

WESTERN LANDSCAPES, WESTERN IMAGES:  
A REPHOTOGRAPHY OF U.S. HIGHWAY 89

by

JAMES EDWARD WELLS II

M.A., Ohio University, 2006

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Geography  
College of Arts and Sciences

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

2012

## Abstract

The American West is a land of great diversity and stark contrast. It is also a landscape marked by rapid change as a result of such forces as globalization, population growth, and heightened interest in natural resources (either for recreation or extraction). This dissertation investigates these changes to the region through a repeat photography analysis. Between 1982 and 1984, Thomas and Geraldine Vale traveled along U.S. Highway 89 from Glacier National Park, Montana to Nogales, Arizona. Their subsequent work, *Western Images, Western Landscapes: Travels Along U.S. 89* (University of Arizona Press, 1989), contained fifty-three photographs from this journey, representing a cross section of the West from border to border. Nearly every facet of the region was represented, from the remote prairie landscapes of Montana to the bustling Phoenix downtown, and from the largest open pit mine in the world to seldom visited corners of Yellowstone National Park.

Between March 2009 and August 2010, I retraced the steps taken by the Vales and successfully rephotographed all of the locations contained within their book. The observed continuity or change is examined thematically in order to address the landscapes and cultures of the West in greater detail. Specifically, chapters within this dissertation visually and textually describe changes that have occurred along national borders, within Native American reservations, throughout the rural landscapes and national parks of the region, within the many resource extraction industries, and within towns and cities of every size. Significant findings, which are well depicted in the photographic pairings, include heightened national security along the borders, problems of overuse in many parks and protected areas, the transition of traditional small towns into communities increasingly dependent upon tourism for survival, and both beautification and revitalization efforts taking place in the urban cores of Phoenix and Salt Lake

City. By painting a vivid picture of recent Western geography, this research provides for greater ability for residents and scholars of the region to understand the forces at work within their communities and surroundings.

*Keywords: American West, Repeat Photography, Landscape Change, National Parks, Urban Morphology, Natural Resources.*

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Approved by;

Major Professor  
Kevin Blake



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It is also important to note that a foray into repeat photography is not easy to undertake alone, especially when the locations of the original images in question are not precisely known. Two or more pairs of eyes, particularly important while driving, can be essential toward finding the precise angle needed. I will be forever indebted to a multitude of friends and family members who volunteered their time and money to accompany me on my adventure. They are, in no particular order, Jim and Diane Wells (my parents), Kristin and Jake Murray, Roy and Linea Sando, Mitch Stimers, Keela Andrews, Kris Oswald, Melissa Wilson, Callie Miller, and Sarah Scouller. Finally, I wish to express my gratitude for the hospitality of the people, businesses, churches, and government bodies of all levels that exist along U.S. Highway 89. Everywhere I traveled, I was met with kindness and genuine interest in my research. All inquiries regarding stories behind changes observed in the landscape were answered more promptly and with greater detail than I had ever anticipated.



## Chapter 1: A Western Landscape of Contrast and Change

The American West is a land of great diversity and stark contrast. Across Arizona, towns and cities alike exemplify what has become known as the New West: centers of high-tech industry, homes for amenity migrants, and tourist destinations that advertise not only traditional Western imagery such as cowboys and Native Americans and expansive opportunities for outdoor recreation, but also diverse cultural experiences that visitors may not necessarily expect in the region (Wyckoff 2006 and Riebsame et al. 1997). In Sedona, for example, spiritually-motivated visitors hiking the local trails can find a series of “vortexes” believed by some to provide positive energies. A short distance away, the former mining town of Jerome has reinvented itself in recent decades, boasting historic museums, art galleries, and haunted hotels. In Winslow, a sizeable portion of a downtown city block has been renovated into a park dedicated to the lyrics “Standin’ on the corner in Winslow, Arizona,” from The Eagles’ song *Take It Easy*. Mesa, a Phoenix suburb situated in one of the driest parts of the continent, will soon be the home of Waveyard, one of the world’s largest water park resorts. All of these Arizona developments stand in sharp contrast to the small towns along Montana’s Rocky Mountain Front. Aside from the addition of some modern gas station and grocery store chains, past and present ranching and mining towns such as Neihart, Wilsall, Choteau, and White Sulphur Springs appear to have barely changed at all over the past thirty years.

In Utah, contrasting landscapes can be found on a much finer scale. Since the late 1990s, beautification efforts in downtown Salt Lake City have been underway, initially as preparation for the 2002 Olympic Games. Since its completion in 1999, Salt Lake City’s light rail system has shuttled residents and tourists alike to recently-constructed local attractions such as the improved visitor centers at Temple Square, City Creek and Brigham Young Historic Parks, the outdoor

Gateway Mall, and the Clark Planetarium. A short distance to the southwest, the Kennecott Utah Copper Corporation is implementing aggressive expansion plans at the Bingham Canyon Copper Mine (the largest man-made excavation on Earth) that may provide a steady source of income and employment to the region through the end of the 2010s (*Deseret News* 2010).

Only sixty miles to the south, however, is a modern ghost town. Thistle, a former railroad settlement situated at the confluence of Thistle Creek and Spanish Fork River, held a population of approximately fifty when a catastrophic landslide and subsequent floods destroyed it in 1983 (Sumsion 1984). Although no deaths resulted from the disaster, the town was never rebuilt. Travelers along U.S. Highway 89 today may see burned out foundations and partially submerged homes along the roadside.

The landscapes of the American West are also diverse with regard to the pace of change and the forces driving that change. As outlined by William Riebsame, Hannah Gosnell, and David Theobald in their work *Atlas of the New West* (1997), there is no single “face” to the region. Traditions of the “Old West,” mythologized as a mostly barren landscape speckled with ghost towns and populated by mythic characters, are not only misleading in the present day, they really never were accurate. Certainly, the West has large expanses of sparsely populated arid and mountainous terrain that is indeed used by Caucasian and Native American ranchers alike. The vast majority of the region’s population is, however, urban or suburban and 90% lives in the major metropolitan areas of cities such as Phoenix, Denver, and Salt Lake City. Most of the inhabitants of the American West, therefore, view the region’s rural landscape as a place for recreation and, occasionally, spiritual rejuvenation. Somewhat ironically, developers and entrepreneurs from this “New” and modern West have helped to reinforce stereotypes of the region by establishing tourist attractions and resort towns that revolve around “Old West”

mythology, such as the resort community of Jackson, Wyoming, and the “ghost town” of Goldfield, Arizona.

Additionally, the American West is a land of greater cultural diversity than generally perceived, as outlined in the essays of Gary Hausladen’s edited volume *Western Places, American Myths: How We Think About the West* (2003). Mormons, Latinos, and dozens of distinct Native American tribes, addressed by Richard Jackson, Terrence Haverluck, and Akim Reinhardt, respectively, all dominate areas of the region and produce a unique and highly visible imprint on the landscape. In the same collection of works, Paulina Raento describes how the West also supports a unique gambling culture. This theme manifests itself primarily in Las Vegas and the rest of Nevada, on many Indian Reservations, and within several municipalities in Colorado. More recently, the entire state of Montana has also legalized the activity in hopes of drawing in tourism and investment.

Other scholars have attempted to not only describe the differences in landscapes across the West, but to also investigate the pace of change across the region. In 1980, geographers Thomas<sup>1</sup> and Geraldine<sup>2</sup> Vale transected the American West along U.S. 40 as part of a larger project to rephotograph locations documented by renowned author and English professor George Stewart in *U.S. 40: Cross Section of the United States of America* (1953). The findings of the Vales, published in *U.S. 40 Today: Thirty Years of Landscape Change in America* (1983), indicated that change across the West (and the nation as a whole) is primarily occurring in isolated pockets of urban growth. The vast majority of the region remained virtually untouched and most rural photo locations closely resembled their 1950s appearance. The Vales did,

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<sup>1</sup> Professor Emeritus, Department of Geography, University of Wisconsin - Madison.

<sup>2</sup> Retired Madison Public School Teacher, English and Geography.

however, admit that their sample may have been skewed due to Stewart's overemphasis on completely unpopulated, natural landscapes after he crossed into the Rocky Mountains.

William Wyckoff's (2006) more recent analysis of Montana, repeating sets of highway survey photographs from the early twentieth century, produced results contrary to those of the Vales. While major land uses have not changed drastically over time, there is a noticeably uneven pace of small town evolution seen across the state. Some communities have modernized completely, while others still appear as they did in the 1920s. In his conclusions, Wyckoff recommended more research be undertaken in order to ascertain possible reasons for this disparity.

The primary research question addressed in this study will therefore be an investigation of how many landscapes of the West are changing in the modern era, and where there is available data, why they are changing in the ways that they are. The goal is to contribute to the general understanding of the American West by providing photographic examples of landscape change over the past quarter century along a nearly 2,000-mile cross section of the region. As will be outlined in more detail later in this chapter, this line of research will contribute to many different branches of the geographic discipline, including cultural geography, regional geography, urban morphology, natural resource management, and in some cases, even physical geography and biogeography. Additionally, this study reveals ways in which repeat photography can be used as a methodological tool to measure landscape change.

Shortly after they completed their work on U.S. 40, Thomas and Geraldine Vale traveled along U.S. 89 between the border fence in Nogales, Arizona, and Montana's Port of Piegan

Border Inspection Station. Between 1982 and 1984, the Vales completed a total of fifty-two<sup>3</sup> photographs that they eventually published in the work, *Western Images, Western Landscapes: Travels Along U.S. 89* (Vale and Vale 1989). I rephotographed all of these images between March, 2009 and April, 2010. The Vales' goal had been to document "typical" roadside images and analyze the extent to which the landscapes exemplified the prevailing mental images of the American West. These images included the West as an empty space (the "Empty Quarter"), a place of great aridity (the "Desert"), a land of abundant and exploitable natural resources (the "Big Rock Candy Mountain"), a "Frontier" still dominated by cowboys and Indians, and a place full of natural beauty that, depending upon location and ownership, could be either a "Protected Wild" landscape or a "Playground" for locals and tourists alike. At the same time, many also view the West (and Mormon Utah especially) as a "Middle Landscape" of small, close-knit agricultural communities surrounded by an expansive wilderness that is nonetheless threatened by urban expansion (the "Turnerian Progression") in some locations and in need of protection (Vale and Vale 1989, pp. 7-10). Although the themes addressed in this dissertation differ from those outlined by the Vales, their images nonetheless proved diverse enough to serve as baseline data for this study in repeat photography.

Although I considered adding to the Vales' collection of photographs, I ultimately rejected that idea. Acquiring additional photographs from a variety of sources would add new biases into the analysis, including my own, and would likely not introduce any new themes given the comprehensiveness of the Vales' dataset. No academic study conducting repeat photography in a linear fashion has ever used multiple sets of original images.

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<sup>3</sup> This number increases to fifty-three if one includes the book jacket image of Arizona's Vermillion Cliffs (photographed in 1989). This extra image has been rephotographed and is displayed in chapter five.

Broadly speaking, this research addresses two of the fundamental questions of the geographic discipline, as outlined by Cutter et al. (2002): how and why regions differ from one another, as well as how those differences can affect local responses (and perhaps resistance) to change and globalization. Specifically, as a work in regional cultural geography, this research investigates the question of how change in the visual landscape over the past twenty-five to thirty years reflects the differences in the American West's landscapes and cultures. More narrowly, this spatially diverse analysis of landscape change addresses and contributes to the understanding of several key issues studied by geographers and related academics throughout the American West. These issues include, but are not limited to:

- The extent of the dichotomy and occasional conflict between the “Old” and “New” West, as well as the extent to which the two can merge (Wyckoff 2006 and Riebsame 1997).
  - The ongoing and sometimes painful reinvention of former ranching or resource extraction industry-dominated “Old West” towns into “New West” centers of tourism and amenity homes (Krannich and Luloff 1991, and Resnik et al. 2006).
  - The continual decline of agricultural communities unable or unwilling to make this transition (Popper and Popper 2006 and related articles in the *Buffalo Commons* debate).
- The growth and evolution of urban areas throughout the region (Wyckoff 1991).
- The processes by which federal land agencies walk the balance between the politics of preservation and use (Dilsaver 2003, and Dilsaver and Wyckoff 2005).
- The visible presence of minority populations on the landscape (Hausladen (2003).

