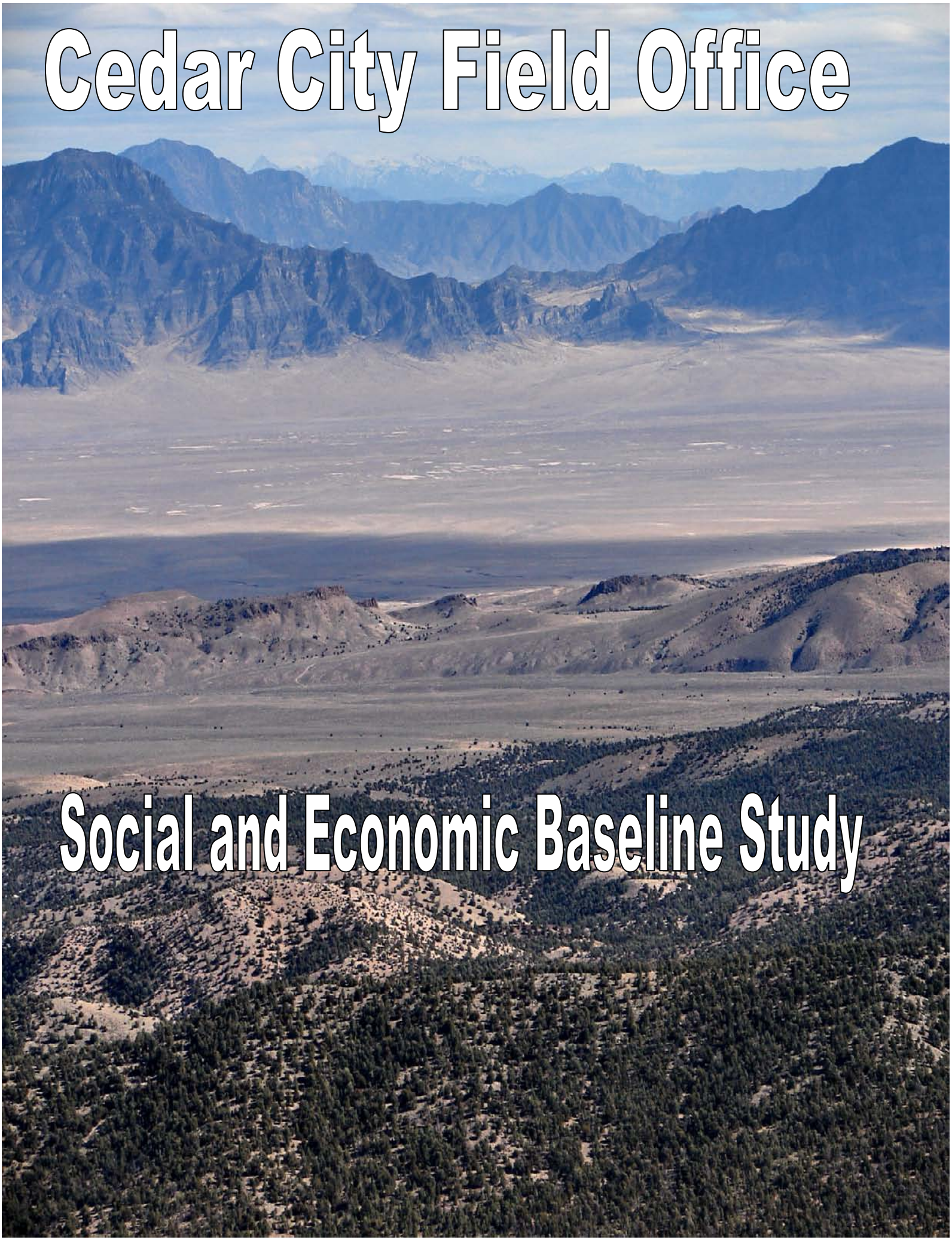
Cedar City Field Office Resource Management Plan/Environmental Impact Statement:

Analysis of the Management Situation

Appendix N

Socioeconomic Baseline Report

Cedar City Field Office



Social and Economic Baseline Study

SOCIAL AND ECONOMIC BASELINE STUDY

CEDAR CITY FIELD OFFICE

RESOURCE MANAGEMENT PLAN/ENVIRONMENTAL IMPACT STATEMENT

United States Department of the Interior

Bureau of Land Management

Cedar City Field Office, Utah

June 2011

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ACRONYMS AND ABBREVIATIONS

BEA	Bureau of Economic Analysis
BLM	Bureau of Land Management
CCFO	Cedar City Field Office
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CRMP	County Resource Management Plan
DOE	U.S. Department of Energy
EPS-HDT	Economic Profile System-Human Dimensions Toolkit
ERS	Economic Research Service
FLPMA	Federal Land Policy and Management Act
FY	Fiscal year
I-15	Interstate Highway 15
IMPLAN	Impact Analysis for Planning
LWC	Land with wilderness characteristics
MW	Megawatt
NEPA	National Environmental Policy Act
NREL	National Renewable Energy Laboratory
NVUM	National Visitation Use Monitoring
PILT	Payments in Lieu of Taxes
RMIS	Recreation Management Information Service
RMP	Resource Management Plan
SRP	Special Recreation Permit
U.S.C.	United States Code
USFS	United States Forest Service
USU	University of Southern Utah
WSA	Wilderness Study Area

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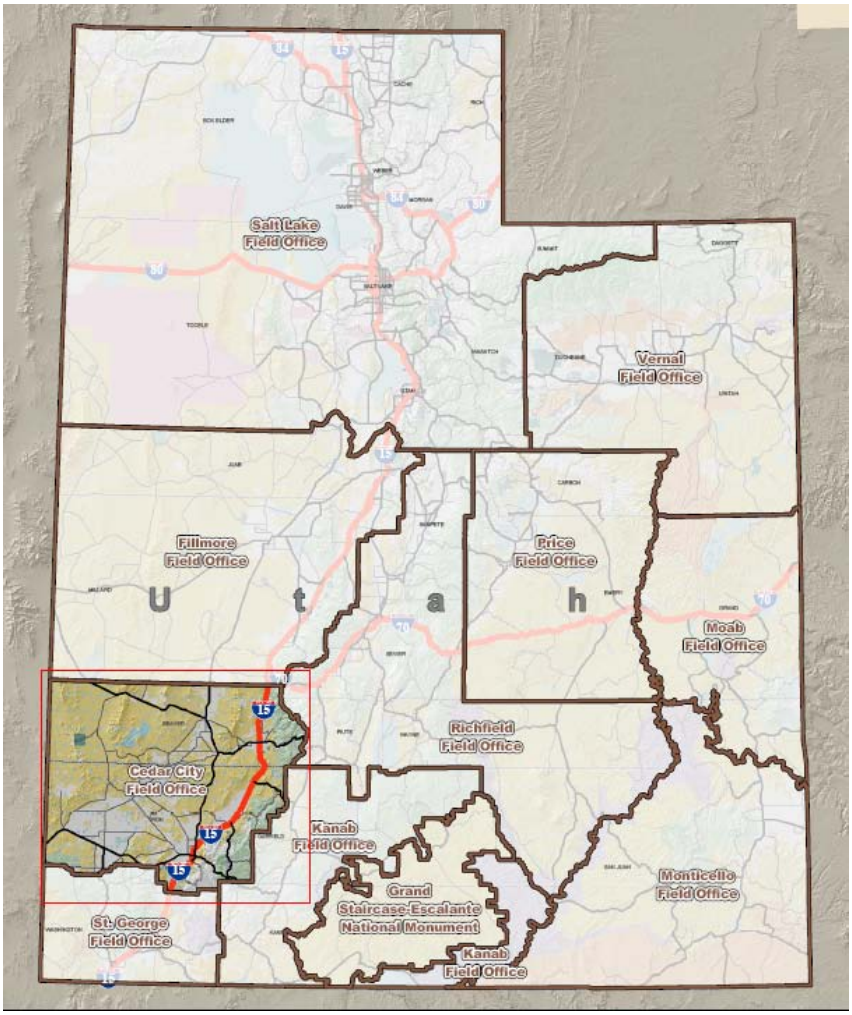
1. INTRODUCTION AND BACKGROUND

The Bureau of Land Management (BLM) Cedar City Field Office (CCFO) is responsible for planning and managing the use of approximately 2.1 million acres of public lands in southwestern Utah. The BLM Color Country District office is also located in Cedar City and implements programs in the CCFO planning area on behalf of the District. This baseline study describes the social and economic characteristics of the region potentially affected by a new Resource Management Plan (RMP) for these public lands. The impacts of alternatives developed for this new RMP will be analyzed based on the information provided in this report regarding population composition and trends, local social organizations and public services, income, employment, business characteristics, and the current contribution of BLM lands to the economy of the affected area.

The planning area includes Beaver and Iron counties, and a small area of Washington County, around the city of Enterprise. It is bordered by Millard County to the north; Sevier, Piute and Garfield counties to the east; Kane and Washington counties to the south, and the State of Nevada to the west.

Figure 1. Cedar City Field Office Planning Area



1.1. Regulatory Framework

Socioeconomic evaluation in support of BLM planning and decision making is required by several laws and regulations. Guidance for social and economic considerations in land use planning is found in the Federal Land Policy and Management Act of 1976 (FLPMA) and the National Environmental Policy Act of 1969 (NEPA). Section 202(c)(2) of FLPMA requires the BLM to integrate physical, biological, economic, and other sciences in developing land use plans (43 United States Code [U.S.C. 1712(c)(2)). FLPMA regulations at 43 Code of Federal Regulations (CFR) 1610.4-3 and 1610.4-6 also require the BLM to analyze social, economic, and institutional information. Section 102(2)(A) of NEPA requires federal agencies to "insure the integrated use of the natural and social sciences…in planning and decision making" (42 USC 4332(2)(A)). Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994) requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, polices, and activities on minority populations and low-income populations in the United States.

1.2. Methodology for Analysis

This baseline study does not analyze potential impacts of a revised RMP. Rather, it describes the social and economic aspects of the affected region that could be potentially affected by a new RMP. These include human population and migratory trends, demand for housing and public services, employment and income generation, and the provision to the community of services based on BLM-administered public lands. BLM lands generate value in several ways. Market-valued goods and services such as minerals, timber, livestock, and recreation based on BLM lands generate payments to local communities and some revenue for the federal treasury. Some goods and services, such as outdoor recreation and scenery, are valued by the people who use them but only a portion of this value might be represented in market purchases. In addition, public lands provide non-market-valued services, such as existence values of threatened or endangered species or unique ecosystems.

