

**Livestock Grazing Plan Amendment EIS**

**SOCIOECONOMIC BASELINE REPORT**



**July 2015**



**NATIONAL  
CONSERVATION  
LANDS**



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## ACRONYMS AND ABBREVIATIONS

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Full Phrase

AUM	Animal Unit Month
BLM	United States Department of the Interior, Bureau of Land Management
EIS	Environmental Impact Statement
EHCGR	Escalante Historic/Cultural Grazing Region
EPS	Economic Profile System
FLPMA	Federal Land Policy and Management Act of 1976
FS	United States Department of Agriculture, Forest Service
FWS	United States Department of the Interior, Fish and Wildlife Service
Glen Canyon	Glen Canyon National Recreation Area
GSENM or Monument	Grand Staircase-Escalante National Monument
H.B.	House Bill
MMP-A	Monument Management Plan Amendment
NEPA	National Environmental Policy Act
NPS	United States Department of the Interior, National Park Service
PILT	Payment-in-Lieu-of-Taxes
SE	Socioeconomic/Socioeconomics
U.S.	United States
USDA	United States Department of Agriculture

## I. INTRODUCTION

The United States (U.S.) Department of the Interior, Bureau of Land Management (BLM), Grand Staircase-Escalante National Monument (GSENM) is preparing a Livestock Grazing Monument Management Plan Amendment (MMP-A) and associated Environmental Impact Statement (EIS) to guide management of livestock grazing on BLM-managed lands within GSENM, as well as lands for which GSENM has administrative responsibility for livestock grazing. Livestock grazing on the affected lands is currently managed according to land use decisions set by four regional management framework plans signed in 1981: Escalante, Paria, Vermilion, and Zion (BLM 1981a, 1981b, 1981c, and 1981d, respectively), and a subsequent plan amendment completed in 1999 (BLM 1999). Connected management decisions will be made by the U.S. Department of the Interior, National Park Service (NPS), Glen Canyon National Recreation Area (Glen Canyon).

This document provides a “slice in time” overview of the baseline socioeconomic (SE) conditions which exist as a backdrop for the planning effort, and it lays out the general concepts of social and economic impacts analysis which will be applied as part of the planning, documentation, and decisionmaking process. The purpose of this document is to describe the SE setting within which the GSENM exists and to provide an SE context for the MMP-A National Environmental Policy Act (NEPA) process for Agency and Cooperating Agency personnel. Although environmental justice is a key aspect of examining the socioeconomic context for any public land management decision, it will not be addressed within this report. Rather, it is being addressed in other analyses associated with this plan amendment.

For each of the following general subjects, this baseline report includes an overview for the study area as a whole plus some additional detailed discussion for each of the three counties within the study area boundaries: Potentially affected communities and groups of people; cultural context; social conditions; and economic conditions, including market and non-market values. In addition, a final section gives an overview of the work done to date in gathering data for the socioeconomic analyses that will be completed as the MMP-A development proceeds in future months. As the MMP-A analysis proceeds, the specific variables to be analyzed will be determined. These are expected to include: estimated qualitative impacts on multiple industrial sectors of the region’s economy, including agriculture, livestock operations, tourism, and recreation, among others. For livestock operations in particular, impacts on gross and net revenues will be estimated in dollar terms, and direct, indirect, and induced effects within the regional economy will also be estimated. In addition, expected social impacts will also be evaluated for each alternative considered in the decisionmaking process.

As is noted in the report below, there are a few issues that are of particular concern to regional leader: The predominance of federal lands in the region means that many land use decisions are made by federal officials; cooperation between federal, state, county, and local leaders is important to successful economic development in the Monument region. Over time, tourism has become an increasingly more important part of the economy, and federal and state lands play a central role in attracting visitors to the area. There are only limited routes through several parts of the region, and many tourists pass through without stopping for very long. The counties in the study area have expressed interest in engaging in ongoing efforts to develop

destination tourism opportunities as a means of economic development. Also of high importance to leaders in the region is recognition of the important role that grazing and the ranching sector play in the economy. In spite of losing money in recent years, ranching enterprises stimulate economic activity within the area around GSENM. As mentioned below, at least three independent studies have shown that through multiplier effects, each AUM permitted for use in the region generates approximately \$100 in economic activity within Kane and Garfield Counties. Ranchers hire workers, make payments on bank loans, buy supplies, and engage in other types of commercial activity, stimulating economic ripple effects within the community. Revenues from livestock operations made up more than 80% of all agricultural revenues in the study area in 2012, bringing in more than \$12 million in revenues in 2012 alone in the two Utah counties. Adding Coconino County brings the total up to more than \$35 million in revenues.<sup>1</sup> While agricultural enterprises in the region have lost money during the past decade, they have continued to serve as a means of channeling a flow of money from outside the region into the communities within the GSENM area. In addition, ranchers and their livestock serve as an attraction for visitors who want to see real cowboys at work, providing a support service to the tourism industry.

Ranchers are dependent on healthy range conditions to provide forage for their livestock. To the degree that range health deteriorates, fewer livestock can be supported on the range without endangering the long-term viability of ranching operations.<sup>2</sup> When rangelands are healthy, the probability of financial success in a given year increases for grazing permit holders.

Data included in this baseline report come from multiple sources. First, the bulk of data in the report were provided by individual- and multiple-county reports generated by the Economic Profile System (EPS), a socioeconomic data compilation and analysis software program maintained by Headwaters Economics, a non-profit research organization. The development of this program was funded by BLM, USDA Forest Service (FS), and other public entities. EPS reports are based on data from multiple federal and non-federal sources, including the U.S. Census Bureau, the Bureau of Economic Analysis, the USDA Economic Research Service, the Bureau of Labor Statistics, the Office of Management and Budget, industry data sources, and more. Products associated with EPS and Headwaters Economics are available at no cost to the public and include individual county reports for all counties in the U.S. in addition to subject matter reports related to public lands, regional economics, and other topics of interest to government officials, public land managers, and public citizens.<sup>3</sup> Additional sources of data used in this baseline report include BLM archives, local officials and agricultural producers within the GSENM region, and BLM employees who work in or near the Monument.

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<sup>1</sup> USDA 2012 Census of Agriculture County Reports

<sup>2</sup> Specific range conditions are outside the scope of this document. A study is currently underway, surveying range conditions on the Monument.

<sup>3</sup> <http://headwaterseconomics.org/>

## 2. STUDY AREA OVERVIEW

The Monument is situated in south-central Utah just north of the Utah/Arizona border. The socioeconomic study area includes the three counties that are most closely tied to GSENM.

### 2.1. Potentially Affected Communities

SE analysis presents unique challenges within a natural resource planning setting due to the nature of the available data. SE data are gathered by multiple government and private agencies and organizations and are usually available in geographic areas that are demarcated by the U.S. Bureau of the Census, the U.S. Bureau of Labor Statistics, state offices of planning and budget and economics, counties and others. Because of the methods and limitations on the collection of SE data, the study area is not the same as the planning area. In this instance, the study area expands beyond the boundaries of GSENM and includes all of Coconino County in Arizona, and Garfield and Kane Counties in Utah, an area of just under 28,000 square miles. In addition to data availability, there is another reason for expanding the boundaries of the SE study area: Although there are some private inholdings within its boundaries, the Monument itself is uninhabited. It is only the impacts on surrounding communities, regional economies, state-level entities, and other outside interested parties that are relevant in evaluating the socioeconomic impacts of decisions made regarding the management of resources on the Monument, including grazing-related resources.

The bulk of this report will focus on Garfield, Kane, and Coconino Counties. The towns between which the Monument is situated, and which are the most directly connected with and affected by Monument management decisions, include Kanab, Big Water, Mount Carmel Junction, Orderville, Glendale, Alton, Tropic, Cannonville, Henrieville, Escalante, and Boulder in Utah, and Page and Fredonia in Arizona. People who do not live within the immediate area around the Monument but who are interested in the Monument—or who are affected by impacts to the communities around the Monument—are also stakeholders in Monument management decisions.

Non-GSENM BLM lands in the surrounding area are managed by the Kanab Field Office, the Arizona Strip Field Office, and the Richfield Field Office. GSENM is managed by the BLM, and in addition to managing livestock grazing on BLM lands within the planning area the BLM also administers livestock grazing on approximately 318,000 acres of NPS, Glen Canyon National Recreation Area. In addition to BLM lands, there are other federal lands outside of the Monument that could potentially be affected by decisions regarding Monument management. Lands managed by Dixie National Forest, NPS at Bryce Canyon and Capitol Reef National Parks, State Institutional Trust Lands (SITLA), and Utah State Parks all fall within the study area. In addition to the three local counties, Arizona, Utah, and the U.S. as a whole are also included in the economic and social statistics reported.

Under the provisions of The Federal Land Policy and Management Act of 1976, as amended (FLPMA), the BLM is directed to the extent consistent with Federal law and purposes of FLPMA, to manage the lands within its jurisdiction in alignment with State and local laws and ordinances. Recently-adopted Utah State legislation and county ordinances in the GSENM area highlight grazing as a key component of the region's economy and culture.

### **Garfield County Plans and Policies**

The Garfield County Economic Development Plan of December 2007 lays out the following vision statement:

“Garfield County is rich in agricultural, natural, cultural, and human resources. Quality soils, topography, climate and forests, the concentration of national parks with their recreation areas and scenic beauty create an environment rivaled by few other areas. These natural features enrich our economy and the lives of our citizens. Garfield County is also steeped in historic tradition and pioneer heritage. Cities and Towns have a strong sense of identity, retaining original design elements from pioneer times. These original design elements act as a good framework for continuous and steady development. From these resources and features emerged our local culture, character and economy.

“We are challenged, as we look to the future, to protect the quality of our environment and its inherent quality of life while meeting the needs of all of our citizens. This special place has been purchased at a high cost, one of diminishing job opportunities, particularly for our young citizens. Although our economy has expanded from chiefly farm-based and natural resource extraction, one which includes industry, retail and tourism, and other service-oriented businesses, we must continue to seek innovative ways to diversify our economy and provide job opportunities for all Garfield County citizens. Vigilantly safeguarding those precious and irreplaceable resources unique to Garfield County and wisely planning for change, we look forward to the challenge.”<sup>4</sup>

The Economic Development Plan goes on to describe strengths, weaknesses, opportunities, and threats that provide guidance to community leaders in making decisions and taking actions to protect, enhance, and enrich the County SE landscape.

In 2013, Garfield County passed a County ordinance establishing the Escalante Historic/Cultural Grazing Region (EHCGR) and recognizing grazing as a historically and culturally significant activity which has contributed to local values for more than a century. In part, the ordinance states that the highest management priority for lands within the EHCGR is responsible management, enhancement, and development of existing and future grazing resources in order to provide protection for resources, objects, customs, culture, and values associated with grazing in the American West.

The Garfield County ordinance also specifically recognizes “multiple use” management as being compatible with grazing activities within the EHCGR and encourages responsible development of mineral and recreation resources within the EHCGR.

The EHCGR’s boundaries comprise that part of GSENM which falls within Garfield County.

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<sup>4</sup> <http://garfield.utah.gov/wp-content/uploads/2014/05/Garfield-Economic-Development-Plan.pdf>



### ***Kane County Plans and Policies***

In 2014, the Utah State Legislature passed House Bill (H.B.) 158, which established Utah Grazing Agricultural Commodity Zones and Utah Timber Agricultural Commodity Zones. This bill was amended during the 2015 legislative session to add Washington County, Utah, and to clarify some language included in the 2014 bill. Among other purposes, this law was written for the purpose of preserving and protecting the “agricultural livestock industry” and to “maximize efficient and responsible restoration, reclamation, preservation, enhancement, and development of grazing and water resources.” In response to the newly passed State law, the Kane County General Plan, as adopted on June 23, 2014 and as amended on July 27, 2014 in Kane County Ordinance No. 2014 – 11, added Chapter 27 of the Escalante Region Multiple Use/Multiple Functions Grazing Zone, as outline in H.B. 158, to the Kane County land use ordinance.<sup>5</sup> Kane County’s Resources Management Plan as amended by Kane County Resolution No. 2015 - 5<sup>6</sup>, along with the General Plan, has been in place since 1998 and has been undergoing revisions during the past few years. These two documents describe in extensive detail the County’s policies with respect to grazing and other resource-related subjects, and they provide information central to the process of coordination and cooperation between the County and land management agencies.

Kane County Ordinance No. 2014 - 6 outlines in detail the value of grazing to the local community within Kane County, specifying the many aspects of county life that are connected with and affected by livestock grazing, both from an economic standpoint and as related to general local culture. The ordinance states in part, “The highest management priorities for lands within the Escalante Region Grazing Zone are responsible management, enhancement, and restoration of historic sagebrush steppe landscapes and development of existing and future livestock grazing resources, in order to provide protection for resources, customs, culture, and values of Kane County.” In addition, Kane County Ordinance No. 2014 – 11 recognizes the value of the ranching history of the region for reasons beyond production of cattle, stating, “The cowboy lifestyle has helped develop the character of Kane County, and this has been represented in multiple western movies filmed in the area. It is surprising how many people visit the county just to see where the movies were filmed, and take pictures of livestock and cowboys. The local festival and tradition called *Western Legends* depends on the cowboy icon and is centered on that historical figure. In essence, ranching and livestock grazing has a direct link to the local tourism industry.”

### ***Coconino County Plans and Policies***

Coconino County is currently in the process of revising their County Plan. Their current plan does not include any planning, zoning, or other ordinances that specifically relate to GSENM.

## **2.2. Potentially Affected Groups and Individuals**

GSENM is used and/or visited by people from the local community, the surrounding region, other areas of the U.S., and from other nations. To better understand the social and cultural context within which the GSENM Livestock Grazing Plan Amendment is being developed, some

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<sup>5</sup> Kane County, Utah General Plan For the Physical Development of the Unincorporated Area Pursuant to Section 17-27a-403 of Utah State Code, Adopted June 23, 2014, Amended July 27, 2014.

<sup>6</sup> [http://kane.utah.gov/att/38/store/m8\\_R-2015-5-Kane-County-Resource-Management-Plan.pdf](http://kane.utah.gov/att/38/store/m8_R-2015-5-Kane-County-Resource-Management-Plan.pdf)

key groups are described below. Although these are shown as separate categories, many interactive and iterative effects ripple back and forth between them as economic and social activities spread and compound both positive and negative effects from changes in Monument management.

### ***Traditional Land Users***

Prior to the arrival of settlers of European descent, ancient peoples including the Puebloan people (also known as the Anasazi) lived within the south-central area of Utah. In more recent years, the Paiute and Shoshone peoples inhabited areas of south-central Utah, while the Navajo settled in the Four Corners area, including southeastern Utah and northern Arizona. With the arrival of Spanish explorers and then Latter-day Saint (Mormon) immigrants, native communities were gradually displaced from the area of GSENM. Although few Native Americans live within Garfield and Kane Counties, there are many Native Americans living in Coconino County. Members of various Tribes in Utah and Arizona continue to have a stake in how the Monument and its archaeological resources are managed. GSENM conducts formal consultation annually with the Hopi, Zuni, Navajo, Ute Tribes, as well as with the Kaibab Band of Paiute Indians and Paiute Indian Tribes of Utah (PITU).<sup>7</sup>

### ***Ranchers***

In the late 1880s, as Mormons colonized areas of the Intermountain and Southwest regions of the U.S., ranching quickly became an important part of the economic and cultural landscape in the desert regions of the west. In the early days of ranching in the region, herds of both sheep and cattle were grazed on what is now GSENM. Many families that currently ranch in the region and that run cattle on the Monument are descendants of those early settlers. Multi-generational ranching and the traditional cowboy culture that has become largely invisible in many areas of the west, due to urbanization, are still prominent aspects of the GSENM region. No single group is more directly affected by BLM grazing management decisions on the Monument than ranchers who hold permits to graze livestock on the Monument.

### ***Local Private Landowners***

Within the communities surrounding GSENM, landowners and citizens who are not directly involved in ranching are also impacted by BLM and NPS land management decisions. Because only a small percentage of the study area is private land, any public land management decision that affects private property values and other economic activities on private land will generate disproportionate impacts on both landowners and the counties in comparison with places where publicly-owned land makes up a small fraction of all land. Because of this disproportionate importance of public land management, local residents are sensitive to how decisions are made by BLM, FS, and other land management agency decisionmakers. In contrast, in places where public land makes up only a small percentage of land, public land management decisions have little or no impact on the majority of individual private landowners.

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<sup>7</sup> <http://www.learner.org/interactives/historymap/indians3.html>

### **Recreational Users**

While recreation was already a primary use of public lands in Kane and Garfield Counties, designation of GSENM brought the Monument and its surrounding region to the attention of many more people outside of Utah and northern Arizona. Traditional local recreation has continued as increasing numbers of visitors from outside the region have made the GSENM area a popular stopping point on tours of the western U.S. Hikers, backpackers, photographers, car campers, drivers out to enjoy the scenery, canyoneers, climbers, people interested in wildlife viewing, OHV riders, picnickers, horseback riders, hunters, mountain and road bicyclists, ecotourists, artists, writers, participants in spiritual retreats, bus tour groups, and other tourists and recreationists are affected by BLM and NPS decisions. In turn, these users' spending and visitation patterns affect the local communities that host them and serve their needs for lodging, meals, supplies, and public safety services.

### **Scientific Researchers**

For many years, researchers have visited the GSENM region, studying aspects of the area within multiple specific scientific disciplines such as geology, geomorphology, paleontology, social sciences, archaeology, watershed science, soil science, wildlife biology, and botany. Unique aspects of GSENM draw scientists from around the world. Beyond its singular geologic structure, the remoteness and relatively unimpacted nature of the Monument provide opportunities for learning that are unavailable in places that are more heavily affected by human visitation. The scientific community has a strong interest in how the Monument is managed, especially as that relates to areas where changes in management could either enhance or detract from prospective and/or ongoing research programs or could alter the investigated environment.