### **Why U.S. 89?**

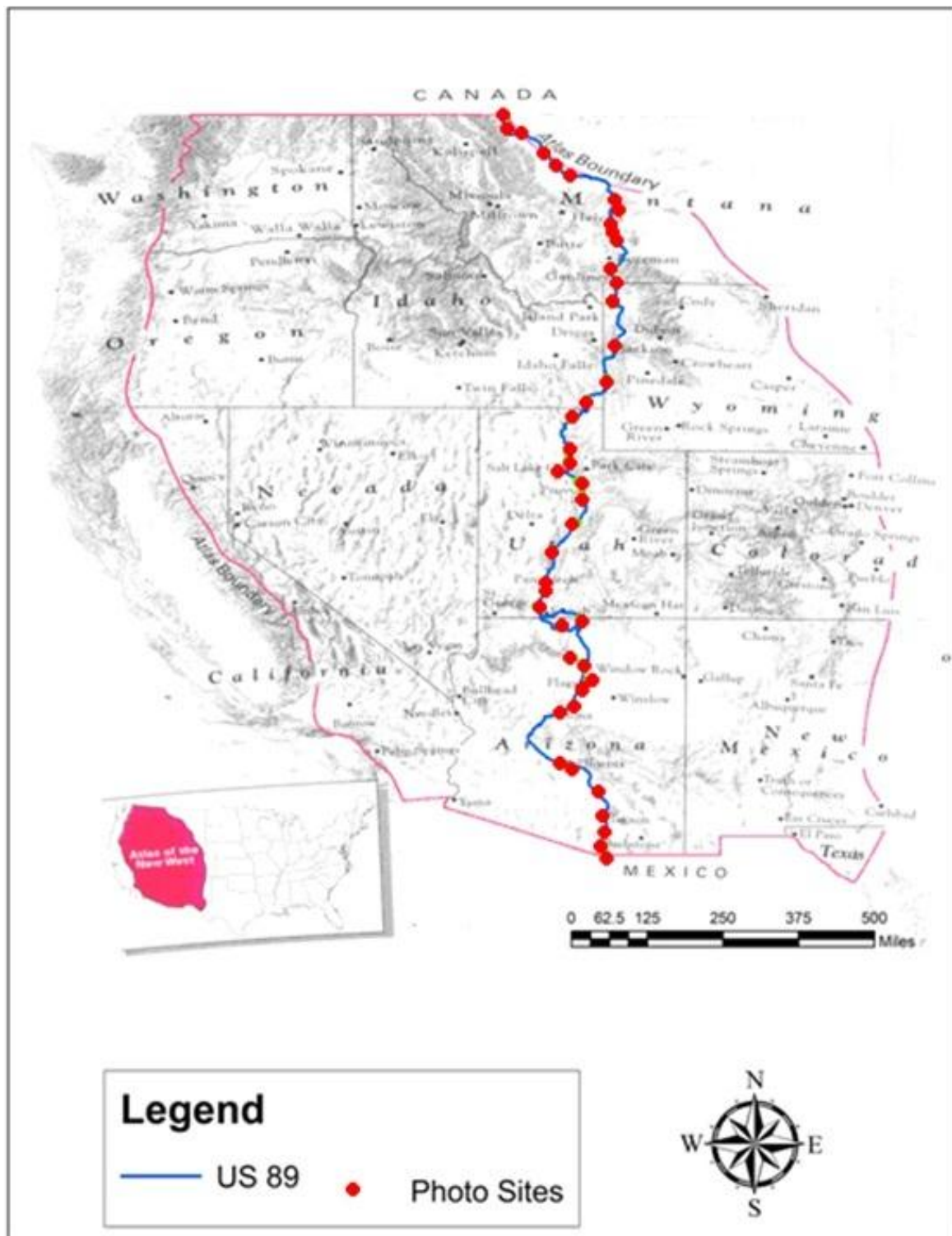
As Figure 1.1 reveals, U.S. 89 passes almost exclusively through what Walter Nugent (1992) found to be the “Unambiguous West.” This refers to a significant portion of the United States that is agreed upon by the vast majority of Americans as being unquestionably in the West. The territory stretches from the Mexican to the Canadian borders, and from the Rocky

Mountain Front to the eastern edge of the urban areas along the Pacific Coast (Nugent 1992, Hausladen 2003, and Riebsame et al. 1997). As Meinig (1972) and Steiner and Wrobel (1997) point out, however, the West is in no way a uniform “region.” Cultural landscapes crossed by U.S. 89 include the western edge of the Great Plains in Montana, the Rocky Mountain communities of western Wyoming, the Mormon Culture Region in and around Utah, two major Indian Reservations (Navajo and Blackfeet), three major urban centers (Salt Lake City, Phoenix, and Tucson), and the increasingly Latino Southwest. In addition to the Rocky Mountains, the Colorado Plateau and the southern portion of the Basin and Range province are also traversed along the route, overlapping with these cultural areas. U.S. 89 is thus extremely diverse in regards to both landscapes and cultures encountered, and a rephotography study traversing its entire length achieves a north-south transect of the nation with a level of comprehensiveness on par with Vale and Vale’s 1983 repeat photography along the east-west running U.S. 40.

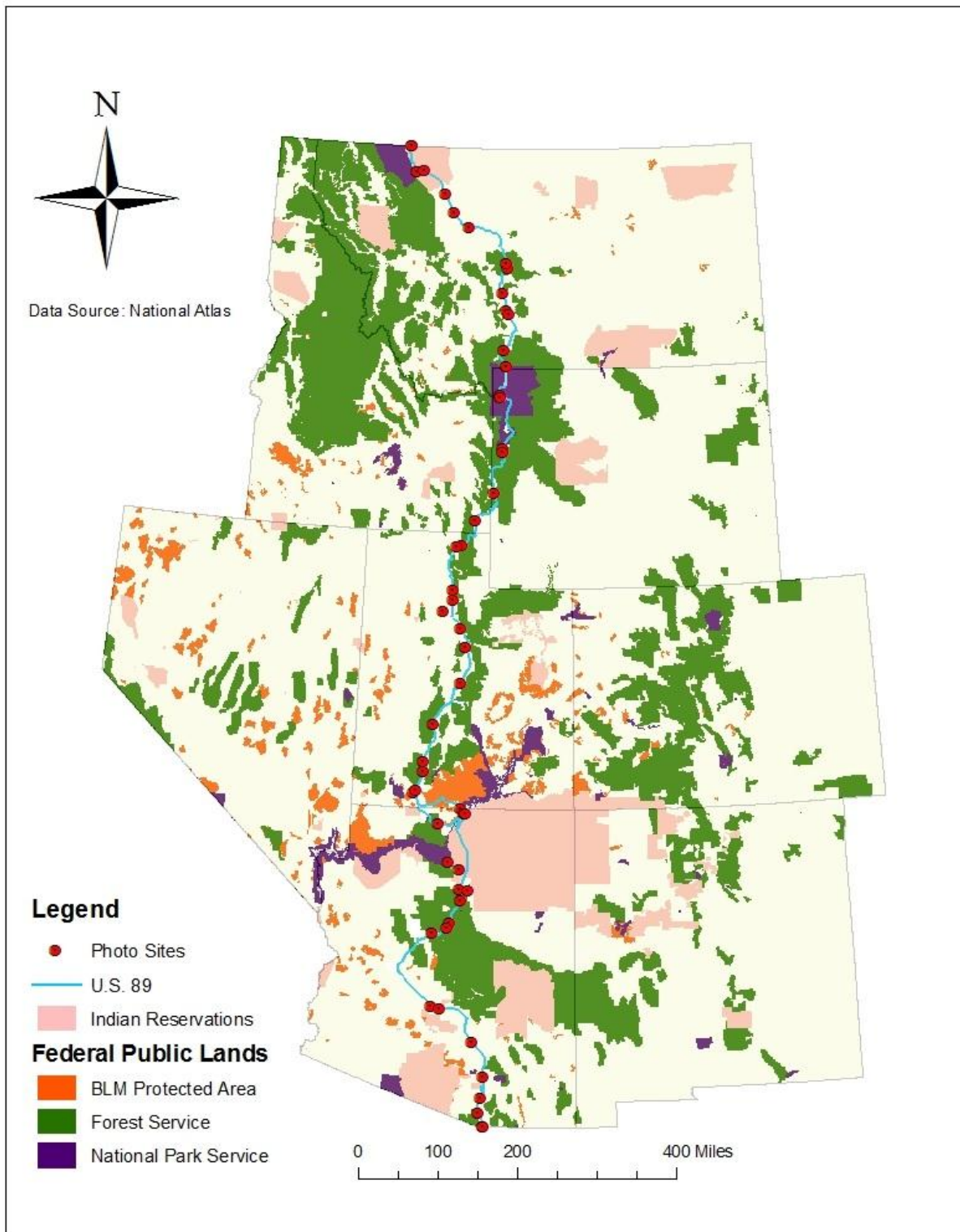
The level of prestige that Thomas and Geraldine Vale hold within the geographic discipline is another reason why I selected their photo set for study. Authors in the *Geographical Review* praised the Vales’ works on both U.S. 40 (Lewis 1985) and U.S. 89 (Lewis 1991) as being well written and researched, appealing to academic and popular audiences alike. The Vales also conducted similar research in Yosemite National Park, published first in a 1987 article contained within *Annals of the Association of American Geographers* (solely authored by Thomas Vale) and in 1994 in the comprehensive book *Time and the Tuolumne Landscape: Continuity and Change in the Yosemite High Country*. The latter received credit in the *Annals* as being “a tangible example of the best the repeat photography genre has to offer” (Larson 1995, 196). These works differ from this rephotography of U.S. 89 due to their focus on the physical geography of the landscape, as well as the fact that a sampling of postcards and other historical

photographs provide the baseline photo set instead of a linear set of images taken by a single person. Due to their focus on both physical and cultural geography, the Vales were able to put together a comprehensive photo set incorporating all types of landscapes during their travels along U.S. 89: a level of diversity that is highly useful for analysis of change over time. As Thomas Vale explained in private correspondence with me over the spring and summer of 2009, he and his wife had intended to rephotograph their route, though the opportunity never arose. He wished me luck in my study, and even offered assistance regarding the exact location of any image needed, though this never proved necessary.





**Figure 1.1:** The route of U.S. 89 in relation to the Unambiguous West, as outlined by Nugent (1992). Base map from Riebsame et al. (1997), p. 50. Note that the road has been federally decommissioned between Nogales and Flagstaff since 1992 (Cowlin 2010). State and federal routes that have replaced it are discussed in Chapter Three. For the sake of simplicity, all maps will depict U.S. 89 as a unified entity.



**Figure 1.2:** U.S. 89 in relation to Indian and Federal Lands. “BLM Protected Area” refers to national monuments, as well as recreation, wilderness, and conservation areas administered by that agency. Due to the overarching importance of public lands throughout the West, as well as their prevalence throughout this dissertation, this will be the base map used to introduce most chapters.

As shown in Figure 1.2, U.S. 89 also passes through or in close proximity to nearly two-dozen national park units or other protected areas, as well as paralleling or directly traversing national forest land for the majority of its route. Ten of these protected places are directly addressed in the Vales' photography, including the major national parks of Grand Teton, Yellowstone, and Grand Canyon, as well as numerous smaller sites in Utah and Arizona. As of its creation in 1996, U.S. 89 also transects a small part of Grand Staircase-Escalante, an expansive national monument managed by the Bureau of Land Management (BLM). Although not all national park units along U.S. 89 boast higher visitation today than in the early 1980s (in fact, numbers at Sunset Crater, Tukumcari, and Grand Teton are actually lower), all did experience a dramatic increase during the 1990s that has left marks on the landscape (National Park Service Public Use Statistics Office 2011). Due to its proximity to so many outdoor recreation destinations, U.S. 89 is therefore also a perfect road along which to study "gateway" resort communities adjacent to such lands, such as Jackson, Wyoming, as well as the direct or indirect impacts that humans have upon nature, such as forest fires, clear cutting, the importation of invasive species, and water resource issues.

On a broader scale, this study contributes to the literature on the rephotography of roadways across North America. Parallels exist with Wyckoff's 2006 analysis of Montana's changing landscape, as well as ongoing studies being conducted by Southern New Hampshire University's Frank Brusca along U.S. 40, and University of Alaska - Fairbanks geographers Thomas Eley and Cherie Northon (2003) along what George Stewart referred to as N.A. 1. Coupled with more distant studies, such as Martin Mitchell's (2001) rephotography between Salina, Kansas and Taos, New Mexico, as well as Jonathan Walker and Jonathan Leib's (2002) journey along Mexico's Topia Road, this network of routes covers a vast portion of territory

across the United States and North America. If researchers continue to document these locations, physical and cultural landscape change across a variety of scales and regions will be able to be compared and contrasted. For its part, this dissertation is the most comprehensive rephotography of the American West to date. The methods and general findings of this study could easily be used as a baseline from which to launch an investigation of nearly any other region of the United States or Canada. This is especially true regarding the forces of change at work surrounding issues such as urban expansion and revitalization, resort community development, preservation vs. use (including both recreation and natural resource extraction), and the interactions between various landscapes and cultures.

### **Organization of the Dissertation**

Due to the thematic nature of this study, the photographic pairs revealed in this dissertation are arranged in chapters according to the type of landscape they depict. Chapter Two will consist of a literature review detailing the merits and uses of repeat photography, along with a brief description of my own methods of replicating images. With the exceptions of border landscapes (Chapter Three) and Native American reservations (Chapter Four), the remaining sections are organized on a spectrum ranging from remote rural landscapes in Chapter Five (there is nothing that could truly be considered “wilderness” along U.S. 89) to busy urban centers in Chapter Nine.

This chapter layout prevents the needless literary backtracking that would be present in a linear format, and allows for the discussion of important themes of landscape change in greater detail. Factors at play regarding urban morphology in Tucson, for example, will obviously be different from the processes at work regarding the evolution of Tumacacori National Historical Park, and an analysis of either will drastically differ from that of the international border at

Nogales. Although these three sites are in relatively close proximity to one another, they are better addressed separately in chapters dedicated to major urban areas, parks and protected places, and border landscapes, respectively, than in one section encompassing all of southern Arizona. In this way, this dissertation will therefore act as a more efficient reference tool for anyone attempting to learn about change occurring in the various subsets of the American West.