This report describes the provision of services to the community by BLM-administered public lands based on the available information regarding their use. In addition, the economic impact model entitled Impact Analysis for Planning (IMPLAN) is used, when possible, to estimate employment, income and output impacts of activities on BLM-administered lands. Non-market values of BLM managed lands are difficult to quantify. Direction provided in the BLM Land Use Planning Handbook (BLM 2005, Appendix D, p. 10) suggests the use of the benefit transfer method to evaluate the effects of these non-market values. In the absence of quantitative information for these goods, they are discussed qualitatively where appropriate.

The CCFO RMP decision region boundary includes Beaver and Iron counties and a small portion of Washington County (around Enterprise City) in southwestern Utah. The impact of BLM administration of public lands in this region could extend beyond their immediate vicinity and include regions interrelated through commuting and other economic ties. All three counties are part of the Bureau of Economic Analysis (BEA) economic region surrounding Las Vegas, Nevada (BEA 2004). However, given the relatively large distances from these counties to this regional center, the analysis that follows concentrates on the smaller region within the CCFO management region. In addition, because only a small portion of the management region lies within Washington County, and because Beaver and Iron

counties are not part of the St. George Metropolitan Statistical Region[1] as defined by the Office of Management and Budget (OMB 2009), the analysis focuses on Beaver and Iron Counties. This delineation of the analysis area should capture the most of the socioeconomic resources potentially affected by BLM administration, while keeping in mind that some of these effects will spill out from beyond the borders of these two counties (e.g., state tax revenues would be remitted to Salt Lake City, grocery shipments could be supplied from Salt Lake City and Las Vegas, non-market values associated with wild horse management could expand to neighboring counties).

Data used in this report are from publicly available federal databases whenever possible. In some cases (e.g., data on employment related to travel and tourism) reports from the Economic Profile System-Human Dimensions Toolkit (EPS-HDT) were used. EPS-HDT is a tool created with support from the BLM and the U.S. Forest Service (USFS) to generate socioeconomic reports of specific socioeconomic aspects and for specified regions using the most recent available data, mostly from federal sources such as the U.S. Census Bureau, the Bureau of Labor Statistics, and the BEA. In addition, information regarding the current uses of and activities on BLM-administered lands in the CCFO planning region were obtained directly from CCFO personnel.

1.3. Context and History

Each of the two main counties in the CCFO planning area has unique characteristics and history. Beaver County is centrally located along Interstate Highway 15 (I-15) between Salt Lake City, Utah, and Las Vegas, Nevada. First settled in 1858, Beaver County became well known toward the end of the 19th Century with the discovery of gold, silver, copper, lead, zinc, and some tungsten. With mining came the railroad and, until recently, the main sources of income in the county were agriculture, mining, and railroads. Today mining is no longer a major source of income for the county, and farming has been a decreasing source of personal income and employment. The county has seen a growth of trade and services with the development of tourism (Beaver County 2011). Most of the county's land (approximately 77 percent) is federally owned. Private lands, state trust lands, and National Forest System lands account for the other 22 percent (Table 1).

In 1997, the City of Beaver amended the Beaver Land Use Plan (City of Beaver 1997). The plan identifies general community goals that place particular emphasis on maintaining the community's country atmosphere and promoting high quality jobs (City of Beaver 1997). The Beaver Land Use Plan highlights the need to accommodate growth but also preserve the natural environment, and encourages development of BLM and other public lands that allow for multiple use and increased access for recreation.

Iron County is directly south of Beaver County and is home to Cedar City, the largest population center in the planning area, with an estimated 29,155 residents (U.S. Census Bureau 2010a). The cities of Parowan and Cedar City (originally Coal Creek) were founded in 1851 by Mormon settlers. Coal and iron mining and agriculture were early drivers of the county´s growth. Since the end of the nineteenth century, Iron County has also hosted state educational institutions, and today Southern Utah University is one of the largest employers in the county. The Union Pacific rail line segment connecting Salt Lake City to Las Vegas, I-15, and the regional airport (today the second largest commercial airport in the state) all played an important part in attracted people and businesses to the county. At present, Iron County has a relatively diversified economy and, unlike other counties in southwestern Utah, is an important manufacturing sector (Utah State Government 2010; PSOMAS 2009). Approximately 58

[1] *A commuter region limited to Washington County.*

percent of the county's land is federally owned. Private lands, state trust lands, and National Forest System lands account for the other 42 percent (Table 1).In 2009, Iron County published a County Resource Management Plan (CRMP). Priorities established by the CRMP include greater communication and cooperation with resource management agencies such as the BLM and greater public awareness of land and resources management decisions (Iron County 2009).

Table 1. Land Jurisdiction in Beaver County and Iron County, Utah

Jurisdiction	Beaver County	Beaver County Percentage	Iron County	Iron County Percentage	Total Acres	Total Percentage
Federal Lands	1,279,416	77	1,213,648	58	2,493,064	66
BLM-administered lands	1,141,220	69	961,606	45	2,102,826	56
U.S. Forest Service	138,196	8	243,068	12	381,264	10
National Parks	0	0	8,974	Less than 1	8,974	Less than 1
State Lands	202,545	12	138,688	7	341,233	9
Private Lands	174,131	11	755,283	36	929,414	24
Tribal Lands	0	0	2,502	Less than 1	2,502	Less than 1
Total Acres in the County	1,657,543	100	2,112,031	100	3,769,574	100

Source: EPS-HDT 2011a

2. POPULATION AND DEMOGRAPHIC CHANGE

2.1. Population Trends

Population size and growth trends are important indicators of the potential demand for use of public lands and the extent to which changes in land use planning would affect people. Beaver County has an estimated population of 6,267, which has increased approximately 4.4 percent since 2000, and increased 31.5 percent since 1990, when the population was 4,765 (Table 2). Between 2000 and 2009, net migration to the county was negative, reducing the pace of population growth (U.S. Census Bureau 2010b).

Iron County has an estimated population of 45,280, which has increased approximately 34 percent since 2000, and 117.8 percent since 1990, when the population was 20,789. This growth rate is considerably higher than those of the State of Utah and of the rest of the United States as a whole (Table 2). Between 2000 and 2009, net migration to the county contributed to roughly half the county population growth (U.S. Census Bureau 2010b). The growth in Iron County during the 1990s was partially influenced by the accreditation of Southern Utah University and the expansion of the light manufacturing sector (Utah Governor's Office of Planning and Budget 2003).

BLM land management decisions could affect age and gender groups differently, if these groups differ in the values placed on and uses made of public lands. Women account for approximately 47 percent of the of the population in Beaver County and approximately 50 percent in Iron County, compared to almost 51 percent in the United States in general. Persons under 18 years of age comprise almost 33 percent of the population in Beaver County and 30 percent in Iron County compared to less than 25 percent in the United States in general. Adults age 65 and older represent just over 13 percent of the

population of Beaver County and less than 10 percent of the population in Iron County, compared to approximately 12.6 percent in the United States (Table 3).

Table 2. Population Growth

	1990[1]	2000[1]	2009[2]	Percent Change (1990-2009)
Beaver County	4,765	6,005	6,267	31.5
Iron County	20,789	33,779	45,280	117.8
Two County Region	25,554	39,784	51,547	101.7
Utah	1,722,850	2,233,169	2,784,572	61.6
United States	248,709,873	281,421,906	307,006,550	23.4

Source: U.S. Census Bureau 2011
[1]Census data
[2]Estimate

Table 3. Demographic Characteristics, Share in Total Population (percent), 2009 Estimates

	Women	Under 20 Years of Age	65 Years of Age or Older
Beaver County	47.4	35.5	13.1
Iron County	50.2	36.1	9.7
Two-County Region	49.9	36.0	10.1
Utah	49.7	34.5	9.0
United States	50.7	27.2	12.9

Source: U.S. Census Bureau 2010a

2.2. Minority and Low-Income Populations

Executive Order 12898 on Environmental Justice requires federal agencies to "identify and address the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

According to the Council on Environmental Quality (CEQ) *Environmental Justice Guidance Under the National Environmental Policy Act* (CEQ 1997), "minority populations should be identified where either: (a) the minority population of the affected region exceeds 50 percent or (b) the minority population percentage of the affected region is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis."

Table 4 summarizes the percentage presence of each minority group in the total population of Beaver and Iron counties, Utah, and the United States. No minority group exceeds 50 percent of the population of Beaver or Iron counties. The Native American presence in the two-county region is greater than the Native American presence in the State of Utah by almost 60 percent and is more than twice the percentage presence of Native Americans in the United States as a whole. However, because the Native American presence is still only 2.2 percent of the two county region's population, BLM does not consider

the Native American presence to be meaningfully greater in the two country region than in the state as a whole. For the purpose of this baseline study, BLM does not identify the two county region as one characterized by the presence of a minority population, as defined by CEQ environmental justice guidance.

Table 5 summarizes the population below poverty levels in Beaver and Iron counties, and in Utah and the United States as a whole. The poverty level for the two-county region was more than 85 percent higher than the poverty level in Utah and 44 percent higher than for the United States. Because the poverty rate in the two county region is still below 20 percent of the population, BLM does not consider the two county region to be one characterized by the presence of a low-income population, for the purpose of this baseline study.

Table 4. Minority Presence, 2009

Geographic Unit Analyzed	Total Population	Percent of Total Population[1]							
		White	Black or African American	Alaska Native or American Indian	Asian	Native Hawaiian & Other Pacific Islander	Two or More Races	Hispanic or Latino[2]	Total Minorities[3]
Beaver County	6,267	96.0	0.3	1.3	0.7	0.1	1.6	8.7	12.2
Iron County	45,280	93.5	0.8	2.3	1.4	0.4	1.6	6.6	12.5
Two County Region	51,547	93.8	0.8	2.2	1.3	0.3	1.6	6.8	12.5
Utah	2,784,572	92.7	1.4	1.4	2.1	2.1	1.7	12.3	18.8
United States	307,006,550	79.6	12.9	1.0	4.6	4.6	1.7	15.8	34.9

Source: U.S. Census Bureau 2010a
[1]The Census category "other race" is not used in the population estimates database.
[2]Individuals who identify themselves as Hispanic, Latino, or Spanish might be of any race; the sum of the other percentages under the "Percent of Total Population" columns plus the "Hispanic or Latino" column therefore does not equal 100 percent.
[3]The total minority population, for the purposes of this analysis, is the total population for the U.S. Census-designated place minus the non-Latino/Spanish/Hispanic white population.