### **Others**

In addition to the specific groups described above, other individuals and groups have the potential to be impacted by Monument management decisions. Multiple non-governmental, environmental, conservation, and other organizations, both within and outside of Utah, as well as individuals aligned with them, have expressed interest in Monument management. It is possible that many people who have spent time in the past visiting the Monument from other places in the U.S. or from overseas, who deeply enjoyed the scenery and solitude that they experienced, have a strong sense of attachment to the Monument. Some of these people will likely be keenly interested in the MMP-A planning process as it becomes more visible to the public, and some of them could feel deeply affected on a personal level by potential changes in Monument management. Another category of people who could potentially be affected by Monument management decisions is travelers who pass through the area, but who do not fall into any of the tourist or recreational user categories outlined above. Should a change in management result in a change in local economic activity, and that increase or decrease could translate into a corresponding increase or decrease in the services available in one or more of the remote communities that serve travelers. Additional local and regional parties who could be directly or indirectly affected by changes in Monument management include business owners not mentioned above, workers, educators, government workers, developers, and so on.

Federal land managers are required by executive order to consider potential disproportionate impacts of their decisions on low-income, minority, and/or Native American populations. This

area of analysis, called environmental justice, is to be addressed in other documents connected with the MMP-A and will not be discussed in detail within this baseline report.

### 3. CULTURAL CONTEXT

#### 3.1. Study Area Overview

Life in the GSENM region has never been easy. The arid climate, rough topography, and isolated location have all contributed to the difficulty with which both ancient and modern communities in the area have been able to establish basic economic security. The rivers that flow through the region provide much needed water but also have created great challenges due to flooding, both causing repeated damage to structures and making transportation corridors difficult to develop and maintain. Although the development of modern transportation routes and vehicles has vastly improved the flow of people, goods, and services into, out of, and within the region, most of the communities within the GSENM area remain vulnerable to impacts from severe weather, loss of industries, and changes in how the vast public land holdings in the region are managed. The individual and community characteristics and values that developed over time within those difficult circumstances have been a source of pride for long-term residents for many years: Independence, adaptability, maintenance of local traditions, devotion to religious faith, and appreciation for the natural resources and scenic beauty of their surroundings are all aspects of the local culture that are deeply valued by many residents of the region. The cowboy culture that once was widespread within the American West, but that is no longer as prevalent as it once was in some of the west's more urbanized places, is still a central part of life within the GSENM area. It is important to many long-time residents of the region to preserve and celebrate the traditional cowboy lifestyle and the skills, knowledge, and cultural arts that are connected with it.

Since the late 1990s, an ongoing project collecting the thoughts and memories of residents of the area surrounding the Monument has documented experiences related to many aspects of life in south-central Utah:

“The Southern Oral History Project began in July 1998 when Grand Staircase-Escalante National Monument (GSENM) was established and BLM wanted to gather historical life ways and land use information from the surrounding communities. Local citizens in the small communities in Kane and Garfield counties of southern Utah that border the Monument manifest great interest in documenting and preserving the cultural history of the area. Funding for the project came from Bureau of Land Management. Grand Staircase-Escalante National Monument and Utah State Historical Society staffs entered into a partnership to carry out the project with Kent Powell of the Utah State Historical Society manager for the project. The aim of the oral history project is to preserve some of the memories and culture of long-time residents of the area. Preserving cultural history through oral history collection allows communities to survive by continuing to retell their stories, building bridges between the past and present, and enabling local residents

and visitors to the Monument and surrounding communities to engage in the area's unique culture.”<sup>8</sup>

When interviewed, some of the Oral History Project participants discussed various aspects of grazing in the region. While some mentioned specific issues related to BLM management of grazing on GSENM, most raised issues such as the physical and logistical difficulty of running sheep or cattle in the landscape that is now within the Monument's boundaries (sheep are no longer grazed within the Monument). For some, working through family conflicts, drought cycles, and market ups and downs has been a long-term challenge. Those who run cattle on GSENM today are faced with many of the same problems and challenges that faced those who were grazing in the area back in the early 1900s, as being in the livestock industry has always been a risk-laden endeavor.

Since 1909, when the predecessor of Zion National Park was set aside for special protection by President Taft, an increasing number of national monuments, state and national parks, and recreation areas of various types have been designated in southern Utah. Zion, Arches, Canyonlands, Bryce Canyon, and Capitol Reef National Parks, plus several national monuments, the Old Spanish National Historic Trail, and Glen Canyon National Recreation Area, Goblin Valley and other state parks, all draw tourists and recreationists to the region surrounding GSENM. From the turn of the twentieth century, tourism has played a central role in the economies of the communities that grew in the region. Prior to the designation of the Grand Staircase-Escalante National Monument, lands within the monument were also used for recreation. However, since the creation of the Monument, more recreation attention has begun to focus in the area. Visitors from other areas of Utah, the rest of the US, and other nations have provided a source of revenue flows and a catalyst for economic development in the region for many decades. In recent times, newcomers to communities within the region have brought with them ideas and ways of life that have added to the cultural complexities of the area. New businesses, new industries, facilities of various types that cater to the needs and interests of tourists, and non-traditional groups that have moved into the region have all altered and added to the social networks of Garfield, Kane, and Coconino Counties.

### **3.2. Garfield County Culture**

Garfield County is characterized by widely varied, beautiful topography and the internationally popular attractions created by it, including parts of Bryce Canyon and Capitol Reef National Parks, Glen Canyon National Recreation Area, Dixie National Forest, and GSENM, as well as Anasazi and Escalante State Parks.

As mentioned in the overview above, many long-time local residents place a high value on the traditional cowboy and ranching way of life. The remote locations of Escalante and Boulder and other smaller communities within the County have led their residents to develop a spirit of independence as well as a combination of self-reliance and a degree of community solidarity that lend themselves to supporting and protecting tradition and history within the region. In addition

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<sup>8</sup> Holland, Marsha, and Marietta Eaton, “The Southern Utah Oral History Project: A Record of Living with the Land”, Unpublished Manuscript, 2007. Selected interview transcripts available via multiple online sources.

to long-standing pioneer and ranching traditions, however, an appreciation for unique newcomers and their contributions to local business communities and societies has enabled the cultural aspects of Garfield County to develop and grow in complexity and variety over time.

Local residents cherish the history of the Mormon pioneers who either settled in the region or passed through on their way to locations further south. The Hole in the Rock pioneer route in particular, which runs south from Escalante down to and across the Colorado River, is a monument to perseverance in the face of adversity. Taking that type of approach to life in general, when faced with difficult challenges, is described by locals as being central to community and personal endeavors in the region.

### **3.3. Kane County Culture**

Like Garfield County, Kane County contains a variety of beautiful geologic features that attract visitors from around the world. Within the County boundaries are parts of Zion and Bryce Canyon National Parks, Glen Canyon National Recreation Area, Dixie National Forest, and GSENM, in addition to Coral Pink Sand Dunes and Kodachrome Basin State Parks. The County has a sub-culture associated with outfitters who run the Grand Canyon. It is also known for being the central location to use as a base camp for visiting several of the highly popular regional destinations, including the North Rim of the Grand Canyon, Zion and Bryce Canyon National Parks, and Lake Powell/Glen Canyon National Recreation Area, among others.

And as in Garfield County, Kane County geology has played a dominant role in shaping the economic opportunities and cultural fabric of local communities. Independence and resilience were necessary conditions for physical and economic survival in the region prior to the establishment of reliable trucking of goods into the area. Locals take pride in perpetuating the traditional values of self-reliance and maintenance of the skills necessary to living in harsh and often dangerous conditions. In the Kanab area, red rock mesas and extensive Navajo sandstone canyon walls complicate ranching operations. They have also provided the backdrop for many Hollywood movies. Kanab is famous for hosting a long string of film production crews and Hollywood stars that came to the area to make movies. That history is important to many residents of the area, who are proud of the role their local landscape has played in the film industry for many decades.

Another aspect of local culture in Kanab, one that has arisen in recent decades, is the establishment and continued development of the Best Friends Animal Sanctuary a few miles north of Kanab. This no-kill animal sanctuary is nationally known for its humane approach to animal rescue and rehabilitation. It is the nation's largest animal sanctuary of its kind and is Kane County's top employer. Visitors to the sanctuary, who come from across the US and from other countries, and the businesses that cater to them, add a different element to local culture than had existed in the region prior to when Best Friends gained its current status.

### **3.4. Coconino County Culture**

Coconino County, Arizona, is the second largest county in the U.S. in terms of land mass. Its cities, towns, and small communities are spread across a large area and are distinct from each other in terms of geography, economic structure, and demographics. Accordingly, there are wide differences in culture from one part of the County to another. The portion of the County that is most closely connected with GSENM is the northernmost part. Coconino County is

home to Grand Canyon National Park. The County's largest city is Flagstaff, which is more than 100 miles from the southern edge of GSENM. The communities of Fredonia and Page are both in close proximity to the Monument. Multiple ranchers who hold grazing permits on the Monument are based in the Page area.

Arizona culture is strongly influenced by Native American (primarily Navajo), Mexican, and Latter-day Saint peoples and their traditions. The Fredonia-Page slice of northern Arizona is closely tied to southern Utah due to both its location north of the Grand Canyon and the Colorado River and the long travel distances between this region and the larger communities within the County. The drive from Page to Flagstaff is more than two hours. From Fredonia to Flagstaff is nearly a three and a half hour drive. In contrast, to drive from Page to Kanab, Utah, takes just over one hour in good road conditions, and the drive from Fredonia to Kanab is only a few minutes long. Fredonia and Kanab are closely connected from an economic standpoint, and some workers commute to work across the Utah-Arizona state line. Retail shopping in Fredonia is very limited, and local residents rely on businesses in Kanab to meet many of their everyday needs.

Page provides accommodations and services for visitors to Lake Powell and travelers headed between Utah and the South Rim of the Grand Canyon and other Arizona destinations as well as serving the basic needs of workers at Glen Canyon Dam and the Navajo Generating Station power plant, which is located east of Page on the Navajo Reservation.

Coconino County is home to members of at least 27 different Alaska Native and American Indian tribes. Although there is quite a bit of diversity of tribes represented within the population, in 2013 the Navajo Nation made up more than 87 percent of native peoples within the County. The Pueblo, Apache, and Yuman tribes were the only other tribes that comprised more than 1 percent each of the total Alaska Native/American Indian population in Coconino County in that same year. Within the part of northern Coconino County that is influenced by GSENM, the Navajo tribe is the predominant American Indian tribe.

## **4. SOCIAL CONDITIONS**

### **4.1. Study Area Overview**

The basic demographic makeup within the SE study area varies between Garfield and Kane Counties, on one hand, and Coconino County, on the other. The basic population statistics for Coconino County are quite similar to those of the U.S. as a whole, while Garfield and Kane are very different in makeup from the U.S. The populations of Garfield and Kane Counties are markedly older than those of both Coconino County and the U.S., while the population of Coconino County is younger than that of the U.S. In the period from 2000 to 2012, the median age within the entire study area increased, although much more so in Garfield and Kane Counties. This could be a result of any combination of several possible causes: It could be that young people are moving away from their counties of birth as they graduate from high school and move into college and beyond; it could be the case that retirees are moving into these three counties at a rate that is higher than the birth rate, causing the median age to move upward and

it could also be that families sizes are decreasing within the study area, which would lead to older residents becoming a relatively larger portion of the population than they had been in the past. According to Census Bureau data, births outweighed deaths each year, on average, within the study area from 2000 to 2013. Net migration tended to contribute a small percentage of overall changes in population during the same period, indicating that more people wished to move to communities within the study area than wished to move away from them.

While the entirety of Coconino County has been included in most of the statistics that follow, the area of Arizona that is most closely connected with GSENM is the northernmost portion of the County, with Page and Fredonia being the communities most likely to be affected by Monument management decisions. In order to check whether data from the Flagstaff metropolitan area might be skewing the overall County data set, the following data were obtained from the U.S. Census Bureau’s website and were evaluated in order to determine whether there might be obvious socioeconomic differences between Page and Fredonia, on the one hand, and all of Coconino County, on the other, that would show the northern strip of the County to be in distinctly more vulnerable socioeconomic conditions than the rest of the County.

Table 4.1.1. Comparison: Page, Fredonia, and Coconino County

<b>Demographic Statistic</b>	<b>Page</b>	<b>Fredonia</b>	<b>Coconino County</b>
Median Household Income (2009-2013)	\$61,748	\$45,167	\$49,555
Individuals below poverty level (percent)	18.2%	13.8%	23.0%
Educational Attainment : Percent high school graduate or higher	87.5%	87.2%	87.6%

As shown in the table above, the median annual household income in Page was about \$12,000 per year higher on average than that of Coconino County, while that of Fredonia was about \$4,300 per year lower during the reported time period. Both Page and Fredonia experienced lower poverty rates than did the County as a whole, and the percentage of the population having earned a high school diploma or higher was close to the same in all three areas.

Detailed data are more readily available for Page than for Fredonia. The following table displays statistics comparing Page with Coconino County for quite a few socioeconomic measures. In the “Difference” column, a negative number indicates that for a particular measure, Page has a lower value than does Coconino County. The converse is true for positive numbers.



Table 4.I.2. Comparison: Page and Coconino County

<b>People QuickFacts</b>	<b>Page</b>	<b>Coconino County</b>	<b>Difference (Page vs Coconino County)</b>
Population, percent change - April 1, 2010 to July 1, 2013	0.50%	1.70%	-1.20%
Persons under 5 years, percent, 2010	8.20%	6.20%	2.00%
Persons under 18 years, percent, 2010	29.60%	22.30%	7.30%
Persons 65 years and over, percent, 2010	9.00%	10.30%	-1.30%
Female persons, percent, 2010	49.60%	50.60%	-1.00%
White alone, percent, 2010 (a)	57.60%	66.40%	-8.80%
Black or African American alone, percent, 2010 (a)	0.30%	1.60%	-1.30%
American Indian and Alaska Native alone, percent, 2010 (a)	34.00%	27.40%	6.60%
Asian alone, percent, 2010 (a)	0.90%	1.70%	-0.80%
Native Hawaiian and Other Pacific Islander alone, percent, 2010 (a)	Z	0.20%	
Two or More Races, percent, 2010	5.00%	2.70%	2.30%
Hispanic or Latino, percent, 2010 (b)	7.30%	13.90%	-6.60%
White alone, not Hispanic or Latino, percent, 2010	54.00%	55.00%	-1.00%
Living in same house 1 year & over, percent, 2009-2013	82.00%	79.80%	2.20%
Foreign born persons, percent, 2009-2013	2.80%	5.30%	-2.50%
Language other than English spoken at home, percent of persons age 5+, 2009-2013	17.80%	23.50%	-5.70%
High school graduate or higher, percent of persons age 25+, 2009-2013	87.50%	87.60%	-0.10%
Bachelor's degree or higher, percent of persons age 25+, 2009-2013	22.60%	31.10%	-8.50%
Mean travel time to work (minutes), workers age 16+, 2009-2013	10.9	18.7	-7.8
Homeownership rate, 2009-2013	78.90%	59.50%	19.40%
Housing units in multi-unit structures, percent, 2009-2013	6.30%	19.10%	-12.80%
Median value of owner-occupied housing units, 2009-2013	\$160,500	\$220,400	-\$59,900
Persons per household, 2009-2013	2.83	2.74	0.09
Per capita money income in past 12 months (2013 dollars), 2009-2013	\$26,406	\$23,382	\$3,024
Median household income, 2009-2013	\$61,748	\$49,555	\$12,193
Persons below poverty level, percent, 2009-2013	18.20%	23.00%	-4.80%

<b>Business QuickFacts</b>	<b>Page</b>	<b>Coconino County</b>	<b>Difference</b>
American Indian- and Alaska Native-owned firms, percent, 2007	8.10%	7.60%	0.50%
Asian-owned firms, percent, 2007	4.20%	2.10%	2.10%
Hispanic-owned firms, percent, 2007	4.70%	5.60%	-0.90%
Retail sales per capita, 2007	\$20,177	\$13,273	\$6,904
Persons per square mile, 2010	435.9	7.2	428.7
Data Source: U.S. Census Bureau, <a href="http://www.census.gov">www.census.gov</a> , accessed 07/24/15			

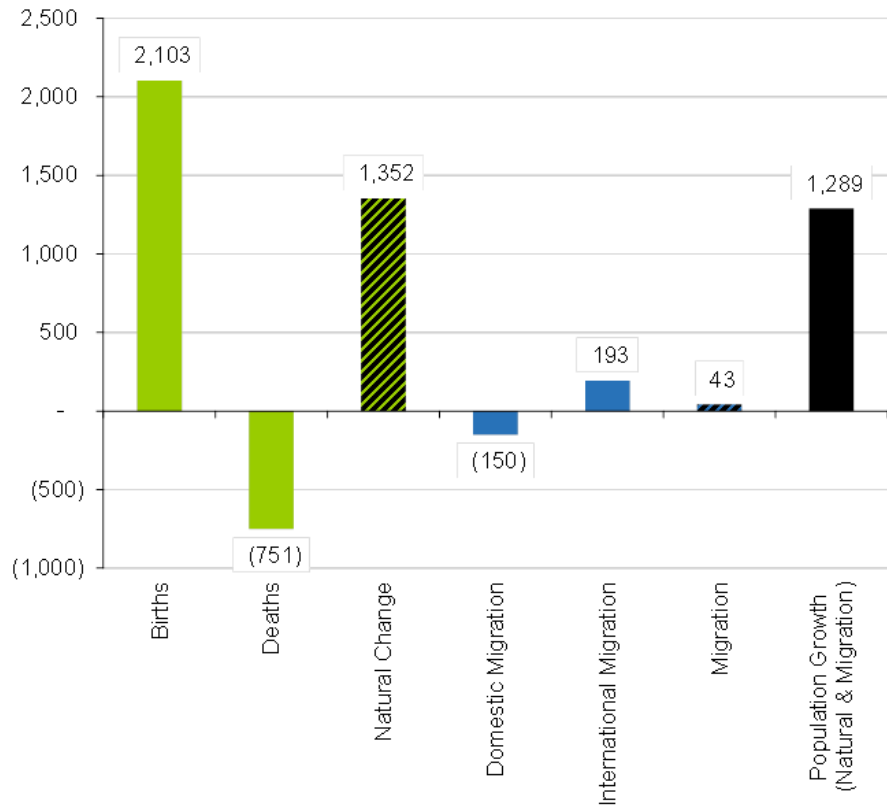
During the period reported, Page had a somewhat younger population, slightly lower population growth, more American Indians and Alaskan Natives, and fewer people of Hispanic or Latino, Asian, or Black or African American heritage. For quite a few measures, the two geographies were similar. For example, there was only a slight difference between the two in the number of persons per household and per capita income. In contrast, for some measures there were stark differences. For instance, when compared with the County, home ownership rates in Page were almost 20 percentage points higher and retail sales per capita were more than 50% higher in Page. And in spite of a lower Asian population as a percentage of the total population, there was a higher percentages of Asian-owned businesses in Page than in the County. Generally speaking, the data indicate that Page has experienced more positive SE conditions in recent years than has Coconino County overall.