Regarding the absence of a chapter specifically dedicated to Mormon landscapes, my decision is based upon a lack of ability to determine exactly what constitutes “Mormon.” The United States Census Bureau does not collect information on religious preference, and while polls conducted by other entities reveal raw numbers and percentages, such information is presented at the county level or higher. It is therefore difficult to know, with the exception of the official church structures in Salt Lake City, Manti (Utah), and Paris (Idaho) what (if any) influence religion has had on the development of individual photo locations over the past three decades. Although changes in areas traditionally dominated by the Church of Jesus Christ of Latter Day Saints are important, they will be discussed in the chapters relating to the size and nature of the community in question.

## Chapter 2: Geographical Applications of Field-Based Repeat Photography

The description of landscape through visual imagery is not a new phenomenon. Robert Turner et al. (2003) explain that ground level photography possesses some advantages over aerial imagery at certain scales of analysis, in that objects can be examined in more intricate detail and from multiple angles. Additionally, ground level imagery can also serve as an engaging means of educating local populations about pressing issues facing their community. This chapter provides a broad sampling of research in, and practical applications of, repeat photography, both historic and present day. This literature review is primarily limited to the geographical applications of field-based repeat photography, and the works cited here illustrate how geographers and related researchers are contributing to the understanding of the world through the use of repeated imagery.

First, it is important to note the value of photography in research in general. For an example of a geographer who has used a single set of photographs to tell an important story, see James R. Shortridge's (2000) analysis of Junction City, Kansas. Nearly 150 turn-of-the-century images were used in order to give an example of what mid-sized Midwestern communities looked like and consisted of prior to being linked with the rest of the nation through automobiles and super highways. These photographs would certainly be worth repeating one day in order to depict what happened to the businesses and local sense of place in the city after, in Shortridge's words, "people were able to drive into Topeka easily" (p. 224).

As mentioned in the previous chapter, George Stewart, a renowned science fiction writer and professor of English at the University of California - Berkeley, published two major photographic works detailing what he considered to be "typical" North American landscapes (both cultural and physical): *U.S. 40: Cross Section of the United States of America* (1953),

which included ninety-two scenes from Atlantic City to San Francisco; and the *N.A. I* series (1957), which detailed approximately sixty sites between Circle, Alaska and Costa Rica (excluding the contiguous United States). In fact, on page 14 of his *N.A. I: Looking North* (1957) work, Stewart identified U.S. 89 as “a road of much beauty, passing close to Glacier National Park and right through Yellowstone,” but also “not, however, a road which is of much historical significance, or displays any good cross section of the country.” Stewart likely would have, however, agreed that it *is* a good cross section of the American West as a region, and although U.S. 89 itself possesses little historic value, it passes through or near many places that do.

In his photographic works, Stewart’s goal was simple: to interpret in words and photographs the roads in question and the scenery alongside them, while at the same time educating the reader regarding the local history and culture along the route. Despite such simple goals, Stewart’s photographs and text in both *U.S. 40* and *N.A. I: Looking North* have attracted the attention of geographers who are rephotographing those routes today (see the previously mentioned works by Vale and Vale (1983) and Eley and Norton (2003), as well as Craig Campbell’s (2000) work that is discussed later in this chapter).

Repeat photography is a tool that has been used by academics of many different fields, dating back well over 100 years. Sebastian Finsterwalder, a professor of mathematics at the Munich Institute of Technology, is credited with the first use of the method, having initiated a study of alpine glacial movement in Switzerland in 1889. Using the recent invention of photography, Finsterwalder compared images over several years in order to measure rates of glacial advances or, more commonly, retreats (Webb et al. 2007). He is also credited with the invention of the “photogrammetric gun,” a camera attached to the end of a rifle that proved useful for early air photo analysis (Georgopoulos 1980). Although several decades would pass

before these methods became widespread, Finsterwalder's work established repeat photography as a legitimate scientific tool by the end of the nineteenth century.

Landscape ecologists became the second group of researchers to adopt repeat photography. In a two-year field excursion lasting through 1956 and 1957, H.L. Shantz retraced the steps he had taken over thirty years previously as a photographer for the American Commission to Negotiate Peace. His mission following World War I had been to document both natural vegetation and agricultural resources along a cross section of Africa from Cape Town to Cairo. Revisiting the same sites one-third of a century later, Shantz and his team were able to document several important changes to the continent: a rise in both native and European human populations, clearing of forest land to create artificial savannahs, the encroachment of farms into increasingly arid regions, and a remarkable ability for native plant species to reclaim the few abandoned farms and grazing pastures that were observed (Shantz and Turner 1958).

James Hastings of the University of Arizona and Raymond Turner of the United States Geological Survey published *The Changing Mile* in 1965. It served as the first academic study in repeat photography to be conducted in North America. Instead of repeating a single set of photographs, as no such dataset existed, Hastings and Turner depicted landscape change in the Sonoran Desert by using an assortment of photos taken between 1880 and 1920. The authors named their study *The Changing Mile* because the approximately 100 sites revisited in both Arizona and Sonora ranged from sea level to one mile in elevation. Although some evidence in the study pointed toward the movement of most plant species to higher elevations over the first half of the twentieth century, as well as a general invasion of traditional grasslands by woody plants, the exact causes of these migrations were unknown. Hypotheses that this change in



vegetation could be due to cattle grazing, fire suppression, climate change, and/or rodent activity were suggested but ultimately dismissed due to an overall lack of data.

This uncertainty led to a second study of the same sites nearly four decades later, led by scientists at the University of Arizona's Desert Laboratory (Turner et al. 2003). As stated in their work, *The Changing Mile Revisited*, the authors hypothesized that thirty-five additional years of landscape change would yield answers to the questions put forth in 1965. Overall, the trends observed during the mid-twentieth century persisted through the beginning of the twenty-first.

By the early 2000s, woody plant species, such as mesquite and cottonwood, dominated virtually the entire study area. Analyzing historic land use and climactic data in conjunction with repeat photography, the study concluded that three factors have likely influenced this change in the Sonoran Desert: the elimination of grasses through the overgrazing of cattle (past or present), wildfire suppression in the early part of the twentieth century that allowed tree species to move into the area, and increased carbon dioxide levels in the atmosphere. Additionally, the twenty-first century photographs revealed themes in the landscape missed by researchers in the 1950s and 1960s. First, the growth patterns of invasive species pointed toward new housing developments in the area as the source of that problem. Secondly, the saguaro cactus populations of the Sonoran Desert did not completely fade away due to competition and climate change as predicted by Hastings and Turner forty years ago. Instead, the saguaro colonies likely suffered a temporary setback due to especially cold winters during the mid-twentieth century, but are now showing remarkable recovery even amongst the increasingly forested landscape.

Repeat photography has also been extremely useful in studies of remote mountainous regions that lacked any aerial images until the latter half of the twentieth century. In the Himalayas, several studies have examined the assertion that increased tourism and modernization

of agriculture are slowly destroying the local ecosystem. Although population has increased and at least partially modernized throughout the region, various expeditions have photographically shown that the long-term impact upon the landscape is not as drastic as commonly believed. Jack Ives (1987) analyzed terrace slopes in Nepal over a period of approximately ten years, concluding that while terraced agriculture does run the risk of catastrophic collapse in times of flooding, the hillside can be rapidly repaired with proper funding and native vegetation will reclaim the disturbed soil in only a few years. Likewise, Jan Salick et al. (2005) analyzed eastern Tibetan photos 80 years apart and concluded that while the people of the Himalayas are slowly expanding their villages and agricultural terraces, this expansion did not cause a significant amount of deforestation. Nor has increased trekking through the Himalayas caused nearly the level of ecological damage that the Western world believes, as Alton Byers (1987) proved by analyzing past and present photos along popular routes to Mount Everest.

By proving that Himalayan ecosystems are not being degraded as badly as previously thought, researchers have affected government policies in the region. In his analysis of China's Yunnan province, Robert Moseley (2006) used early-twentieth century photos of the Royal and National Geographic societies in order to prove that forest cover has not changed significantly over the past 100 years. As a result, the Chinese government has scaled back efforts to "reforest" places where, according to the photographs used in Moseley's report, trees have never existed (steep slopes and high elevations). The same study also revealed that all glaciers in the region are receding at approximately the same speed, including those that have yet to be discovered by tourists. In dispelling the myth that pedestrian traffic can enhance the effects of climate change on glacial melting, these findings convinced the Chinese government to abandon plans to expel adventure tourism businesses from the region.

In the realm of human and cultural studies, cityscape rephotography has made its way into popular culture to a greater extent than any other application of the method. A brief search of any large library or bookstore indicates that nearly every major city in the United States, as well as dozens of smaller towns, boasts a *Now and Then* publication. Although these are often little more than picture books with brief captions, scholars can use such photographic records in pursuit of knowledge regarding neighborhood succession, the success (or failure) of revitalization efforts, the extent of suburbanization, and more.

Edward Watson and Edmund Gillon's (1976) repeat photography of over sixty sites in New York City, as an example, revealed changes in Manhattan since the turn of the twentieth century: the decline of streetcars in favor of personal automobiles (with parking lots to serve them), the decline of old ethnic (Jewish and Italian) tenement neighborhoods in favor of modern skyscrapers, and the rise of chain stores and mass consumerism. Interestingly, this exercise also revealed that street vendors in New York have altered very little in appearance since 1900.

Thomas and Geraldine Vale, as mentioned in the previous chapter, began their research in photographic analysis in 1980 by following in the footsteps of George Stewart along U.S. 40, a road that was by this time largely overshadowed, and in some areas replaced, by Interstates 70 and 80. Their goal, like Stewart's, was relatively simple: to depict and describe changes in the American landscape from the East to West coasts. Although the route passes through major urban areas such as Baltimore, St. Louis, Denver, and San Francisco, one of the central points that the Vales make in their conclusion of *U.S. 40 Today* (1983) is that, spatially, the United States is still a highly rural nation. Although it is certainly true that urban populations are increasing and extending suburban strip malls and cookie-cutter housing into the surrounding countryside, such growth is limited when placed into context with the nation as a whole. In fact,

between 1950 and 1980, the Vales observed very little change at all in the more remote areas of U.S. 40 aside from such modernization of farmsteads as electrical wires, indoor plumbing, and improved farm machinery.

Although the findings of Craig Campbell (2000) do not necessarily contradict those of the Vales, the more recent rephotography of Stewart's photos in Kansas and Missouri revealed a faster rate of change between 1980 and 1992 than had occurred between 1950 and 1980. Specifically, Campbell documented examples of heightened decline in areas where U.S. 40 had been bypassed by I-70: the end of a wooded town park in Bellevue, Kansas, and the disappearance of antiquated family farm buildings along what is now U.S. 24. A rephotography of the entirety of U.S. 40, using the photo sets of Stewart and the Vales as baseline data, is currently being conducted by Frank Brusca of Southern New Hampshire University.

Not far from U.S. 40, John Charlton retraced the steps of Alexander Gardner along the Union Pacific Railway (1998) and the Kaw/Kansas River (2000). Gardner, who photographed the Union Pacific Railway in 1867 from Kansas City to Hays, was one of the first professional photographers of the American West. In retracing Gardner's steps 130 years later, Charlton found that the physical landscape in Kansas has not changed significantly on its own. As anticipated, the most striking differences between the photo sets came from the human impact on the landscape: construction projects in former river channels, the damming of waterways by the Army Corps of Engineers, and the destruction of tallgrass prairie in favor of agriculture. Charlton's rephotography project along the Union Pacific Railway also revealed the damage that tourists have caused to Kansas' Castle Rock limestone formation, eroding the landform faster than would be possible by natural forces alone.

Further to the south, Martin Mitchell (1996) retraced the steps of George Miller from Salina, Kansas to Taos, New Mexico. Miller, a professor of geography at Mankato State Teacher's College, traveled this route and took over sixty photographs in 1936 in order to analyze the effects of the dust bowl on the Great Plains. Sixty years later, the landscape showed remarkable changes. Though arguably unsustainable, the sparsely vegetated yellow soil of Miller's day had turned bright green with the invention of pivot irrigation. Success in agriculture, however, did not correlate with success in other local businesses. By 1996, many of the small towns observed by Miller had withered away as populations began concentrating around county seats. Finally, and most remarkably according to Mitchell, nearly every photograph taken at the turn of the twenty-first century revealed an increase in forest cover over the past sixty years.

In Montana, William Wyckoff (2006) repeated photographs taken by highway engineers between 1920 and 1940 to examine landscape change in Montana. In selecting the 58 sites Wyckoff made an effort to divide his research evenly between the plains of the east and the mountains of the west. Themes of change over the past 60-80 years included continued dominance of agriculture, though with fewer farming "settlements," the collapse of mining and railroad communities as the resource extraction industries declined, the growth of suburbs and amenity migrant communities, and the fact that cities and commercial districts of smaller towns evolve faster than the rural countryside.

Studying a much larger area, James Campi (2002) traveled the entire eastern half of the United States in order to discover how various Civil War battlefields and other important sites are remembered today. Utilizing the Library of Congress and the National Archives, Campi managed to recapture images taken 140 years previously during one of the first photographed wars. Overall, the findings of this study proved that the National Park Service and U.S. Army

have preserved Civil War-related sites well. Unfortunate exceptions include Virginia's Fort Sedgwick, now the site of an abandoned superstore, Georgia's Resaca Battlefield, which has been taken over by an interstate highway, and an unnamed fort in what is now a residential district in Atlanta.

