level of production, the Ranch Production Perspective may be the most appropriate. For larger changes where the economic viability of the ranching operation is uncertain the Ranch Viability Perspective may be the most appropriate.

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Table 1. Gross Income for Agriculture in Shoshone NF Region, 2009 (2009\$).

	<i>Fremont (000\$)</i>	<i>Hot Springs (000\$)</i>	<i>Park (000\$)</i>	<i>Region (000\$)</i>
Livestock Marketing	\$45,491	\$10,789	\$30,598	\$86,878
Crop Marketing	\$22,400	\$1,720	\$38,881	\$63,001
Other Revenue	\$19,180	\$1,998	\$6,858	\$28,036
Total	\$87,071	\$14,507	\$76,337	\$177,915
Percent of Total	48.9%	8.2%	42.9%	100.0%

Source: Bureau of Economic Analysis

Table 2. Trends in Gross Income for Agriculture in Shoshone NF Region, 1990-2009 (2005\$).

<i>Year</i>	<i>Deflated Region Livestock (000\$)</i>	<i>Deflated Region Crops (000\$)</i>	<i>Deflated Region Other (000\$)</i>	<i>Deflated Region Total (000\$)</i>
1990	\$100,452	\$59,875	\$9,077	\$169,403
1991	\$107,595	\$68,926	\$10,217	\$186,738
1992	\$100,163	\$75,234	\$12,744	\$188,141
1993	\$99,595	\$67,589	\$14,709	\$181,893
1994	\$97,514	\$56,020	\$13,861	\$167,394
1995	\$89,560	\$56,595	\$14,917	\$161,072
1996	\$77,213	\$62,155	\$14,971	\$154,339
1997	\$95,884	\$63,645	\$13,348	\$172,877
1998	\$98,138	\$56,026	\$21,280	\$175,444
1999	\$94,805	\$59,053	\$23,194	\$177,051
2000	\$108,849	\$51,891	\$17,318	\$178,058
2001	\$111,303	\$51,591	\$19,180	\$182,074
2002	\$95,918	\$42,964	\$25,658	\$164,541
2003	\$95,654	\$45,806	\$19,775	\$161,234
2004	\$120,832	\$45,183	\$19,336	\$185,351
2005	\$117,016	\$41,329	\$27,076	\$185,421
2006	\$118,891	\$43,913	\$26,193	\$188,996
2007	\$105,543	\$44,440	\$30,853	\$180,836
2008	\$84,152	\$58,771	\$28,230	\$171,153
2009	\$79,257	\$57,475	\$25,577	\$162,309
Average 1990-2009	\$99,917	\$55,424	\$19,376	\$174,716

Source: Bureau of Economic Analysis

Table 3. Trends in Agricultural Employment for Shoshone NF Region, 1990-2009.

<i>Year</i>	<i>Fremont (Jobs)</i>	<i>Hot Springs (Jobs)</i>	<i>Park (Jobs)</i>	<i>Region (Jobs)</i>
1990	1,126	206	825	2,157
1991	1,126	195	812	2,133
1992	1,148	192	819	2,159
1993	1,152	194	819	2,165
1994	1,139	191	799	2,129
1995	1,172	198	825	2,195
1996	1,166	197	811	2,174
1997	1,117	188	752	2,057
1998	1,203	197	852	2,252
1999	1,190	192	872	2,254
2000	1,245	203	968	2,416
2001*	1,228	197	979	2,404
2002*	1,304	209	1,068	2,581
2003*	1,253	189	977	2,419
2004*	1,261	181	937	2,379
2005*	1,273	174	898	2,345
2006*	1,270	166	855	2,291
2007*	1,498	187	936	2,621
2008*	1,498	189	942	2,629
2009*	1,481	188	928	2,597
Change 1990-2009	31.5%	-8.7%	12.5%	20.4%

* Note: 1990-2000 = SIC & 2001-2009 = NAICS

Source: Bureau of Economic Analysis

Table 4. Trend in Agricultural Earnings for Shoshone NF Region, 1990-2009 (2005\$).

<i>Year</i>	<i>Deflated Fremont (000\$)</i>	<i>Deflated Hot Springs (000\$)</i>	<i>Deflated Park (000\$)</i>	<i>Deflated Region (000\$)</i>
1990	\$13,127	\$3,025	\$17,806	\$33,958
1991	\$25,031	\$3,439	\$23,237	\$51,707
1992	\$22,930	\$4,867	\$28,170	\$55,967
1993	\$22,207	\$6,265	\$26,843	\$55,316
1994	\$8,340	\$1,481	\$15,442	\$25,263
1995	\$10,528	-\$162	\$13,544	\$23,910
1996	\$6,358	-\$526	\$17,324	\$23,156
1997	\$14,909	\$2,760	\$21,186	\$38,855
1998	\$7,290	\$358	\$16,163	\$23,811
1999	\$14,044	\$2,102	\$21,123	\$37,270
2000	\$5,021	\$1,920	\$14,511	\$21,453
2001*	\$10,071	\$2,894	\$18,415	\$31,379
2002*	\$4,262	\$1,054	\$10,428	\$15,744
2003*	\$9,778	\$3,526	\$14,400	\$27,704
2004*	\$9,402	\$3,508	\$14,305	\$27,215
2005*	\$13,951	\$4,332	\$10,339	\$28,622
2006*	\$8,073	\$2,053	\$8,796	\$18,922
2007*	\$1,544	\$162	\$6,670	\$8,376
2008*	\$2,415	\$1,240	\$7,088	\$10,743
2009*	-\$1,831	\$924	\$7,939	\$7,032
Average 1990-1999	\$14,476	\$2,361	\$20,084	\$36,921
Average 2000-2009	\$6,268	\$2,161	\$11,289	\$19,719
Average 1990-2009	\$10,372	\$2,261	\$15,686	\$28,320

* Note: 1990-2000 = SIC & 2001-2009 = NAICS

Source: Bureau of Economic Analysis

Table 5. Average Earnings Per Job for Agriculture in Shoshone NF Region, 1990-2009 (2005\$).

<i>Year</i>	<i>Deflated Fremont Average Earnings Per Job</i>	<i>Deflated Hot Springs Average Earnings Per Job</i>	<i>Deflated Park Average Earnings Per Job</i>	<i>Deflated Region Average Earnings Per Job</i>
1990	\$11,658	\$14,684	\$21,583	\$15,743
1991	\$22,230	\$17,636	\$28,617	\$24,241
1992	\$19,974	\$25,350	\$34,395	\$25,923
1993	\$19,277	\$32,296	\$32,776	\$25,550
1994	\$7,322	\$7,755	\$19,327	\$11,866
1995	\$8,983	-\$818	\$16,417	\$10,893
1996	\$5,453	-\$2,670	\$21,361	\$10,651
1997	\$13,347	\$14,683	\$28,173	\$18,889
1998	\$6,060	\$1,816	\$18,970	\$10,573
1999	\$11,802	\$10,949	\$24,224	\$16,535
2000	\$4,033	\$9,458	\$14,991	\$8,879
2001*	\$8,201	\$14,688	\$18,810	\$13,053
2002*	\$3,268	\$5,043	\$9,764	\$6,100
2003*	\$7,804	\$18,656	\$14,739	\$11,452
2004*	\$7,456	\$19,383	\$15,267	\$11,440
2005*	\$10,959	\$24,897	\$11,513	\$12,206
2006*	\$6,357	\$12,368	\$10,287	\$8,259
2007*	\$1,031	\$865	\$7,126	\$3,196
2008*	\$1,612	\$6,561	\$7,524	\$4,086
2009*	-\$1,236	\$4,916	\$8,555	\$2,708
Average 1990-1999	\$12,611	\$12,168	\$24,584	\$17,086
Average 2000-2009	\$4,948	\$11,684	\$11,858	\$8,138
Average 1990-2009	\$8,779	\$11,926	\$18,221	\$12,612

* Note: 1990-2000 = SIC & 2001-2009 = NAICS

Source: Bureau of Economic Analysis

Table 6. Beef Cow Inventory for Shoshone NF Region, 1990-2010.