While Fredonia did have a lower median household income then the County during the period reported, its poverty rate was also lower. This indicates that there was a more narrow band of income and more favorable conditions in Fredonia than in Coconino County as a whole.

The three counties in the study area have collectively experienced steady population growth since 1970, although Garfield County has seen a slight decline in population growth in recent years; accordingly, the population of Garfield County has grown more slowly than have the populations of Coconino or Kane Counties. Most of the region's population growth has been internal, through births exceeding deaths, rather than being due to in-migration from outside.

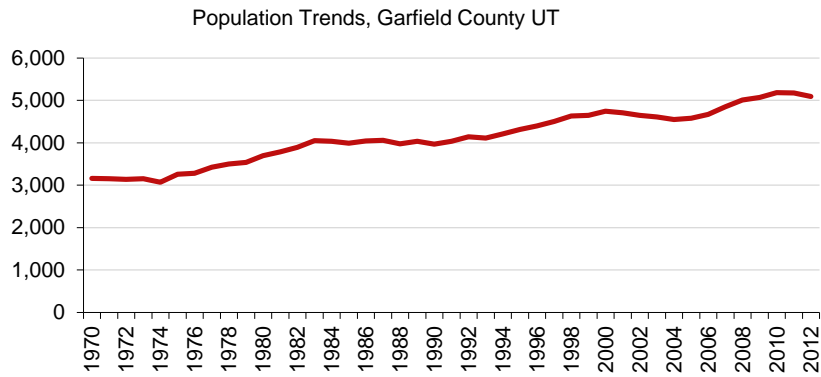
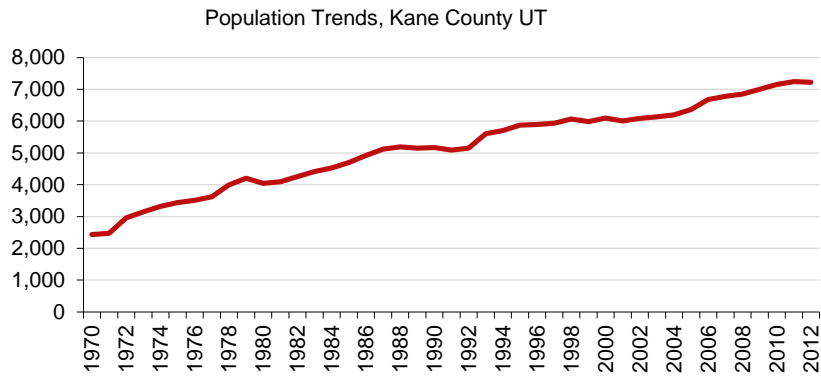
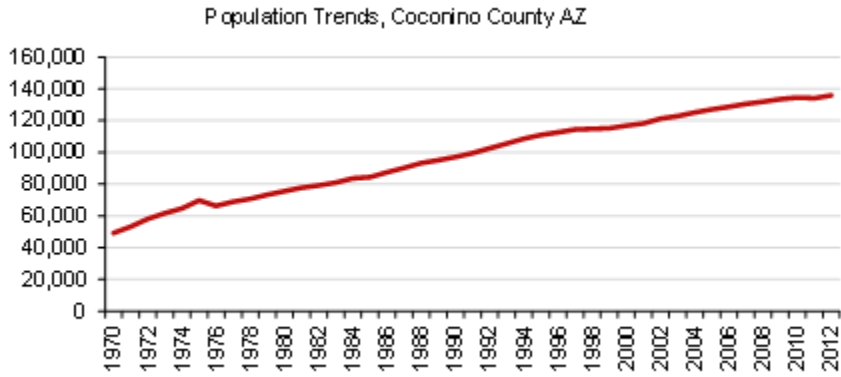
Figure 4.1.1. County Region Population Growth, 2000 to 2013

Average Annual Components of Population Growth\*, County Region, 2000-2013



\*The Census Bureau makes a minor statistical correction, called a “residual” which is omitted from the figure above. Because of this correction, natural change plus net migration may not add to total population change in the figure.

Figure 4.1.2. Population Trends, 1970 to 2012



Source: EPS-HDT, 2015

Table 4.1.3. Basic Population Statistics

<b>Basic Population Statistics</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Population (2012)	5,107	7,093	134,011	12,200	309,138,711
Population (2000)	4,735	6,046	116,320	10,781	281,421,906
Population Percent Change (2000-2012)	7.9%	17.3%	15.2%	13.2%	9.8%
Percent Male (2012)	51.7%	49.1%	49.6%	50.2%	49.2%
Percent Female (2012)	48.3%	50.9%	50.4%	49.8%	50.8%
Median Age (2012)	40.8	45.5	30.9	n/a	37.2
Median Age (2000)	33.8	39.1	29.6	n/a	35.3

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

The racial characteristics of the population of Coconino County are less similar to that of the U.S. than are its basic population characteristics. The Native American population in Coconino County is much higher as a percentage than is the case for the U.S. In addition, the populations of Garfield and Kane County are much less racially diverse than is the population of the U.S. as a whole.

Table 4.1.4. Population by Race

<b>Population by Race (2008 to 2012 average, percent of total)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
White alone	95.3%	97.3%	62.6%	96.5%	74.2%
Black or African American alone	0.3%	0.1%	1.3%	0.2%	12.6%
American Indian alone	1.9%	0.2%	27.2%	0.9%	0.8%
Asian alone	1.3%	0.1%	1.5%	0.3%	4.8%
Native Hawaiian & Other Pacific Islander alone	0.5%	0.1%	0.1%	0.3%	0.2%
Some other race alone	0.1%	1.4%	4.3%	0.8%	4.8%
Two or more races	0.6%	0.8%	3.0%	0.7%	2.7%
Hispanic or Latino (of any race)	4.6%	3.7%	13.5%	4.1%	16.4%

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

Similar to the variation in basic demographic statistics, the Native American populations of the three counties in the SE study area vary widely between the two Utah counties in contrast with Coconino County. Where members of only a few Native American tribes lived within Garfield and Kane Counties at the time of the 2012 Census report, members of many different tribes reported that they were living in Coconino County during the same reporting period.

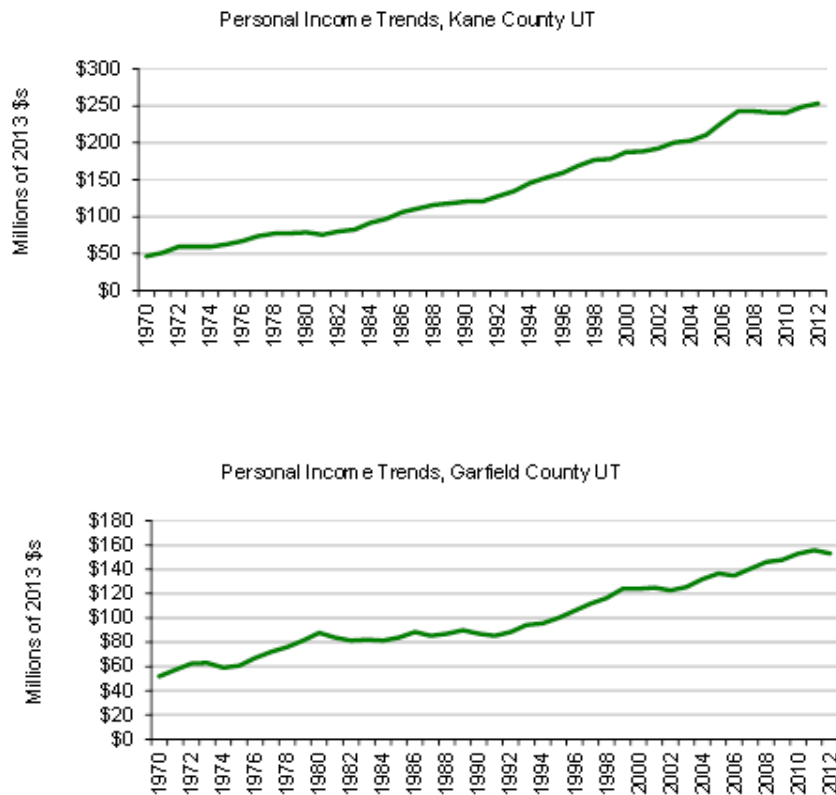
Table 4.1.5. American Indian & Alaska Native Population

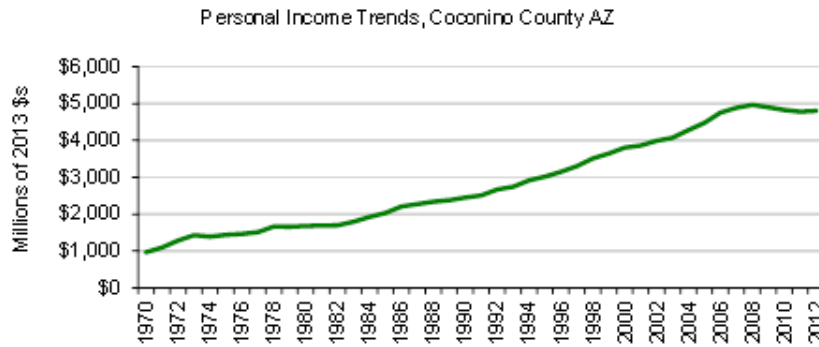
<b>American Indian &amp; Alaska Native Population (2008 to 2012, average)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Total Native American	97	14	36,501	111	2,529,100
American Indian Tribes; Specified	97	10	36,040	107	1,991,728
Apache	12	0	606	12	66,363
Blackfeet	0	0	18	0	25,520
Cherokee	6	0	76	6	271,804
Cheyenne	0	0	8	0	11,822
Chickasaw	0	0	13	0	21,897
Chippewa	0	0	22	0	114,020
Choctaw	0	0	100	0	87,895
Comanche	0	0	3	0	12,382
Cree	0	0	19	0	2,520
Crow	0	0	23	0	11,166
Iroquois	0	0	4	0	45,989
Navajo	79	8	31,726	87	304,122
Osage	0	0	7	0	7,881
Ottawa	0	0	70	0	7,201
Paiute	0	0	8	0	10,115
Pima	0	0	149	0	24,824
Pueblo	0	0	1,765	0	71,183
Seminole	0	0	21	0	14,262
Shoshone	0	0	26	0	8,629
Sioux	0	0	3	0	123,908
Tohono O'Odham	0	0	201	0	20,346
Yaqui	0	0	45	0	19,796
Yuman	0	0	401	0	7,463

<b>American Indian &amp; Alaska Native Population (2008 to 2012, average)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
All other tribes	0	2	726	2	499,028
American Indian; Not Specified	0	0	72	0	57,346
Alaska Native Tribes; Specified	0	0	26	0	105,280
Aleut	0	0	12	0	11,387
Eskimo	0	0	9	0	58,936
Tlingit-Haida	0	0	5	0	14,685
Alaska Native; Not Specified	0	0	156	0	10,142
American Indian or Alaska Native; Not Specified	0	4	207	4	364,604

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

Figure 4.1.3. Personal Income Trends, 1970 to 2012





Source: EPS-HDT, 2015

Within counties in the study area, per capita, median, and mean income are reported as being less than they are in the U.S. as a whole. At the same time, mean cash public assistance received per household is higher in Garfield and Kane Counties than in Coconino County or the U.S. Nominal retirement income is lower in Garfield County than in the other two counties in the study area. Due to its lower overall per household income, however, retirement income in Garfield County makes up a higher percentage of total household income.

Since 1960, total personal income in the study area has increased in real terms (adjusted for inflation) with a few decreases that largely correspond to national recessions. Garfield County's income growth was the slowest of the three, and Kane County's growth has been quite robust. All three counties experienced economic disruption during the 2007-2009 recession, but only Garfield County seems to continue to feel residual effects from the downturn, in terms of total personal income.

Table 4.1.6. Household Income

<b>Household Income (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Per Capita Income	\$22,238	\$25,885	\$22,664	n/a	\$28,051
Median Household Income	\$44,345	\$46,979	\$48,320	n/a	\$53,046
Mean Annual Household Income	\$50,417	\$52,158	\$60,428	\$51,480	\$74,373
Mean household Social Security income	\$16,164	\$17,616	\$16,442	\$17,039	\$16,727
Mean household retirement income	\$18,942	\$29,315	\$25,311	\$24,652	\$23,126
Mean household Supplemental Security Income	\$8,884	\$10,890	\$9,032	\$10,176	\$8,912



<b>Household Income (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Mean household cash public assistance income	\$9,119	\$6,554	\$3,406	\$7,489	\$3,807
Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.					

Table 4.1.7. Components of Household Income

<b>Components of Household Income (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Labor earnings	78.4%	76.4%	83.0%	77.2%	78.7%
Social Security	37.3%	35.2%	22.3%	36.0%	28.3%
Retirement income	25.2%	19.2%	16.7%	21.5%	17.6%
Supplemental Security Income	4.3%	4.8%	4.3%	4.6%	4.6%
Cash public assistance income	1.6%	1.7%	2.1%	1.6%	2.7%
Food Stamp/SNAP	9.8%	5.9%	12.4%	7.4%	11.4%
Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.					

Poverty rates for different categories of the population vary widely both within the study area and in comparison with the U.S. In general, poverty rates are lower in Garfield and Kane Counties than in the U.S., while in Coconino County they are higher than in the U.S. as a whole. When evaluated by race and ethnicity, poverty rates within the study area are similarly complex and varied. No clear patterns emerge when compared with the U.S., an indication that economic conditions in the counties around GSENM do not uniformly mirror national trends or statistics. What can be stated is that poverty rates for certain categories within the study area are markedly higher than in the U.S. as a whole.

Table 4.1.8. Percent of People in Poverty

<b>Percent of People Who are Below the Poverty Line (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
People	12.3%	7.6%	21.8%	9.5%	14.9%
Families	11.4%	3.7%	14.4%	6.9%	10.9%
People under 18 years	11.7%	11.4%	26.5%	11.5%	20.8%
People 65 years and older	13.3%	2.2%	13.4%	6.5%	9.4%
Families with related children under 18 years	10.8%	7.5%	21.1%	8.9%	17.2%
Married couple families	10.1%	1.4%	8.5%	4.9%	5.4%
Married couple families with children under 18 years	7.5%	3.2%	11.8%	4.9%	7.9%
Female householder, no husband present	20.6%	25.5%	31.8%	22.6%	30.1%
Female householder, no husband present with children under 18 years	26.4%	27.8%	41.2%	27.0%	39.1%

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

Table 4.1.9. Poverty Rates since 1960

<b>Poverty Rates (percent of total population living in poverty)</b>						
	1960	1970	1980	1990	2000	2010
United States	22.1%	13.7%	12.4%	13.1%	12.4%	14.9%
Arizona	15.4%	11.4%	10.3%	11.4%	9.4%	12.1%
Utah	24.9%	15.3%	13.2%	15.7%	13.9%	17.2%
Coconino County	34.8%	22.8%	20.4%	23.1%	18.2%	21.8%
Garfield County	31.3%	16.1%	12.0%	14.8%	8.1%	12.3%
Kane County	19.8%	12.4%	17.3%	16.3%	7.9%	7.6%

Sources: <https://www.census.gov/hhes/www/poverty/data/census/1960/index.html>  
[http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_12\\_5YR\\_S1701&prodType=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_12_5YR_S1701&prodType=table)

Table 4.I.10. Percent of People in Poverty by Race and Ethnicity

<b>Percent of People by Race and Ethnicity Who are Below the Poverty Line (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
White alone	11.3%	7.8%	15.4%	9.2%	12.1%
Black or African American alone	0.0%	0.0%	19.7%	0.0%	26.5%
American Indian alone	53.5%	0.0%	33.1%	47.9%	27.8%
Asian alone	33.8%	0.0%	34.9%	30.6%	12.1%
Native Hawaiian & Oceanic alone	30.0%	0.0%	14.6%	18.8%	18.7%
Some other race alone	0.0%	0.0%	27.6%	0.0%	26.1%
Two or more races alone	15.0%	0.0%	36.7%	4.8%	19.4%
Hispanic or Latino alone	19.9%	18.7%	30.1%	19.3%	24.1%
Non-Hispanic/Latino alone	11.0%	7.2%	13.8%	8.8%	10.3%

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

Educational attainment statistics in the study area indicate that the people living around GSENM tend to be high school graduates at a higher rate than in the rest of the U.S. For higher education, however, rates of completion tend to be lower within the study area. This could be evidence of either fewer opportunities for pursuing graduate degrees or a lower educational requirement for employment within the region, or both. It could also be that some people in the study area simply do not wish to pursue higher education or that some people, who are supported by others, do not work and therefore do not seek higher education, or both.