Table 5. Poverty, 2005-2009

Geographic Unit Analyzed	Percent Population Below Poverty Line
Beaver County	16.8
Iron County	19.7
Two County Region	19.4
Utah	10.4
United States	13.5

Source: U.S. Census Bureau 2010c

3. SOCIAL SETTING

3.1. Social Organizations and Institutions

Local governments and communities of place have interests, resources, and responsibilities surrounding the use of public lands in their counties, which could be affected by changes in land use plans, and that could also affect implementation of such plans. Communities of place are communities identified within a specific geographic location, which cannot be relocated without severe loss to the community. Examples include mining communities that depend on a specific mine for their livelihoods, or Native American tribes.

Local governments in the CCFO planning region include the county governments of Beaver and Iron counties and the city governments of Beaver City and Milford in Beaver County and Cedar City and Parowan in Iron County. The Paiute Indian Tribe of Utah has lands in the CCFO planning region. The largest area of their tribal lands comprises 2,472 acres, and is southwest of Cedar City between Cedar City and Kanarraville. The tribe also owns an office in Cedar City and retains 16 square miles of water and mineral rights in a State Wildlife Management Region.

3.2. Housing and Public Services

To the extent that land management decisions affect migration patterns to and from a region, they could impact the demand for housing and local public services.

For small regions (counties), estimates of housing units and vacancy rates are available through the U.S. Census Bureau for the 2005 through 2009 period. Table 6 shows how estimated vacancy rates in the two-county region were considerably higher than in the State of Utah or the United States as a whole. However, this was largely due to the considerable presence of seasonal and recreational housing in the region.

Table 6. Housing, 2005-2009

Geographic Unit Analyzed	Housing Units	Vacant (percent of total units)	Share of Vacant (percent)			
			Rental[1]	Sale[2]	Seasonal/ Recreation	Other[3]
Beaver County	2,870	827 (28.8)	14.9	11.6	59.7	13.8
Iron County	17,758	3,454 (19.5)	13.8	6.8	62.6	16.9
Two County Region	20,628	4,281 (20.8)	14.0	7.7	62.0	16.3
Utah	919,334	87,771 (9.6)	20.7	16.8	43.0	19.5
United States	127,699,712	15,088,683 (11.8)	25.3	16.2	29.2	29.3

Source: U.S. Census Bureau 2010c
[1]Includes for rent and rented not occupied
[2]Includes for sale and sold not occupied
[3]Includes for migrant workers and other

Local public services tend to be more affected by changes in local demand than services provided by state or private companies. Public schools are managed by the Beaver County School District and the Iron County School District. The Iron County Sheriff, Beaver County Sheriff's Office, and several city police departments provide local police protection. There are seven local fire departments in Iron County and two in Beaver County, mostly volunteer.

4. ECONOMIC SETTING

4.1. Personal Income and Employment

Changes in land use planning could foster or hamper income generation and employment, particularly in counties where public lands represent a large share of the total land region, such as in Beaver and Iron counties. Personal income and employment are also indicators of levels and patterns of demand for services and economic activities based on public lands.

Total personal income in 2008 in the two-county region was estimated to be almost $1.2 billion (BEA 2010), with more than 85 percent of that in Iron County. Personal income in Iron County has grown considerably above the personal income growth rate of the State of Utah and of the United States average over the past 30 years (Table 7). Beaver County's growth has been slightly below the national average during that same period and considerably below since 2000 (Table 7).

Table 7. Personal Income, 1980-2008 ($1,000,000[1])

	1980	1990	2000	2008	Percent Growth 1980-2008	Percent Growth 2000-2008
Beaver County	30	59	136	157	416.9	15.7
Iron County	121	252	566	1,023	743.2	80.6
Utah	12,506	25,704	55,025	87,411	599.0	58.9
United States	2,292,903	4,831,282	8,554,866	12,225,589	433.2	42.9

Source: BEA 2010
[1]Expressed in dollars of the year for which data is shown

More than 90 percent of personal income in Beaver County and more than 97 percent in Iron County originate from non-farming sources (tables 8 and 9). Farm income as a share of total personal income has declined rapidly in Beaver County since 2001, when it accounted for more than 30 percent of personal income (Table 8). Labor income accounts for more than 60 percent of total personal income in both counties. In Beaver County, labor income has declined since 2001, with transfers such as retirement, disability and medical pensions accounting for a larger share of the total (Table 8).

Table 8. Components of Personal Income, Beaver County, 2001-2008

	2001		2008	
	$1,000[1]	Percent of Personal income	$1,000[1]	Percent of Personal income
Personal income	153,804		156,916	
Farm x nonfarm				
Nonfarm personal income	100,760	65.5	142,303	90.7
Farm income	53,044	34.5	14,613	9.3
Labor x nonlabor income				
Labor income	107,859	70.1	95,817	61.1
Dividends, interest, and rent	23,218	15.1	26,497	16.9
Personal current transfer receipts	22,727	14.8	34,602	22.1
Population (persons)	6,003		6,182	
Per capita personal income ($)	25,621		25,383	

Source: BEA 2010
[1]Except for population (measured in persons) and per capita personal income (measures in dollars). Dollars not adjusted for inflation.

Table 9. Components of Personal Income, Iron County, 2001-2008

	2001		2008	
	$1,000[1]	Percent of Personal income	$1,000[1]	Percent of Personal income
Personal income	635,241		1,022,972	
Farm x nonfarm				
Nonfarm personal income	617,225	97.2	999,494	97.7
Farm income	18,016	2.8	23,478	2.3
Labor x nonlabor income				
Labor income	413,541	65.1	648,415	63.4
Dividends, interest, and rent	115,686	18.2	183,361	17.9
Personal current transfer receipts	106,014	16.7	191,196	18.7
Population (persons)	34,724		44,194	
Per capita personal income ($)	18,294		23,147	

Source: BEA 2010
[1]Except for population (measured in persons) and per capita personal income (measures in dollars). Dollars not adjusted for inflation.

Despite Iron County's relatively rapid growth in personal income, unemployment grew during the 2001 through 2009 period from 4.5 percent to 7.9 percent (Table 10) and was higher than in Beaver County and slightly higher than the unemployment rate in the State of Utah (7.1 percent), although lower than that of the United States as a whole (9.3 percent) (BLS Undated b).

Table 10. Employment, 2001-2009

	Beaver County		Iron County	
	2001	2009	2001	2009
Labor force (persons)	2,964	3,582	17,177	20,794
Employed (persons)	2,851	3,386	16,406	19,155
Unemployed (persons)	113	196	771	1,639
Unemployment rate (percent)	3.8	5.5	4.5	7.9

Source: BLS Undated a

Table 11 summarizes the largest sectors of employment in Beaver and Iron counties. In both counties, government is the largest employer and retail trade is the largest source of private non-farm employment. Farm employment is still important in Beaver County, despite its decrease in relative share of total employment since 2001. This can be largely attributed to the presence of one large facility, Circle Four Farms, the twelfth largest producer of pork in the United States, and one of the county's largest employers (Utah Department of Workforce Services 2011). Other important sectors for employment are construction, health care, and real estate (Table 11). Southern Utah University is a major employer in Iron County; manufacturing is an important employer, with some of the largest employers being Smead Manufacturing (paper products), American Pacific Corporation (chemicals), Genpack (food processing equipment) and Metalcraft Technologies (aircraft equipment parts) (Iron County 2009). In both counties, employment in transportation and warehousing grew considerably during the period. Real estate, finance, and insurance, and construction employment grew considerably in Iron County.

Table 12 shows the breakdown of employment by sector for 2009 for the two-county region. The table is compiled from Bureau of Labor Statistics data and allows comparison with average annual wages for specific sectors. Table 12 shows how wages in service-related sectors tend to be lower than the average annual wages in the region, particularly in some travel and tourism-related sectors such as leisure and hospitality. Manufacturing and mining wages tend to be higher than average.

4.2. Composition of Business

The U.S. Census Bureau 2007 Economic Census provides information on the number of business establishments and their sales by sector of the economy at the county level. In Iron County, manufacturing is the largest generator of output among private businesses (Table 13). In Beaver and Iron counties, retail trade, health care, real estate, and professional services are also important sources of output. Table 13 demonstrates the considerable presence of non-employer firms, particularly in Beaver County, which is an indicator of the extent of employment opportunities in the region.

Table 11. Employment by Industry, 2001-2008

	Beaver County				Iron County			
	2008	Share of Total Employment, 2008	2001	Growth 2001-2008	2008	Share of Total Employment, 2008	2001	Growth 2001-2008
Total employment	3,599		3,082	16.8%	24,483		19,352	26.5%
Farm employment	550	15.3%	575	-4.3%	659	2.7%	813	-18.9%
Nonfarm employment	3,049	84.7%	2,507	21.6%	23,824	97.3%	18,539	28.5%
Private employment	2,321		1,826	27.1%	19,393	79.2%	14,578	33.0%
Mining	108	3.0%	55	96.4%	D		45	
Utilities	D		37		91	0.4%	75	21.3%
Construction	197	5.5%	166	18.7%	2,220	9.1%	1,364	62.8%
Manufacturing	77	2.1%	103	-25.2%	1,828	7.5%	1,584	15.4%
Wholesale trade	D		35		399	1.6%	303	31.7%
Retail trade	415	11.5%	360	15.3%	2,830	11.6%	2,336	21.1%
Transportation and warehousing	230	6.4%	143	60.8%	515	2.1%	350	47.1%
Information	D		0		203	0.8%	189	7.4%
Finance and insurance	61	1.7%	D		1,260	5.1%	739	70.5%
Real estate and rental and leasing	162	4.5%	D		1,570	6.4%	833	88.5%
Professional, scientific, and technical services	40	1.1%	D		1,074	4.4%	D	
Management of companies and enterprises	0		0		91	0.4%	D	
Administrative and waste services	D		D		1,285	5.2%	1,669	-23.0%
Educational services	10	0.3%	L		244	1.0%	165	47.9%
Health care and social assistance	133	3.7%	84	58.3%	1,889	7.7%	1,265	49.3%
Arts, entertainment, and recreation	D		D		508	2.1%	344	47.7%
Accommodation and food services	D		D		1,773	7.2%	1,550	14.4%
Other services, except public administration	172	4.8%	162	6.2%	1,350	5.5%	1,015	33.0%
Government and government enterprises	728	20.2%	681	6.9%	4,431	18.1%	3,961	11.9%