<i>Year</i>	<i>Fremont (Head)</i>	<i>Hot Springs (Head)</i>	<i>Park (Head)</i>	<i>Region (Head)</i>
1990	41,000	17,000	19,100	77,100
1991	40,000	17,000	21,100	78,100
1992	47,300	17,000	27,200	91,500
1993	49,300	16,000	28,300	93,600
1994	50,400	16,000	28,300	94,700
1995	52,700	15,000	28,300	96,000
1996	52,800	15,000	27,200	95,000
1997	57,800	17,000	29,200	104,000
1998	62,800	17,000	27,200	107,000
1999	68,800	17,000	29,200	115,000
2000	66,800	18,000	32,100	116,900
2001	65,000	15,000	34,100	114,100
2002	64,900	17,000	33,000	114,900
2003	53,910	14,000	22,100	90,010
2004	50,910	14,000	24,100	89,010
2005	50,950	14,000	24,100	89,050
2006	56,950	18,000	22,000	96,950
2007	54,950	17,000	24,000	95,950
2008	59,950	16,000	22,000	97,950
2009	56,950	15,000	22,000	93,950
2010	45,000	15,000	25,000	85,000
Average 1990-1999	52,290	16,400	26,510	95,200
Average 2000-2010	56,934	15,727	25,864	98,525

Source: Wyoming Agricultural Statistics

Table 7. Breeding Sheep Inventory for Shoshone NF Region, 1990-2008.

<i>Year</i>	<i>Fremont (Head)</i>	<i>Hot Springs (Head)</i>	<i>Park (Head)</i>	<i>Region (Head)</i>
1990	40,000	7,000	15,000	62,000
1991	40,000	8,000	17,000	65,000
1992	28,000	6,000	15,000	49,000
1993	30,000	7,000	12,000	49,000
1994	23,000	5,000	9,000	37,000
1995	19,000	3,000	8,000	30,000
1996	18,000	4,000	9,000	31,000
1997	15,000	5,000	9,000	29,000
1998	16,000	5,000	7,000	28,000
1999	13,000	2,000	7,000	22,000
2000	14,000	2,000	6,000	22,000
2001	14,000	3,000	5,000	22,000
2002	14,000	3,000	4,000	21,000
2003	14,000	2,000	4,000	20,000
2004	14,000	1,500	5,000	20,500
2005	14,000	2,000	5,000	21,000
2006	13,000	2,000	4,000	19,000
2007	14,000	3,000	5,000	22,000
2008	11,000	6,000	4,000	21,000
Change 1990-1999	207.7%	250.0%	114.3%	181.8%
Change 1999-2008	-21.4%	200.0%	-33.3%	-4.5%

Source: Wyoming Agricultural Statistics

Table 8. Private Land in Shoshone NF Region, 2007.

	<i>Fremont (Acres)</i>	<i>Hot Springs (Acres)</i>	<i>Park (Acres)</i>	<i>Region (Acres)</i>
Irrigated Lands	124,129	24,265	112,134	260,528
Dry Farm Lands	0	0	98	98
Range Lands	620,791	363,821	561,010	1,545,622
Total Ag Land	744,920	388,086	673,242	1,806,248
Irrigated Lands	16.7%	6.3%	16.7%	14.4%
Dry Farm Lands	0.0%	0.0%	0.0%	0.0%
Range Lands	83.3%	93.7%	83.3%	85.6%
Total Ag Land	100.0%	100.0%	100.0%	100.0%
Total Private Land	829,895	401,680	685,476	1,917,051
Percent Ag Land	89.8%	96.6%	98.2%	94.2%
Percent Range	74.8%	90.6%	81.8%	80.6%

*Source: Wyoming Department of Revenue Annual Report, 2007
& Equality State Almanac, 2007*

Table 9. Agricultural Operations with Grazing Permits, 1997.

	<i>Fremont</i>	<i>Hot Springs</i>	<i>Park</i>	<i>Total</i>
Ranches w/Permits	267	56	111	434
Total Ranches	536	89	226	851
Percent w/Permits	49.8%	62.9%	49.1%	51.0%
Forest Service Permits	45	3	44	92
BLM Permits	151	54	68	273
Indian Lands	66	1	4	71
Other Permits	68	10	32	110
Total Permits	330	68	148	546
Percent Federal	59.4%	83.8%	75.7%	66.8%
Ag Land w/Permits (Acres)	898,112	874,729	831,845	2,604,686
Total Ag Land (Acres)*	1,044,926	944,205	1,011,425	3,000,556
Percent w/Permits	85.9%	92.6%	82.2%	86.8%

* Fremont County was adjusted to account for the Wind River Indian Reservation

Source: 1997 Census of Agriculture

Table 10. Livestock Grazing on the Shoshone NF by Decades.

<i>Decade Average</i>	<i>Cattle Numbers</i>	<i>Cattle AUMs</i>	<i>Sheep Numbers</i>	<i>Sheep AUMs</i>	<i>Total AUMs</i>
1930's	18,943	N.A.	122,144	N.A.	N.A.
1940's	9,761	47,765	73,795	183,812	231,577
1950's	19,490	54,682	52,512	88,683	143,364
1960's	21,660	57,034	40,152	63,658	120,692
1970's	19,708	54,796	19,809	28,433	83,229
1980's	16,543	50,794	7,793	13,545	64,340
1990's	14,652	46,613	4,541	7,403	54,016
2000's	16,792	55,199	2,810	789	55,987

Source: Shoshone NF

Table 11. Permitted Livestock Grazing on Shoshone NF, 1986-2010.

<i>Year</i>	<i>Permitted Cattle/Horse AUM's</i>	<i>Permitted Sheep AUM's</i>	<i>Total Permitted AUM's</i>
1986	46,300	13,700	60,000
1987	46,500	9,800	56,300
1988	47,600	11,900	59,500
1989	43,000	8,800	51,800
1990	45,900	10,700	56,600
1991	39,300	9,000	48,300
1992	47,100	11,000	58,100
1993	39,200	6,600	45,800
1994	27,400	6,600	34,000
1995	42,200	5,900	48,100
1996	56,800	6,400	63,200
1997	54,200	6,900	61,100
1998	58,200	6,400	64,600
1999	55,700	4,500	60,200
2000	58,200	1,400	59,600
2001	58,400	1,500	59,900
2002	61,600	1,100	62,700
2003	62,100	1,000	63,100
2004	46,500	700	47,200
2005	60,100	500	60,600
2006	65,000	500	65,500
2007	65,000	500	65,500
2008	67,600	500	68,100
2009	64,800	600	65,400
2010	61,600	600	62,200

Source: Shoshone NF

Table 12. Results of Ranch Simulation Model (2007\$).