Table 4.I.11. Educational Attainment

<b>Educational Attainment, Population Age 25 and Older (2008-2012), as Reported by Survey Respondents</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
No high school degree	8.9%	5.3%	12.9%	6.8%	14.3%
High school graduate	91.1%	94.7%	87.1%	93.2%	85.7%
Associate's degree	9.6%	8.8%	8.4%	9.1%	7.7%
Bachelor's degree or higher	21.2%	27.1%	30.7%	24.7%	28.5%
Bachelor's degree	14.7%	19.5%	17.7%	17.6%	17.9%
Graduate or professional	6.5%	7.5%	12.9%	7.1%	10.6%

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

Educational attainment refers to the highest level of education that an individual has completed. This is distinct from the level of schooling that an individual is attending. Data on educational attainment are derived from a single question that asks, "What is the highest grade of school...has completed, or the highest degree...has received?" This question was first implemented in the 1990 Decennial Census and changed in the Current Population Survey in 1992. Prior to this, respondents were asked a two-part question that asked respondents to report the highest grade they had attended, and whether or not they had completed that grade. For more information on the implementation of this change and its effects on the data see the report *Measuring Education in the Current Population Survey* [PDF - 859k] (Kominski and Siegel, 1993).

The response categories for the educational attainment question vary slightly by survey, but generally include the following categories:

- No schooling completed, or less than 1 year
- Nursery, kindergarten, and elementary (grades 1-8)
- High school (grades 9-12, no degree)
- High school graduate (or equivalent)
- Some college (1-4 years, no degree)
- Associate's degree (including occupational or academic degrees)
- Bachelor's degree (BA, BS, AB, etc.)
- Master's degree (MA, MS, MENG, MSW, etc.)
- Professional school degree (MD, DDC, JD, etc.)
- Doctorate degree (PhD, EdD, etc)

Depending on the survey, the educational attainment question may be asked only of adult household members. Even when data are collected from all household members regardless of age, the U.S. Census Bureau generally publishes data only for adults. Most publications focus on adults age 25 years and over, when education has been completed for most people.

For information on specific degrees and fields of study, see the Survey of Income and Program Participation (SIPP) Data on Educational Attainment Web site.

Paying for housing in Garfield and Kane Counties requires a smaller percentage of household income than it does in the U.S. in general, while in Coconino County costs are similar to national housing costs. At first glance, it appears that the counties within the study area have a problem with a high number of vacant housing units. Upon closer inspection of the data, however, it becomes clear that vacation homes and recreational homes make up a large percentage of total housing units within the area around GSENM. Vacancy rates remain relatively high in the Garfield and Kane Counties when the large number of second, vacation, and other housing for occasional use only is taken into consideration. The percentage of properties available for either rent or purchase is lower in the study area than in the U.S. as a whole. The number of rental units remains lower in Garfield County than the national rate when vacation and other non-primary use housing is deleted from the analysis but normalizes for Kane and Coconino Counties.

Table 4.1.12. Housing Costs

<b>Housing Costs as a Percentage of Household Income (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Monthly cost <15% of household income	18.8%	22.2%	17.7%	20.9%	17.5%
Monthly cost >30% of household income	30.4%	32.2%	38.2%	31.5%	36.6%
Gross rent <15% of household income	27.7%	19.7%	12.5%	22.9%	10.8%
Gross rent >30% of household income	22.9%	39.2%	50.4%	32.7%	48.1%

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

Table 4.1.13. Housing Occupancy Rates

<b>Housing Occupancy Characteristics (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Occupied	53.8%	55.8%	72.3%	55.0%	87.5%
Vacant	46.2%	44.2%	27.7%	45.0%	12.5%
For rent	0.8%	2.0%	1.6%	1.5%	2.5%
Rented, not occupied	0.0%	0.0%	0.4%	0.0%	0.5%
For sale only	1.2%	1.3%	1.3%	1.3%	1.4%
Sold, not occupied	0.7%	0.5%	0.2%	0.6%	0.5%
For seasonal, recreational, or occasional use	34.1%	36.7%	21.6%	35.7%	3.8%
For migrant workers	1.2%	0.0%	0.0%	0.5%	0.0%
Other vacant	8.2%	3.7%	2.6%	5.4%	3.8%

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

Table 4.I.14. Housing Occupancy with Vacation, Recreational, or Occasional Use Housing Not Included

<b>Housing Occupancy Characteristics; Seasonal, Recreational, or Occasional Use Housing Deleted (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane- Garfield Two- County Region</b>	<b>United States</b>
Occupied	81.6%	88.1%	92.2%	87.5%	87.5%
Vacant	18.4%	11.9%	7.8%	12.5%	12.5%
For rent	1.2%	3.2%	2.0%	2.5%	2.5%
Rented, not occupied	0.0%	0.0%	0.5%	0.5%	0.5%
For sale only	1.8%	2.1%	1.6%	1.4%	1.4%
Sold, not occupied	1.1%	0.9%	0.3%	0.5%	0.5%
For migrant workers	1.8%	0.0%	0.0%	0.0%	0.0%
Other vacant	12.4%	5.8%	3.3%	3.8%	3.8%

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

Compared with workers in the U.S. as a whole, workers who live in the study area spend less time commuting to work, and a smaller percentage of them travel to work outside of their county of residence. This makes sense given that many of the larger cities in the U.S. draw workers from nearby counties and even states and that some large cities straddle county or state lines. In spite of working across county boundaries, the percentage of workers in the Garfield and Kane Counties who travel more than 60 minutes to work is relatively small at 3.4% of all workers 16 and over.

Table 4.I.15. Commuting Characteristics

<b>Commuting Characteristics (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane- Garfield Two- County Region</b>	<b>United States</b>
Workers 16 years and over	2,351	3,412	63,849	5,763	139,893,639
<b>PLACE OF WORK:</b>					
Worked in county of residence (total)	2,151	2,905	59,430	5,056	101,446,008
Worked in county of residence (percentage of total)	91.5%	85.1%	93.1%	87.7%	72.5%
Worked outside county of residence (total)	200	507	4,419	707	38,447,631

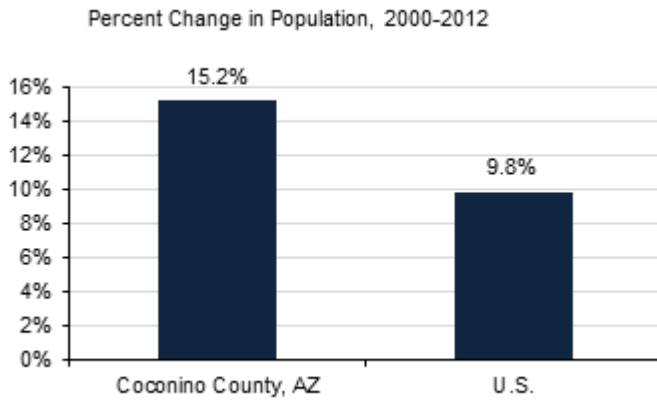
<b>Commuting Characteristics (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Worked outside county of residence (percentage of total)	8.5%	14.9%	6.9%	12.3%	27.5%
<b>TRAVEL TIME TO WORK:</b>					
Less than 10 minutes	59.9%	53.7%	26.3%	56.3%	13.1%
10 to 14 minutes	9.7%	11.3%	22.8%	10.7%	13.8%
15 to 19 minutes	6.4%	7.4%	16.1%	7.0%	14.9%
20 to 24 minutes	6.4%	7.4%	9.2%	7.0%	14.1%
25 to 29 minutes	0.9%	2.7%	3.2%	2.0%	5.8%
30 to 34 minutes	2.7%	5.1%	5.9%	4.1%	13.0%
35 to 39 minutes	1.5%	0.3%	0.7%	0.8%	2.6%
40 to 44 minutes	1.0%	0.9%	0.8%	0.9%	3.5%
45 to 59 minutes	1.9%	2.0%	3.0%	2.0%	7.2%
60 or more minutes	3.5%	3.3%	5.6%	3.4%	7.7%
Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C.					

#### **4.2. Additional Coconino County Demographics**

Because Coconino County is large in geographic size, differs in racial and ethnic makeup, and includes larger cities than are in the other two counties in the study area, in some respects the demographics of Coconino vary quite a bit from those of Garfield and Kane Counties, as described above.

Between 2000 and 2012, population growth in Coconino County outstripped that of the U.S. by more than 5 percentage points.

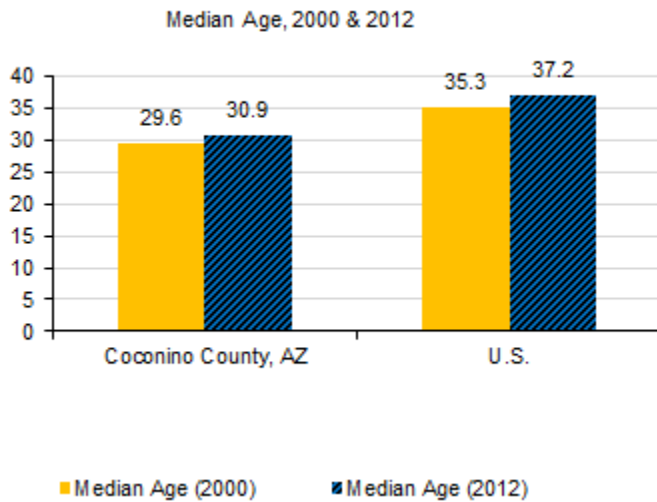
Figure 4.2.1 Percent Change in Population, Coconino County, 2000 to 2012



Source: EPS-HDT, 2015

In addition to growing faster than the U.S., Coconino County aged by fewer years than did the U.S. between 2000 and 2012.

Figure 4.2.2. Median Age, Coconino County, 2000 and 2012

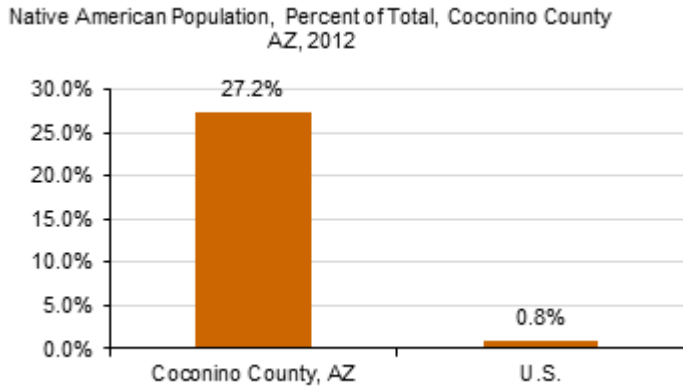


Source: EPS-HDT, 2015

One characteristic that is unique for Coconino County in comparison with both of the other counties in the study area and the U.S. is the higher percentage of Native Americans living within the County. As shown in the statistics reported, the Native American population in Coconino County is made up of members of many different recognized tribes.



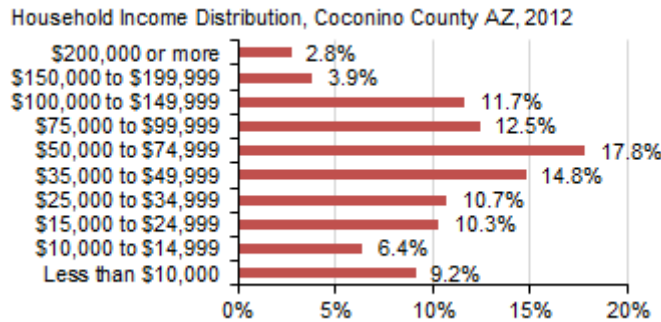
Figure 4.2.3. Native American Population, Coconino County, 2012



Source: EPS-HDT, 2015

In Coconino County between 2008 and 2012, 2.8% of households earned \$200,000 or more per year while 9.2% of households earned less than \$10,000. 17.8% of households earned between \$50,000 and \$74,999, which was the largest category for household income for all three counties in the study area for this time period.

Figure 4.2.4. Household Income Distribution, Coconino County, 2012

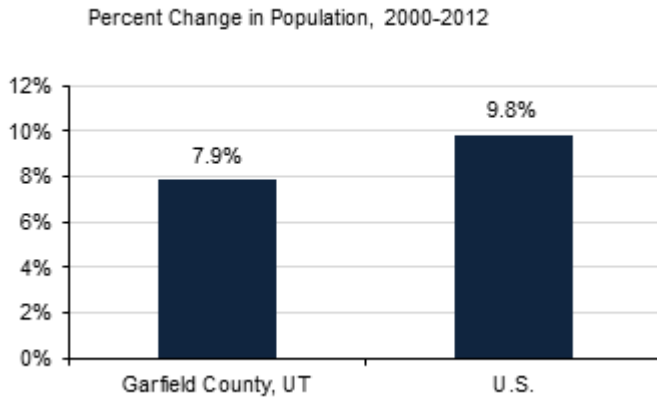


Source: EPS-HDT, 2015

### 4.3. Additional Garfield County Demographics

Between 2000 and 2012, population growth in Garfield County was lower than that of the U.S. by approximately two percentage points.

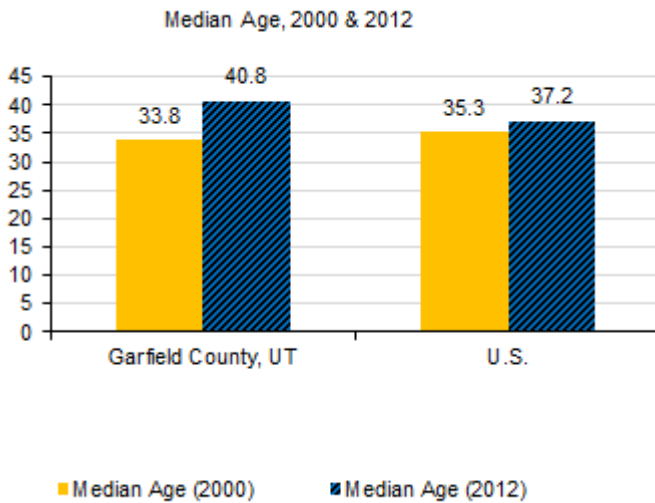
Figure 4.3.1 Percent Change in Population, Garfield County, 2000 to 2012



Source: EPS-HDT, 2015

At the same time as Garfield County’s population grew more slowly than that of the U.S., the County’s population aged more between 2000 and 2012.

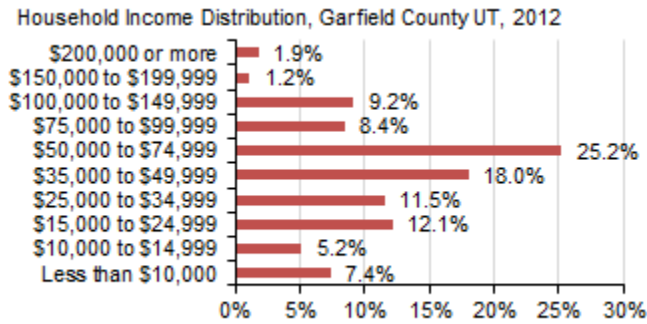
Figure 4.3.2. Median Age, Garfield County, 2000 and 2012



Source: EPS-HDT, 2015

In Garfield County between 2008 and 2012, 1.9% of households earned \$200,000 or more per year while 7.4% of households earned less than \$10,000. 25.5% of households earned between \$50,000 and \$74,999.

Figure 4.3.3. Household Income Distribution, Garfield County, 2008 to 2012

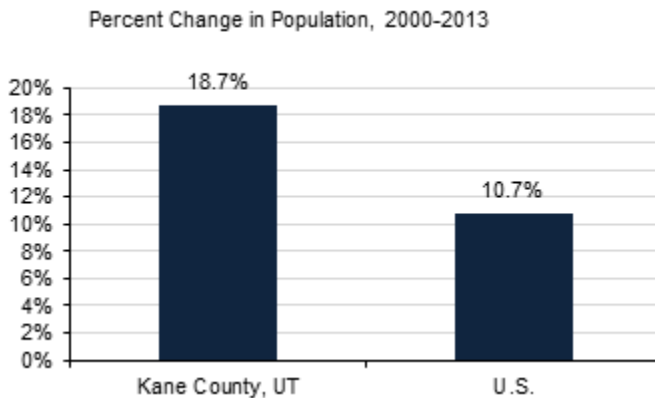


Source: EPS-HDT, 2015

#### 4.4. Additional Kane County Demographics

Between 2000 and 2012, population growth in Kane County was higher than that of the U.S. by eight full percentage points.