Source: BEA 2010.
D Withheld to avoid disclosing data
L Less than 10 jobs

Table 12. Employment and Wages by Industry, 2009 (2009 dollars)

	Employment	Percent of Total Employment	Average Annual Wages	Percent Above or Below Average
Total	17,658		$28,350	
Private	13,294	75.3	$26,201	-7.6
Non-Services Related	3,511	19.9	$35,080	23.7
Natural Resources and Mining	913	5.2	$32,016	12.9
Agriculture, forestry, fishing & hunting	513	2.9	$32,436	14.4
Mining (incl. fossil fuels)	124	0.7	$46,146	62.8
Construction	1,085	6.1	$32,558	14.8
Manufacturing (Incl. forest products)	1,513	8.6	$38,737	36.6
Services Related	9,783	55.4	$23,015	-18.8
Trade, Transportation, and Utilities	3,297	18.7	$25,570	-9.8
Information	134	0.8	$23,302	-17.8
Financial Activities	811	4.6	$35,521	25.3
Professional and Business Services	1,189	6.7	$23,424	-17.4
Education and Health Services	1,772	10.0	$27,321	-3.6
Leisure and Hospitality	2,191	12.4	$11,208	-60.5
Other Services	370	2.1	$20,609	-27.3
Unclassified	0	0.0	N/A	N/A
Government	4,365	24.7	$34,889	23.1
Federal	394	2.2	$54,152	91.0
State	1,377	7.8	$38,066	34.3
Local	2,594	14.7	$30,277	6.8

Source: EPS-HDT 2011b
N/A not available

Table 13. Sector Composition of Private Business, 2007 (2007 dollars)

	Beaver County				Iron County			
	Employer Establishments[1]	Sales ($1,000)	Non-Employer Establishments[2]	Sales ($1,000)	Employer Establishments[1]	Sales ($1,000)	Non-Employer Establishments[2]	Sales[3] ($1,000)
Manufacturing	0	0	0	0	72	735,967	82	2,702
Wholesale trade	0	0	0	0	40	D	D	N/A
Retail trade	32	89,663	45	1,020	191	652,165	347	11,222
Information	0	0	0	0	14	N/A	33	437
Real estate and rental and leasing	3	324	54	3,004	96	34,986	506	29,868
Professional, scientific, and technical services	5	1,266	20	395	117	D	337	9,872
Administrative and Support and Waste M. and Remediation Srvs.	3	D	37	354	63	29,562	228	3,390
Educational services					11	7,207	68	829
Health care and social assistance	16	17,763	42	764	108	123,251	191	6,877
Arts, entertainment, and recreation	3	266	11	280	12	10,726	119	2,506
Accommodation and food services	0	0	7	300	101	59,642	39	2,369
Other services (except public administration)	8	D	80	1,931	69	25,250	402	9,879

Source: U.S. Census Bureau 2007
[1]Establishments with paid employees
[2]Establishments with no paid employees
[3]Sales, shipments, revenues, receipts or business done.
D Withheld to avoid disclosing data
N/A not available

5. CONTRIBUTIONS OF PUBLIC LANDS

BLM-administered lands in the planning region contribute to the livelihoods of residents in the region by supporting subsistence activities and market-based economic production and income generation. Subsistence activities are supported by public lands at no or low cost (permit fees) through access to fuelwood, wood for wood posts, and land for livestock grazing, fish, game, plants, berries, and seeds.

Contributions to the regional economy through market-based production can be measured using the IMPLAN input-output model. Input-output models describe commodity flows from producers to intermediate and final consumers. The total industry purchases are equal to the value of the commodities produced. Industries producing goods and services for final demand purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services continues until leakages from the region stop the cycle. The result is that each purchase by a final consumer supports output and employment along the production chain, beyond the industry and location of the purchase. The change in output and employment for regional industries caused by a change in final demand in an industry can be calculated using multipliers that capture the ratios between a change in final demand and changes in total output and employment supported.

IMPLAN not only examines the direct contributions from the CCFO, but also indirect and induced contributions. Indirect employment and labor income contributions occur when a sector purchases supplies and services from other industries to produce their product. Induced contributions are the employment and labor income generated as a result of spending new household income generated by direct and indirect employment. The employment estimated is defined as any part-time, seasonal, or full-time job. In the following tables direct, indirect, and induced contributions are included in the estimated BLM contributions.[2] Contributions are measured as increased employment, labor income and output, where output represents increased value of production (sales after accounting for changes in inventories). Although not shown in the tables below, indirect and induced output and employment also generate increased revenues for local communities because the increased economic activity often results in increased property taxes and other taxes, licenses and permits.

Table 14 summarizes BLM contributions to the local economy that can be quantified for a variety of resources, followed by discussion of specific resource contributions. Certain resources that might be economically important to some residents in the planning region are not discussed, either due to lack of data or because numbers are too small to realistically analyze. Section 5.1 discusses in detail non-market socioeconomic values. Although difficult to quantify, these values can be as important to an assessment of current socioeconomic conditions as more traditional market values that can be quantified.

[2] *IMPLAN table outputs have been rounded; thus, totals in some of the tables may not sum exactly.*

Table 14. Estimated Economic Impact of CCFO Contributions to the Local Economy by Resource (2010 dollars)

Resource Program	Employment[3]	Labor income ($1,000)	Output ($1,000)
Recreation	223	3,753	11,389
Grazing	217	4,486	25,774
Timber and Forestry	2	65	228
Fuels treatments	7	375	625
Minerals	142	6,687	34,878
Renewable Energy	148	8,973	13,511
Payments to Counties	78	3,431	4,915
BLM Expenditures	73	3,929	8,007
Total BLM Management	890	31,699	99,327
Total for Planning Region (2009)	25,460	733,859	1,258,646
BLM Percentage Contribution	3.50	4.32	7.89

Source: BLM elaboration using IMPLAN (2009)

5.1. Recreation

The EPS-HDT estimates that approximately 2,988 jobs (21 percent of all jobs) in the planning region are travel and tourism related (EPS-HDT 2011c). This estimate is based on data from the U.S. Census Bureau County Business Patterns and selects industrial sectors that, at least in part, provide goods and services to visitors to the local economy and to the local population. It includes both full and part-time jobs. Most of these jobs are concentrated in the "accommodations and food" and "retail trade" sectors. This share of travel and tourism-related jobs is approximately 50 percent higher than the national average. Jobs in these sectors are more likely to be seasonal and pay less than jobs in non-travel and tourism-related sectors. The average annual wage per job in this sector was $12,205 in the planning region in 2009, compared to $28,974 for jobs not related to travel and tourism (EPS-HDT 2011c). This is due in part to many of these jobs being seasonal in nature, because the wage data is not annualized or reported as full-time equivalents.

The extent to which BLM-administered lands contribute to employment in travel and tourism is not easy to quantify. The data below makes use of the economic impact model IMPLAN to estimate employment supported by expenditures by visitors to BLM-administered regions. Although much of the recreation use in the planning region is dispersed, and far from counting devices such as trail registers, fee stations, or vehicle traffic counters, the number of visitors to BLM-administered lands can be obtained from the BLM Recreation Management Information Service (RMIS) database, which requires BLM recreation specialists to estimate as accurately as possible total visits and visitor days to various sites within the CCFO boundaries. Table 15 summarizes BLM visitation data for fiscal year (FY) 2010 in the CCFO planning region.

[3] *Includes direct, indirect and induced; not necessarily full-time equivalents. Sources for all data: IMPLAN 2009 and tables that follow.*

Table 15. Visits and Visitor Days in the CCFO Planning Region, FY 2010

Site	Visits[1]	Visitor Days[1]	Local[2]		Non-Local[2]	
			Day	Overnight	Day	Overnight
"C" Overlook	18,250	1,217	5,840	0	12,410	0
Dispersed-Cedar City	206,306	379,424	63,419	20960	36,200	85,727
Dispersed-Three Peaks Special Recreation Management Area	18,980	11,072	6,074	0[3]	12,906	0
Parowan Gap	5,475	1,004	1,752	0	3,723	0
Rock Corral RA	1,095	712	32	0	68	0
Totals	250,106	393,429	77,117	20,960	65,307	85,727

Sources: 1. DOI (2011); 2. CCFO staff estimates based on USFS (2010); 3. Although overnight use is allowed in this area, the numbers are very small. Treating this visitation as day use has minimal effect on the overall economic impact.

Visitor expenditures can be approximated by using data from the USFS, which has constructed recreation visitor spending profiles based on years of survey data gathered through the National Visitation Use Monitoring program (NVUM). Although the data were collected from Forest Service visitors, and because the BLM has no similar database, the analysis that follows is based on the NVUM profiles. A detail analysis was performed in 2006 and updated in 2010 (Stynes and White 2006; USFS 2010). The profiles break down recreation spending by type of activity, day use versus overnight use, and local versus non-local visitors. Table 16 summarizes spending profile data, which are based on spending per party in regions with average costs (overall averaging 2.1 persons per party [USFS, 2010]). Although the detailed spending data are for survey data prior to 2006, the updated 2009 summary (only displaying spending per party per day) shows little difference in daily spending. Because the breakdown on what specifically visitors are spending is needed to meet the data requirements of IMPLAN, the analysis below used data from the 2006 report (Stynes and White 2006).

Table 16. NVUM Recreation Visitor Spending Profiles (average dollars per party, 2003 dollars)

Category	Non-Local, Day	Non-Local, Overnight	Local, Day	Local, Overnight
Lodging	Not applicable	47.08	Not applicable	16.82
Restaurant/Bar	13.60	43.98	6.12	16.96
Groceries	7.61	34.13	5.41	33.63
Gas and Oil	15.99	36.53	11.67	26.95
Other Transportation	0.98	5.42	0.21	0.58
Activities	3.87	12.32	1.82	5.06
Admissions/Fees	5.24	9.53	3.42	9.62
Souvenirs/Other	4.31	19.26	4.19	11.32

Source: Stynes and White, 2006

The total contribution to the local economy can be estimated by inputting the data in tables 15 and 16 above into IMPLAN.[4] Table 17 summarizes this analysis, and indicates that approximately 7.5 percent of travel and tourism-related jobs in the planning region can be attributed to recreation on BLM-administered lands.