Outside of the United States, Jonathan Walker and Jonathan Leib (2002) recently retraced the steps of Berkeley graduate students Robert West and James Parsons in 1940/41 along the Topia Road, an historic trail linking together several mining communities in northwestern Mexico. Walker and Leib described several positive and negative experiences common to many scholars using repeat photography to document human activity over time. Although many images require researchers to gain access to private property, this is generally not a problem. Landowners are typically entertained by seeing historical images of places familiar to them, and more often than not, local residents are happy to help find the exact spot shown in the original photograph, as well as do their best to explain how changes in the landscape came to be.

Walker and Leib discovered that stark differences evolved between towns at the northern and southern ends of the Topia Road, separated by the nearly impassable (by road) Sierra Madre Occidental. Settlements at the southern end of the road were still heavily involved with mining and changed little over the past sixty years. In the north, mining faded away and towns modernized greatly, though the majority of working-age males recently became migrant laborers in the Chicago area, sending remittances home to help their families.

### **Methods Used in this Study**

The findings of the studies previously mentioned are important in order to understand the types of problems that can be addressed and potentially solved through repeat photography. This section will briefly describe how I rephotographed U.S. 89. In all, I traveled to the previously

outlined Unambiguous West nine times between the summer of 2008 and winter of 2012. Seventy-five days were spent in the field, forty-two of which focused solely upon U.S. 89. Time away from the highway was primarily spent investigating notable landscape change elsewhere in the region, as well as touring sites that the Vales had described in their own textual analysis of the region. For an example of the former, see the discussion of Glacier National Park's Goat Haunt Ranger Station in Chapter Three. For an example of the latter, see the discussion of the Sevier River Watershed in Chapter Seven.

Regarding the repeated images, the vast majority of my photographs were taken using a Canon PowerShot A1000IS (10 megapixel and 4x zoom capability). Though some images needed to be cropped in order to more closely match those of the Vales, I did not encounter any technical difficulties in replicating the scenes. Digital photography has greatly aided the pursuit of repeat photography with its advantage of instant review of the image.



**Figure 2.1:** Dissertation fieldwork in progress at Big Rock Candy Mountain, Utah (featured in Chapter Eight). Image courtesy of Mitch Stimers and Keela Andrews.  
**Date and Time of Photography:** 3:30pm, Wednesday, March 18, 2009.

Although literature produced by landscape architects and plant biologists often contains identical pairs of photographs, geographers of all sub-disciplines tend to be focused more on the thematic content of the photograph pair than the necessity of exact technical replication. In their work detailing landscape change within Yosemite National Park, Vale and Vale (1994) admit to changing the camera angle “if the resulting view provided more information” (p. 52). Wyckoff (2006) acknowledged the same in his analysis of cultural landscapes in Montana. This proved necessary in replicating some of the views in *Western Images*, *Western Landscapes*, and is especially true in the case of the Cape Cod-style home in Logan, Utah (figure 9.5). Standing in the “footsteps” of the Vales in this case would have shown nothing but tree branches. A closer vantage point proved necessary. Like Wyckoff and the Vales, I also took a photograph of the original angle for reference even if it may not necessarily appear in the chapters that follow. As the themes of landscape change discussed in this dissertation transcend seasonal differences, I did not find it necessary to replicate the month and time of day of the original images.

Upon retaking a photograph and recording its location, other actions taken included:

- Completing full panoramic shots of the area surrounding each of the Vales’ images.
- Taking the GPS coordinates of the location, which are listed in Appendix A of this dissertation.
- Photographing any other points of interest nearby (for example, any interpretive signage in the area, or new and/or ongoing construction projects or infrastructural improvements).
- Writing extensive field notes relating to the surrounding landscape. Examples here included recording all businesses (open or closed) seen when in a populated area, or the numbers and types of visitors in a park or other protected area.
- Collecting written texts related to landscape change in the area, such as local newspapers, tourist brochures, postcards, or books relating to the history of the location.
- Informally interviewing local residents as to how and why the landscape has changed. As needed, I also contacted community leaders by telephone or email after the conclusion of fieldwork.



While analyzing each photographic pair, I took great care to avoid any preconceptions regarding what I may see. Approaching each set of images with an open mind allowed me to find and analyze changes that were missed during the course of fieldwork. For example, while repeating the photograph in Orderville, Utah (figure 7.8), my traveling companions<sup>4</sup> and I focused our attention upon the farming and mining aspects of the landscape. Not until I closely examined the 1983 and 2009 photographs weeks later, did I notice the addition of a new home immediately above the local gravel pit, indicating that the mining operation is not universally perceived as a residential disamenity.

Unexpectedly, one of the most important tools in uncovering answers to questions regarding the change (or lack thereof) in locations covered in this dissertation has been the internet: a tool that promises to revolutionize repeat photography as it pertains to cultural phenomena, just as it has changed the face of other qualitative methods across the academic spectrum (Michalak 1998; Denissen, Neumann, and van Zalk 2010). Using such online sources as local government and community association master plans, newspaper archives, business profiles, state and federal publications, and email exchanges with community leaders in the public and private sectors, descriptions of forces at work behind the observed changes in the landscape reach a high level of depth and accuracy. Examples found within this work include the stories behind individual businesses (past or present) in Phoenix and Sedona, Arizona; Panguitch and Salt Lake City, Utah; and Afton and Jackson, Wyoming, as well as the reactions of residents to the changes occurring within those communities and their surroundings. Beyond community character in populated places, internet sources also proved valuable in gauging public reaction to

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<sup>4</sup> No author has ever stated that assistance is necessary for a successful endeavor into repeat photography, and neither shall I. However, I was accompanied to the vast majority of photograph locations by friends, family, and/or colleagues, and found the extra set of eyes extremely helpful in finding the exact location of each image pair. A full list of those who assisted me in my fieldwork can be found in the acknowledgements.

the expansion of the Bingham Canyon Copper Mine, increased border security, and public land agency policies regarding the dichotomy between preservation and use. Additionally, minor mistakes such as those found in the Vales' original work are easily avoided today using resources such as Google Earth.<sup>5</sup>

Through the use of these procedures, this dissertation takes its place among the meaningful works of repeat photography described in this chapter. Walker and Leib (2002) revealed to the world the visual effects that migrant workers have upon the communities they leave to find temporary jobs elsewhere. Campi (2002) revealed important yet largely unknown historic sites badly in need of preservation. Ives (1987), Mosley (2006), and Salick et al. (2005) helped to expose the myths and realities regarding environmental impact that tourists and locals alike have on the Himalayan ecosystem. Wyckoff (2006) discovered a significant disparity in the ways in which towns in Montana have evolved over the past century. In a similar fashion to these authors, this research not only contributes to the overall understanding of the world by revealing trends of landscape change across a significant region of the United States, but it does so in a visual fashion easily understandable by both academics and the general population. Along these lines, and in addition to the contributions to the geographic discipline as outlined in Chapter One, this research will allow local community leaders across the West to be able to see what is happening in their area, and therefore be able to make more informed decisions regarding how to harness, slow, or perhaps even stop the forces of change at work around them.

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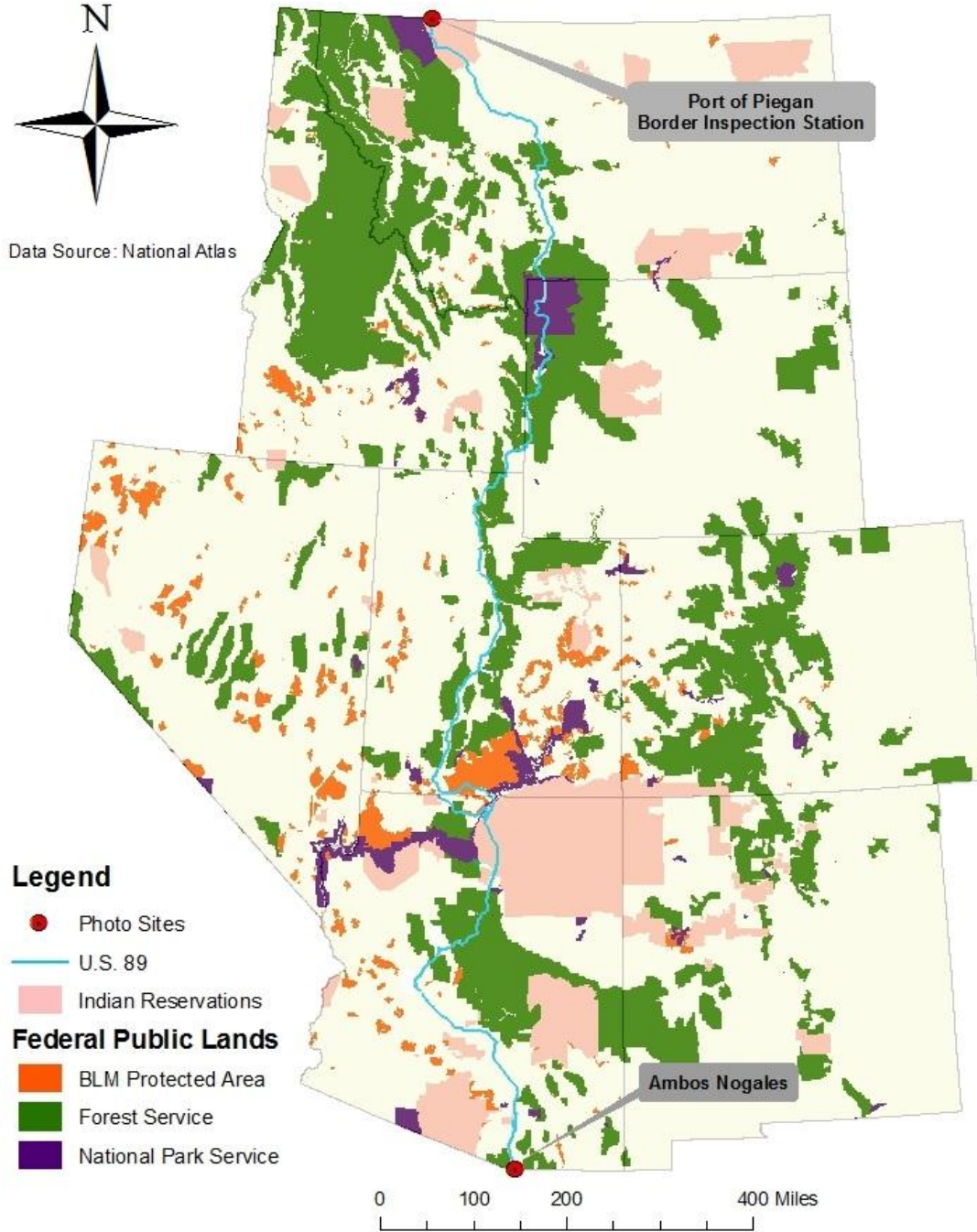
<sup>5</sup> Although errors are an anomaly in *Western Images*, *Western Landscapes*, three examples include:

- a) The mislabeling of Orderville's Elkhart cliffs as the White Cliffs, and the misplacement of that photograph north of Glendale, Utah, instead of its actual location some five miles further south (pages 71 & 76 in the Vales' work, figure 7.8 in this dissertation).
- b) The mislabeling of Montana's Castle Mountains as the Little Belt Mountains (page 131 of the Vales' work, figure 5.4 in this dissertation).
- c) The mislabeling of slopes from Montana's Showdown Ski Area as natural meadows (page 131 of the Vales' work, figure 7.4 in this dissertation).

### Chapter 3: Border Landscapes



Data Source: National Atlas



There is perhaps no greater contrast among U.S. 89 landscapes than in the difference between the Mexican and Canadian borders. The bustling and heavily guarded border city of Nogales, Arizona, dwarfed in population twenty times over by its Mexican neighbor of the same name (together, the cities are known as Ambos Nogales), stands in sharp contrast to the vast expanse of empty grassland that characterizes the Canadian border just east of Glacier National Park. Both the northern and southern termini of what is or used to be U.S. 89 do, however, reveal signs of heightened border security.

Because the Arizona portion of this chapter will cover sections of road that are no longer designated as U.S. Highway 89, it is first prudent to briefly describe what has happened to the road in the years since the Vales traveled it. In 1992, at the request of the Arizona state government, the American Association of State Road and Transportation Officials decommissioned the highway between Flagstaff and the international border at Nogales. The Arizona Department of Transportation requested the elimination of the U.S. highway in order to divert thousands of through-travelers onto the interstate system (specifically interstates 19, 10, and 17), which was better suited to handle the growing volume of traffic throughout the central portion of the state (American Association of State Road and Transportation Officials 1992, Weingroff 2009, 2012).

Thus, U.S. 89 no longer stretches from border to border. In its place today are Arizona State Highways 89 and 89A, as well as a small portion of U.S. Highway 93 between Flagstaff and Wickenburg, U.S. Highway 60 southeast from Wickenburg and through the Phoenix metropolitan area, Arizona State Highways 79 and 77 through Florence and Tucson, and finally a mixture of local streets and Interstate 19 between Tucson and Nogales. Although U.S. 89 remained an isolated entity within downtown Nogales for many years after its general

disappearance from the region, this too was finally decommissioned in 2007 with all related signage removed from the city (Sanderson 2009).