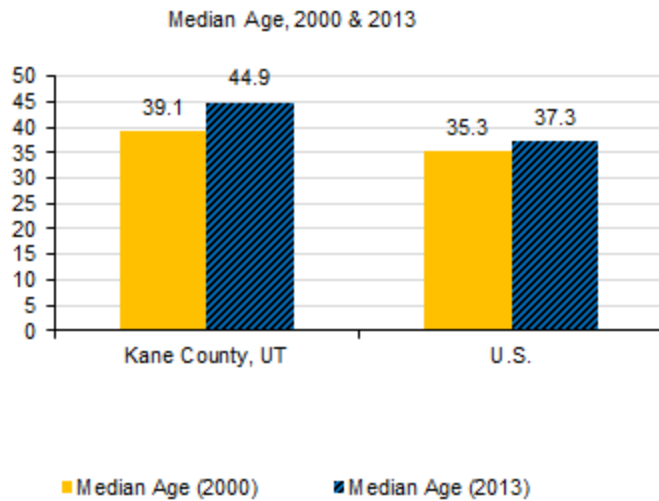
Figure 4.4.1 Percent Change in Population, Kane County, 2000 to 2013



Source: EPS-HDT, 2015

As was the case in Garfield County, Kane County’s population aged by more years from 2000 to 2012 than did that of the U.S. In that time period, median age in Kane County increased by 5.8 years in comparison with a national median age increase of 2 years.

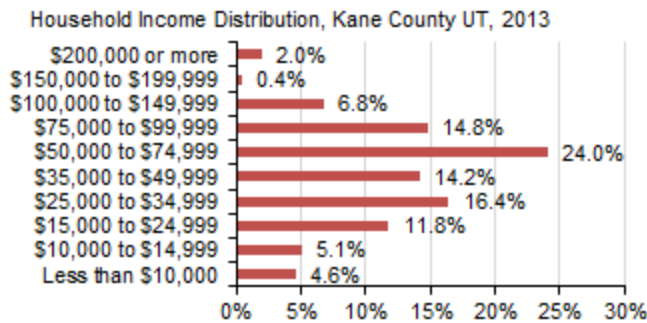
Figure 4.4.2. Median Age, Kane County, 2000 and 2013



Source: EPS-HDT, 2015

In Kane County between 2008 and 2012, 2% of households earned \$200,000 or more per year while 4.6% of households earned less than \$10,000. 24% of households earned between \$50,000 and \$74,999.

Figure 4.4.3. Household Income Distribution, Kane County, 2008 to 2012



Source: EPS-HDT, 2015

## 5. ECONOMIC CONDITIONS

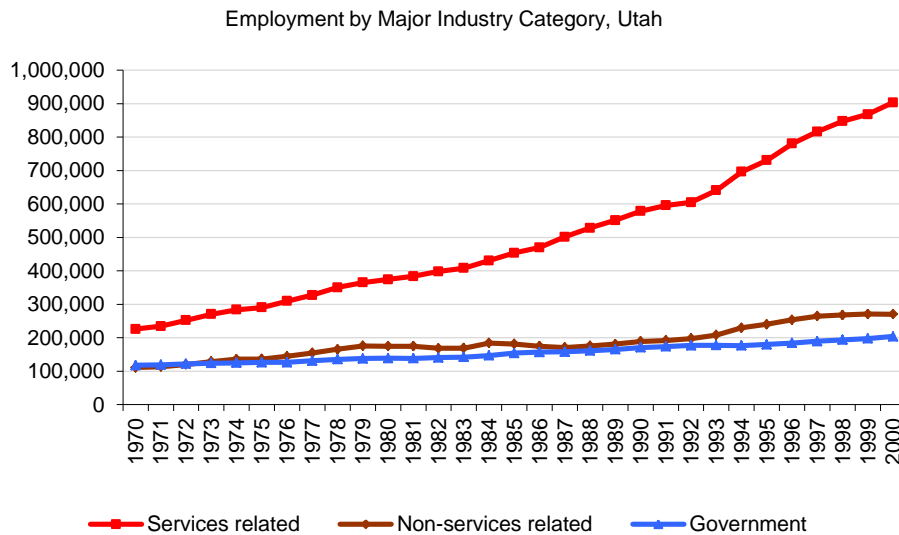
### 5.1. Study Area Economic Overview

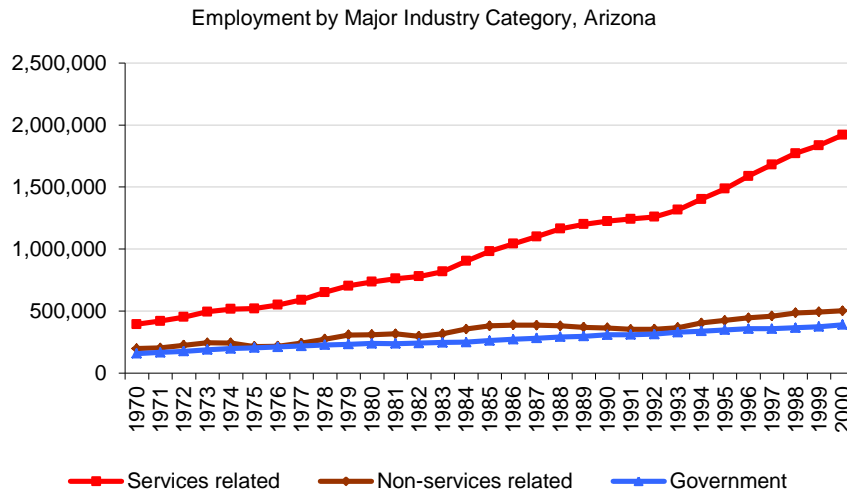
Within the three-county study area surrounding GSENM, most socioeconomic conditions vary from one county to another. For example, population growth from 1970 to 2012 ranged 61.1%

in Garfield County to 196.4% in Kane County with growth in all three counties exceeding that of the U.S.

For some economic sectors, trends in economic conditions within the study area have followed the national trend. An example is in the growth of the service sector as a leading source of employment. Service sector industries include, among others: utilities; wholesale trade; retail trade; transportation and warehousing; information technology and information services; finance and insurance; real estate, rental, and leasing services; professional and technical services; management of companies and enterprises; administrative and waste services; educational services; health care and social assistance; arts, entertainment, and recreation; accommodation and food services; and all other services except for public administration. Throughout the U.S., service sector jobs have become an increasingly important source of household income as manufacturing and extractive industries have declined over time at the national level, with the exception of oil and gas extraction. Arizona, Utah, and the overall study area are no exceptions, with service sector employment steadily increasing from 1970 up to the present. In contrast to those sectors in which the study area parallels trends for the U.S. as a whole, in some sectors there are marked differences. For example, in 2012, employment within the travel and tourism industry as a percentage of all employment in the study area was more than double that of the U.S. Travel and tourism play a larger role in the economies of the counties around the Monument than they do in the U.S. in general.

Figure 5.1.1. Employment by Major Industry Category, Utah and Arizona, 1970 to 2000





Source: EPS-HDT, 2015

A major reason for the importance of travel and tourism within the economy of the study area is the scenic nature of the region and the many opportunities for participating in recreation and leisure activities in the region. The geology and geography of the Monument region have played prominent roles in determining the types of economic activity that occur in the area, in part due to the limited nature of what was economically feasible in the region: For many years, long transportation distances, limited infrastructure, and a rugged landscape contributed to the limited nature of economic enterprises within the study area. In part because the region did not lend itself to successful traditional homesteading in the way that the Great Plains did, a significant percentage of land within the study area remained in federal ownership after Utah and Arizona achieved statehood. So the very nature of the landscape itself contributed to a circumstance of both limited economic opportunity and a high percentage of federal lands. In each of the three counties, total federal ownership of land is greater than the percentage for the U.S. in general. In Garfield County, more than 90% of all land is federally-owned. In comparison, the total percentage of federal land ownership for the entire U.S. is just under 29%. But with rapid growth of the leisure classes in the U.S., Europe, and Asia from the mid-20<sup>th</sup> Century to the present came an increasing influx of tourists, bringing with them new economic opportunities for both long-term residents and newcomers to the area. This corresponded to increases in population, employment, and income to the region, although internal growth rates were the primary driving force behind the expanding population. And with the advent of the technology and communication revolutions, being located in a geographically remote area is no longer a limiting factor in many business and economic enterprises. The changes that have occurred in recent years in infrastructure, transportation, and entrepreneurial opportunities have led to changes in the structures of the economies within the study area.

Out of the three counties within the study area during the period from 1970 to 2012, Kane County experienced the highest rates of growth in population, employment, and personal income. In addition, Kane County had the lowest unemployment rate of the three counties, with unemployment sitting at 5.4% as of 2013. Agriculture as a source of employment in 2012 was greatest in Garfield County, making up 7.8% of all employment in that year.

In 2012, in all three counties in the study area, government employment was somewhat greater as a percentage of all employment than it was in the U.S. as a whole. In the U.S., it was 13.4%. In Garfield and Kane Counties, government employment was around 16% of all employment, while in Coconino County it was 21.6%.

With higher non-labor income as a percentage of all income, the region around GSENM is less likely to be vulnerable to changes in the productive economy, but it is more likely to be vulnerable to changes in financial asset and other investment asset markets. As mentioned in the prior discussion of social conditions, the area appears to have a higher percentage of retired residents than does the U.S. This means that investment and retirement income will flow into these three counties at a higher rate than they do for the U.S. in general.

Table 5.1.1. Selected Socioeconomic Statistics

<b>Selected Socioeconomic Statistics</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>Arizona (2013/2014 Data)</b>	<b>Utah (2013/2014 Data)</b>	<b>United States</b>
Population % change, 1970-2012	61.1%	196.4%	176.6%	120.0%	269.2%	172.2%	54.0%
Employment % change, 1970-2012	143.8%	331.7%	316.0%	221.1%	354.3%	283.4%	96.8%
Personal income % change, 1970-2012	195.4%	446.6%	397.9%	313.9%	462.8%	365.2%	171.4%
Unemployment rate, 2013	9.4%	5.4%	8.1%	7.2%	6.9%	3.8%	7.4%
Average earnings per job (total earnings/total jobs), 2012 (2013 \$s)	\$24,628	\$30,232	\$40,164	\$27,730	\$50,780	\$47,732	\$55,501
Per capita income, 2012 (2013 \$s)	\$30,065	\$35,052	\$35,342	\$32,989	\$37,574	\$37,227	\$44,391
Non-Labor % of total personal income, 2012	43.4%	42.5%	37.2%	42.9%	38.4%	31.7%	35.4%
Services % of total private employment, 2012	95.0%	88.9%	83.9%	91.1%	74.8%	70.7%	85.0%
Government % of total employment, 2012	15.8%	16.0%	21.6%	15.9%	13.0%	14.0%	13.4%
Timber % of total private employment, 2012	0.0%	0.1%	0.5%	0.1%	0.3%	0.4%	0.7%
Mining % of total private employment, 2012	0.6%	0.7%	0.0%	0.7%	0.5%	1.0%	0.6%
Fossil fuels (oil, gas, & coal), 2012	0.6%	0.0%	0.0%	0.2%	0.0%	0.6%	0.5%
Other mining, 2012	0.0%	0.7%	0.0%	0.5%	0.5%	0.4%	0.1%

<b>Selected Socioeconomic Statistics</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>Arizona (2013/2014 Data)</b>	<b>Utah (2013/2014 Data)</b>	<b>United States</b>
Agriculture % total employment, 2012	7.8%	2.8%	1.9%	5.0%	0.9%	1.1%	1.5%
Travel & Tourism % total private employment, 2012	54.3%	37.0%	34.6%	43.3%	17.4%	14.3%	15.3%
Federal Land % total land ownership	90.3%	86.2%	39.9%	88.5%	42.1%	64.6%	28.8%
Forest Service %	31.2%	4.6%	27.0%	19.5%	14.9%	14.9%	8.4%
BLM %	45.2%	63.5%	5.2%	53.3%	16.9%	42.2%	11.1%
Park Service %	13.9%	18.0%	6.7%	15.7%	3.6%	3.9%	3.4%
Military %	n/a	n/a	0.2%	n/a	3.8%	3.4%	1.1%
Other federal %	n/a	n/a	0.7%	n/a	2.9%	0.2%	4.7%
% of Federal land classified as Type A*	34.6%	77.9%	29.4%	53.2%	34.7%	18.2%	38.5%
Federal payments % of government revenue, FY07	4.0%	2.8%	3.6%	3.4%	n/a	1.4%	n/a
% Change in Total Land Area in Residential Property (expansion of land in residential use)2000-2010	78.6%	59.1%	27.7%	67.3%	38.3%	34.8%	12.3%
Wildland-Urban Interface % developed, 2010	6.9%	4.3%	18.9%	5.1%	16.0%	6.6%	16.3%
Data for timber, mining, and travel and tourism-related are from County Business Patterns which excludes proprietors, and data for agriculture are from Bureau of Economic Analysis which includes proprietors.							
*Federal public lands that are managed primarily for natural, cultural, and recreational features. These lands include National Parks and Preserves (NPS), Wilderness (NPS, FWS, FS, BLM), National Conservation Areas (BLM), National Monuments (NPS, FS, BLM), National Recreation Areas (NPS, FS, BLM), National Wild and Scenic Rivers (NPS), Waterfowl Production Areas (FWS), Wildlife Management Areas (FWS), Research Natural Areas (FS, BLM), Areas of Critical Environmental Concern (BLM), and National Wildlife Refuges (FWS).							

In the region around GSENM in 2012, the most important industries, in terms of total employment, were: arts, entertainment, recreation, accommodation, and food; education, health care, and social assistance; and retail trade. While agriculture, forestry, fishing and hunting, and mining provided nearly 9% of all employment in Garfield County, at 3% this category of employment played a lesser role in Kane County's economy, and at 1.8% it was even less important in Coconino County as a percentage of all employment. For manufacturing as a category, the reverse was true: Coconino County had the greatest percentage (6.3%) and Garfield County the smallest (2.4%).



Another economic sector within the region is coal mining in Kane County. In 2015, Alton Coal's Coal Hollow Project, located just southeast of Alton, Utah, employs 54 miners and 46 truck drivers. Mine managers project that the mine will employ between 150 and 200 workers over the next 40 years.<sup>9</sup>

Table 5.1.2. Employment by Industry

<b>Employment by Industry, Percent of Total (2012)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Agriculture, forestry, fishing & hunting, mining	8.9%	3.0%	1.8%	5.4%	1.9%
Construction	5.0%	6.9%	6.9%	6.1%	6.5%
Manufacturing	2.4%	3.1%	6.3%	2.8%	10.6%
Wholesale trade	0.6%	1.1%	1.6%	0.9%	2.8%
Retail trade	8.6%	10.5%	12.5%	9.7%	11.6%
Transportation, warehousing, and utilities	6.2%	6.3%	5.5%	6.2%	5.0%
Information	6.6%	1.7%	1.0%	3.7%	2.2%
Finance and insurance, and real estate	3.0%	5.9%	3.9%	4.7%	6.7%
Professional, scientific, management, administrative, & waste management.	5.3%	6.3%	6.7%	5.9%	10.7%
Education, health care, & social assistance	19.9%	20.7%	26.7%	20.4%	22.9%
Arts, entertainment, recreation, accommodation, & food	28.8%	18.7%	16.9%	22.9%	9.2%
Other services, except public administration	1.4%	9.4%	3.8%	6.2%	4.9%
Public administration	3.4%	6.2%	6.4%	5.1%	4.9%

### 5.1.1 Agricultural Economy

Within the study area during 2012, both family and corporate farms experienced income losses rather than earning positive net income. As some farmers and ranchers have anecdotally reported, it is often only off-farm or off-ranch employment that allows farmers and ranchers to continue operations through economically bad years. In some years, federal agricultural subsidies and disaster payments, as well as payments for implementing conservation practices, serve to offset some of the losses incurred by farmers and ranchers in the study area.<sup>10</sup> Additionally, farmers and ranchers sometimes draw from equity in farm properties and productive capital in order to bridge from one good year to another, with one or more “down”

<sup>9</sup> Data provided by Kane County in a letter dated July 20, 2015.

<sup>10</sup> <http://farm.ewg.org/index.php>

years in between. In contrast with the region around the Monument, farming and ranching in the U.S. as a whole did well in 2012 from the standpoint of net income. In the study area, revenue from the sales of livestock and livestock-related products comprised more than 54% of total cash receipts and other farm or ranch income. And although ranches lose money during less-successful years, ranches and ranching families also spend a non-trivial amount of money within their communities and provide employment opportunities within the region. Evaluations conducted by BLM, USDA Natural Resources Conservation Service, and Utah State University Extension independently concluded that for each Animal Unit Month (AUM) of grazing permitted on the Monument, just under \$100 of economic activity is generated within the region through direct and indirect spending on goods and services.

In 2014, agricultural economist Dr. Gill Miller and Kevin Heaton of Utah State University's Cooperative Extension conducted analyses of the ranching economy within Garfield and Kane Counties.<sup>11</sup> The economic report concluded that:

“Replacing livestock grazing on the GSENM with [tourism] revenues would require substantial investment by the GSENM, local governments, and the private sector. The type of tourism would need to be changed to include destination tourism to use the resources and values of GSENM to sustain the economy of the Garfield-Kane County's region.

“Tourist visitations in the Garfield-Kane County's economic region are dependent upon fuel cost, income levels, and exchange rate. Therefore, tourist visitations are variable. Limiting or removing livestock grazing and replacing with tourism changes the culture, heritage and values of the region.

“The economic sustainability of the Garfield-Kane County's economic region is greatly weakened if GSENM livestock grazing allotments are lost by removing an industry, its supporting industries, and reducing the economic diversity of the region.

“Ranching families provide year-round stability to communities that have a relatively high population turnover rate.

“Ranching has fewer impacts on public safety, emergency, and other public infrastructure resources than tourism.”

In response to these concerns, the report suggests that, “...Garfield-Kane County's economic region, local governments, and citizens should vigorously oppose any livestock grazing plan that reduces or eliminates livestock grazing in GSENM.”