Table 17. Estimated Economic Impact of CCFO Contributions to Recreation in the Planning Region (2010 dollars)

Impact Type	Employment	Labor Income ($1,000)	Output ($1,000)
Direct Effect	183	2,767	8,058
Indirect Effect	21	494	1,686
Induced Effect	19	492	1,644
Total Effect	223	3,753	11,389

Source: BLM elaboration using IMPLAN (2009)

The economic contribution to the local economy could be higher or lower depending on the accuracy of the estimates of numbers and types of visitors to BLM-administered lands in the planning region. For example, a higher percentage of non-local overnight visitors would produce larger economic impacts. Similarly, a visitor might be on a short day trip to BLM-administered lands, in which case the economic impact would be overestimated, because spending profiles assume that a visit equals an expenditure day for that specific activity. Expenditure profiles of visitors to Forest Service areas also might not accurately reflect expenditure profiles of visitors to BLM-administered lands. In addition, indirect and induced employment would be generated in various sectors of the economy, not necessarily only in those related to travel and tourism. However, the analysis above is based on the best available data and serves as an approximate indicator of the contribution of BLM-administered lands to travel and tourism in the planning region.

A second indicator of the contribution of BLM-administered lands to the local economy can be obtained for a subset of the recreational activities supported by BLM-administered lands – those requiring a Special Recreation Permit (SRP). Typically, the BLM requires commercial and competitive events to acquire an SRP. This serves to protect the resource, the government, the permittee (the holder of a SRP), and clients of the permittee. In FY 2010, the CCFO had 12 entities under permit. These permittees provide a range of recreation activities, including hunting outfitters and youth wilderness therapy programs. The permittees reported 14,500 visitor days (included in Table 17) and remitted more than $139,000 in permit fees to the CCFO (CCFO 2011). These fees, based on 3 percent of gross revenues (DOI Undated), indicate that these SRP holders were able to generate more than $4.63 million in gross revenues from activities on BLM-administered lands.

5.2. Grazing

The CCFO has 159 allotments under permit for grazing (CCFO 2011). Almost all the permittees reside locally. For many families, livestock operations on BLM-administered lands supplement family income, although for some it is a full-time occupation. Most of the grazing permits are for cattle and sheep, but

[4] NVUM spending categories do not always match IMPLAN sectors exactly; for example, "activities" and "admissions and fees" utilize IMPLAN sector 410 "other amusement and recreation industries."

a very small number are for horses. Most cattle and sheep utilize BLM-administered managed lands for only a portion of the grazing season. For the remainder of the year, permittees rely on Forest Service or private lands (CCFO 2011). To estimate the contribution of BLM-administered lands to grazing in the planning region, the BLM estimated the numbers of calves and lambs brought to market and adjusted for time spent on BLM-administered lands. For example, a calf that spent 9 months on BLM-administered lands would be evaluated at 0.75 (12 months divided by 9), while a calf that spent 6 months on BLM-administered lands would be evaluated at 0.5. Applying these estimates to calf and lamb production and multiplying by average sales prices, the BLM calculated the total market value of such production. The BLM entered these data into IMPLAN to estimate economic impacts. This type of analysis might understate the BLM contribution, because often, the availability of BLM forage for at least a part of the year makes grazing operations possible in the first place.

Range management personnel at the CCFO estimate that approximately 90 percent of cows grazing within the field office boundaries successfully produce and sustain a calf until weaning. Applying this percentage to the numbers of cows on BLM-administered lands, weighted for time spent on BLM-administered lands, produces a total number of calves available for market whose production depends on BLM-administered lands. A similar analysis can be performed for sheep. Research at the University of Montana indicates an average lambing rate of 1.5 lambs per ewe on the range, and an average weaning rate of 1.3 lambs per ewe (Kott 2006). Applying the weaning rate to the weighted average number of ewes on BLM-administered lands in the CCFO planning region, and multiplying by sales value, the BLM estimated the market value of lambs attributable to grazing on BLM-administered lands. The values computed through this process were then entered into IMPLAN to estimate total employment, labor income, and output attributable to the CCFO grazing program. Table 18 summarizes these results.

Table 18. Estimated Economic Impact of CCFO Contributions to Grazing in the Planning Region (2010 dollars)

Impact Type	Employment	Labor Income ($1,000)	Output ($1,000)
Direct Effect	144	2,666	16,788
Indirect Effect	51	1,239	7,050
Induced Effect	22	581	1,935
Total Effect	217	4,486	25,774

Source: BLM elaboration using IMPLAN (2009)

These results are based on an average sales price of $920 for a 600-pound steer, $840 for a 600-pound heifer (with a 50/50 mix of steers and heifers), and $179 for a slaughter lamb. These prices are for 2010, which was a good year for livestock prices. However, prices can vary widely from year to year (CCFO 2011).

5.3. Forestry and Wood Products[5]

As do most BLM offices, the CCFO sells both commercial and private permits for a variety of forestry and wood products. These include commercial and private firewood permits, commercial and private Christmas tree permits, and native-seed gathering permits (typically commercial). In FY 2010, the CCFO

[5] *Sources for all data in this section: CCFO and BLM Utah State Office personnel.*

sold permits for 250 acres of commercial firewood removal with an estimated sales value of $125,000 (1,250 cords at $100 per cord). The office sold commercial permits for Christmas trees with an estimated sales value of $13,625, and smaller quantities of items such as wood posts and Christmas boughs (CCFO 2011). Table 19 shows the estimated economic impact of the CFFO contributions to commercial wood and forestry products in FY 2010.

Table 19. Estimated Economic Impact of CCFO Contributions to Commercial Wood Products in the Planning Region (2010 dollars)

Impact Type	Employment	Labor Income ($1,000)	Output ($1,000)
Direct Effect	1.3	41	145
Indirect Effect	0.7	15	52
Induced Effect	0.4	9	31
Total Effect	2.3	65	228

Source: BLM elaboration using IMPLAN (2009)

The CCFO also sells permits for native-seed and pine-nut harvesting (both typically commercial). In FY 2010, the CCFO sold permits with a commercial sales value for these commodities of more than $177,000 (CCFO 2011). The planning region does not include an industrial sector corresponding to these activities, and they are not included in the IMPLAN analysis. Although there is likely some local economic benefit, most of the economic impact from these activities occurs outside the planning region.

Not included in Table 19 are CFFO sales of 300 private firewood permits and 100 private Christmas tree permits. Although these sales do not generally create employment and labor income in the local economy, they are important to the private individuals who purchase such permits.

5.4. Renewable Energy Resources

There are currently wind and geothermal energy plants in the planning region and there are plans for additional development of wind, geothermal and solar energy plants. The Milford Wind Corridor Phase 1 project came on line in 2009, with Phase 2 starting operations in May of 2011, with a combined energy output of 305 megawatts (MW) of electricity. The Blundell geothermal facility generates approximately 34 MW annually and is planned to expand. Most of the wind turbines and the entire geothermal project is on public lands leased from the BLM (CCFO 2011). The planning region has also been identified as an attractive region for solar energy development (DOE 2010).

First Wind operates the Milford Wind project located just north of Milford in the countries of Beaver and Millard. The project counts with 97 wind turbine generators and an 88-mile transmission line connecting the wind farm with a substation in the city of Delta in Northeast Millard County. An expansion is planned to start in fall of 2011 (BLM 2011c). The current plant installed capacity will support 20 full-time operations and maintenance jobs. It has also indirectly generated business activity and tax revenues for Beaver County (Milford Wind 2011). Pacificorp Energy currently operates the 34 MW (net) Blundell Geothermal Facility, which is approximately 9.5 miles northeast of the City of Milford. Completed in 1984, Blundell became the first U.S. geothermal plant outside California. The facility uses water heated by hot rock approximately 3,000 feet below the ground surface, with measured water temperatures in excess of 500 degrees Fahrenheit and pressures in excess of 500 pounds per square inch. Heated water is brought to the surface and used to generate electricity. No fossil fuels are used to

generate electricity, and spent geothermal fluid is returned to the reservoir via injection wells. The affected surface region, incorporating the plant region, well-field development, and roads, is approximately 300 acres. The plant has the equivalent of 23 full-time employees. At present, there are 15 authorized geothermal leases, including Blundell, totaling 13,697 acres (13 entirely and two partially within the CCFO planning region) and more than $100,000 annually in mineral lease payments (including royalties) are received by Beaver County (CCFO 2011). An expansion of the Blundell facility is planned as is another geothermal power plant at Sulphurdale, also in Beaver County. Although Iron County does not have a producing geothermal power plant, geothermal lease rentals and bonuses for small geothermal wells (not producing commercial power) resulted in a disbursement of more than $19,000 to the county in FY 2010 (DOI 2010a).

To estimate the present economic impact of a variety of renewable energy projects, the National Renewable Energy Laboratory (NREL) has developed an economic impact model known as JEDI (NREL 2011). This model uses IMPLAN multipliers, but refines the analysis specifically for renewable energy projects. At present, JEDI includes models for all but geothermal projects, for which IMPLAN can be used directly to estimate economic impacts. Tables 20 and 21 summarize the economic impacts accruing to operating activities of the renewable energy projects described above. Economic impacts during the development and construction phases would be much greater.[6]

Table 20. Estimated Economic Impact of CCFO Contributions to Wind Energy in the Planning Region (2010 dollars)

Impact Type	Employment	Labor Income ($1,000)	Output ($1,000)
Direct Effect	17	850	850
Indirect Effect	24	1,020	8,670
Induced Effect	26	980	3,140
Total Effect	66	2,840	10,860

Sources: Estimates from CCFO personnel; JEDI (2010)

Table 21. Estimated Economic Impact of CCFO Contributions to Geothermal Energy in the Planning Region (2010 dollars)

Impact Type	Employment	Labor Income ($1,000)	Output ($1,000
Direct Effect	23	4,477	21,502
Indirect Effect	28	862	2,662
Induced Effect	31	794	2,651
Total Effect	82	6,133	26,815

Sources: Estimates from CCFO personnel; IMPLAN (2009)

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[6] *For example, a 100-MW wind turbine facility built in 2011 would generate during the development and construction phases 489 total jobs and $22.2 million in labor income (JEDI 2010).*

In addition to the active projects described above, the CCFO planning region has been identified as an important potential site for large-scale solar energy developments. The U.S. Department of Energy (DOE) has identified three sites in the CCFO that meet its requirements for this scale of development (DOE 2010). None of the sites has been developed. Depending on the type of facility constructed, DOE estimates that each of these sites has the potential to generate from almost 600 to more than 3,500 direct and indirect jobs and from more than $28 million to more than $177 million in labor income during the construction phase. Employment and labor income during the operating phases would be lower. DOE also has identified potential adverse impacts, including increasing pressure on the lodging and housing markets within the planning region. In addition to the three identified sites, there are ongoing efforts to identify additional sites with solar energy potential (DOE 2010).