		25% <i>Reduction USFS Base</i>	50% <i>Reduction USFS Grazing</i>	75% <i>Reduction USFS Grazing</i>	100% <i>Reduction USFS Grazing</i>
Gross Returns	\$244,163	\$226,513	\$206,238	\$184,166	\$162,910
Ranch Profits	\$27,822	\$23,056	\$16,836	\$9,293	-\$10,803
Cow Herd Size	610	539	467	403	332
Hay Sold (Tons)	170	271	386	510	627

Source: Western Wyoming USFS Grazing Model

Table 13. Economic Impact of Forest Service Grazing, Shoshone NF (2009\$).

	<i>North SNF USFS Grazing Only Cattle</i>	<i>North SNF Ranch Production Perspective Cattle</i>	<i>North SNF Ranch Viability Perspective Cattle</i>	<i>South SNF USFS Grazing Only Cattle</i>	<i>South SNF Ranch Production Perspective Cattle</i>	<i>South SNF Ranch Viability Perspective Cattle</i>
<u>Per AUM</u>						
Value of Production	\$53.95	\$75.53	\$164.55	\$53.95	\$75.53	\$164.55
Total Economic Impact	\$97.87	\$137.02	\$298.50	\$95.54	\$133.76	\$291.40
Total Labor Earnings	\$34.19	\$47.86	\$104.27	\$33.61	\$47.05	\$102.51
Total Employment (Jobs)	0.001068	0.001495	0.003257	0.001030	0.001442	0.003141
Ave Earnings Per Job	\$32,020	\$32,020	\$32,020	\$32,632	\$32,632	\$32,632

Table 13. Continued

	<i>North SNF USFS Grazing Only Cattle</i>	<i>North SNF Ranch Production Perspective Cattle</i>	<i>North SNF Ranch Viability Perspective Cattle</i>	<i>South SNF USFS Grazing Only Cattle</i>	<i>South SNF Ranch Production Perspective Cattle</i>	<i>South SNF Ranch Viability Perspective Cattle</i>
<u>Total SNF AUMs</u>						
Total AUMs	37,344	37,344	37,344	24,896	24,896	24,896
Value of Production	\$2,014,783	\$2,820,697	\$6,145,090	\$1,343,189	\$1,880,465	\$4,096,726
Total Economic Impact	\$3,654,870	\$5,116,817	\$11,147,352	\$2,378,614	\$3,330,060	\$7,254,774
Total Labor Earnings	\$1,276,728	\$1,787,419	\$3,894,020	\$836,739	\$1,171,435	\$2,552,055
Total Employment (Jobs)	39.9	55.8	121.6	25.6	35.9	78.2
Ave Earnings Per Job	\$32,020	\$32,020	\$32,020	\$32,632	\$32,632	\$32,632
<u>Forest Total</u>						
	<i>Total SNF USFS Grazing Only Cattle</i>	<i>Total SNF Ranch Production Perspective Cattle</i>	<i>Total SNF Ranch Viability Perspective Cattle</i>			
Total AUMs	62,240	62,240	62,240			
Value of Production	\$3,357,972	\$4,701,161	\$10,241,816			
Total Economic Impact	\$6,047,550	\$8,466,570	\$18,445,028			
Total Labor Earnings	\$2,120,189	\$2,968,265	\$6,466,577			
Total Employment (Jobs)	65.8	92.1	200.7			
Ave Earnings Per Job	\$32,228	\$32,228	\$32,228			

TIMBER

Introduction

The University of Montana's Bureau of Business Research maintains a database on timber production in the Intermountain West. Information from this database indicates that a total of 7.9 million board feet (MMBF) was commercially harvested in the three-county region in 2005 (Table 1). Of this total, 6.2 MMBF was harvested in Park County (78 percent) and 1.8 MMBF was harvested in Fremont County (22 percent). The reported timber harvest for Hot Springs County was only 3,000 board feet (less than .01 percent of the regional total). Approximately 60 percent of the timber harvested in the region was from National Forests, although not exclusively from the Shoshone National Forest. In addition, approximately 60 percent of the timber harvested in both Fremont and Park County was from National Forests. Private, State, or Bureau of Land Management lands provided the rest of the harvest in the region. Total timber harvested in the three-county region represented slightly more than 12 percent of the total commercial timber harvest in the state. Discussions with the Forest Service and the timber industry operating in the region indicate that the majority of the timber harvested in the region is processed outside the region. The University of Montana is in the process collecting similar information for the Intermountain West for 2010, but this information is not yet available.

The University of Montana database also contains information on the number of wood product facilities located in the three-county region. Information from the database indicates that there a total of 19 wood product facilities located in the three-county region in 2005 (Table 2). Of the 19 businesses, 8 were house log manufactures, 7 were sawmills, 3 were log furniture manufacturers, and 1 was a post and pole business. This total does not include any logging businesses that are located in the region. Among individual counties, Park County had the largest number of wood product facilities with 13, including 6 house log manufactures, 3 sawmills, 3 log furniture manufactures, and 1 post and pole business. Following Park was Fremont County with 6 wood product facilities, including 4 sawmills and 2 house log manufacturers. No wood product facilities were reported for Hot Springs County in 2005. Approximately one-third of the total wood product facilities in the state are located in the three-county region. Given that most of the timber harvested in the region is exported for processing, the wood product facilities located in the three-county region tend to be smaller operations.

Labor Earnings

The lumber and wood products industry in the three-county region has been declining over time. Table 3 provides information on the change in lumber and wood products labor earnings for the region from 1970 to 2000. All labor earnings are expressed in 2000 dollars to account for inflation. Due to nondisclosure; labor earning had to be extrapolated for some years. After generally increasing from 1970 to 1978, the labor earnings for the lumber and wood products industry in the region peaked at \$14.3 million in 1978. After 1978, labor earnings from lumber and wood products declined steadily to under \$2.0 million in 2000. Since the federal government switch from the Standard

Industrial Classification Code to the North American Industrial Classification Code in 2001, county-level information specifically for lumber and wood products industry is no longer available. With the closure of the sawmill in Cody, labor earnings from the lumber and wood products sector the region may have declined even further since 2000.

Most of the decline in labor earnings for the lumber and wood products sector in the region occurred in Fremont County where a major sawmill closed in Dubois. In Fremont County labor earnings from the lumber and wood products sector peaked at \$13.4 million in 1978 and had declined to less than \$1.0 million in 2000.

Shoshone NF Timber Harvest

The 1986 Forest Plan set an average annual Allowable Sale Quantity (ASQ) volume of 11.2 million board feet. The 1986 decision also projected that an additional 1.2 million board feet of products other than logs (POL) would be sold annually. POL includes posts, poles, firewood, etc. The Forest Plan was amended in 1994 to an ASQ of 4.5 million board feet, including 4.3 million board feet of sawtimber and 0.2 million board feet of POL. The amendment also projected that additional 3.0 million board feet of POL would be sold annually.