Although agricultural enterprises within the study area have not been financially healthy in recent years, they continue to contribute to other sectors of the regional economy through their contribution to attracting and entertaining tourists and recreational visitors to the area.

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<sup>11</sup> Detailed results from these analyses are reported in Section Three, Economic Conditions, of the Kane County Resource Management Plan, Kane County Resolution No. 2015 – 5. [http://kane.utah.gov/att/38/store/m8\\_R-2015-5-Kane-County-Resource-Management-Plan.pdf](http://kane.utah.gov/att/38/store/m8_R-2015-5-Kane-County-Resource-Management-Plan.pdf)

Interest in the cowboy culture, working agricultural lands, and the visible infrastructure associated with ranching (barns, corrals, cattle, etc.), locations and history associated with “western” film production is what attracts some visitors to the area. From this standpoint, some percentage of tourism-related expenditures can be attributed to the ranching industry as a secondary benefit of local agriculture.

Table 5.1.3. Farm Earnings

<b>Farm Earnings in \$1,000s of 2013 Dollars (based on 2012 data)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
Farm Earnings	-\$4,080	-\$226	\$95	-\$4,307	\$101,282,790
Farm Proprietors' Income	-\$5,911	-\$695	-\$1,382	-\$6,607	\$77,787,570
Non-Farm Earnings	\$96,116	\$140,260	\$3,366,140	\$236,376	\$9,867,442,270
Total Cash Receipts & Other Income	\$10,353	\$11,302	\$32,988	\$21,655	\$471,139,975
Cash Receipts from Marketings	\$7,554	\$10,427	\$27,579	\$17,981	\$426,846,820
Livestock & Products	\$5,639	\$9,969	\$26,134	\$15,609	\$201,616,489
Crops	\$1,914	\$458	\$1,444	\$2,372	\$225,230,331
Other Income	\$2,799	\$875	\$5,409	\$3,674	\$44,293,155
Government Payments	\$81	\$0	\$481	\$81	\$10,794,642
Imputed Rent & Miscellaneous Income	\$2,718	\$875	\$4,928	\$3,593	\$33,498,513
Total Production Expenses	\$16,120	\$13,288	\$36,936	\$29,409	\$365,622,450
Realized Net Income (Receipts - Expenses)	-\$5,767	-\$1,986	-\$3,948	-\$7,754	\$105,517,524
Value of Inventory Change	-\$1,008	-\$397	-\$1,010	-\$1,405	-\$7,611,051
Total Net Income Including Corporate Farms	-\$6,775	-\$2,383	-\$4,958	-\$9,158	\$97,906,474
Source: EPS-HDT, 2015					

## 5.2. Local Connections with Public Lands

“Payments in Lieu of Taxes’ (PILT) are Federal payments to local governments that help offset losses in property taxes due to non-taxable Federal lands within their boundaries. The key law is Public Law 94-565, dated October 20, 1976. This law was rewritten and amended by Public Law 97-258 on September 13, 1982 and codified as Chapter 69, Title 31 of the United States Code. The law recognizes the inability of local governments to collect property taxes on Federally-owned land can create a financial impact.

“PILT payments help local governments carry out such vital services as firefighting and police protection, construction of public schools and roads, and search-and-rescue operations. The payments are made annually for tax-exempt Federal lands administered by the Bureau of Land Management, the National Park Service, the U.S. Fish and Wildlife Service (all agencies of the

Interior Department), the U.S. Forest Service (part of the U.S. Department of Agriculture), and for Federal water projects and some military installations. PILT payments are one of the ways the Federal Government can fulfill its role of being a good neighbor to local communities.”<sup>12</sup>

Forest Service payments are revenue-sharing payments that were originally based on timber operations within each county as authorized by the Twenty-Five Percent Fund Act of 1908. “In the late 1980s, due largely to declines in timber sale receipts, 1908 Act payments began to drop significantly and fluctuate. In 1994, Congress responded by providing ‘safety net payments’ to counties in northern California, western Oregon and western Washington. In 2000, Congress passed the Secure Rural Schools and Community Self-Determination Act that provided enhanced, stabilized payments to more states. It also created a forum for community interests to participate collaboratively in the selection of natural resource projects on the National Forests, and has assisted in community wildfire protection planning.”<sup>13</sup>

Table 5.2.1. Federal Land Payments

<b>Federal Land Payments (2013)</b>	<b>Garfield County, UT</b>	<b>Kane County, UT</b>	<b>Coconino County, AZ</b>	<b>Kane-Garfield Two-County Region</b>	<b>United States</b>
PILT	\$811,164	\$1,001,367	\$1,572,295	\$1,812,531	\$397,256,089
Forest Service Payments	\$1,454,826	\$125,622	\$4,266,554	\$1,580,448	\$306,058,822
BLM Payments <sup>14</sup>	\$60,554	\$52,425	\$36,868	\$112,979	\$66,579,030
Total Federal Land Payments by Geography of Origin (\$)	\$2,326,545	\$1,179,413	\$5,875,716	\$3,505,958	\$2,787,139,550
Source: EPS-HDT, 2015					

Residents of the region surrounding GSENM, as well as organizations of various types that exist and/or operate in the area, are connected with public lands in and around the Monument on multiple levels and in many different ways. Ranchers in the region are closely connected with the land through grazing their cattle on allotments on BLM, Forest Service, and State lands in the area. The ranchers who run livestock on the Monument and other public lands surrounding it are very familiar with the landscape. Local law enforcement and public safety workers spend time patrolling and providing rescue services on publicly owned land units in the region and become well acquainted with its physical characteristics. Local residents who recreate on the public lands that surround their communities often have deep emotional connections with the

<sup>12</sup> <http://www.doi.gov/pilt/index.cfm>

<sup>13</sup> <http://www.usda.gov/wps/portal/usda/usdahome?contentid=2015%2F01%2F0011.xml>

<sup>14</sup> BLM Revenue Sharing: The BLM shares a portion of receipts generated on public lands with state and local governments, including grazing fees through the Taylor Grazing Act and timber receipts generated on Oregon and California (O & C) grant lands.

places they frequent. Even those residents who either rarely or never venture out onto public lands enjoy benefits from the scenic beauty that surrounds their communities. Ecologists have recognized that there is a special connection, often called a “sense of place”, that develops when someone lives close to or in a particular landscape. In addition to benefitting from the land in terms of the flow of federal payments to the community and the commodity values generated by the natural resource base it provides, local residents often enjoy emotional, physical, and spiritual benefits that come from that sense of place. Attachment to specific places can also develop in visitors who don’t live in the local area but who have a deep appreciation for the characteristics of the landscape and the non-market benefits it can provide.

### 5.3. Ecosystem Services

Economists sometimes divide all goods and services into two broad categories: Market, and non-market. “Market” goods and services are those for which a market exists or can exist, meaning that it is possible to buy and sell those goods and services. On the other hand, “non-market” goods and services are those that, for one reason or another, whether it is physical or legal, are not available for purchase and that cannot be sold. Public lands provide both market and non-market goods and services that are beneficial to communities, economies, groups, and individuals. An example of a non-market good provided by public lands is the water filtering service provided by an intact wetland on public land.

Although in theory many non-market ecosystem services could be privatized and sold in a market-based exchange, few of them are actually sold in any market either due to the basic public nature of the good or service (meaning that it is impossible to exclude anyone from using or enjoying it, and one person’s use or enjoyment of it does not affect another’s use or enjoyment, making it difficult or impossible to sell it for profit) or due to public ownership of the good or service. Most economists recognize both the market and non-market goods and services provided by public lands.

One way of categorizing ecosystem services, adapted from “Millennium Ecosystem Assessment: Ecosystems and Human Well Being,” divides them into provisioning, regulating, cultural, and supporting ecosystem services.

Figure 5.3.1. Millennium Ecosystem Assessment

Provisioning	Regulating	Cultural
Goods produced or provided by ecosystems	Benefits obtained from regulation of ecosystem processes	Non-material benefits from ecosystems
<ul style="list-style-type: none"> <li>• Food</li> <li>• Fresh water</li> <li>• Fuel wood</li> <li>• Genetic resources</li> </ul>	<ul style="list-style-type: none"> <li>• Climate regulation</li> <li>• Disease regulation</li> <li>• Flood regulation</li> </ul>	<ul style="list-style-type: none"> <li>• Spiritual</li> <li>• Recreational</li> <li>• Aesthetic</li> <li>• Inspirational</li> <li>• Educational</li> </ul>
<b>Supporting</b>		

Services necessary for production of other ecosystem services
<ul style="list-style-type: none"> <li>• Soil formation</li> <li>• Waste treatment and nutrient cycling</li> <li>• Primary production</li> </ul>

In 2008, the Sustainable Rangelands Roundtable published a report on sustainable management of grazing lands, entitled “Sustainable Rangelands Ecosystem Goods and Services.”<sup>15</sup> In this report, the authors provided a list of examples of ecosystem goods and services. They divide these into three categories: biological, hydrological/atmospheric, and miscellaneous.

Figure 5.3.2. Ecosystem Goods and Services Derived from Rangelands<sup>16</sup>

Biological	Hydrological/Atmospheric	Miscellaneous
Domestic Livestock	Drinking Water	Views and Scenes
Other Food for Human Consumption	Water for Economic Benefit	Cultural or Spiritual Resources
Forage for Livestock	Floods for Channel and Riparian Area Rejuvenation	Historical/Archeological Sites
Fiber	Flood Mitigation	Scientifically Significant Sites
Biofuels	Water Bodies for Recreation/Tourism	Recreation and Tourism Sites
Fishing, Hunting, and Viewing Wildlife	Minimizes Contributions of Chemicals and Particulates	Ornamental Resources
Biochemicals	Contributes to Clean, Fresh Air	Ceremonial Resources
Genetic Material	Hydrologic Energy Potential	
	Solar Energy Potential	
	Wind Energy Potential	

Regardless of how they are defined or categorized, the GSENM region provides a wide range of ecosystem goods and services, many of which are highly valued both by local residents and by visitors from outside the area. Examples of the market and non-market goods and services provided by GSENM are discussed below.

<sup>15</sup> Maczko, Kristie, and Lori Hiding, editors, “Sustainable Rangelands Ecosystem Goods and Services”, Sustainable Rangelands Roundtable, 2008, accessed at [http://sustainable.rangelands.org/pdf/Ecosystem\\_Goods\\_Services.pdf](http://sustainable.rangelands.org/pdf/Ecosystem_Goods_Services.pdf), May 2015.

<sup>16</sup> Ibid. Page 18.

### **Market Values**

Some of the direct and indirect market goods and services provided by the planning area include: forage and water for livestock; game species of wildlife; locations for video recording and filming for TV and cinematic productions; and locations for both commercial and non-commercial recreation activities. Although the activity of viewing the scenery in the planning area does not itself constitute a market good or service, in its many forms (such as car tours, hiking excursions, backpacking trips, and so on) it does draw in customers for multiple business categories within the communities around the edges of the Monument. These businesses include motels, bed and breakfasts, grocery and other retail stores, restaurants, gas stations and convenience stores, clothing and souvenir shops, tour operators, auto repair and maintenance shops, medical service providers, and other retail and service establishments that cater to the needs of tourists and other visitors.

### **Non-market Values**

The Monument provides a broad range of non-market goods and services to the communities close to the planning area and to visitors from outside as well. Some examples include: the experience of solitude, as well as the opportunity to view uniquely sublime landscapes and scenery, and the spiritual and psychological benefits that can come from those experiences; opportunities for completing basic research on GSENM, including research in both physical and social sciences; educational opportunities for students, both who visit the planning area and who participate in regional in-class programs and in the web-based, global curriculum, [www.gsenmschool.org](http://www.gsenmschool.org), which is used by teachers and students around the world; habitat for non-game wildlife species; and so on.

## **5.4. Coconino County Economics**

Within Coconino County in 2013, service sector jobs made up 74% of all employment. Non-services jobs were 11.1% of jobs, and government employment provided the remaining 26% of jobs. An estimated 21.4% of all jobs were within State and local government agencies, and approximately 4.7% were federal or military jobs.

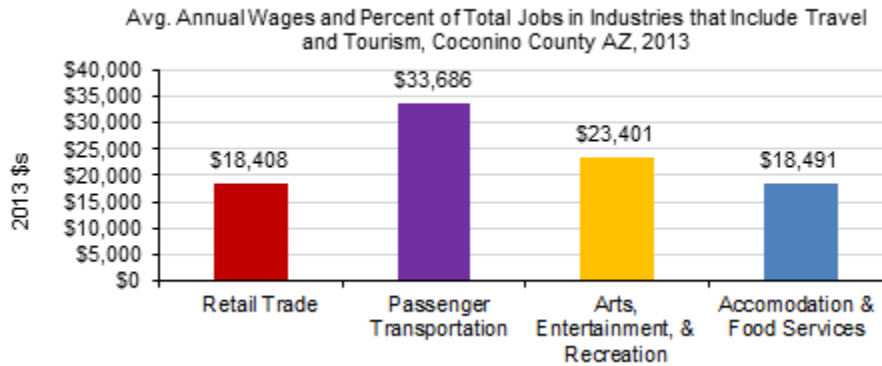
Table 5.4.I. Employment Sectors as a Percent of Total Employment, Coconino County, 2013

<b>Employment Sectors, Percent of Total Employment (2013)</b>	<b>Coconino County, AZ</b>	<b>United States</b>
Total Private Sector	74.0%	84.3%
Services	62.8%	69.5%
Trade, Transportation, Utilities	16.3%	19.1%
Information	0.7%	2.0%
Financial Activities	2.1%	5.7%
Professional and Business	4.7%	13.8%
Education and Health	15.1%	15.1%
Leisure and Hospitality	21.9%	10.6%
Other Services	2.1%	3.1%
Non-Services	11.1%	14.8%
Natural Resources and Mining	0.3%	1.5%
Construction	3.4%	4.3%

<b>Employment Sectors, Percent of Total Employment (2013)</b>	<b>Coconino County, AZ</b>	<b>United States</b>
Manufacturing (Including Forest Products)	7.4%	9.0%
Government	26.0%	15.7%
Federal	4.3%	1.9%
Military	0.4%	1.3%
State & Local	21.4%	12.5%
Source: EPS-HDT, 2015		

Travel and tourism contributed to the economy of Coconino County in 2013, where more than 25% of total jobs were within industries that serve the needs of travelers and tourists.

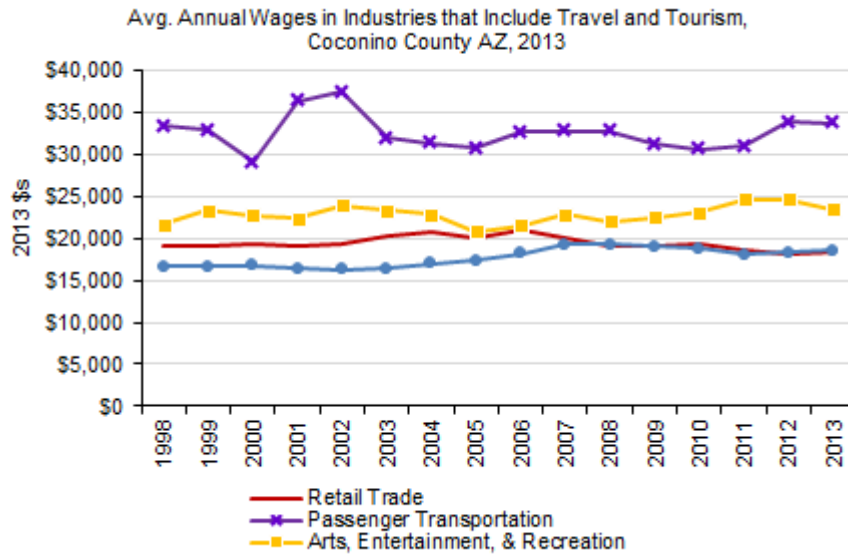
Figure 5.4.1. Travel and Tourism Jobs, Coconino County, 2013



Source: EPS-HDT, 2015



Figure 5.4.2. Average Annual Wages in Travel and Tourism, Coconino County, 2013

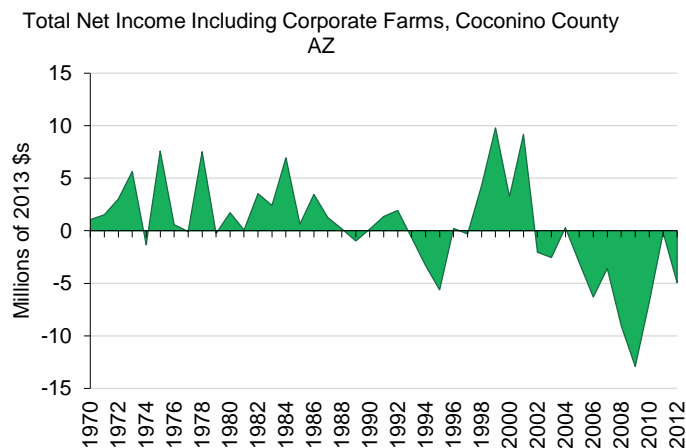


Source: EPS-HDT, 2015

In Coconino County, the agricultural sector has struggled in recent years, with the industry realizing losses in each year since 2002.