5.5. Minerals

Iron and Beaver counties have a long history of minerals exploration and production, dating back to pioneer settlement in the mid-19th Century. However, over the past several decades, this industry has declined in relative economic importance in both counties, despite the continuing importance of the industry in terms of the historical and cultural identity of the counties. Mining (including fossil fuels) has declined in Iron County to virtually none, but work is currently underway to reactivate some of these operations and several sand and gravel mining operations on private lands on the alluvial plain of Coal Creek have remained active. Beaver County has a similar history, at least through 2000, and has rebounded somewhat in recent years, primarily due to two mines near Milford. Mining provided 124 jobs in 2009 in the region, of which approximately 75 were related to activities on BLM-administered lands (CCFO 2011). Most of the BLM-related jobs were in limbo in 2011 due to bankruptcy filings by one of the two mines; however, that mine is expected to resume operations with continued employment (CCFO 2011). As Table 22 shows, as with any resource use, the economic impacts go beyond the direct effect and include both indirect and induced effects as dollars ripple through the local economy.

At present, there is no oil or gas production within the CCFO planning region. However, 50 percent of lease sale bonuses and lease rentals associated with lease parcels in the region are disbursed to the State of Utah. Approximately half of these are returned to individual counties, both on the basis of county of origin and through project-specific disbursements to individual counties. In FY 2010, the CCFO had 254 active oil and gas minerals leases with 422,504 acres under lease (CCFO 2011). Total lease payments on these leases for rents and bonus payments, including geothermal (discussed above) were approximately $400,000 in FY 2010, with virtually all of these monies going to county-level road districts.[7] Table 22 summarizes the estimated economic impacts from minerals activities in the planning region, including mineral lease payments.

[7] *Based on telephone communications with the Beaver and Iron County Auditor departments, March 29, 2011.*

Table 22. Estimated Economic Impact of CCFO Contributions to Minerals in the Planning Region, Including Mineral Lease Payments to Counties (2010 dollars)

Impact Type	Employment	Labor Income ($1,000)	Output ($1,000)
Direct Effect	83	4,838	28,567
Indirect Effect	26	984	3,423
Induced Effect	33	865	2,888
Total Effect	142	6,687	34,878

Sources: Estimates from CCFO personnel; IMPLAN (2009)

5.6. Fiscal

The non-taxable status of BLM-administered lands is important to local governments, which must provide services to county residents and provide public safety and law enforcement services on BLM-administered lands. BLM revenue-sharing programs provide resources to local governments in lieu of property taxes because state and local governments cannot tax federally owned lands the way they would if the land were privately owned. There are a number of federal programs to compensate county governments for the presence of federal lands. These programs can represent a significant portion of local government revenue in rural counties with large federal land holdings. Before 1976, all federal payments were linked directly to receipts generated on public lands. Congress funded Payments in Lieu of Taxes (PILT), with appropriations beginning in 1977 in recognition of the volatility and inadequacy of federal revenue-sharing programs. PILT was intended to stabilize and increase federal land payments to county governments. Payments are calculated on a per-acre basis, and can vary from year to year and from county to county. In addition, counties receive payments from the BLM related to other activities, including grazing, mineral lease payments (including geothermal), and sales of land and materials. Table 23 summarizes BLM-related payments to Beaver and Iron counties. Table 24 summarizes the associated economic impacts.

Table 23. BLM-Related Payments to Beaver and Iron Counties, FY 2009 (2010 dollars)

	Beaver County	Iron County	Total
Eligible BLM acreage	1,146,131	993,579	2,139,710
Payments in Lieu of Taxes on BLM acreage ($0.69 per acre average for Beaver County and $2.36 average for Iron County)	790,830	2,334,846	3,135,676
Other BLM Payments	109,746	84,302	194,048
Total Payments in Lieu of Taxes and Other BLM Payments	900,576	3,329,724	3,329,724

Source: DOI 2010b, except for Other BLM Payments, the source of which is EPS-HDT 2011d.

Table 24. Estimated Economic Impact of CCFO-Related Payments to Beaver and Iron Counties, FY 2009 (2010 dollars)

Impact Type	Employment	Labor Income ($1,000)	Output ($1,000)
Direct Effect	61	2,991	3,444
Indirect Effect	0	0	0
Induced Effect	17	440	1,471
Total Effect	78	3,431	4,915

Source: IMPLAN 2009. Analysis performed using IMPLAN sector 437 "Employment and payroll, state and local government" (to the extent that these monies are spent on purchases of goods, the impacts are less).

5.7. BLM Expenditures and Employment

The CCFO is headquartered in Cedar City. Virtually all CCFO personnel live within the planning region and contribute to the economy of the local planning region through their own family expenditures (CCFO 2011). Additionally, the CCFO expends monies on non-government-provided goods and services, much of which is spent within the planning region. In addition, the Color Country District Office in Cedar City has expenditures in the local region on behalf of all the BLM field offices within the District. Table 25 summarizes the economic impacts in the planning region accruing to the CCFO and District expenditures on employment and purchases of goods and services. The estimated impacts include CCFO expenditures and the CCFO allocated share of District expenditures. Not included in the following are expenditures on fire suppression (variable and unpredictable) or expenditures on fuels reduction programs (discussed below).

Table 25. Estimated Economic Impact of CCFO-Related Expenditures for Salaries and Payments for Goods and Services on Beaver and Iron Counties, FY 2009 (2010 dollars)

Impact Type	Employment	Labor Income ($1,000)	Output($1,000)
Direct Effect	42	3,077	5,067
Indirect Effect	11	345	1,249
Induced Effect	20	507	1,691
Total Effect	73	3,929	8,007

Source: District Office personnel; IMPLAN 2009.

In addition to the BLM office-related expenditures described above, the Interagency Fire Center, which includes the BLM and other federal agencies, is in Cedar City. Many of these shared expenditures are difficult to allocate to individual field offices and are not included in the above totals. However, there is an important piece of information associated with the fire program – expenditures for fuels reduction projects. In FY 2010, the District fuels program incurred expenditures on salaries, goods, and services to treat 5,611 acres in the planning region. These expenditures were computed by taking the entire District expenditures on fuels treatments, and adjusting this total by the CCFO share of acreage treated within the District. Additionally, the fuels reduction program was able to leverage its expenditures for

additional funding from state agencies, monies which would not have been available without the BLM contribution. Table 26 summarizes the economic impact of these expenditures in FY 2010.

Table 26. Estimated Economic Impact of Color Country District Office Expenditures with the Fuels Treatment Program (2010 dollars)

Impact Type	Employment	Labor Income ($1,000)	Output ($1,000)
Direct Effect	4.3	316,341	425,718
Indirect Effect	0.5	10,246	35,787
Induced Effect	1.9	48,867	163,704
Total Effect	6.7	375,453	625,209

Source: District Office personnel; IMPLAN 2009.

The economic benefits accruing to the District's fuels reduction program exceed the amounts shown above. This is because almost all the District expenditures for salaries and purchases of goods and services are spent within the planning region, even though most of the projects occur outside the planning region boundaries. There also are monies spent by non-local fuels contractors working on CCFO projects within the planning region.

5.8. Special Designations

The CCFO currently manages 70,538 acres in three Wilderness Study Areas (WSAs). Although it is difficult to quantify the economic benefits of these resources, they provide value to users such as recreationists. Some hunters seeking a more primitive (and perhaps less crowded) region are attracted to roadless regions. The largest source of SRP revenue in the CCFO planning region is from wilderness therapy activities, which presumably benefit from WSAs (CCFO 2011). Conversely, WSAs could preclude other economically beneficial activities due to restrictions on surface-disturbing activities and the lack of motorized access. The economic vales that could accrue to WSAs are discussed more fully in Section 5.10.

5.9. Wild Horses and Burros

The CCFO manages 10 Wild Horse Management Areas populated by approximately 769 wild horses. During scoping for the current planning effort, the CCFO received more than 40,000 letters supporting continued or increased numbers of wild horses. Although almost all of these letters were form letters, the scope of this response indicates a large base of support for the wild horse and burro program. Although there could be some increase in recreation visitation to view wild horses, most of the economic value is likely non-market in nature (essentially a "non-use" value), and is discussed more fully in Section 5.10. Conversely, several local residents have expressed concern about wild horse numbers and the potential adverse impacts on other resources, including the potential adverse economic impact that could result from reduced grazing opportunities for cattle and sheep.

5.10. Non-Market Values

In addition to the existing economic conditions described in previous sections, it is important to consider the non-market values of the planning region's attributes that could be affected by the RMP alternatives, including the non-market value of natural and cultural resources. Unlike gasoline or employee wages, these values either do not have a market or, in the case of values added to real estate property, do have a market value but it is difficult to quantify. Nevertheless, such values are important to consider because they are a source of benefits to users of BLM-administered lands. It is common, for example, for real estate investors to pay more for view lots or property adjacent to open space, or for people to make financial donations to help protect old-growth forests, endangered species, or other sensitive resources.

There is a body of evidence suggesting that natural amenities such as scenery, access to recreation, and the presence of protected regions (such as designated wilderness or other forms of protection) have positive economic benefits for communities possessing such amenities. A recent study by Headwaters Economics (Headwaters Economics 2007) summarizes much of the available research and reaches the following conclusions:

- Retirees are attracted to regions that possess high levels of natural amenities.
- Entrepreneurs and employees who do not depend on a particular workplace location ("cyber-commuters") are attracted to regions that possess high levels of natural amenities.
- There is a positive relationship between environmental protection and inmigration, retaining businesses and attracting new businesses.
- There is no evidence to suggest that protection of public lands is detrimental to local economies.