Regardless of the status of the road it overlooks, however, the McDonald's patio in downtown Nogales (figure 3.1)<sup>6</sup> remains as much a center of activity and window into the local culture as it was when Thomas; and Geraldine Vale photographed the location in 1982. Over the past three decades, the population of Nogales, Arizona has grown from approximately 15,500 to nearly 21,000, and the percentage of people identifying themselves as being of Hispanic or Latino origin has risen from 85% to 95%. These numbers serve as a microcosm of general trends in Arizona, which has seen a population gain of almost four million since 1980, with the Hispanic/Latino percentage rising from 16% to nearly 30% (U.S. Census Bureau 1981, 2011).

The increased percentage of Latino residents in Nogales, coupled with Mexican migrants who enter the United States here each day for shopping and/or employment, has made at least one highly visible mark on the landscape: the change of wording on the McDonald's entrance sign from *Welcome* to *Bienvenidos*. Inside the restaurant, only the managers spoke English, though the other unique attributes described by the Vales after their visit (the Spanish menu, the jar of jalapeños, and the currency exchange option) were no longer present.<sup>7</sup>

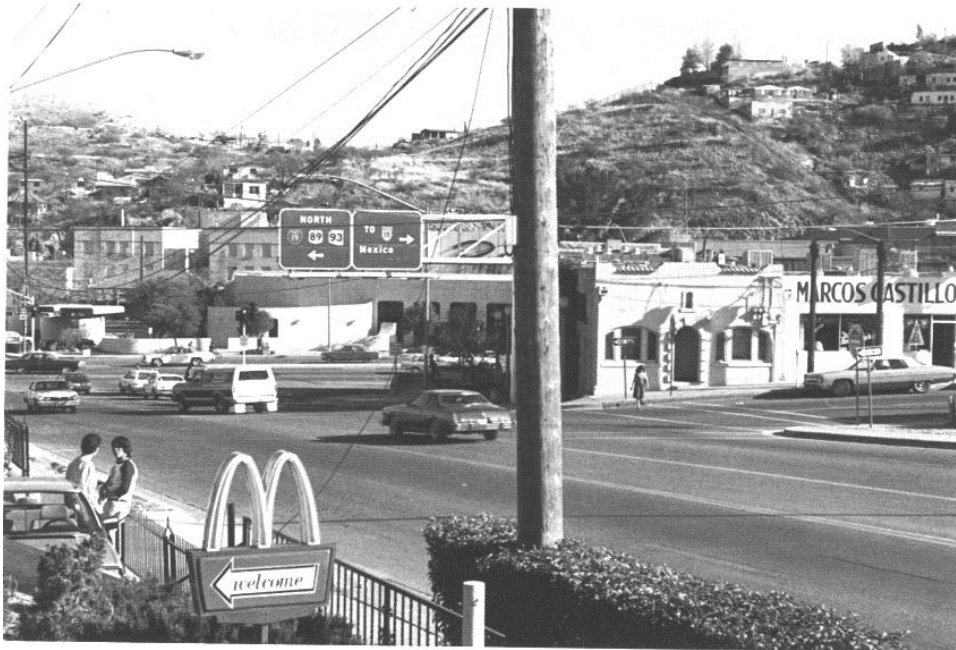
Today, the McDonald's patio serves as a meeting point of cultures. In the restaurant's parking lot, closely watched and guarded as "customers only," vehicle license plates spanned the continent, ranging from Sonora to Michigan. The patrons themselves proved equally as diverse,

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<sup>6</sup> in all photo pairs the older image is placed above or to the left of the newer)

<sup>7</sup> This is likely indicative of the McDonalds Corporation wishing to present a uniform chain of restaurants across the nation, though company representatives did not answer my emails regarding the reasons and dates behind the changes.

from entire families of Latino descent who walked up the hill from the direction of the border crossing, to expensively dressed Caucasian tourists wielding both cameras and binoculars.



**Figure 3.1:** The view southeastward from the McDonald's patio in downtown Nogales, Arizona. Heroica Nogales, Sonora (Mexico) lies beyond the fence in the distance. Due to minor structural changes in the patio area over the past three decades, the camera angle needed to be adjusted slightly in order to keep the "welcome" sign in the frame.  
**Date and time of rephotography:** 3:15pm, Sunday, January 10, 2010.

The tourist appeal of the location is clear. The vantage point of the above photographs allows visitors to take in a sweeping view of the developing world from the perceived safety and comfort of the developed. Additionally, and although neither the 1982 nor the 2010 image reveal much in the way of businesses, a wide variety of establishments including restaurants, bars, discount stores, and even a tattoo parlor can be found only a few blocks away, catering to locals and visitors alike. Immediately to the left of the area photographed, and only two blocks from the McDonald's, stands the Pimeria Alta Historical Museum, offering exhibits, lectures, and tours dedicated to the entire history of the region from the earliest Spanish explorers to the modern era.

The ability to find services and entertainment on the Arizona side of the border has become especially important in recent years, as Americans are being discouraged by their government from entering Mexican border cities due to the drug-war related violence there, as cartels battle both one another and the federal government. In 2008, for example, Heroica Nogales (generally referred to simply as "Nogales"), Sonora witnessed 176 murders, up from only 52 the previous year, with similar increases in other violent crimes (Overseas Security Advisory Council 2009). By contrast, Nogales, Arizona did not report a single homicide between 2008 and 2010, and the local government has been working hard in recent years to dispel its reputation as a dangerous city (Wagner 2010). Despite political rhetoric to the contrary, all American cities situated on the border with Mexico boast crime rates lower than similarly sized cities elsewhere in the country (Padgett 2010). Nogales Police Chief William Ybarra (2009) stated in a personal correspondence that "the streets of Nogales, Arizona are as safe, even more, than any other city in this country," largely due to the high level of security provided by local, state, and federal law enforcement agencies all operating in a relatively small area. Local police make a visible presence throughout the downtown area, while Border Patrol agents keep a



constant vigil at every street intersection adjacent to the border. In fact, one such agent was stationed directly behind me as I photographed the 2010 image in figure 3.2. According to Border Patrol agents interviewed in an episode of the National Geographic Channel's *Border Wars* (2009), such a presence is needed to thwart employees of Mexican drug cartels who use the higher ground of Nogales, Sonora to spy on American operations and exploit any gaps or other weakness they see.

Heightened security along the Mexican border is clearly visible in figures 3.1 and 3.2. Portions of the national border have been marked by a fence through Nogales since 1910, initially at the request of the Mexican government as a “deterrent to outlawry” (Pimeria Alta Museum 2008). The United States government later completed the division of the city in 1918, following the “Battle of Nogales” in which border guards of the two nations exchanged fire amidst heightened tensions following the interception of the Zimmerman Telegram during World War I (Arreola, 2001).

In recent years, the nearly century-old barrier has undergone significant upgrades. The Border Patrol and Army Corps of Engineers replaced the wire-mesh fence photographed by Thomas and Geraldine Vale in the 1980s with the current design in 1994. Decried as an eyesore by residents on both sides of the border, the barrier observed in the two Nogales photographic sets is made of surplus landing strip material once used by the United States military. The agencies involved stated that the improvements were meant to reduce the ability of “border bandits” to cut holes in the fence, rob unsuspecting people, and escape back into Mexico. Given that robberies and aggravated assaults fell by more than 50% in Nogales between 1994 and 1995, the effort appears to have been successful (*Deseret News* 1995). Today, parts of the fence elsewhere in Nogales and its surroundings have been upgraded further. Closely spaced steel



poles filled with concrete now rise up to 16 feet above the ground, and descend five feet below it, simultaneously reopening the view to the other side and making it impossible to cut holes in the barrier with blow torches, and increasing the difficulty of either drug or human traffickers trying to tunnel underneath the border (Trujillo 2009).



**Figure 3.2:** The border fence at the intersection of International and Hereford Streets, Nogales, Arizona.

**Date and time of rephotography:** 3:45pm, Sunday, January 10, 2010.

Regardless of increased crime on the Mexican side of the fence, or a heavier police presence on the American side, cross-border traffic between the two nations continues to increase. Together, the Nogales Ports of Entry, including the Dennis DeConcini crossing in the city's downtown and the largely commercial Mariposa Port of Entry immediately to the west of Nogales, rank fifth among all border crossings in North America (and are by far the busiest in Arizona) (Bogan 2009). Both nations improved their customs and inspection stations during the early 1990s in preparation for greatly increased traffic flow as a result of the signing of the North American Free Trade Agreement (NAFTA) (Arreola and Curtis, 1993). Nogales' Mariposa Port of Entry serves as the southern terminus of the CANAMEX Trade Corridor: a proposed, yet unfinished, continuous four lane highway crossing the United States between Nogales, Arizona, and Sweetgrass, Montana.

While current-year estimates of traffic are not available for public viewing, total volume in 2009 for the two Nogales border crossings amounted to just under three million vehicles (an average of over 8,000 per day); more than ten times the 223,000 vehicles (~610 per day) reported in 1997 (U.S. General Accounting Office 1998, Levin 2010). This is in addition to the 4.2 million pedestrians that crossed into Nogales, Arizona in 2009, for a total estimate of 12.76 million people (a staggering average of almost 35,000 per day) (Levin 2010). Due to longer lines relating to the increased traffic, as well as increased security after the 9/11 terrorist attacks, two cable companies based out of Sonora have dedicated television channels to the monitoring of the border, letting travelers know when the lines are shortest (Ibarra 2010).

Regarding the Sonoran side of Ambos Nogales, the city has grown substantially over the past three decades, from just over 68,000 residents in 1980 to over 220,000 recorded in Mexico's 2010 Census. Cross-border water treatment facilities for Ambos Nogales, based in Arizona since

the 1940s, are planning infrastructural improvements to account for an *additional* uncounted 150,000 people that are estimated to have moved into the city during the first decade of the twenty-first century (Arreola and Curtis 1993, EPA Good Neighbor Environmental Board 2009, Instituto Nacional de Estadística Y Geografía 2011). Due to a combination of drug-related violence, transient populations, and general distrust of the government, populations in border communities proved highly difficult to accurately count during the most recent census (Licon 2010). Regardless of precise numbers, however, the increased population of Nogales, Sonora can be seen in both figures 3.1 and 3.2, as housing density has increased on the hills in the distance near the city's eastern boundary. The Mexican border city model created by Arreola and Curtis (1993) explains that these new homes are an example of a low income neighborhood formed on the urban periphery in recent times by migrants seeking work in the growing tourism or maquiladora industries. Many of these dwellings possess no visible electrical lines, and can only be accessed by steep, narrow, unmaintained paths.

The model created by Arreola and Curtis, as well as other models of Mexican border cities (see Gildersleeve 1978 and Hoffman 1983), also places the central business district adjacent to the primary international border crossing. Typically, and in an ever-increasing fashion since the Prohibition Era, this is a zone dominated by tourism from the northern side of the border. Americans enter the border cities for any number of reasons: authentic restaurants and bars, souvenirs, prostitution, cheap medical and dental care, and generally to experience what they perceive to be the stereotypical "Mexicoland" (Arreola and Curtis 1996). Recognizing the economic potential of these visitors, local, state, and federal governments within Mexico have catered to the demands of tourists in a number of ways. Alcohol laws remain lax, bull and cock fights are common, prostitution districts have been set up in some cities, and excepting

random inspections at the border, foreigners are allowed to enter the country as they wish, with passports and visas being checked only once a person reaches a highway checkpoint further into the interior of the country (Arreola and Curtis 1993).

Figure 3.2 reveals improvements to Nogales, Sonora made possible by the influx of tourist as well as NAFTA money. The buildings lining the international border now appear larger, palm trees beautify the landscape, figures 3.1 and 3.2 each reveal at least one new communications tower. Recent developments relating to the previously-mentioned drug violence, however, is changing everything and may require models of the Mexican border city to be revisited and revised. Though exact numbers are unavailable, the Mexican side of Ambos Nogales has experienced a drastic decrease in the number of tourists, despite increased security measures and assurances from the local government that Americans are not targets in the ongoing conflict. Instead of being the prosperous district it once was, Nogales, Sonora's downtown is now full of closed shops and restaurants, and struggling merchants. Discount medical and dental providers now personally escort American customers from the border to their clinics in order to ensure a stable clientele (Kocherga 2010, McCombs 2010).

The situation is similar in other Mexican border cities. Merchants in Tijuana, once referred to as "the most visited city in the world," reported a 90% drop in foreign customers between 2005 and 2008 (Marosi 2008). In Ciudad Juarez, where the number of murders reached a staggering 1,600 in 2008, tourism has "been pronounced dead" (Tessier 2008, Nortedur 2008). Soldiers from neighboring El Paso's Fort Bliss have even been ordered to stop crossing the border. At this time, the future of Mexico's border region is unstable and uncertain.

Meanwhile, 1,500 miles to the north, where U.S. 89 crosses from Montana into Alberta, Canada, the numbers and the scene are drastically different along what has been referred to as

the longest undefended border in the world. Officers present at the Port of Piegan Border Inspection Station estimate their yearly total of vehicles to be approximately 200,000 (~550 per day), and due to the remoteness of the location, there are no pedestrians at all. Long delays at the border are virtually unheard of, and the checkpoint operates only between the hours of 7:00am and 11:00pm.