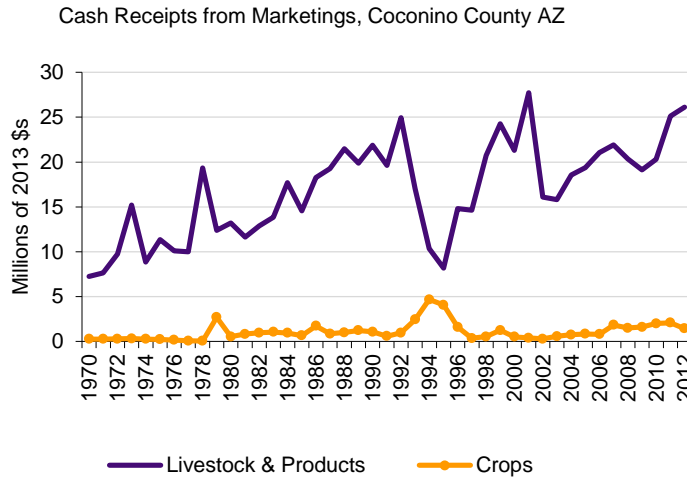
Since 1970 within the agricultural sector in the County, cash receipts for livestock and livestock-related products have increased over time. Although some years have seen declines in livestock-related receipts, the trend has continued to be upward.

Figure 5.4.3. Net Farm Income, Coconino County, 2013



Source: EPS-HDT, 2015

Figure 5.4.4. Cash Receipts from Marketings,<sup>17</sup> Coconino County, 2013



Source: EPS-HDT, 2015

### 5.5. Garfield County Economics

In 2013, service sector jobs made up 69.8% of all employment. Non-services jobs were 5.5% of jobs, and government employment provided the remaining 24.6% of jobs. An estimated 16.1% of all jobs were within State and local government agencies, and approximately 8.5% were federal or military jobs.

Table 5.5.1. Employment Sectors as a Percent of Total Employment, Garfield County, 2013

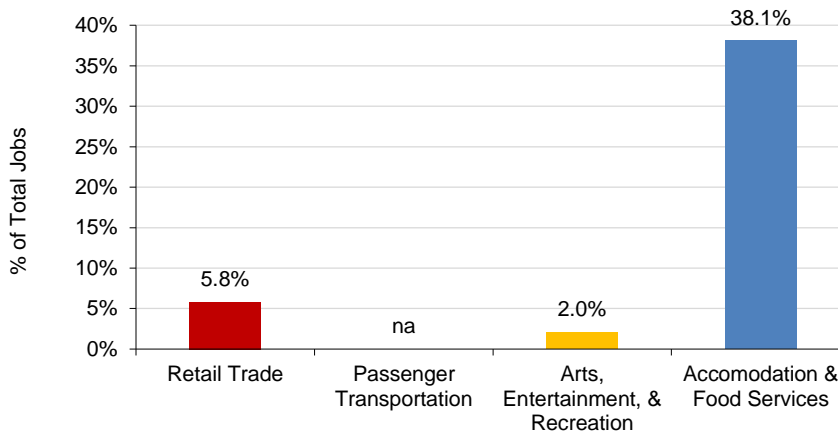
Employment Sectors, Percent of Total Employment (2013)	Garfield County, UT	United States
Total Private Sector	75.3%	84.3%
Services	69.8%	69.5%
Trade, Transportation, Utilities	12.2%	19.1%
Information	n/a	2.0%
Financial Activities	1.2%	5.7%
Professional and Business	0.9%	13.8%
Education and Health	10.9%	15.1%
Leisure and Hospitality	40.1%	10.6%
Other Services	n/a	3.1%
Non-Services	5.5%	14.8%

<sup>17</sup> Farm marketings represent quantities of agricultural products sold by farmers within a calendar year, multiplied by prices received per unit of production at the local market; in other words, gross receipts. <https://www.census.gov/prod/2011pubs/12statab/agricult.pdf>

<b>Employment Sectors, Percent of Total Employment (2013)</b>	<b>Garfield County, UT</b>	<b>United States</b>
Natural Resources and Mining	1.7%	1.5%
Construction	1.9%	4.3%
Manufacturing (Including Forest Products)	1.9%	9.0%
Government	24.6%	15.7%
Federal	7.6%	1.9%
Military	0.9%	1.3%
State & Local	16.1%	12.5%
Source: EPS-HDT, 2015		

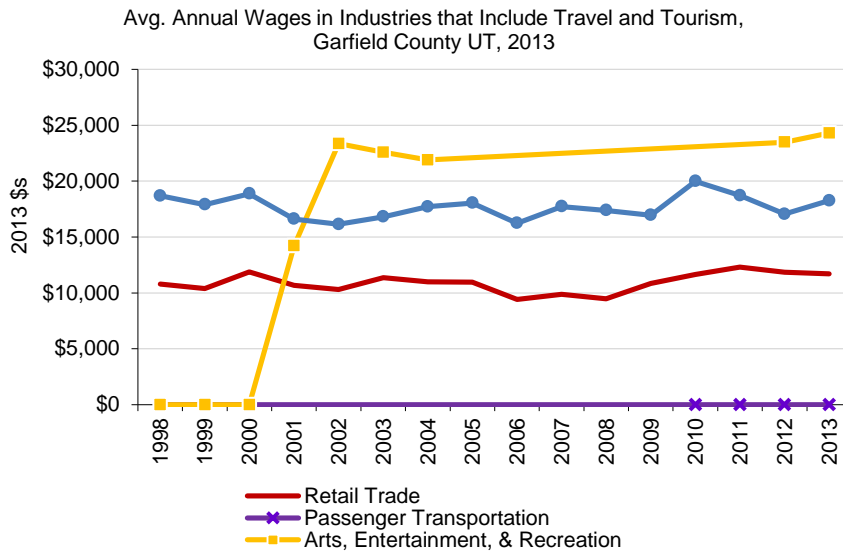
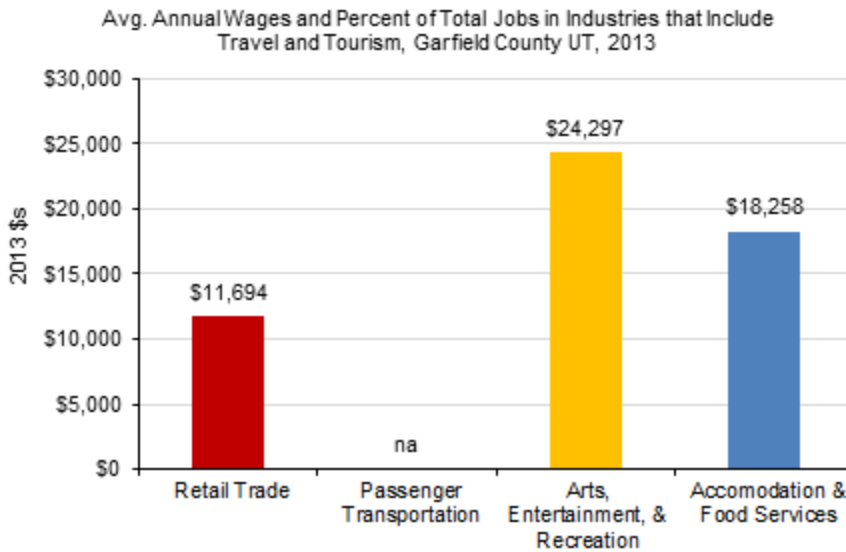
Travel and tourism contributed to the economy of Garfield County in 2013, where nearly 46% of total jobs were within industries that serve the needs of travelers and tourists.

Figure 5.5.1. Travel and Tourism Jobs, Garfield County, 2013



Source: EPS-HDT, 2015

Figure 5.5.2. Average Annual Wages in Travel and Tourism, Garfield County, 2013

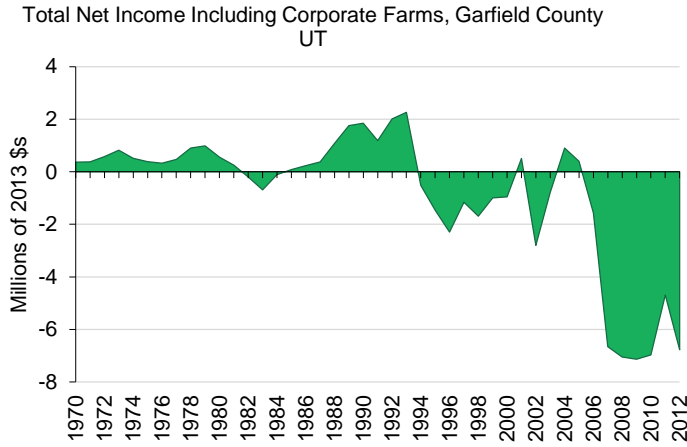


Source: EPS-HDT, 2015

In Garfield County, as was the case in Coconino County, the agricultural sector has struggled in recent years, with the industry realizing losses in almost every year since 1994.

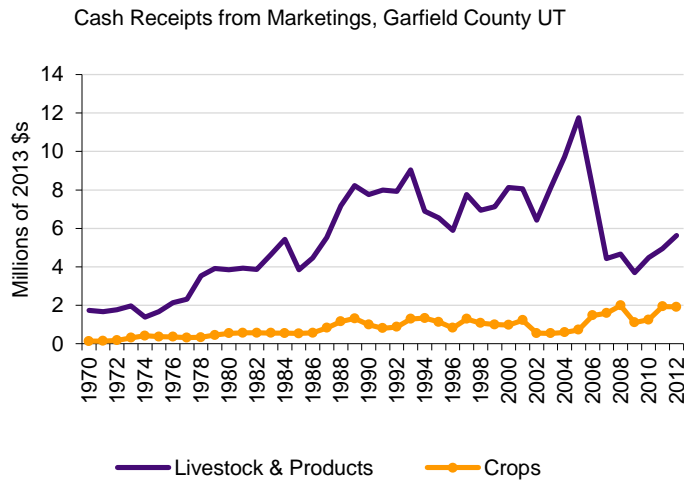
Since 1970, cash receipts for livestock and livestock-related products sold by Garfield County agricultural producers have increased over time, although in the 2000s they have faltered in comparison with how they had been growing prior to around the year 2000.

Figure 5.5.3. Net Farm Income, Garfield County, 2013



Source: EPS-HDT, 2015

Figure 5.5.4. Cash Receipts from Marketings, Garfield County, 2013



Source: EPS-HDT, 2015

### 5.6. Kane County Economics

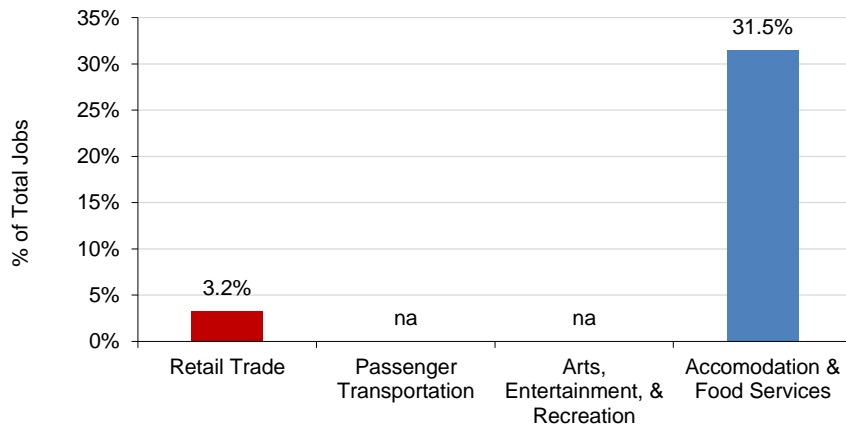
In 2013, service sector jobs in Kane County made up 71% of all employment. Non-services jobs were 5.5% of jobs, and government employment provided the remaining 23.5% of jobs. An estimated 19.3% of all jobs were within State and local government agencies, and approximately 4.2% were federal or military jobs.

Table 5.6.1. Employment Sectors as a Percent of Total Employment, Kane County, 2013

<b>Employment Sectors, Percent of Total Employment (2013)</b>	<b>Kane County, UT</b>	<b>United States</b>
Total Private Sector	76.5%	84.3%
Services	71.0%	69.5%
Trade, Transportation, Utilities	13.4%	19.1%
Information	0.7%	2.0%
Financial Activities	3.6%	5.7%
Professional and Business	2.1%	13.8%
Education and Health	3.4%	15.1%
Leisure and Hospitality	33.4%	10.6%
Other Services	14.3%	3.1%
Non-Services	5.5%	14.8%
Natural Resources and Mining	n/a	1.5%
Construction	2.3%	4.3%
Manufacturing (Including Forest Products)	n/a	9.0%
Government	23.5%	15.7%
Federal	3.2%	1.9%
Military	1.0%	1.3%
State & Local	19.3%	12.5%
Source: EPS-HDT, 2015		

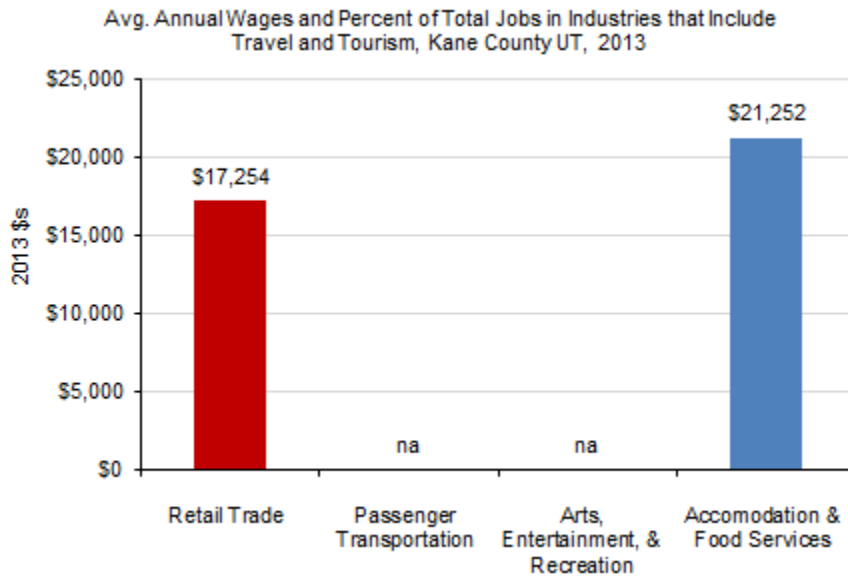
Travel and tourism contributed to the economy of Kane County in 2013, where more than 34% of total jobs were within industries that serve the needs of travelers and tourists.

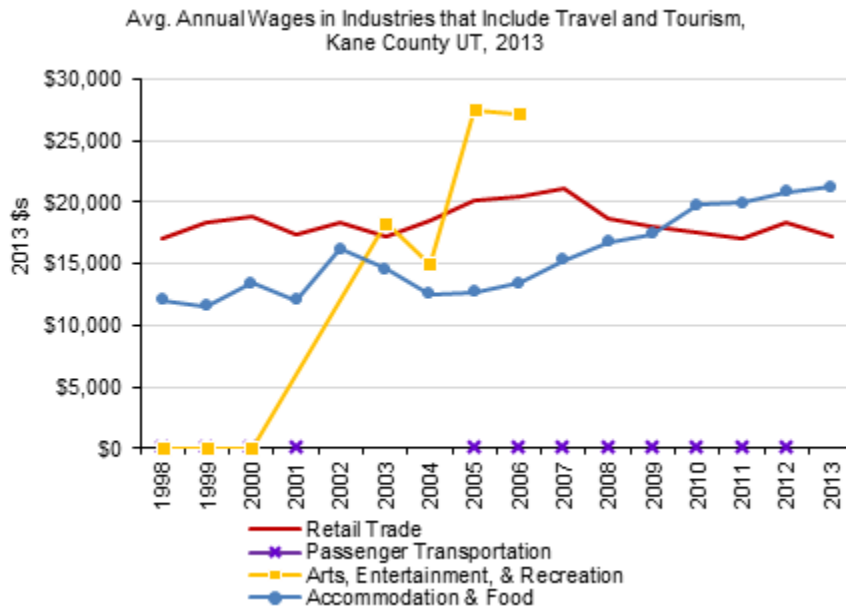
Figure 5.6.1. Travel and Tourism Jobs, Kane County, 2013



Source: EPS-HDT, 2015

Figure 5.6.2. Average Annual Wages in Travel and Tourism, Kane County, 2013

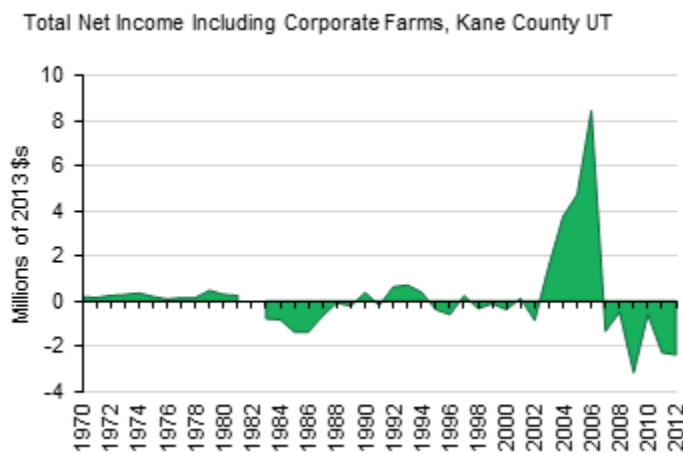




Source: EPS-HDT, 2015

Kane County farmers fared somewhat better than Coconino or Garfield Counties in recent years, although beginning in 2007 Kane County agriculture too experienced negative net farm income. Since 1970, cash receipts for livestock and livestock-related products sold by Kane County agricultural producers have increased over time. In spite of a downturn in the mid-2000s, overall cash receipts from livestock-related marketings have continued to make ground in terms of 2013 dollars.