Timber harvest on the Shoshone NF has varied significantly over time. Between 1970 and 1994 timber harvest ranged from less than 2.9 MMBF in 1975 to nearly 19.5 MMBF in 1987 (Table 4). On average, between 1976 and 1994 timber harvest on the Forest was 10.9 MMBF including 8.4 MMBF of sawtimber and 2.5 MMBF of POL. After 1994 timber harvest on the Forest generally declined until 2004. During this time period timber harvest averaged 4.7 MMBF including 1.3 MMBF of sawtimber and 3.4 MMBF of POL. In recent years there has been an upswing in timber harvest with 14.7 MMBF harvested in 2005, 10.9 MMBF harvested in 2006, and 10.4 MMBF harvested in 2009. Since 2004 the total timber harvest on the Forest has averaged 9.4 MMBF including 6.9 MMBF of sawtimber and 2.6 MMBF of POL. Most of the variability in total timber harvest on the Forest has been the result of fluctuations in sawtimber with POL remaining relatively more constant over time. Between 1976 and 2005 the quantity of sawtimber harvested on the Forest has ranged from more than 17.2 MMBF in 1979 to less than 400,000 board feet in 1998. In 2010, 4.7 MMBF of timber was harvested on the Forest. During this time period, the quantity of POL harvested has ranged from slightly more than 340,000 board feet in 1976 to 4.8 MMBF in 1987. In 2010, 2.7 MMBF of POL was harvested on the Forest.

Economic Impact of Shoshone NF Timber Harvest

Due to current salvage efforts related to insect damage, the timber harvest levels on the Forest are temporarily higher than average. Once the salvage efforts are completed, it is anticipated that the Forest will return to a harvest level around 4.5 MMBF of sawtimber and 2.5 MMBF of POL per year. The economic impact of the Forest's timber harvest was based on these projected levels of production (Table 5).

Because there is no major timber processor in the three-county region, the majority of the sawtimber harvested on the Forest is exported outside the region for processing. As a result, the major economic impact on the region's economy from the harvest of sawtimber on the Forest is logging. Although some of the workers involved in this logging may be from outside the region, it is assumed for purposes of this analysis that all logging is done by either permanent or temporary residents. Similar assumptions were used for POL in the analysis. In addition it was assumed that future POL harvest would be for commercial use.

The first column of Table 5 summarizes the estimated economic impact per MMBF of logging in the three-county region. The University of Montana database estimates that the average direct employment for logging per MMBF is 5.4 jobs. The three-county IMPLAN model indicates that logging generates approximately 1.2 additional jobs throughout the region's economy for every direct job in the logging sector. This represents an employment multiplier for logging in the region of approximately 2.2. Applying this multiplier to the 5.4 direct jobs results in estimated secondary employment of 6.4 jobs for a total employment of 11.8 jobs in the region per MMBF of timber harvested.

The Department of Labor's Bureau of Labor Statistics estimates that in 2008 logging jobs in Wyoming paid nearly \$29,000 on average per job. For the 5.4 jobs this represents direct labor earnings of slightly more than \$154,000 per MMBF of timber harvest. The three-county IMPLAN model indicates that logging generates approximately \$0.75 of additional labor earnings throughout the region's economy for every \$1.00 of direct labor earnings in logging. This represents a labor earnings multiplier of 1.7. Applying this multiplier to the \$154,000 in direct labor earnings resulted in estimated secondary earnings of nearly \$116,000 for total labor earnings of more than \$270,000 in the region per MMBF of timber harvested. The average earnings per job for total employment resulting from the harvest of one MMBF of timber in the regions are estimated to be \$22,931.

The second column of Table 5 summarizes the estimated economic impact of harvesting 4.5 MMBF of sawtimber in the three-county region. Based on the estimates in the first column of Table 5, 4.5 MMBF of sawtimber would generate a total of 53.1 jobs in the region and \$1.2 million in labor earnings. The third column of Table 5 summarizes the estimated economic impact of harvesting 2.5 MMBF of POL in the three-county region. Based on the estimates in the first column of Table 5, 2.5 MMBF of POL would generate a total of 29.5 jobs in the region and more than \$676,000 in labor earnings. The third column of Table 5 summarizes the combined economic impact of harvesting 4.5 MMBF of sawtimber and 2.5 MMBF of POL. The total economic impact of the combined timber harvest was estimated to be a total of 82.6 jobs and \$1.9 million in labor earnings.

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Table 1. Commercial Timber Harvest for Shoshone NF Counties, 2005

<i>County</i>	<i>USFS (MBF)</i>	<i>Private (MBF)</i>	<i>Other (MBF)</i>	<i>Total (MBF)</i>	<i>Percent</i>
Fremont	1,041	562	160	1,763	22.2%
Hot Springs	0	0	3	3	0.0%
Park	3,527	1,150	1,512	6,189	77.8%
Total	4,568	1,712	1,675	7,955	100.0%
Percent	57.4%	21.5%	21.1%	100.0%	

Source: University of Montana, Bureau of Business Research

Table 2. Number of Wood Product Facilities in Shoshone NF Counties, 2005

	<i>Fremont</i>	<i>Hot Springs</i>	<i>Park</i>	<i>Region</i>
Sawmills	4	0	3	7
Post and Pole	0	0	1	1
House Logs	2	0	6	8
Log Furniture	0	0	3	3
Other (1)	0	0	0	0
Total	6	0	13	19

(1) Other facilities include firewood manufacturers & pellet mills.

Source: University of Montana, Bureau of Business Research

Table 3. Lumber and Wood Products Labor Earnings for Shoshone NF Counties, 1970-2000 (2000\$).

<i>Year</i>	<i>Fremont (000\$)</i>	<i>Hot Spring (000\$)</i>	<i>Park (000\$)</i>	<i>Deflator</i>	<i>Deflated Fremont (000\$)</i>	<i>Deflated Hot Springs (000\$)</i>	<i>Deflated Park (000\$)</i>	<i>Deflated Region (000\$)</i>
1970	\$1,923	\$65	\$136	26.448	\$7,271	\$246	\$514	\$8,031
1971	\$2,080	\$51	\$119	27.574	\$7,543	\$185	\$432	\$8,160
1972	\$2,473	\$50	\$190	28.528	\$8,669	\$175	\$666	\$9,510
1973	\$3,008	\$50	\$215	30.081	\$10,000	\$166	\$715	\$10,881
1974	\$3,342	\$50	\$191	33.191	\$10,069	\$151	\$575	\$10,795
1975	\$2,814	\$50	\$163	35.955	\$7,826	\$139	\$453	\$8,419
1976	\$3,364	\$50	\$221	37.948	\$8,865	\$132	\$582	\$9,579
1977	\$4,639	\$50	\$298	40.410	\$11,480	\$124	\$737	\$12,341
1978	\$5,806	\$50	\$351	43.248	\$13,425	\$116	\$812	\$14,352
1979	\$5,383	\$0	\$313	47.059	\$11,439	\$0	\$665	\$12,104
1980	\$3,462	\$0	\$301	52.078	\$6,648	\$0	\$578	\$7,226
1981	\$3,979	\$0	\$266	56.720	\$7,015	\$0	\$469	\$7,484
1982	\$1,738	\$0	\$252	59.859	\$2,903	\$0	\$421	\$3,324
1983	\$2,583	\$0	\$238	62.436	\$4,137	\$0	\$381	\$4,518
1984	\$2,168	\$0	\$224	64.795	\$3,346	\$0	\$346	\$3,692
1985	\$2,551	\$0	\$210	66.936	\$3,811	\$0	\$314	\$4,125
1986	\$2,330	\$0	\$196	68.569	\$3,398	\$0	\$286	\$3,684
1987	\$2,334	\$0	\$182	70.947	\$3,290	\$0	\$257	\$3,546
1988	\$1,547	\$0	\$167	73.755	\$2,097	\$0	\$226	\$2,324
1989	\$694	\$0	\$134	76.972	\$902	\$0	\$174	\$1,076
1990	\$656	\$0	\$1,042	80.498	\$815	\$0	\$1,294	\$2,109
1991	\$739	\$0	\$852	83.419	\$886	\$0	\$1,021	\$1,907
1992	\$806	\$0	\$991	85.824	\$939	\$0	\$1,155	\$2,094
1993	\$838	\$0	\$1,192	87.804	\$954	\$0	\$1,358	\$2,312
1994	\$911	\$0	\$1,055	89.654	\$1,016	\$0	\$1,177	\$2,193
1995	\$747	\$0	\$1,055	91.577	\$816	\$0	\$1,152	\$1,968
1996	\$555	\$0	\$1,055	93.547	\$593	\$0	\$1,128	\$1,721
1997	\$812	\$0	\$1,055	95.124	\$854	\$0	\$1,109	\$1,963
1998	\$845	\$0	\$1,055	95.978	\$880	\$0	\$1,099	\$1,980
1999	\$862	\$0	\$1,055	97.575	\$883	\$0	\$1,081	\$1,965
2000	\$924	\$0	\$1,055	100.000	\$924	\$0	\$1,055	\$1,979