The above conclusions are reinforced by several other comprehensive studies, including those by the Sonoran Institute (2007) and The Wilderness Society (2007). A study of second-home ownership in central Colorado, while not addressing protected public lands, concludes that access to scenery and recreation are prime motivators for second-home ownership in the regions studied (Venturoni, Long, and Perdue 2005). This study further concludes that the second-home ownership phenomenon, although not without adverse impacts, is an important economic engine in job creation and income generation. Data from the U.S. Bureau of Labor Statistics reinforces the importance of second-home owners to local economies, particularly in terms of spending (Francese 2003).

These conclusions are relevant to the planning region. The Economic Research Service (ERS) of the U.S. Department of Agriculture uses a "natural amenities index" to classify rural regions as to their relative degree of natural amenities possession. Using this index, ERS has found that communities with a high level of natural amenities are the most successful in attracting retirees and second-home owners from the "Baby Boom" generation (ERS 2009). On a scale of 1 to 7, ERS computed the index for Beaver and Iron counties as 5, indicating a high level of natural amenities (ERS 2004a). From 1990 to 2000, the ERS (ERS 2004b) classified Iron County as a retirement destination community, defined as a region where population age 60 and above had increased more than 15 percent during the period due to inmigration.

Non-market values consist of "use values" and "non-use values." Use values are the dollar values of benefits derived from the direct utilization of the planning region (e.g., hiking, hunting, and general nature appreciation). Economists measure the non-market component of use values by estimating the consumer surplus associated with these activities, which is defined as the maximum dollar amount above the actual market price a consumer would be willing to pay to enjoy a good or service. The market component of use values is relatively easy to measure via actual expenditures by recreationists. Examples include amounts spent by recreationists in the local region for food and lodging associated

with their visit, or fees paid by visitors to commercial guides or outfitters. Given the competitive supply market that typically exists for these types of services, actual expenditures provide a good measure of consumer demand. Other types of "goods" demanded by and enjoyed by recreationists might not be priced accurately in relation to their intrinsic values, and sometimes are free. An example would be a popular hiking trail for which no permit is required and no fee is collected. Any amount that a recreationist would be willing to pay to use this otherwise free resource represents the non-market value of that resource to the consumer.

The non-market values recreationists are willing to pay for a wide variety of recreation goods has been studied extensively using a variety of methodologies. Table 27 summarizes an example of a range of typical non-market values for recreation activities derived from a Forest Service report entitled *Updated Outdoor Recreation Use Values on National Forests and Other Public Lands* (Loomis 2005). That study summarizes the findings from 1,239 studies covering much of the Nation from 1967 through 2003 and separates the studies by region. Table 27 provides summary statistics for the Intermountain Region in which this CCFO planning region is situated.

Table 27. Detailed Descriptive Statistics on Average Consumer Surplus Values per Person per Day by Activity, Intermountain Region, 1967-2003

Activity	N[1]	Mean[2]	Standard Error[3]	Minimum[4]	Maximum[5]
Camping	21	34.72	6.64	2.03	116.66
Cross-country skiing	7	29.88	4.58	14.05	46.49
Downhill Skiing	3	39.62	13.88	15.05	63.11
Fishing	48	49.57	6.96	8.96	227.28
Non-motorized boating	22	67.70	14.33	2.7	316.42
General recreation	12	48.46	20.92	7.91	257.51
Hiking	7	38.53	7.84	12.85	75.76
Hunting	99	48.55	3.35	2.6	169.31
Motorboating	7	53.68	25.93	5.29	203.62
Mountain biking	6	184.48	41.05	65.88	295.69
Off-highway vehicle driving	7	22.81	4.31	7.96	40.86
Other recreation	9	56.35	17.36	12.17	206.82
Picnicking	5	28.27	4.09	136.61	38.76
Driving for pleasure	4	69.74	33.23	26.41	167.24
Rock climbing	3	50.45	7.58	35.78	61.14
Sightseeing	11	23.58	8.65	0.65	90.73
Snowmobiling	8	36.29	13.24	9.79	124.44
Swimming	1	29.54	N/A	29.54	29.54
Waterskiing	2	56.96	13.09	43.87	70.07
Wildlife viewing	61	37.24	3.30	5.26	193.91
All wilderness activities	32	41.68	N/A	N/A	N/A

Source: Derived from Loomis 2005

[1]N Number of studies measuring specific recreation activity

[2]Mean Mean consumer surplus per visitor-day for that activity in 2004 dollars

[3]Standard Error standard error of the mean, with larger values in relation to the mean indicating larger response variability

[4]Minimum average minimum consumer surplus per visitor-day for that activity in 2004 dollars

[5]Maximum average maximum consumer surplus per visitor-day for that activity in 2004 dollars.

However, not all goods and services have use values. Non-use values refer to the benefits derived from the mere presence within the planning region of open and protected space or from the protection of related resources. Such values typically have two components: option values and existence values. Option values represent the benefits from the possibility of future use, while existence values reflect the willingness to pay to simply know these resources exist. Evidence for the existence of these values is ample. Local, state, and national taxpayers support a large variety of conservation and protection programs (e.g., the National Park Service, state parks, local parks and parkways, and open-space initiatives) through their tax dollars. A large number of nonprofit organizations are devoted to a wide variety of conservation and wildlife-related causes. Many, if not most, donors to these groups derive no direct benefit from their contributions. Based on Internal Revenue Service filings, the organization Giving USA reported charitable contributions by individuals, foundations, and corporations reached more than $307 billion in 2008, of which $6.58 billion accrued to animal and conservation-classified charities (Giving USA 2009). Examples of individual organizations with substantial contributions include the World Wildlife Fund, with more than $221 million in contributions from all sources in 2009 (WWF 2009 Annual Report). The Nature Conservancy, with more than 1,000,000 members primarily in the United States, received more than $665 million in contributions (TNC 2009 Annual Report).

Relevant to the current planning process, and as mentioned earlier, the CCFO received about 40,000 comment form letters regarding the field office's wild horse program, with most of these letters advocating to continue or expand the current wild horse program (CCFO 2011). An indication of the interest this subject generates, in addition to the number of form letters the CCFO received, is the large number of groups (50) affiliated with the American Wild Horse Preservation Campaign. Most of these groups' members likely are deriving non-use benefits of the type discussed above.

Open spaces also generate other types of value, including market values (the sales value of open space available for sale); enhancement values (positive influence on property values); production values (value of commodities produced by open space); the value of open space as a natural system (benefits of a natural ecosystem realized directly and indirectly by society); and more intangible values (e.g., scientific, aesthetic, genetic diversity, historical, cultural, and religious values). During scoping for the current planning process several respondents indicated that access to these types of amenities was an important value in the planning region. As discussed earlier, open spaces can attract retirees, second-home owners, and "location-free" entrepreneurs and employees. In-migration of these groups often has a positive (upward) impact on property values, and income and employment (Sonoran Institute 2007; Headwaters Economics 2007; Venturoni, Long, and Perdue 2005; Francese 2003).

5.11. Local Perceptions of Public Lands Resource Values and Management

Indicators of the local perception of the value of public lands are available from two sources. In 2007 Utah State University (USU) conducted a household survey of Utah residents analyzing their use of public lands and the value they placed on those lands (Krannich 2008). Questionnaires were mailed to a sample of households covering all state counties. Residents were asked to respond to questions about their current use of public lands, their views regarding the value of public lands, and preferences for their increased or decreased use for specific economic purposes. Because of the relatively small number of responses for individual counties, responses were grouped in multi-county clusters, each with two to four counties, for the purpose of analysis. Although the survey was not restricted to BLM-administered lands and responses are not available for Beaver and Iron counties individually, the survey provides a useful indicator of potential local uses and values in the CCFO planning region. A second source of input

from local residents on the importance for BLM-administered lands consists of socioeconomic workshops conducted by BLM personnel with residents in Beaver and Iron counties in February 2011. The BLM compared the results of these workshops with the input provided by the USU survey. The relevant information is summarized below.

Although all state regions reported extensive recreational use of public lands in the USU survey, camping and hunting were relatively more important to residents of the Beaver-Juab-Millard county cluster than to residents of other county clusters. The Iron-Washington county cluster had the most use of public lands for visits to historic sites among all clusters (Krannich 2008). About one-third of the respondents in the Beaver-Juab-Millard county cluster reported use of public lands for various non-marketed personal uses such as cutting firewood and Christmas trees, collecting rocks for landscaping, and gathering Pinyon nuts. These percentages were considerably lower in the Iron-Washington county cluster. The importance of such activities for Beaver County was also raised by residents in the BLM socioeconomic workshop (BLM 2011a). Three percent of respondents in the Iron-Washington county cluster reported contribution of permitted activities on BLM-administered lands to their incomes, and this was almost 14 percent in the Beaver-Juab-Millard county cluster. More than 17 percent of respondents in the Beaver-Juab-Millard county cluster reported involvement with grazing on public lands, while approximately 4 percent did so in the Iron-Washington county cluster. In BLM workshops in Beaver and Iron counties, the importance of properly managing competition between wild horses and livestock for grazing was raised (BLM 2011a; BLM 2011b). Both the USU survey and the BLM workshops seem to indicate an importance of keeping access to public lands for mining.

5.12. Environmental Justice

The existence of disproportionally high and adverse human health and environmental effects of the CCFO planning and management of BLM lands depends on the characterization of the CCFO planning area as one of presence of minority or low-income populations, and on the existence of significant impacts of current CCFO activities. As discussed in section 2.2., BLM does not consider the presence of minority and low-income groups in the two county region covered by the CCFO planning area to be meaningfully greater than in areas of comparison and, for the purposes of this analysis, no minority or low-income populations were identified. There would, therefore, be no disproportionate impacts to minority or low-income populations from current CCFO planning and management activities.

6. CONCLUSIONS

The bullets below summarize the main conclusions extracted from the data presented in this report.