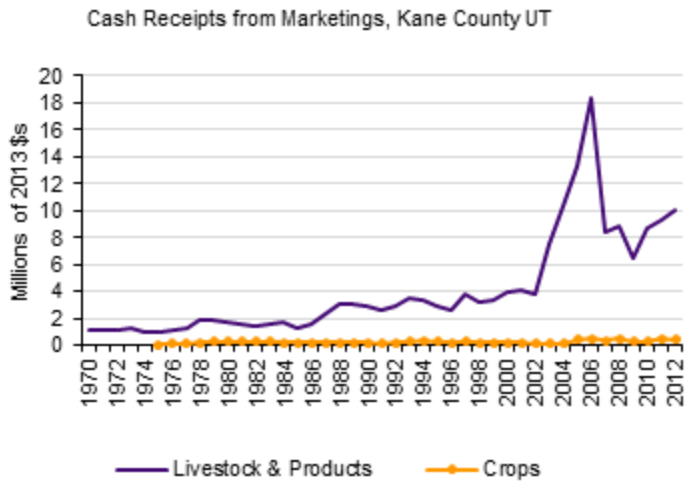
Figure 5.6.3. Net Farm Income, Kane County, 2013



Source: EPS-HDT, 2015



Figure 5.6.4. Cash Receipts from Marketings, Kane County, 2012



Source: EPS-HDT, 2015

## 6. OVERVIEW OF SOCIOECONOMIC IMPACT ANALYSIS

The purpose of this baseline report is to establish a “slice in time” overview of the baseline SE conditions in the study area for the MMP-A, as well as to lay out the setting and prior conditions that will serve as the backdrop for completion of the SE analysis for the connected EIS. This section gives an advance overview of the planned approach to the social and economic analyses that will be conducted as part of the MMP-A planning process.

### 6.1. Overview of Social and Economic Variables

An SE analysis describes the existing social and economic conditions that serve as the context for planning; identifies the SE variables in which differences among the alternatives being evaluated are likely to differ; and it analyzes each alternative and describes the impacts that are expected to occur should that alternative be chosen and implemented. Typical variables that are analyzed in this type of SE evaluation include basic demographics, income and housing characteristics, employment statistics, relevant market and industry variables, total economic activity, and so on. The specific variables included for socioeconomic analysis will be determined and identified in the Draft EIS.

### 6.2. Summary Report on Socioeconomic Workshops

In January 2014, BLM held a series of public socioeconomic workshops in Escalante, Kanab, and Cannonville, Utah, to gather local input and data for use in the SE analysis to be completed as part of the GSENM MMP-A/EIS. Ranchers, representatives from the recreation community, local business owners, community leaders, and other interested individuals were invited to participate in the workshop series; the meetings were open to the public. They were asked to work with BLM natural resource specialists and managers to develop representative scenarios describing

typical ways in which the ranches of different sizes and types use the Monument, other public lands, and private lands as part of their ranch operations. The scenarios developed during the workshops and summarized in this report will provide key input into the SE analysis for the MMP-A/EIS. The workshops were conducted by Julie Suhr Pierce, Ph.D., Great Basin Socioeconomic Specialist for BLM, under the direction of Acting GSENM Manager Sarah Schlanger, with assistance from and facilitation by multiple Monument staff and natural resource specialists. In total, 80 citizens, representing local livestock grazing permittees, federal and local government representatives, recreationalists, local business owners, and local interest group representatives signed in at the workshops (additional attendees were present in some locations but did not sign in).

### ***Socioeconomic Workshops***

Workshops were held in Escalante, Kanab, and Cannonville, Utah. Each socioeconomic workshop was conducted in the following format:

- Introductory remarks by Dr. Schlanger
- Introduction of the SE workshop framework and objectives, explanation of “levels of abstraction” and “anchoring”, and establishment of workshop ground rules by Dr. Suhr Pierce
- Organization into break-out groups
- Break-out work session facilitated by BLM field staff and resource specialists
- Reassembly into a single group for final data gathering (as needed), the presentation of break-out group reports, and concluding remarks (time permitting)

In addition to the activities listed above, at each workshop Dave Conine, Director of USDA’s Rural Development Agency, gave a presentation on the services and economic development support available to rural communities through the Rural Development Agency. The programs mentioned included loan guarantees, grants, and other types of support.

### ***Introductory Remarks***

To begin the workshop, Dr. Schlanger welcomed workshop participants, introduced BLM personnel, and thanked participants for their attendance. She also provided an overview of the MMP-A/EIS project, explained the intent and objectives of the workshop, and outlined the planned schedule for the event.

These introductory remarks were followed by a discussion of the use of symbolic language conducted by Dr. Suhr Pierce. The purpose of this was twofold: First, tying discussions during the workshop to specific “on-the-ground facts” would help participants to communicate clearly within the workshop. Second, avoiding the use of highly abstract labels and using “ground-level” information instead is necessary to the development of an adequately specific data set to meaningfully inform the subsequent analysis of the SE impacts of MMP-A/EIS alternatives.

### **Assembling Break-out Groups**

After introductory remarks had concluded, Dr. Suhr Pierce divided workshop participants into four smaller working groups. The basis for assigning individuals to these break-out groups varied from one workshop to the next, ranging from being largely random to being based on the composition of the overall group in attendance and the types of ranching operations represented at the meeting. The sizes of the small groups ranged from four or five members to as many as eight or more, depending on the total number of participants in each workshop session. While an initial attempt was made to include some degree of diversity of backgrounds in each group, group compositions also reflected a desire to obtain solid data on specific types of ranching operations. This required that at a minimum each group include one or two people possessing an adequate understanding of the group's assigned operating scenario.

### **Break-out Group Work**

Once break-out groups had been organized around specific ranching operation types, the groups went to work on answering two sets of questions. Each set focused on a specific SE aspect of the communities surrounding the Monument and how they interact with it: cattle ranching operations, and recreation and tourism.

The cattle ranching questions were designed to elicit data needed for two purposes: first, for informing this SE baseline report, and second, for developing scenarios to represent the typical ways in which ranchers operate on public and private grazing lands in the region when they use lands in the planning area for at least some part of their grazing system. Once a range of alternatives has been developed—later in the planning process—the ranching scenarios will be used to model the estimated SE impacts of the alternatives on actual operational ranches.

The recreation and tourism questions were designed to elicit data regarding the relationship between grazing in the planning area and recreational and tourist-oriented uses of the planning area, in addition to developing information regarding the economics of both commercial and noncommercial recreational activities in and around GSENM. Like the cattle ranching questions, the answers to these questions were intended to inform this SE baseline report as well as providing data for the upcoming planning-related analysis. A report detailing the SE workshops is available on the GSENM website.

The break-out groups were each provided a BLM facilitator. The facilitators were responsible for helping their groups to stay on track, for assisting with obtaining clarifications where questions were ambiguous or confusing, and for recording the group's answers to workshop questions on a flip chart.

### **Concluding Activities**

After the break-out groups finished their work (or when the available time ran out), the group reassembled and shared highlights from their experiences or dispersed after a few final remarks, depending on the situation. Here are some key points that emerged from the workshop series as a whole:

- The heritage aspects of ranching in the region around GSENM and Glen Canyon NRA are important to the gateway communities. Family, tradition, and carrying-on a multi-generational legacy of hard work and independence are highly valued by many workshop participants.

- There is a lot of variability in seasons of use on Monument administered and other public and private land grazing allotments.
- There is also variation in the sizes of cattle herds that ranchers run on lands in the planning area. In addition, producers sometimes operate as a single entity, and sometimes multiple producers operate in a group on a single allotment.
- Some producers have access to enough private grazing land to provide them a cushion for times when grazing on public land is not available due to drought or other issues. Other producers do not have access to private ground other than their ranch headquarters corrals, which in many cases do not provide any forage for livestock. Access to private or alternate grazing lands, such as state lands, cannot be taken for granted when making assumptions about how ranchers might respond to range conditions. (In other words, participating ranchers stated that public land managers should not assume that if a rancher's permitted AUMs or head of animals are reduced, they will simply move the animals to an alternate location for grazing. Such a location may not be available, especially if AUMs are being reduced range wide, leading to competition for alternative grazing locations.)
- Some participating producers, who do not have reasonable access (or who have no access at all) to alternate grazing lands, said, "Any reduction in permitted AUMs would be devastating."
- Generally speaking, ranchers have a positive attitude toward tourists and recreationists. That being said, they are united in their frustration over issues such as gates being left open, vandalism, and cattle being harassed, kept away from watering facilities, "cliffed" (inadvertently or purposefully herded onto a ledge where they are unable to get back down), or pushed into slot canyons.
- Recreation is viewed by many as being compatible with cattle grazing operations, but there are some circumstances in which cattle have a negative impact on specific types of recreation users, especially when cattle lounge in riparian areas or near springs in remote locations: Some perceive that there is a trade-off between recreation use and grazing, while others do not believe that such a trade-off exists.
- Local businesses that rely on recreation and tourism to one degree or another include lodging, restaurants, outfitters, gift shops, road departments, mechanics, public agencies, and other organizations or businesses that serve tourists and recreational visitors in one way or another.
- Recreationists visiting the area range from low-cost users such as day hikers who aren't spending the night locally and often spend very little money in the area, all the way to visitors who stay in the local area and spend money on outfitters, ATV riding, horseback trail rides, and relatively more-expensive activities.
- Cattle grazing is seen by many attending the workshops as an important part of the tourist experience in GSENM region. Ranchers report positive experiences of tourists stopping to take photos and ask questions about the activities they are observing.

- Some recreational visitors cause damage to ranching infrastructure and/or cattle by leaving gates open, pushing cattle into locations that are either undesirable or lethal, vandalizing pumps and other ranch capital, or colliding with cattle with their vehicles, among others.
- Workshop participants feel a responsibility for and take pride in contributing to public safety through watching out for visitors on backcountry roads and trails within the planning area.
- Ranching families are thought to play a key role in keeping local basic economies solvent during the off-tourism months of the year, primarily in winter.
- Workshop participants expressed a largely positive view of GSENM and Glen Canyon although this is tempered by concern that future decisions regarding management in the planning area could possibly have a detrimental impact on their businesses and their families.

### **6.3. Overview of Grazing Economics Analysis**

The model that will be used in calculating the economic impacts of changes in permitted AUMs implements a partial-budgeting, marginal analysis approach to economic analysis of an agricultural enterprise. The model is based on a series of assumptions related to both market conditions and how the affected ranches might respond to changes in AUMs given those conditions, as outlined below.

The AUMs used as the baseline for comparison in the model will be taken from current active AUMs listed in the descriptions of the alternatives. AUMs and months of use for each alternative will be plugged into the model to evaluate the economic effects of the increase or decrease in AUMs that would occur if a specific alternative were implemented. Transfers of livestock from one allotment to another by the same owner will be treated as internal sales of animals and will be evaluated as separate enterprises.

In the model, it is assumed that the maximum AUMs permitted in any given month on the allotment serve as the limiting factor in determining the maximum size of the herd from which annual production can be obtained. The total supported number of animal units is set by the number of AUMs divided by the number of months on the allotment. In other words, an allotment with 180 permitted AUMs spread over 6 months would be able to support no more than 30 animal units, and the size of the herd is assumed to be constant throughout the year, regardless of how many months the herd grazes on the allotment being evaluated. Each animal unit is assumed to be equal to one cow-calf pair.

For the MMP-A analysis, the specific production and market assumptions that will be run through the model are those that were developed as a result of data gathered during the SE workshops, as well as by accessing the latest available industry data at the time the analysis is conducted.

If the total number of animal units increases under an alternative, it is assumed that the rancher will purchase additional cattle under the same conditions as outlined above for excessed cattle. The cost of additional cattle is annualized over ten years as a stream of costs, added to overall operating costs for the allotment.

Expected annual revenue includes proceeds from calf sales and any revenue stream derived from the sale of excess cattle. Expected annual costs include herd maintenance costs, herd moving costs, "off-allotment" feeding costs, grazing permit costs, and any stream of costs resulting from the purchase of additional cattle. The model does not include ranch operations' fixed costs, costs or returns on land investments, or depreciation. The mathematical model provides the ability to include investments in fixed infrastructure on range allotments as part of the overall economic analysis. In order to make the analysis comparable across allotments, however, infrastructure costs were not included in the completed economic analysis. Total expected annual net revenue in the model equals expected annual revenue minus expected annual costs.

After ranch-level impacts have been estimated, output from the model will be used as the basis for analyzing the economic impacts of changes in AUMs under each alternative on the study area as a whole. Regional economic impacts, in terms of direct, indirect, and induced output, spending, and employment, will be evaluated using IMPLAN regional economic analysis software.

#### **6.4. Overview of Social and Cultural Impacts Analysis**

The social and cultural impact analysis is expected to be conducted using techniques that will elicit input from the public in addition to using existing data to estimate stakeholder responses to the characteristics of the alternatives. Social impact assessment is often an integral part of planning processes where there are likely to be human impacts:

“It is important to consider the social equity or distribution of impacts across different populations. Just as the biological sections of EIS's devote particular attention to threatened or endangered plant and wildlife species, the socioeconomic sections of EIS's must devote particular attention to the impacts on vulnerable segments of the human population. Examples include the poor, the elderly, adolescents, the unemployed, and women; members of the minority and/or other groups that are racially, ethnically, or culturally distinctive; or occupational, cultural, political, or value-based groups for whom a given community, region, or use of the biophysical environment is particularly important.

“In addition to the types of disturbances that can affect other species, humans are affected by changes in the distinctly human environment, including those associated with the phenomenon known as the social construction of reality. Persons not familiar with the social sciences are often tempted to treat social constructions as mere perceptions or emotions, to be distinguished from reality. Such a separation is not so easy to accomplish. We are careful to point out that the social construction of reality is characteristic of all social groups, including the agencies that are attempting to implement changes as well as the communities that are affected.

“In the case of proposed actions that involve controversy, attitudes and perceptions toward a proposed policy change are one of the variables that must be considered in determining the significance of impacts (40 CFR 1508.27b[4]). During controversies, participants are often tempted to dismiss the concerns of others as being merely imagined or perceived.

“There are two important factual reasons not to omit such concerns from SIA's and EIS's, regardless of whether the views are widely accepted internally or come from an agency's critics. First, positions taken by all sides in a given controversy are likely to be shaped by (differing) perceptions of the policy or project, and the decision to accept one set of perceptions while excluding another, may not be scientifically defensible. Second, if the agency asserts that its critics are ‘emotional’ or ‘misinformed,’ for example, it is guaranteed to raise the level of hostility between itself and community members and will stand in the way of a successful resolution of the problem.

“In summary, some of the most important aspects of social impacts involve not the physical relocation of human populations, but the meanings, perceptions, or social significance of these changes.”<sup>18</sup>

## 7. REFERENCES

The EPS-HDT system used to derive the data shown in many of the tables in this report, as well as many of the figures included, accesses and uses data from the following sources:

### Data Sources

The EPS-HDT Measures report uses published statistics from government sources that are available to the public and cover the entire country. All data used in EPS-HDT can be readily verified by going to the original source. The contact information for databases used in this profile is:

2000 Decennial U.S. Census  
Census Bureau, U.S. Department of Commerce.  
<http://www.census.gov>  
Tel. 303-969-7750

American Community Survey  
Census Bureau, U.S. Department of Commerce.  
<http://www.census.gov>  
Tel. 303-969-7750

Census of Agriculture  
Nat. Agricultural Statistics Service, U.S. Dept. Agriculture  
<http://www.agcensus.usda.gov>  
Tel. 800-727-9540

County Business Patterns  
Census Bureau, U.S. Department of Commerce

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<sup>18</sup> From Guidelines and Principles For Social Impact Assessment, U.S. Department of Commerce National Oceanic and Atmospheric Administration National Marine Fisheries Service, 1994.  
[http://www.nmfs.noaa.gov/sfa/social\\_impact\\_guide.htm](http://www.nmfs.noaa.gov/sfa/social_impact_guide.htm)

<http://www.census.gov/epcd/cbp/view/cbpview.html>  
Tel. 301-763-2580

Local Area Unemployment Statistics  
Bureau of Labor Statistics, U.S. Department of Labor  
<http://www.bls.gov/lau>  
Tel. 202-691-6392

National Bureau of Economic Research  
<http://www.nber.org/cycles/recessions.html>  
Tel. 617-868-3900

Population Division  
Census Bureau, U.S. Department of Commerce.  
<http://www.census.gov/population/www/>  
Tel. 866-758-1060

Protected Areas Database v 1.3 2012  
U.S. Geological Survey, Gap Analysis Program  
<http://gapanalysis.usgs.gov/padus/>

Quarterly Census of Employment and Wages  
Bureau of Labor Statistics, U.S. Department of Labor  
<http://www.bls.gov/cew>  
Tel. 202-691-6567

Regional Economic Information System  
Bureau of Economic Analysis, U.S. Department of Commerce  
<http://bea.gov/bea/regional/data.htm>  
Tel. 202-606-9600

TIGER/Line County Boundaries 2012  
Bureau of the Census, U.S. Department of Commerce  
<http://www.census.gov/geo/maps-data/data/tiger.html>

U.S. Bureau of Land Management  
U.S. Department of Interior  
[www.blm.gov](http://www.blm.gov)  
Tel. 202-208-3801

U.S. Census of Governments  
Census Bureau, U.S. Department of Commerce  
[www.census.gov/govs](http://www.census.gov/govs)  
Tel. 800-242-2184

U.S. Fish and Wildlife Service



Realty Division, U.S. Department of Interior  
www.fws.gov  
Tel. 703-358-1713

U.S. Forest Service  
U.S. Department of Agriculture  
www.fs.fed.us  
Tel. 800-832-1355

U.S. Office of Natural Resources Revenue  
U.S. Department of Interior  
www.onrr.gov  
Tel. 303-231-3078

The on-line American Community Survey data retrieval tool is available at:  
<http://www.census.gov/acs/www/>