Comparing figures 3.2 and 3.3, the differences in the two border landscapes are almost too many to list. Aside from the border checkpoint itself (see figure 3.4), the vicinity of U.S. 89's entrance into Canada as Alberta Route 2 has barely changed at all. Unlike the twelve to sixteen-foot high barriers of Nogales, the fences of the Montana-Alberta border appear to be, as also noted by the Vales, little more than cattle guards (though no cattle were visible at the time that photograph was taken). The atmosphere is so relaxed, in fact, that not all customs officials on either the American or Canadian side knew exactly where the international border was, or which country technically controlled the road depicted in figure 3.3. The dead-end gravel pathway begins between the two inspection stations and is flanked by fences on both sides. The fences also fulfill the 1908 and 1925 treaty requirements of maintaining a well-marked line across the entire 5,525 mile border between Canada and the United States (Smith 2010). The border is delineated by a wide clear-cut path in forested areas and by stone markers in locations above tree line by either elevation or latitude.



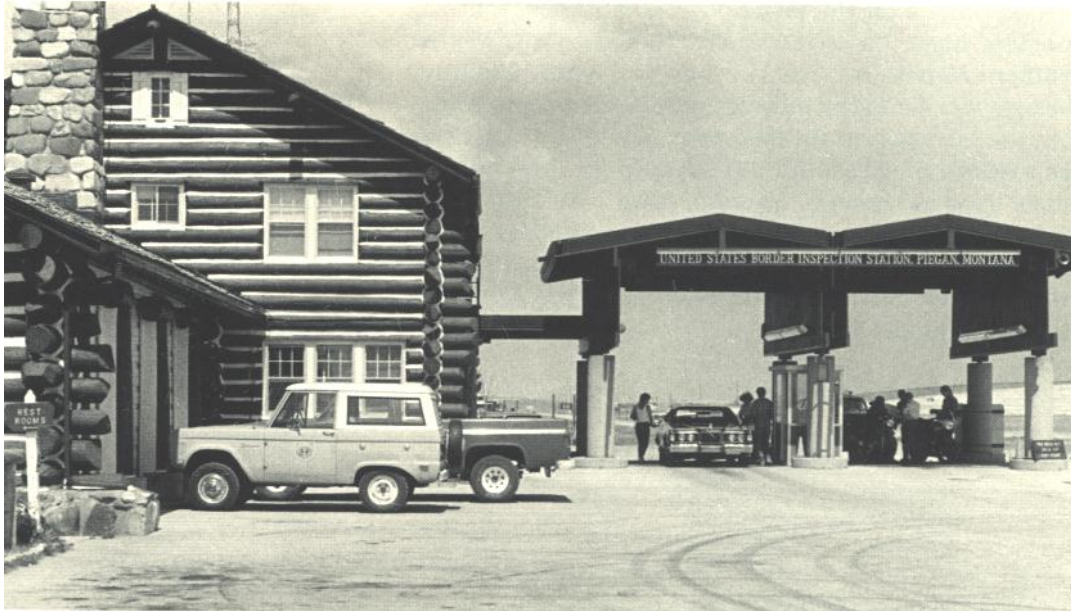
**Figure 3.3:** An unnamed, dead-end gravel road running west through short grass prairie along the international border adjacent to the Port of Piegan Inspection Station. The distant structures in both photographs belong to the United States Customs and Border Patrol. Canadian soil begins on the far side of the fence to the right. The Lewis Range of Waterton-Glacier International Peace Park rise in the distance.

**Date and time of rephotography:** 11:30am, Thursday, August 20, 2009.

This is not to say that security has not tightened at all in rural Montana since the 1980s. A short distance to the west, at Glacier National Park's Goat Haunt Ranger Station, an interpretive display depicting New York City against a backdrop of the Rocky Mountains has been erected to tell the story of what has happened since the September 11<sup>th</sup> terrorist attacks. The remote ranger station and its surroundings can either be reached through a multi-day hike from the nearest American road, or by a short passenger ferry ride from Waterton Village, Alberta. Prior to September 11, 2001, tourists traveling by ferry were free to disembark at Goat Haunt and hike around the area regardless of nationality. Today, and after a period of total closure of the entry "port," this right is granted only to citizens of the United States and Canada. As the interpretive display concludes, "the world's first international peace park was a less peaceful place as the hard realities of the world overshadowed the ideals of cooperation and collaboration shared here between nation friends."

Returning to U.S. 89, its Port of Piegan border inspection station has received extensive upgrades over the past decade, though not specifically due to the September 11<sup>th</sup> attacks. The rustic building depicted in the foreground of figure 3.4 served as the United States Border Patrol's offices from 1934 until the turn of the millennium. The Border Patrol deemed the structure obsolete during the 1990s and a far more modern facility was completed in 2000. Today, the original building serves as officer housing as part of a residential expansion undertaken to provide living space for new officers being brought in. This small cluster of houses that includes the old station (approximately four square blocks with no commercial services) is the only option for federal employees in the area, unless they wish to live in the numerous Blackfeet Nation towns to the south.





**Figure 3.4:** The Port of Piegan Border Inspection Station, Montana. The view is from the intersection of U.S. 89 and Chief Mountain Road, facing north. The new, blue-roofed inspection and customs building is visible in the distance. Taking photographs of ongoing vehicle inspections, as the Vales did during the early 1980s, is now strictly forbidden.

**Date and time of rephotography:** 6:30pm Monday, August 17, 2009.



Relations between the federal and tribal authorities have been tense over the past decade and a half. The border post resides on reservation land, and the Blackfeet have constructed their own welcome sign only a few hundred feet south of the location photographed in figure 3.4. Much of the new federal construction has been implemented against the wishes of the Blackfeet Nation who claim they have not been paid tribal taxes regarding construction on their land (*Missoula Independent* 1999). As recently as July of 2009, Blackfeet law enforcement officers shut down a minor construction project at the border and issued fines to the companies involved due to lack of proper tribal permits (*The Associated Press* 2009). Additionally, tribal law enforcement places blame on state and federal agencies for their reservation being used for cross-border drug trafficking, citing inadequate funding to properly combat the threat (Kidston 2007).

Relations between Native Americans and the federal and state government are also tense near where U.S. 89 crosses the Mexican border. As outlined by Kenneth Madsen (2006), the Tohono O'odham suffer from the division of their people between the United States, where a formal reservation exists, and Mexico, where one does not. Unlike the status granted to tribes along the Canadian border, such as the Cree, the Tohono O'odham do not possess dual citizenship. Traditionally considered by human and drug traffickers to be a weak point in American border defenses, the United States Customs and Border Protection agency increased its patrols and began construction on a triple layered fence at the reservation's southern edge in 2006. While the still uncompleted barrier surely acts as a deterrent to illegal crossings, it also divides the Tohono O'odham nation even further, as the majority of the tribe's members lack the money (or even the vehicles) necessary to make the long drives to official border crossings in San Luis, Sasabe, or Nogales in order to reach their friends and relatives in Mexico (Gross, 2006).

More recently, President Barack Obama ordered 1,200 soldiers to the Mexican border, with calls for more than three times that number by Republicans in Congress, to assist an already expanded Border Patrol force. Viewing these developments as a potential militarization of their lands, several Tohono O’odham activists staged a sit-in protest at the Border Patrol office in Tucson on May 21, 2010, aided by Mexican-American and Caucasian-American protesters who had also come to protest the passage of Arizona’s SB-1070, a bill which would allow law enforcement officers to check the legal status of any person who has committed a crime or infraction (Lemons 2010). Such contested relationships between Indian reservations and surrounding communities are a theme visible along many sections of U.S. Highway 89, and will be discussed in the following chapter.

Through only four sets of repeated photographs, the stark contrast between the Canadian and Mexican borderlands can be seen plainly. Ambos Nogales serves as a useful case study for trends occurring across the entire border between the United States and Mexico. From Brownsville and Matamoros in the east, to San Diego and Tijuana in the west, violence between competing drug cartels, as well as the battles occurring between said cartels and the Mexican military, have drastically impacted the human environment. Although international trade has drastically increased since the early 1980s as a result of NAFTA, American tourism to Mexican border cities has dropped to the point that geographic models of these places should probably be revisited. Security on the American side has increased to combat the ever growing drug and human trafficking problems, and the border violence over the past five years has led to a distrust of the increasing Mexican population of the American Southwest, leading to laws such as Arizona’s heavy-handed SB 1070. As Terrence Haverluck stated in 2003, “Anglo media still

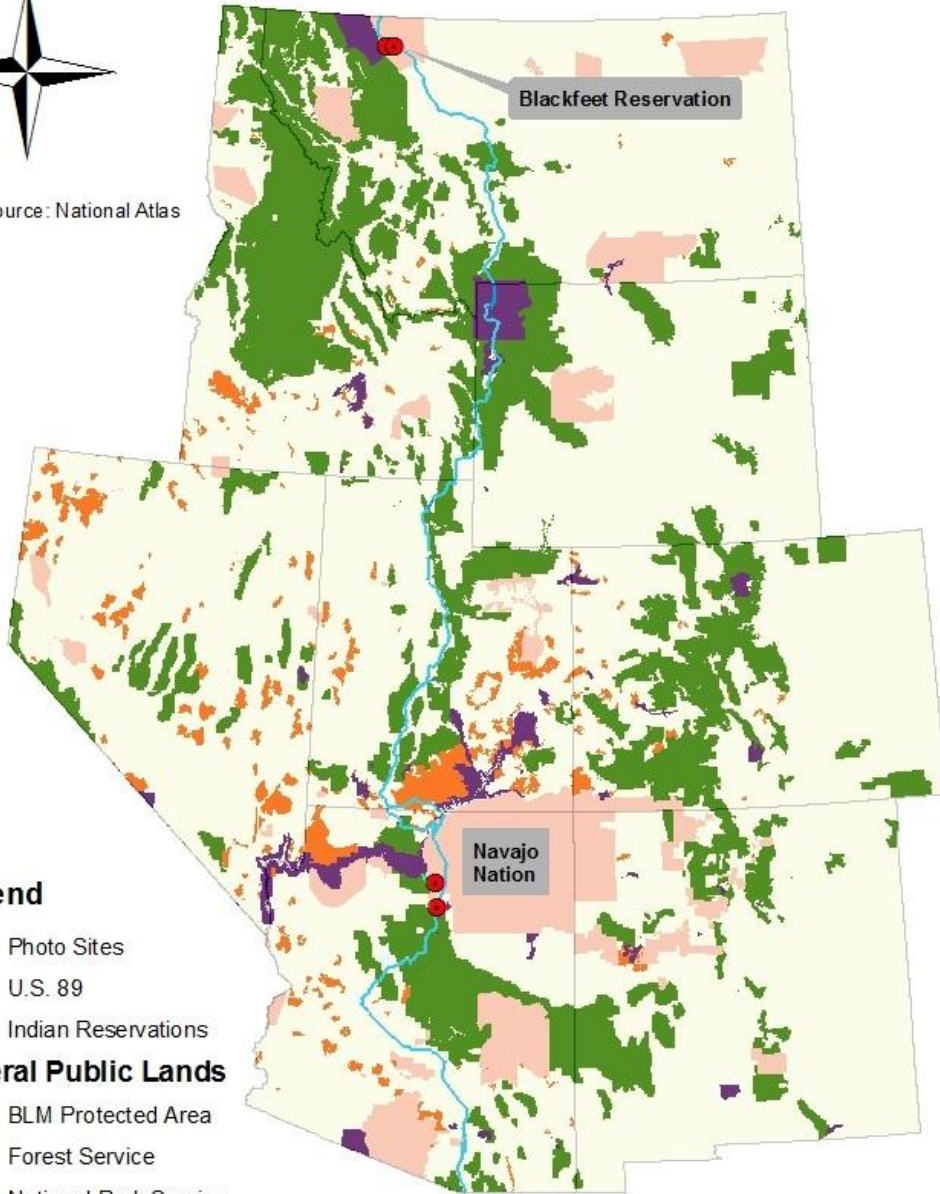
often portrays Hispanics as drug dealers, illegal immigrants, and criminals” (p. 181), and the recent border violence has only made things worse.

Far to the north, however, what has been touted as the “longest undefended border in the world” remains so today. Aside from a post-9/11 requirement that Canadians must now possess passports to enter the United States (and vice versa), and the construction of updated facilities to process said identification, very little has changed on the boundary between the two allied nations. What the two border landscapes do share in common, however, is the difficult dilemma between ensuring security and adhering to the rights and wishes of Native American tribes that happen to reside in those locations.

# Chapter 4: Native American Landscapes

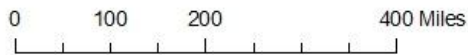


Data Source: National Atlas



### Legend

- Photo Sites
- U.S. 89
- Indian Reservations
- Federal Public Lands**
  - BLM Protected Area
  - Forest Service
  - National Park Service



Native American tribes, numbering over one million in population, directly control approximately 1/5 of the American West (Riebsame et al. 1997). U.S. Highway 89 passes through two major Indian Reservations: those of the Navajo in Arizona and of the Blackfeet in Montana. Together, these lands encompass more than 17 million acres and a population of over 200,000 people. Through an analysis of four photographic pairs on these two reservations, and their surrounding areas, this chapter will address important issues facing Native American populations in the modern era, including: the economic hardships faced by residents of many reservations, recent attempts to create a tourist industry through the use of casinos and attractions playing upon the “mystique” of what was once known as “Indian Country,” and conflicts between Native Americans and neighboring Caucasian communities over what were once considered to be important or even sacred tribal lands.