- BLM-administered lands are an important share of total lands in Beaver and Iron counties.
- While Beaver County's population has been growing slowly in the past two decades, Iron County's population has been growing considerably above state and national growth rates and Iron County has been a destination region for in-migrants.
- The population over the age of 65 constitutes a considerable percentage of the population in Beaver County.
- There is an important Native American population in the two-county region, and the Paiute Indian Tribe of Utah owns land in Iron County. Poverty rates are somewhat above state and national rates.
- The housing market is characterized by a relatively high presence of seasonal and recreational housing.
- Iron County has seen strong economic growth in the last 3 decades, while economic growth in Beaver County has been below the Utah state average. Unemployment rates have grown, as in the rest of the United States, but remain below the national average.
- Beaver County has seen a decrease in farm income as a share of total income in the last decade and an increase in transfer payments. In both counties, government is an important employer, as are retail trade, construction, healthcare, and real estate. Manufacturing is an important employer in Iron County. In both counties, employment in transportation and warehousing grew considerably in the last decade. Real estate, finance and insurance, and construction employment grew above other sectors in Iron County.
- BLM-administered lands are important contributors to employment, and labor income and outcome in the region, supporting between an estimated 3 percent and 4 percent of employment and labor income in the region and more than 7 percent of output.
- Results from a USU study and from BLM scoping meetings indicate that residents in the region value recreational uses of BLM-administered lands. Grazing and non-market private uses also seem to be particularly valued in Beaver County.
- Various non-market values are generated by BLM-administered lands, and BLM scoping meetings indicated respondents value access to amenities provided by BLM-administered lands.

7. REFERENCES

BEA (Bureau of Economic Analysis). 2004. BEA Economic Regions. Available online: http://www.bea.gov/regional/docs/econlist.cfm. Accessed: March 21, 2011.

BEA (Bureau of Economic Analysis). 2010. Local Region Personal Income and Employment. Available online: http://www.bea.gov/regional/index.htm#state. Accessed: March 27, 2011.

Beaver County. 2011. County Information. Available online: http://beaver.utah.gov/county_info.htm. Accessed: March 27, 2011.

BLS (Bureau of Labor Statistics). Undated a. Local Region Unemployment Statistics. Labor Force Data by County. Available online: http://www.bls.gov/lau/. Accessed: March 27, 2011.

BLS (Bureau of Labor Statistics). Undated b. Local Region Unemployment Statistics. Annual Average Statewide Data. Available online: http://www.bls.gov/lau/. Accessed: March 27, 2011.

BLM (Bureau of Land Management). 2005. Land Use Planning Handbook. BLM Handbook H-1601-1. U.S. Department of Interior.

BLM (Bureau of Land Management). 2011a. Beaver County Socioeconomic Workshop – 02/07/2011. Notes.

BLM (Bureau of Land Management). 2011b. Iron County Socioeconomic Workshop – 02/08/2011. Notes.

BLM (Bureua of Land Management). 2011c. Milford Wind Corridor Phase III Project Scoping Notice – 01/18/2011. Available online: http://www.blm.gov/ut/st/en/info/newsroom/2011/january/milford_wind_corridor.html. Accessed: May 23, 2011.

CCFO. 2011. Personal Communication with Cedar City Field Office, February – March, 2011.

CEQ (Council on Environmental Quality). 1997. Environmental Justice. Guidance Under the National Environmental Policy Act. Executive Office of the President.

City of Beaver. 1997 (amended). General Plan. Available online: http://www.beaverutah.net/genplan.pdf. Accessed: March 22, 1011.

DOE (U.S. Department of Energy) 2010. Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States.

DOI (U.S. Department of the Interior). 2010a. Office of Natural Resources Revenue (available only on BLM intranet; copy of report available upon request).

DOI (U.S. Department of the Interior). 2010b. Payments in Lieu of Taxes (PILT). County Payments and Acres. Available online: http://www.nbc.gov/pilt/pilt/search.cfm Accessed: March 27, 2011.

EPS-HDT (Economic Profile System-Human Dimensions Toolkit). 2011a. A Profile of Land Use. Beaver County UT, Iron County UT, State of Utah. Available online: http://headwaterseconomics.org/tools/eps-hdt. Accessed: March 23.

EPS-HDT (Economic Profile System-Human Dimensions Toolkit). 2011b. A Profile of Socioeconomic Measures. Beaver County UT, Iron County UT, State of Utah. Available online: http://headwaterseconomics.org/tools/eps-hdt. Accessed: March 23.

EPS-HDT (Economic Profile System-Human Dimensions Toolkit). 2011c. A Profile of Industries that Include Travel and Tourism. Beaver County UT, Iron County UT, State of Utah. Available online: http://headwaterseconomics.org/tools/eps-hdt. Accessed: March 23.

EPS-HDT (Economic Profile System-Human Dimensions Toolkit). 2011d. A Profile of Federal Land Payments. Beaver County UT, Iron County UT, State of Utah. Available online: http://headwaterseconomics.org/tools/eps-hdt. Accessed: March 23.

ERS (Economic Research Service, USDA). 2004a. Natural Amenities Scale. Available online: http://www.ers.usda.gov/Data/NaturalAmenities/.

ERS (Economic Research Service, USDA). 2004b. Retirement Destination Counties. Available online: http://www.ers.usda.gov/Briefing/Rurality/Typology/maps/Retirement.htm.

ERS (Economic Research Service, USDA). 2009. Baby Boom Migration and Its Impact on Rural America / ERR-79. Available online: http://www.ers.usda.gov/Publications/ERR79/.

Francese, Peter. 2003. Trend Ticker: The Second Home Boom. American Demographics. June.

Giving USA. 2009. The Annual Report on Philanthropy for the Year 2008.

Headwaters Economics. 2007. The Potential Economic Impacts of the Badlands Wilderness in Central Oregon. Available online: http://headwaterseconomics.org/wphw/wp-content/uploads/badlandsreport.pdf.

Iron County. 2009. Iron County Resource Management Plan. Available online: http://www.ironcounty.net/departments/naturalresource/docs/NRPlan.pdf.

Kott, Rodney. 2006. Montana Farm Flock Sheep Production Handbook. Sheep Extension Program. Montana State University. Available online: http://www.animalrangeextension.montana.edu/articles/sheep/Flock%20Handbook/Reproduction.htm. Accessed: March 28.

Krannich, Richard S. 2008. Public Lands and Utah Communities: A Statewide Survey of Utah Residents. Summary Report of Research Findings. Institute of Social Science Research. Utah State University. Logan, UT.

Loomis, John. 2005. Updated outdoor recreation use values on national forests and other public lands. Gen. Tech. Rep. PNW-GTR-658. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

Milford Wind. 2011. Press Release: First Wind Begins Commercial Operations at Milford II Wind Project. Available online: http://www.milfordwind.com/milford/news.cfm?ID=2688e8aa%2Dd57f%2D407d%2D904b%2D15582d055071&test. Accessed: May 23, 2011.

NREL (National Renewable Energy Laboratory). 2011. JEDI – Jobs and Economic Development Impact Models. U.S. Department of Energy. Available online: http://www.nrel.gov/analysis/jedi/. Accessed: March 27, 2011.

OMB (Office of Management and Budget). 2009. OMB Bulletin No. 09-01. Released November 20, 2008. Available online: http://www.whitehouse.gov/sites/default/files/omb/assets/omb/bulletins/fy2009/09-01.pdf. Accessed: March 21, 2011.

PSOMAS. 2009. Cedar City General Plan Update - 2009. Cedar City: PSOMAS. Available online: http://www.cedarcity.org/DocumentView.aspx?DID=738. Accessed: March 28, 2011.

Sonoran Institute. 2004. Public Lands Conservation and Economic Well-Being.

Stynes, Daniel J. and Eric M. White. 2006. Spending Profiles for National Forest Recreation Visitors by Activity. Report to USDA Forest Service. East Lansing, MI: Michigan State University.

TNC (The Nature Conservancy). 2009. Annual Report.

The Wilderness Society. 2007. Natural Dividends: Wildland Protection and the Changing Economy of the American West.

U.S. Census Bureau. 2007. Economic Census. Available online: http://www.census.gov/econ/census07/. Accessed: March 27, 2011.

U.S. Census Bureau. 2010a. Population Estimates Program. Available online: http://factfinder.census.gov/home/saff/main.html?_lang=en. Accessed: March 24, 2011.

U.S. Census Bureau. 2010b. Population Estimates. County population, population change and estimated components of population change: April 1, 2000 to July 1, 2009. Available online: http://www.census.gov/popest/counties/. Accessed: March 23, 2011.

U.S. Census Bureau. 2010c. 2005-2009 American Community Survey 5-Year Estimates. Available online: http://factfinder.census.gov/home/saff/main.html?_lang=en. Accessed: March 24, 2011.

U.S. Census Bureau. 2011. Population Finder. Available online: http://factfinder.census.gov/servlet/SAFFPopulation?_submenuId=population_0&_sse=on. Accessed: March 18, 2011.

U.S. DOI (United States Department of the Interior). Undated. Special Recreation Permit Process Handbook. Utah Bureau of Land Management. Available online: http://www.blm.gov/pgdata/etc/medialib/blm/ut/moab_fo/campgrounds/special_recreation.Par.81484.File.dat/Utah%20BLM%20Special%20Recreation%20Permit%20Process%20Handbook.doc.pdf. Accessed: March 22, 2011.

USFS (U.S. Forest Service). 2010. National Visitor Use Monitoring Results, Dixie National Forest.

Utah Department of Workforce Services. 2011. County and Statewide Information. Available online: http://jobs.utah.gov/jsp/wi/utalmis/gotoCounties.do. Accessed: March 28, 2011.

Utah Governor's Office of Planning and Budget. 2003. Iron County Profile. December. Available online: http://www.governor.state.ut.us/planning/usfs/4B%20County%20Profiles/4BIronOverview.pdf. Accessed: March 23, 2011.

Utah State Government. 2010. Pioneer: Utah's Online Library. Available online: http://pioneer.utah.gov/index.html. Accessed: March 28, 2011.

Venturoni, L., Long, P., and Perdue, R. 2005. The Economic and Social Impacts of Second Homes in Four Mountain Resort Counties of Colorado. Paper prepared for presentation as part of the "Tourism and the Tourist in the American West" Paper Session at the 2005 Annual Meeting of the Association of American Geographers, April 7, 2005, Denver, Colorado.

WWF (World Wildlife Fund). 2009. Annual Report.