Source: Bureau of Economic Analysis

Table 4. Timber Harvest for the Shoshone NF, 1970-2010.

<i>Fiscal Year</i>	<i>Sawtimber Harvested (MBF)</i>	<i>POL Harvested (MBF)</i>	<i>Total Harvested (MBF)</i>
1970	11,519	501	12,020
1971	11,569	388	11,957
1972	N.A.	N.A.	3,678
1973	N.A.	N.A.	7,798
1974	N.A.	N.A.	6,121
1975	N.A.	N.A.	2,852
1976	3,996	341	4,337
1977	5,557	998	6,555
1978	5,108	1,107	6,215
1979	17,187	351	17,538
1980	7,682	842	8,524
1981	10,653	1,574	12,227
1982	3,625	2,415	6,040
1983	5,366	1,749	7,115
1984	6,490	4,052	10,542
1985	11,575	4,345	15,920
1986	8,799	4,360	13,159
1987	14,639	4,824	19,463
1988	12,351	3,509	15,860
1989	5,982	2,109	8,091
1990	14,709	2,360	17,069
1991	10,055	2,489	12,544
1992	6,926	3,300	10,226
1993	4,222	2,975	7,197
1994	3,965	3,790	7,755
1995	1,141	3,796	4,937
1996	2,234	3,627	5,861
1997	1,732	3,975	5,707
1998	385	5,230	5,615
1999	1,289	4,092	5,381
2000	2,020	1,611	3,631
2001	1,068	2,895	3,963
2002	630	2,619	3,249
2003	1,044	2,591	3,635
2004	5,762	2,465	8,227
2005	11,939	2,731	14,670
2006	7,947	2,914	10,861
2007	3,724	2,271	5,995
2008	6,563	1,975	8,538
2009	7,498	2,864	10,362
2010	4,691	2,741	7,432
Average	8,362	2,499	10,862

1976-1994			
Average	1,283	3,382	4,664
1995-2003			
Average	6,875	2,566	9,441
2004-2010			

Source: Shoshone NF

Table 5. Economic Impact of Shoshone NF Timber Harvest (2009\$).

	<i>Per Unit</i>	<i>Sawtimber</i>	<i>POL</i>	<i>Total</i>
Timber Volume (MMBF)	1	4.5	2.5	7.0
Direct Employment (1)	5.4	24.3	13.5	37.8
Multiplier (2)	2.184	2.184	2.184	2.184
Total Employment	11.8	53.1	29.5	82.6
AEPJ - Direct (3)	\$28,585	\$28,585	\$28,585	\$28,585
Direct Earnings	\$154,359	\$694,616	\$385,898	\$1,080,513
Multiplier (2)	1.752	1.752	1.752	1.752
Total Earnings	\$270,437	\$1,216,966	\$676,092	\$1,893,059
Ave. Earnings Per Job	\$22,931	\$22,931	\$22,931	\$22,931

Source: (1) University of Montana
(2) IMPLAN Model of three-county region
(3) Bureau of Labor Statistics, 2008

NON-LABOR INCOME

Total Non-Labor Income

Non-labor income represents personal income from sources other than labor earnings (i.e. wages, salaries, and self-employed income). It is divided into two components: 1) government transfer payments (primarily retirement income such as social security) and 2) investment income (property related income such as dividends, interest, and rents).

In 2009, total non-labor income for the three-county region was \$1,381.0 million (Table 1). Of this total \$685.0 million was in Fremont County (50 percent), \$603.7 million was in Park County (44 percent), and \$92.2 million was in Hot Springs County (6 percent).

For the most part, non-labor income can be thought of as income that comes from sources that are external to the local economy. Labor earnings, on the other hand, primarily come from sources internal to the local economy. As a result, non-labor income is less directly dependent activity within the local economy.

Non-labor income is an important source of income for residents of the three-county region. Table 1 shows that in 2009, non-labor income represented 47 percent of total personal income in the region. For all three counties, non-labor income represented between 46 and 48 percent of total personal income in the county. Compared to Wyoming (41 percent) and the U.S. (35 percent), all three counties were more dependent on non-labor income as a source personal income than either the state or the nation.

Sources of Non-Labor Income

Table 1 also illustrates the relative size of the three components of personal income (labor earnings, transfer payments, and investment income) in the three-county region. In all three counties and the region as a whole labor earnings represent 52 to 54 percent of total personal income. This range is below the percent at both the state and national levels (59 and 64 percent).

In terms of non-labor income, for Fremont and Hot Springs the sources of non-labor incomes are fairly evenly divided between investment incomes (25 percent and 24 percent) and transfer payments (21 percent and 24 percent). For Park County, investment income is a higher proportion than transfer payments (32 percent vs. 16 percent). At the state level investment income is also larger than transfer payments (28 percent vs. 13 percent). However, at the national level investment income and transfer payments are more comparable (18 percent vs. 17 percent).

Trends in Non-Labor Income

Table 2 shows that non-labor income has become relative more important as a source of personal income in the three-county region over time. In 1970 the percent of personal income from non-labor income was 24 percent of total personal income in the region. By

1998 non-labor income had increased to 44 percent of total personal income in the region. Since 1998 non-labor income declined slightly until 2002 and then increased to 47 percent in 2009. In 1970 the percent of personal income from non-labor income in the region was comparable to the percent for Wyoming and the U.S. (24 percent vs. 24 percent vs. 23 percent). However, in 2009, the relative importance of non-labor income in the region was substantially greater than for Wyoming and the U.S. (47 percent vs. 41 percent vs. 35 percent). This trend which started in 1982 has continued through 2009. The increase importance of non-labor indicates that non-labor income has grown faster than other sources of income in the region during this time period and that it has grown proportionately faster than either the Wyoming or U.S.

Among individual counties, Hot Springs has tended to have a higher proportion of total personal income from non-labor income starting out at 29 percent in 1970 and increasing to 48 percent in 2009. Fremont County has tended to have a lower proportion of total personal income from non-labor income starting at 21 percent in 1970 and increasing to 46 percent in 2009. Park County has tended to be between these two starting at 26 percent in 1970 and increasing to 48 percent in 2009.