In Arizona, the highway, now designated as Arizona State Route 89, also passes within only a few city blocks of the Yavapai-Prescott Indian Reservation. This reservation, consisting of 1,395 acres and 159 tribal members is, with the exception of its two casinos, virtually indistinguishable from the surrounding suburban environment of Prescott and neighboring Prescott Valley which hold a combined population of approximately 80,000. The hotel and convention center, mentioned by the Vales to be under development in 1982, is now fully functional and accompanied by the Bucky’s and Yavapai Casinos, the Frontier Village Shopping Center, and a business park. As a result, the small tribe is able to boast as being one of the largest employers in the area with over 2,500 workers (Yavapai-Prescott Indian Tribe 2010).

Stories of Native American tribes achieving the same level of economic prosperity and success as neighboring communities can also be found in parts of the Northeastern United States. Examples include the Oneida Nation of New York and the Mohegan Nation of Connecticut. In

terms of the western United States, however, the Yavapai-Prescott are the exception rather than the rule. Although reservations of the West can be expansive, they generally consist of unproductive and largely worthless lands left unwanted by American settlers of the late-nineteenth century, and are also usually far removed from any significant centers of population. The research of Anderson and Parker (2008) also indicates that non-Native American investors and creditors tend to avoid reservations that do not cede judicial sovereignty to their respective states. Unemployment rates run high in the majority of these places, despite some jobs being created by the gambling and outdoor recreation tourism industries. Although the number of Native Americans leaving their reservations for major cities has increased over the latter half of the twentieth century, a significant number choose remain in their place of birth, or return to it later in life for any number of personal reasons (Reinhardt 2003).

For these reasons, it should be little surprise that if one includes Alaska and the Dakotas in the definition of the “American West,” twelve of the top twenty poorest counties (or county equivalents) in the United States lie within the region and consist of lands overwhelmingly dominated by Native American populations. Regarding the two expansive reservations crossed by U.S. 89, the Navajo Nation includes the poorest areas of all three states it lies within (Utah, Arizona, and New Mexico). Glacier County, Montana, home of the Blackfeet Nation, ranks 84<sup>th</sup> poorest out of the country’s 3,141 counties or county equivalents (Red Feather Development Group 2010). The Blackfeet Reservation, with a population of approximately 7,000 people, suffers from an unemployment rate of 70% (Coleman 2010). Immediately to the north, a close relative of the Blackfeet whose 6,000-7,000 members possess dual citizenship, the Blood Reserve of Alberta reports an unemployment rate as high as 80%. This Canadian statistic is a

staggering increase over the official estimate of 29% unemployment in 1996 (Magzul and Rojas 2005).

Figure 4.1 reveals a fairly typical landscape on the Blackfeet Reservation, though more hilly than other locations that could have been chosen. With fewer than 10,000 inhabitants residing on 1.5 million acres of land, it is not unusual to see a landscape completely bare of human habitation. Excepting a handful of small, clustered towns, the vast majority of the reservation is as open as the two images in figure 4.1 suggest. In fact, this photographic pair is one of the few in the entire set of 53 that actually reveals a loss of structures since the early 1980s. Unfortunately, no information is available regarding exactly what happened to the barn and adjacent sheds visible in the distance on the right hand side of the Vales' photo.

In a similar fashion to the disputes over the land surrounding the Port of Piegan Border Inspection Station, the boundary between the Blackfeet Reservation and Glacier National Park, drawn at the Rocky Mountain Front seen in figure 4.1, is a point of legal contention between tribal officials and the federal government. The Blackfeet nation sold what is now the eastern edge of the park to the federal government in 1896 for the purposes of mining exploration, but retained the right to hunt and fish on the land. The creation of Glacier National Park in 1910, however, led to the end of all native rights to the land. Although local Native Americans from the Blackfeet and other tribes have successfully sued to be exempt from park entrance fees, other historic land uses remain restricted.





**Figure 4.1:** U.S. 89 on the Blackfoot Indian Reservation between Browning and St. Mary, Montana. The view is facing west. As in figure 3.3, the Lewis Range of Glacier National Park rises in the distance.  
**Date and Time of Rephotography:** 5:30pm Monday, August 16, 2009.



Superintendents over the course of the last century have all agreed that hunting is not conducive toward the goals of their park, and their policies have been upheld by the United States Court of Appeals (*United States v. Peterson*) as recently as 1973. Fishing rights have remained more ambiguous over the years (Scholar 2004). When National Geographic author William Ellis (1976) passed through the Blackfoot Reservation shortly after the Court of Appeals' decision, he found extreme animosity among the residents. "I will tell you this," one Blackfoot native remarked, "We're going to get what belongs to us, and if that means taking it, then it will be taken" (p. 106). The conflict is nearing resolution today, as there have been discussions of circumventing the restrictions by reintroducing buffalo herds to Glacier National Park, which would in time need to be culled by native hunters. Parks Canada is investigating a similar option for Waterton Lakes and other national parks in the Rocky Mountains (Scholar 2004).

This is not to say that all interactions between the reservation and the outside world are or have been negative, however. In fact, the prominent summit on the left of the horizon in figure 4.1 is a symbol of peace between Native Americans and the larger Caucasian population of North America. Rising Wolf Mountain, the tallest peak in the vicinity of Glacier National Park's Two Medicine Lake, at an elevation of 9,513 feet, is named after a nineteenth century British Canadian fur trader who lived amongst the Piegan (or Piikani) tribe of the Blackfoot Nation for the majority of his life. As he was named by his wealthy parents in Quebec, Hugh Monroe (1798-1895) briefly served at the Hudson Bay Company's Mountain Fort along the Saskatchewan River (later Bow Fort, approximately forty miles west of what is now Calgary, Alberta) as an interpreter and diplomat to the then virtually unknown Piegan. By the age of twenty, Hugh had left the company's employment, been accepted into the tribe he served as

interpreter for, and adopted the name “Rising Wolf” after proving himself as a hunter, as well as warrior and peace negotiator dealing with the Crow to the south. He never returned home. After his death, Rising Wolf’s biographer, James Schultz, served as a local guide for a group of American surveyors who named a prominent peak along the Rocky Mountain Front after one of very few white men of the nineteenth century who established and maintained peaceful ties with the Blackfeet of what is now Alberta and Montana (Schultz 1919).

Today, as in the time of the Hudson Bay Company’s trading posts, interaction between the Blackfeet and outside visitors remains extremely important to the local economy. As was noted by the Vales in 1984, the Blackfeet villages of St. Mary and Babb maintain a small but steady tourist industry, providing travelers to Glacier National Park with food and lodging options. Also unchanged since 1984 is the general absence of Native American imagery in these gateway communities, excepting a few souvenir stores. Such themes are, however, present in the reservation’s capital of Browning. Immediately to the left of the photographer’s position in figure 4.1 is a billboard displaying a head-dressed Native American on horseback, accompanied by the text “Western Curios: Local Crafts, Souvenirs, Restrooms, Reasonable Prices. Browning, 8 Miles Ahead.”



**Figure 4.2:** Faight's Blackfeet Trading Post, Browning, Montana. The photograph is taken from across the street, in front of the local *Subway* sandwich shop.  
**Date and Time of Rephotography:** 4:30pm, Monday, August 16, 2009.

Faught's Blackfeet Trading Post, depicted in figure 4.2 and likely the store mentioned by the above-mentioned billboard, is an example of Browning's successful courting of tourists over the past several decades. The trading post has been in operation for over fifty years, and had amassed enough wealth by the year 2000 that a new store could be constructed, twice the size of the one visited by Thomas and Geraldine Vale. Caucasian owned, the store acts as a source of employment for the native population of the city, provides name-brand items of clothing for the reservation, and dedicates its entire "gift shop" section to goods made by Native American residents of Montana (Browning Area Chamber of Commerce 2004, Elliott 2010). The positioning of the store at the intersection of U.S. Routes 2 and 89 undoubtedly helps business at what is advertised as the "last stoplight heading west," though Native American artwork is used to draw tourists to the store as well (Browning Area Chamber of Commerce 2004). In addition to the patterns drawn on the façade facing the camera, the western wall of the trading post holds a large and perplexing mural depicting Arizona's Monument Valley (generally associated with the Navajo) in the background and a wooded pond landscape in the foreground.

Other attractions in Browning include the Museum of the Plains Indian and the Glacier Peaks Casino. The Museum of the Plains Indian, an organization funded by the Department of Interior's Indian Arts and Crafts Board, not only displays historic artwork and clothing of all of the tribes of the northern Great Plains, but also periodically hosts exhibitions where local Native American artists can sell their creations and attempt to make a regional or even national name for themselves. Glacier Peaks Casino is the last attraction visitors will pass by as they drive out of Browning along U.S. 89 toward Glacier National Park and the Canadian border. Games offered include slots, bingo, and various forms of poker.

Under Montana state law, all profits made by the Glacier Peaks Casino (and any other gaming establishments built on the Blackfeet Reservation) can only be used to “fund tribal government operations and programs; provide for the general welfare of the Tribe and its members; promote tribal economic development; donate to charitable organizations; or help fund operations of local government agencies.” The Reservation also retains the right to make per capita payments of casino profits to tribal members, provided the state government is notified of this change of policy (Blackfeet Tribal Business Council 1997, 1). Similar payments (\$200 per capita as of December 2009) are, however, already made to tribal members as a result of taxes received from oil drilling on reservation land (Blackfeet Tribal Business Council 2009). Since 1985, Indian casinos in Montana have needed to compete with partial legalization of the activity across the entire state. With the maximum payouts in non-Indian casinos/bars limited to \$800, and the state legislature’s 2003 defeat of a proposal to bring Las Vegas-style casinos to Butte, however, reservations will continue to dominate Montana’s gaming industry for the foreseeable future (Montana Department of Justice 2010).

Non-tourist industries have also grown in the Browning area in recent years and have helped to at least partially offset the reservation’s staggeringly high unemployment rate. For example, Pikuni Industries, a native Blackfeet establishment, is known for providing fencing, cattle guards, and building construction material to rural farmers and ranchers. Under the Bush and Obama administrations, this small business has received a number of multi-million dollar grants from the federal government to team up with Alabama’s Radiance Technologies, Inc., to construct a new factory on reservation land and produce lightweight materials for military use. Hundreds of new workers have been, or will soon be employed by the expansion, which will produce parts for a diverse range of equipment including aircraft, Humvees, and even missiles.

In what is perhaps a textbook example of economic “insourcing” of jobs to areas of domestic poverty, the federal government awarded these contracts to the Blackfeet as a result of Pikuni Industries’ status as a “small, disadvantaged business” (*Associated Press 2007*, Montana Associated Technology Roundtables 2009).

Exiting the Blackfeet Reservation, it is more than one thousand miles to the south that U.S. 89 next crosses Native American lands. Between the cities of Flagstaff and Page, Arizona, the road skirts the western edge of the Navajo Nation, the world’s largest Indian Reservation, passing through a handful of small towns. Visitors who do not stray off the highway are unable to get a sense for the quarter of a million people living on the reservation which, at 27,000 square miles, is larger than ten eastern states.

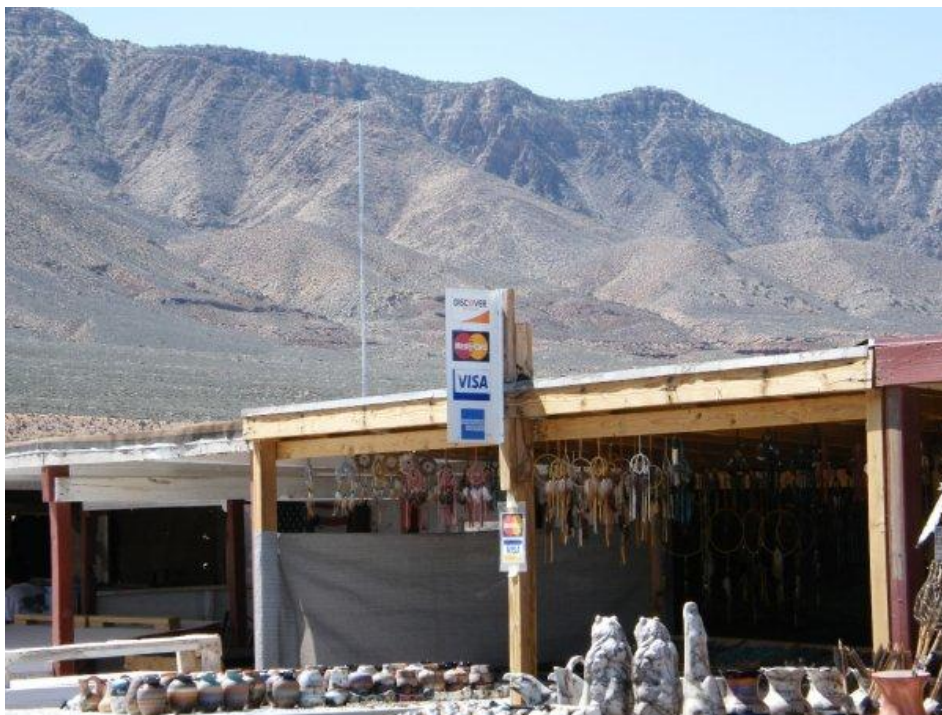
All three named places along U.S. 89 on the reservation; Bitter Springs, The Gap, and Cameron, have populations of fewer than 1,000 people, and in terms of housing and infrastructure, all three consist of little more than scattered homes connected by poorly maintained dirt roads. A public school can be spotted in Bitter Springs, consisting entirely of decaying trailers, and giving a visual suggestion of why the Navajo high school graduation rate is under 50% (Griffin-Pierce 2000). There is more promise for prosperity in Cameron and The Gap, which have both managed to at least partially capitalize on their proximity to the major tourist attractions of Grand Canyon National Park and Glen Canyon National Recreation Area (Lake Powell), much in the same way that Browning has taken advantage of its proximity to Glacier National Park. The rustic-looking Gap Trading Post, approximately fifteen miles south of the intersection of U.S. 89 and 89A, provides visitors with a variety of grocery and souvenir options on what is otherwise a desolate stretch of highway. In Cameron, at the intersection of U.S. 89 and Arizona Highway 64 (the eastern entrance to the Grand Canyon), the attractions are more

elaborate. The Cameron Trading Post dates to 1911, when Hubert and C.D. Richardson established a small business with the successful intent of trading with the local Navajo people (Cameron Trading Post 2005). Today, the establishment consists of a hotel, restaurant, gas station, gift shop, and Native American art gallery.