Economic Impact of Non-Labor Income

The \$1,381.0 million of non-labor income for residents of the three-county region in 2009 generated considerable employment and labor earnings in the local economy. The following employment and earnings impacts of non-labor income in the region have been estimated using 2009 IMPLAN models for each of the three counties and an aggregated model for the three-county region. Due to regional interactions between the economies of the three counties the economic impact for the three-county region will be greater than the sum of the totals for the individual counties.

The \$1,381.0 million in non-labor incomes is estimated to have generated a total of 8,065 jobs annually in the three-county region (Table 3 – top part). Among individual counties, non-labor income in Fremont County is estimated to generate 3,672 total jobs in the county's economy. For Park County, the estimate is 3,780 total jobs in the county's economy, with 422 total jobs in Hot Springs County. Regional interactions between the economies of the three counties are estimated to generate 191 additional jobs for a total of 8,065 jobs from non-labor income in the region.

The labor earnings associated with the total employment resulting from non-labor income in the three-county region was estimated to be \$241.3 million. Among individual counties, the total employment from non-labor income in Fremont County was estimated to support \$113.8 million in labor earnings (Table 3 – top part). For Park County, total employment from non-labor income supported an estimated \$108.8 million in labor earnings. For Hot Springs County, total employment from non-labor income supported an estimated \$10.8 million in labor earnings. Regional interactions between the economies of the three counties are estimated to support an additional \$7.9 million in labor earnings from non-labor income for a total of \$241.3 million for the region.

Average earnings per job for direct employment from non-labor income averaged \$29,920 for the three-county region (Table 3 – top part). For individual counties, average earnings per job ranged from a low of \$25,588 in Hot Springs County to a high of \$30,994 in Fremont County. For Park County the average was \$25,588 per job.

One of the reasons that residents of the three-county region received a higher proportion of their total personal income from non-labor sources may be the presence of natural resource amenities such the Shoshone National Forest. This concept is perhaps re-enforced by the fact that, in places like Park County, the dominate source of non-labor income in the region is investment income rather than transfer payments. This suggests that the region may be an attractive place to live for individuals with outside sources of income. However, it would probably not be appropriate to attribute all the non-labor income in the region to natural resource amenities since even regions with limited natural resource amenities still receive significant non-labor income. The question is how much of the non-labor income in the region to attribute to natural resource amenities?

While there may not be a definitive answer to the above question, an assumption could be made that the proportion of non-labor income in the three-county region above the national average is the result of the region's natural resource amenities. Under this assumption, all the non-labor income above 35.5 percent of total personal income (the U.S. average for 2009) would be due to natural resource amenities. For the three-county region this would represent twenty-five percent of the total non-labor income in the region or \$343.2 million of non-labor income potentially due to natural resource amenities (Table 3 – middle part). Local spending of the non-labor income potentially resulting from natural resource amenities is estimated to generate 2,004 total jobs in the three-county region. Among individual counties, non-labor income potentially resulting from natural resource amenities is estimated to generate 861 total jobs in Fremont County. For Park County, employment from non-labor income potentially associated with natural resource amenities is estimated to generate 994 total jobs, and for Hot Springs County the estimate is 109 total jobs. Regional interactions between the economies of the four counties are estimated to generate an additional 40 jobs in the region due to natural resource amenities for a total of 2,004 jobs in the region.

The labor earnings associated with the total employment potentially from natural resource amenities related non-labor income for the three-county region is estimated to be \$60.0 million. For individual counties the labor earnings associated with the total employment potentially from natural resource amenities in Fremont County is estimated to be \$26.7 million. For Park County the estimate is \$28.6 million, and for Hot Springs County the estimate is \$2.8 million. Regional interactions between the economies of the four counties are estimated to generate an additional \$1.9 million in labor earnings potentially due to natural resource amenities for a total of \$60.0 million in the region.

An alternative assumption regarding the role of natural resource amenities in non-labor income for the region is that the proportion of non-labor income in the three-county region above the state average is the result of the region's natural resource amenities. This assumption considers that individuals with outside sources of income may be

attracted to Wyoming not only for natural resource amenities, but also due to other factors such as the lack of state income tax, lack of crime, and the presence of a small town atmosphere. Under this assumption, all the non-labor income above 40.8 percent of total personal income (the Wyoming average for 2009) would be due to natural resource amenities. For the three-county region this would represent 14 percent of the total non-labor income in the region or \$190.7 million of non-labor income potentially due to natural resource amenities (Table 3 - bottom). Local spending of the non-labor income potentially from natural resource amenities is estimated to generate 1,113 total jobs in the three-county economy. Among individual counties under this scenario, non-labor income potentially resulting from natural resource amenities is estimated to be 448 total jobs in Fremont County. For Park County, employment from non-labor income potentially associated with natural resource amenities under this scenario is estimated to be 585 total jobs, and for Hot Springs County the estimate is 63 total jobs. Regional interactions between the economies of the three counties are estimated to generate an additional 18 total jobs in the region potentially due to natural resource amenities for a total of 1,113 jobs in the region.

The labor earnings associated with the total employment potentially from natural resource amenities related non-labor income for the three-county region under this scenario is estimated to be \$33.3 million. For individual counties the labor earnings associated with the total employment potentially from natural resource amenities in Fremont County is estimated to be \$13.9 million. For Park County the estimate is \$16.8 million, and for Hot Springs the estimate is \$1.6 million. Regional interactions between the economies of the four counties are estimate to generate an additional \$1.0 million potentially due to natural resource amenities for a total of \$33.3 million in the region.

In summary, non-labor income is an important part of the economies in the three-county region. In 2009 the region's \$1,381.0 million of non-labor income was responsible for an estimated 8,065 total jobs and \$241.3 million in total labor earnings. Natural resource amenities such as those found on the Shoshone National Forest contribute to attracting and retaining individuals with non-labor income to the region. It should be noted that the Shoshone is only part of the natural resource amenities in the region. Yellowstone National Parks and other public lands also make substantial contributions to the scenic setting of the region. In addition there are numerous other amenities such as commercial air service, retail and service outlets, and cultural attractions that contribute to making an attractive location with outdoor recreation opportunities a highly desirable place to live. In addition the older age of the region's population and higher unemployment in some counties may contribute to the higher proportion of non-labor income in the region. However, there may be some correlation between natural amenities and retirement age population.

References

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Table 1. Sources of Personal Income for Shoshone NF Counties, 2009 (2009\$)

	<i>Fremont</i> (000\$)	<i>Hot Springs</i> (000\$)	<i>Park</i> (000\$)	<i>Region</i> (000\$)	<i>Wyoming</i> (000\$)	<i>U.S.</i> (000\$)
Net Labor Earnings	\$790,408	\$100,376	\$648,046	\$1,538,830	\$15,571,828	\$7,843,321,000
Investment Income	\$372,190	\$46,329	\$404,917	\$823,436	\$7,360,057	\$2,192,960,000
Transfer Payments	\$312,790	\$45,917	\$198,827	\$557,534	\$3,357,177	\$2,131,880,000
Total	\$1,475,388	\$192,622	\$1,251,790	\$2,919,800	\$26,289,062	\$12,168,161,000
Non-Labor Income	\$684,980	\$92,246	\$603,744	\$1,380,970	\$10,717,234	\$4,324,840,000
	Fremont Percent	Hot Springs Percent	Park Percent	Region Percent	Wyoming Percent	U.S. Percent
Net Labor Earnings	53.6%	52.1%	51.8%	52.7%	59.2%	64.5%
Investment Income	25.2%	24.1%	32.3%	28.2%	28.0%	18.0%
Transfer Payments	21.2%	23.8%	15.9%	19.1%	12.8%	17.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Non-Labor Income	46.4%	47.9%	48.2%	47.3%	40.8%	35.5%
NLI Above U.S.	\$160,594	\$23,784	\$158,829	\$343,207		
NLI Above WY	\$83,510	\$13,720	\$93,428	\$190,658		

Source: Bureau of Economic Analysis

Table 2. Trends in Personal Income for Shoshone NF Counties, 1970-2009

<i>Year</i>	<i>Fremont Non-Labor Income</i>	<i>Hot Springs Non-Labor Income</i>	<i>Park Non-Labor Income</i>	<i>Region Non-Labor Income</i>	<i>Wyoming Non-Labor Income</i>	<i>U.S. Non-Labor Income</i>
1970	21.3%	29.1%	26.1%	23.9%	24.2%	22.7%
1971	21.9%	30.2%	26.0%	24.3%	24.7%	23.6%
1972	22.3%	28.4%	25.0%	24.0%	23.7%	23.4%
1973	24.4%	28.6%	24.7%	24.9%	23.6%	23.6%
1974	23.6%	31.4%	26.3%	25.4%	23.6%	25.0%
1975	24.6%	31.7%	27.4%	26.4%	24.2%	26.8%
1976	24.2%	33.5%	27.7%	26.4%	24.1%	26.2%
1977	23.0%	33.3%	27.3%	25.5%	23.3%	25.8%
1978	22.1%	33.0%	26.8%	24.7%	22.6%	25.4%
1979	22.4%	34.1%	27.9%	25.3%	22.7%	26.0%
1980	23.6%	35.5%	29.8%	26.8%	23.7%	28.2%
1981	26.8%	38.5%	32.6%	30.0%	25.5%	30.2%
1982	32.6%	43.5%	36.5%	35.1%	29.8%	32.0%
1983	31.7%	43.1%	36.5%	34.6%	30.1%	32.4%
1984	34.1%	43.8%	37.4%	36.4%	30.6%	32.2%
1985	35.8%	42.3%	39.1%	37.8%	30.7%	32.2%
1986	37.4%	42.9%	38.0%	38.2%	31.2%	32.0%
1987	38.0%	44.0%	40.1%	39.4%	32.4%	31.1%
1988	37.8%	44.4%	40.4%	39.5%	33.1%	30.9%
1989	39.9%	45.2%	40.8%	40.7%	34.0%	32.1%
1990	39.0%	44.0%	41.1%	40.3%	34.3%	32.4%
1991	39.3%	44.5%	40.3%	40.2%	35.1%	33.0%
1992	39.8%	43.3%	42.0%	41.0%	35.0%	32.6%
1993	40.2%	40.8%	41.6%	40.9%	34.3%	32.5%
1994	41.3%	43.5%	42.1%	41.8%	35.4%	32.7%
1995	42.7%	47.4%	41.9%	42.7%	36.3%	32.9%
1996	43.7%	46.1%	41.9%	43.1%	37.2%	33.0%
1997	43.5%	46.3%	42.3%	43.2%	37.1%	32.7%
1998	43.7%	48.2%	43.9%	44.1%	38.2%	32.4%
1999	42.7%	46.6%	42.8%	43.0%	37.8%	31.3%
2000	43.0%	45.9%	43.8%	43.5%	37.6%	31.1%
2001	41.8%	43.8%	41.4%	41.8%	36.1%	31.1%
2002	42.2%	46.9%	40.2%	41.6%	36.0%	31.0%
2003	44.0%	48.5%	40.5%	42.8%	36.6%	30.5%
2004	43.9%	50.0%	41.6%	43.3%	36.8%	30.4%
2005	43.2%	46.3%	44.0%	43.8%	37.7%	30.8%
2006	44.0%	48.1%	47.7%	45.9%	39.0%	31.8%
2007	43.2%	47.2%	46.8%	45.0%	38.3%	32.9%
2008	44.9%	46.1%	47.5%	46.1%	39.2%	34.0%
2009	46.4%	47.9%	48.2%	47.3%	40.8%	35.5%

Source: Bureau of Economic Analysis

Table 3. Economic Impact of Non-Labor Income in Shoshone NF Counties, 2009
(2009\$)

All Non-Labor Income				
<i>County</i>	<i>Non-Labor Income</i>	<i>Total Employment</i>	<i>Total Earnings</i>	<i>Average Earnings Per Job</i>
Fremont	\$684,980,000	3,672	\$113,816,579	\$30,994
Hot Springs Park	\$92,246,000	422	\$10,805,842	\$25,588
	\$603,744,000	3,780	\$108,824,383	\$28,791
Region*	\$1,380,970,000	8,065	\$241,314,415	\$29,920
* Note: The Region totals are greater than the sum of the individual counties due to regional linkages				
Non-Labor Income Above National Average				
<i>County</i>	<i>Non-Labor Income</i>	<i>Total Employment</i>	<i>Total Earnings</i>	<i>Average Earnings Per Job</i>
Fremont	\$160,593,691	861	\$26,684,318	\$30,994
Hot Springs Park	\$23,783,779	109	\$2,786,069	\$25,588
	\$158,829,484	994	\$28,628,890	\$28,791
Region*	\$343,206,953	2,004	\$59,972,907	\$29,920
* Note: The Region totals are greater than the sum of the individual counties due to regional linkages				
Non-Labor Income Above Wyoming Average				
<i>County</i>	<i>Non-Labor Income</i>	<i>Total Employment</i>	<i>Total Earnings</i>	<i>Average Earnings Per Job</i>
Fremont	\$83,510,140	448	\$13,876,082	\$30,994
Hot Springs Park	\$13,719,994	63	1,607,182	\$25,588
	\$93,428,099	585	16,840,342	\$28,791
Region*	\$190,658,233	1,113	\$33,316,133	\$29,920
* Note: The Region totals are greater than the sum of the individual counties due to regional linkages				
Source: IMPLAN Models				

FOREST OPERATING BUDGET

The operation of the Shoshone National Forest, itself, has important economic impact implications for the three-county region. Based on information from the Forest Service, the operating budget for the Shoshone National Forest averaged \$17.5 million between 2008 and 2010. A three-year time frame was used to account for annual variability in the Forest's operating budget. Of this total \$8.9 million (51 percent) on average was spent for non-salary items and \$8.6 million (49 percent) on average was spent for salaries. The \$8.6 million in salary expenditures supported an average of 165 Forest Service jobs. Some of the non-salary items and presumably most of the salary expenditures were spent in the three-county region generating employment and labor income in the region's economy.

Table 1 summarizes the estimated economic impact of the expenditures associated with the Forest operating budget. In terms of output, the \$17.5 million is estimated to have generated \$4.1 million of secondary expenditures in the region for a total economic impact of \$21.6 million. In terms of employment, the expenditures by the Forest directly support 165.0 Forest Service jobs plus 70.7 secondary jobs for total employment in the region of 235.7 jobs. In terms of labor income, the 165.0 jobs within the Forest Service represent \$8.6 million while the 70.7 secondary jobs represent \$2.0 million in secondary labor income for total labor income of \$10.6 million in the region.

The average earnings per job range from nearly \$52,000 for the direct employment to more than \$28,000 for the secondary employment with the average for all jobs being nearly \$45,000.

Table 1. Economic Impact of Shoshone NF Budget: 2008-2010 Average (2009\$)

Output	
Direct	\$17,498,066
Indirect	\$277,576
Induced	\$3,871,868
Total	\$21,647,510

Employment	
Direct	165.0
Indirect	29.7
Induced	41.0
Total	235.7

Labor Income	
Direct	\$8,572,768
Indirect	\$771,468
Induced	\$1,233,644
Total	\$10,577,880

Average Earnings Per Job	
Direct	\$51,956
Indirect	\$25,975
Induced	\$30,089
Total	\$44,879

ECONOMIC SUMMARY

Table 1 provides a summary of the economy of the three-county region and the impact of the Shoshone NF on the region's economy. This summary includes information on: 1) regional totals for employment and earnings, 2) the economic importance of forest related industries, and 3) estimates of the Shoshone NF impact on the region's economy. All the information is for 2009 to be consistent with the IMPLAN model used in the analysis.

Regional Totals

In terms of regional totals, Table 1 indicates there were a total of 48,754 jobs in the three-county region in 2009. Fifty-one percent of this employment was in Fremont County with 42 percent in Park and 7 percent in Hot Springs. Total labor earnings for the three-county region were \$1.7 billion in 2009. Forty-nine percent of this income was in Fremont County with 45 percent in Park and 6 percent in Hot Springs. The average earnings per job for the region were \$35,776. County averages ranged from \$32,243 in Hot Springs County to \$36,762 in Park County, with Fremont County at \$35,424.

Forest Related Industries

One way of considering the impact of the Shoshone NF on the economy of the three-county region is through Forest Related Industries (FRI). FRI are industries that are at least partially dependent on National Forest resources. In other words, a portion of the economic activity associated with these industries is dependent on the use of natural resources within the Shoshone NF. For this analysis, FRI were defined as Agriculture, Wood Products Manufacturing, Travel, and proportion of Non-Labor Income above the state average (NLI+). In this section the proportion of Non-Labor Income above the state average was used as a proxy for the income of amenity residents. Amenity residents are those residents that live in the region specifically because of the region's amenities. Some unknown portion of the attractiveness of the region to amenity residents is associated with the Shoshone NF.

Total direct regional employment for the FRI was 9,373 jobs in 2009 (Table 1). This represented nearly 20 percent of the total employment in the three-county region. Travel was the largest FRI in terms of employment (58 percent), followed by Agriculture (28 percent), NLI+ (12 percent), and Wood Products Manufacturing (2 percent). Among individual counties, the percent of total employment from FRI ranged from 14 percent in Fremont County to 25 percent in Park County with Hot Springs County at 18 percent. In all three counties the largest FRI in terms of employment were Travel and Agriculture.

Total direct regional labor earning for the FRI was \$170.5 million in 2009 (Table 1). This represented 10 percent of total labor earnings in the three-county region. Travel was the largest FRI in terms of labor earnings (73 percent), followed by NLI+ (19 percent), Agriculture (5 percent), and Wood Products Manufacturing (4 percent). Among individual counties, the percent of total labor earnings from FRI ranged from 6 percent in Fremont County to 14 percent in Park County, with Hot Springs County at 10 percent.

Average earnings per job for FRI related employment were below the regional average. In 2009 average earnings per job for FRI were \$18,188 which was 50 percent below the region's average (\$35,776). Much of this difference was due to the low labor earnings in agriculture in 2009, although average earnings per job for the other three industries were also below the regional average in 2009. Among individual counties, average earnings per job for FRI ranged from 56 percent below the county average for Fremont County to 45 percent below for Park County. For Hot Springs County average earnings per job for FRI were 48 percent below the county average.

Shoshone NF Economic Impact

For some FRI it was possible to estimate the specific impact of the Shoshone NF on the three-county economy. For those industries, it is estimated that economic activity on the Shoshone NF generated 1,260 jobs in the three-county economy (Table 1). This estimate is based on the IMPLAN model for the region and includes both direct and secondary jobs. The total jobs from the Forest represent 3 percent of the total jobs and 13 percent of the total FRI jobs in the region. Approximately 31 percent of the forest related jobs were associated with general visitation to the Forest with 28 percent being from commercial recreation, 16 percent being from livestock grazing and 7 percent being from timber and 19 percent from Forest Service employment. It was not possible to estimate the proportion of NLI+ that was strictly related to the Shoshone NF.

Forest related employment was estimated to generate a total of \$36.7 million in labor earnings in the region. These labor earnings represented 2 percent of total labor earnings and 21 percent of total FRI labor earnings in the region. Average earnings per job for forest related employment was \$29,127 which was 18 percent below the regional average.

While the economic impacts of the Shoshone NF are not a large percent of total employment and labor earnings in the region, they are not insignificant. At the national level, the economic impact of the Shoshone NF would be equivalent to 3.7 million jobs and \$130.9 billion in labor earnings in 2009. To put this in perspective, 3.7 million jobs represent 60 percent of the total number of jobs lost nationally during the recent recession. Thus relatively small percentage changes can have important implications for the economies at both the national and regional level.

Table 1. Economic Impact Summary for the Shoshone NF, 2009 (2009\$)

Regional Totals (1)				
<i>County</i>	<i>Employment (Jobs)</i>	<i>Labor Earnings (000\$)</i>	<i>Average Earnings Per Job</i>	
Fremont	24,752	\$876,813	\$35,424	
Hot Springs	3,304	\$106,532	\$32,243	
Park	20,698	\$760,895	\$36,762	
Totals	48,754	\$1,744,240	\$35,776	
Forest Related Industries (2)				
<i>Industry</i>	<i>Fremont (Jobs)</i>	<i>Hot Springs (Jobs)</i>	<i>Park (Jobs)</i>	<i>Region (Jobs)</i>
Agriculture	1,481	188	928	2,597
Wood Product Mgf	58	0	125	183
Travel	1,580	360	3,540	5,480
NLI+	448	63	585	1,113
Totals	3,567	611	5,178	9,373
<i>Industry</i>	<i>Fremont (Earnings) (000\$)</i>	<i>Hot Springs (Earnings) (000\$)</i>	<i>Park (Earnings) (000\$)</i>	<i>Region (Earnings) (000\$)</i>
Agriculture	-\$2,007	\$1,013	\$8,702	\$7,708
Wood Product Mgf	\$2,106	\$0	\$4,577	\$6,683
Travel	\$41,100	\$7,600	\$75,000	\$123,700
NLI+	\$13,876	\$1,670	\$16,840	\$32,387
Totals	\$55,075	\$10,283	\$105,119	\$170,477
Ave. Earnings/Job	\$15,440	\$16,830	\$20,301	\$18,188
Shoshone NF Economic Impact (3)				
	<i>Region Employment (Jobs)</i>	<i>Region Earnings (000\$)</i>	<i>Average Earnings Per Job</i>	
Livestock Grazing	200.7	\$6,467	\$32,220	
Timber	82.6	\$1,893	\$22,918	
Forest Visitors	388.4	\$10,234	\$26,350	
Commercial Recreation	353.0	\$7,539	\$21,358	
Shoshone NF	235.7	\$10,578	\$44,879	
Totals	1,260.4	\$36,711	\$29,127	

Sources: 1) U.S. Department of Commerce

2) U.S. Department of Commerce, University of Montana, Dean Runyan Associates