A particularly common sight along all major roads passing through the Navajo Nation is that of the roadside stand. At these places, local people sell homemade items to tourists in the form of one of the few haggling systems left in the United States. Where possible, and in order to maximize the number of potential customers, these stands are positioned strategically around tourist attractions. Examples include the Four Corners Tribal Park, the Navajo Bridge across the Colorado River along U.S. 89A, and, as is the case of the market depicted in figure 4.3, the canyon of the Little Colorado River. Often, major market centers also require entry fees to be paid by visitors, though the entrance booths are not always manned.

Figure 4.3 reveals the largest collection of roadside vendors on the western edge of the Navajo Nation. Although not evident in this photographic pair, this marketplace along Arizona State Highway 64, and others throughout the Navajo Nation, grew substantially during the late 1980s. Previously, a large number of Navajo had traveled to the famous Indian Market of Santa Fe to informally sell their wares. In 1985, however, conflict between the Navajo salespeople and licensed local vendors led to the city's banning of unlicensed peddlers. The displaced merchants generally took their wares and established new booths next to friends and relatives on the reservation, at major roadside markets such as the one depicted in figure 4.3 (Indermill 1990).





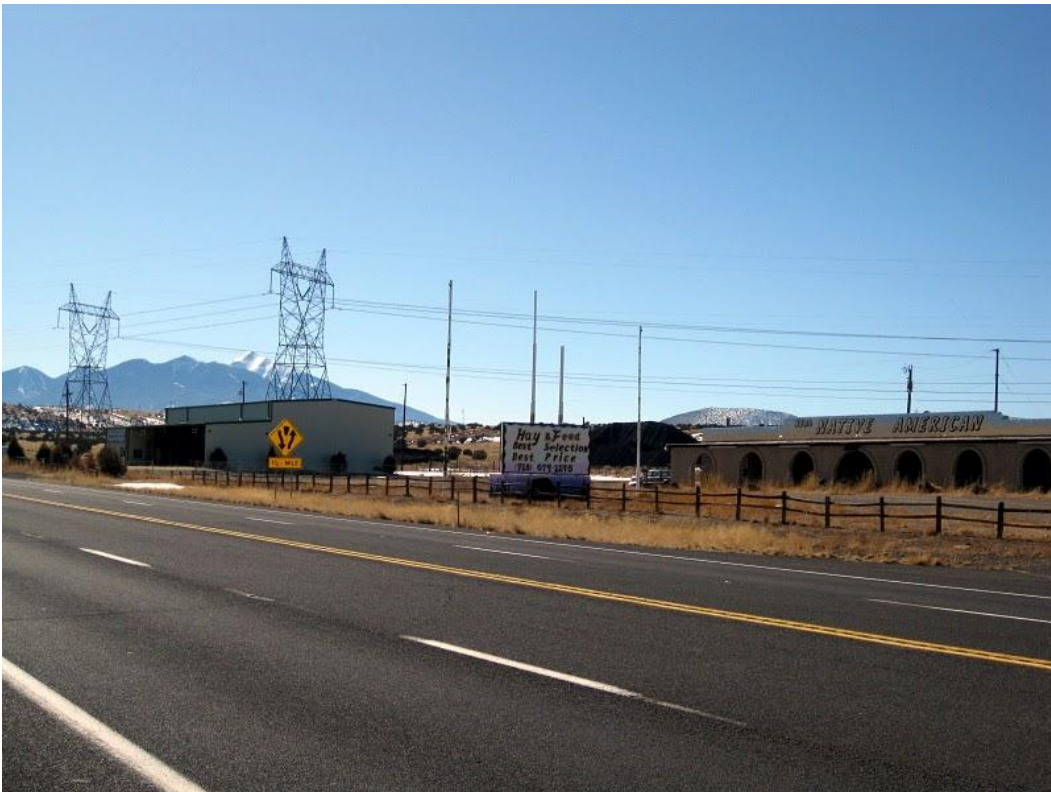
**Figure 4.3:** A popular trading post along Arizona State Highway 64, between the Cameron Trading Post and Grand Canyon National Park. Visitors must walk through this market in order to reach a particularly remarkable overlook of the canyon of the Little Colorado River.

**Date and time of rephotography:** 10:00am, Sunday, April 12, 2009.



Another major change is evident between the two photographs. In place of the Arizona state flag, a sign now reveals that credit cards are accepted by the merchant. In fact, many of the stands at this location accept credit cards. Though credit cards were less ubiquitous during the early 1980s when the Vales visited this location, a 2008 survey revealed that 82% of Americans consider them to be essential to everyday life (Prater 2008). There has also been a shift of ownership in the stall shown in the photographs. While this is to be expected over a span of almost three decades, the reasons behind the change reveal that, although roadside market stands are generally part of the informal economy and left unregulated, the Navajo Nation places great emphasis upon the authenticity of goods sold. According to the bemused women currently in possession of the stand in the center of figure 4.3, the owner of the shop photographed by the Vales was put out of business by tribal authorities in the early 1990s for selling tapestries produced in Mexico and advertising them as Navajo-made.

Though many other roadside stands appeared deserted during the course of my fieldwork in April of 2009, and later in January of 2010, such informal marketplaces reportedly account for a \$6 million industry, or approximately .5% of all revenues made on the reservation in any given year (Fonseca 2009). The informal economy jobs they create help to at least partially ameliorate the Navajo Nation's over 40% unemployment, and reach their apex of business in the summer of each year. Due to the generally steady flow of tourists through the area even in times of economic hardship, the roadside stands also, along with the fact that residents generally lack any ability to invest in the larger national or global market, help the Navajo Nation stave off the effects of the recent nationwide recession (Davidson 2009, Fonseca 2009).



**Figure 4.4:** A Native American-themed business, owned by the Antelope Hills Hay Company, between Cameron and Flagstaff along U.S. 89. The San Francisco Peaks rise in the distance to the southwest. In both images, the transmission lines bring electricity from the Navajo Power Station in Page, past Flagstaff, to the greater Phoenix area (United States Securities Exchange Commission 2010).

**Date and time of rephotography:** 1:00pm, Monday, January 11, 2010.

Roadside stands and other tourist-oriented businesses within the Navajo Nation are likely aided by the fact that Native Americans, and particularly those of the iconic Colorado Plateau, have been idealized as a quintessential part of the American West since the writings of Zane Grey and others during the early twentieth century (Blake 1995). Drawing upon this image, signs reading “Friendly Indians Ahead!” appear on the road shortly before some roadside markets. Establishments just beyond the border of the reservation also make use of this imagery in an attempt to draw customers. Figure 4.4 reveals an example of this. Though located within the boundaries of Coconino National Forest, rather than the Navajo Reservation, the site nonetheless served as an American Indian trading post (“Gem City”) during the early 1980s. Around the turn of the millennium, the Antelope Hills Hay Company, a Caucasian owned business with partnerships in the Phoenix metropolitan area, came into possession of the property. The new proprietors have, however, allowed the words “The Native American” to remain on the largest, now vacant, building on the premises.

Other businesses in the region pay homage to now-extinct prehistoric tribes of native peoples in order to raise tourist interest in their establishments. Directly behind the photographer in figure 4.4 stands another Caucasian-owned business: the Sinagua Trading Post. The trading post, which serves primarily as a general store with some additional tourist-related items, owes its name to one particular tribe that bore witness to the eruption of Sunset Crater over 900 years ago. In Grey Mountain, an unincorporated village to the north of the Sinagua Trading Post, but still not on reservation land, the Anasazi Inn<sup>8</sup> beckons to travelers using the name of an Ancient Puebloan culture that is rooted in western mythology. A link on the inn’s website

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<sup>8</sup> The name “Anasazi” roughly translates in the Navajo language to “Ancient Enemies,” and is not an accurate label to place upon the Native American group that occupied much northern Arizona over five hundred years ago (Vess 2000). However, the term “Anasazi” is deeply ingrained in American culture and is likely far more lucrative in marketing than using the phrase “Ancient Puebloan” or the Hopi word “Hisatsinom” (People of Long Ago).

([www.anasaziinn.com](http://www.anasaziinn.com)), however, indicates that its owners are affiliated with the very non-western themed Hawk's Nest Resort in the Bahamas.

The recent (2008) widening of U.S. 89 from two to four lanes between Flagstaff and the junction of U.S. 160, approximately fifteen miles north of Cameron, indicates that all businesses in the area, Caucasian and Navajo, are experiencing the benefits of increased vehicular traffic throughout the area. Over the past thirty years, the population of Flagstaff has nearly doubled from approximately 34,000 in 1980, to over 61,000 today. Its metropolitan statistical area, encompassing all of Coconino County (and therefore several Navajo towns and cities), has meanwhile grown from just under 80,000 to nearly 140,000 (U.S. Census Bureau 2011). By 2008, the Arizona Department of Transportation (ADOT) reported daily vehicle traffic as high as 25,000 immediately to the northeast of Flagstaff along U.S. 89 (ADOT 2008). Additionally, visitation to the Grand Canyon's south rim has drastically increased over the 1980 statistics. Although improved bus and train access has allowed visitors to increasingly explore the park by other means, South Rim entrance stations recorded over 2.2 million personal vehicles in 2004, compared to only 1.54 million in 1980 (National Park Service 2005). At the same time U.S. 89 was being widened to accommodate this additional traffic, ADOT also constructed new passing lanes along Arizona State Highway 64 between Cameron and the South Rim's east entrance station (City of Flagstaff 2008).

Although growth in population and tourist traffic are unquestionably positive developments for Navajo businesses along U.S. 89 and AZ 64, a significant negative impact in the eyes of the Navajo and other nearby tribes, has been the continued encroachment of wider American culture upon their sacred mountains. As outlined by Kevin Blake (2001), the volcanic San Francisco Peaks overlooking the City of Flagstaff (and visible in figure 4.4), have perhaps

suffered the most of all Navajo sacred sites. Receiving its officially designated name from Spanish explorers and missionaries during the earliest days of colonization, the volcanic massif is known as “Dook'o'ooslild,” or “Never Thaws on Top” by the Navajo. The vendors I spoke with at the trading post along Arizona State Highway 64, depicted in figure 4.3, simply referred to it as “Sacred Mountain.”

Due to their proximity to moderately sized population centers, the San Francisco Peaks have been plagued by development since the early twentieth century. Mining in the vicinity of the mountains ended shortly before the turn of the millennium, as a result of political campaigns by Native American groups and environmental activists alike, though other land uses remain in force. The two highest summits of the range are also the highest points within the State of Arizona: Humphreys Peak (12,637 feet above sea level) and Agassiz Peak (12,356 feet above sea level). A network of well-maintained trails allows thousands of hikers to access the summit of Humphreys Peak each year. The Highpointers Club (est. 1987), an organization whose members aspire to reach the highest elevation in all fifty states, held a convention in Flagstaff in September of 2008 that resulted in more than 100 hikers climbing Humphreys Peak over a three day period. Once entering Coconino National Forest’s Kachina Wilderness Area, however, all highpointers were required to hike with a club-provided guide in order to ensure that none attempted to ascent nearby Agassiz Peak, which would add only a two-mile round trip ridgeline traverse to the journey. Despite its accessibility, such recreational ascents of Agassiz Peak are extremely offensive to the Navajo who, like Native Americans in Wyoming witnessing outsiders climb Devil’s Tower, view these activities as sacrilegious.

In order to protect the endangered species *Senecio franciscanus* (San Francisco Peaks Groundsel; an alpine relative to the sunflower), Coconino National Forest closed Agassiz Peak to

hiking in 1984. Winter ascents are still allowed with appropriate permits if more than a foot of snow is present on the ground (Cross 2010). Although not the primary reason for the closure of the Agassiz summit to ordinary hiker traffic, these restrictions serve to protect archaeological and ceremonial sites on the mountain's upper reaches. To the Navajo, however, the entire mountain is sacred rather than simply the summit (Blake 2001). Therefore, the Arizona Snowbowl resort, which has operated ski lifts and trails on Agassiz' southwest face since the late 1930s, has always been viewed with disfavor by the Native American tribe.

Over the past ten years, the war of words over appropriate land uses on Agassiz Peak reached a critical stage. An intense legal battle has raged over the resort's plans to not only deforest more of the mountain by adding two new ski lifts and over a dozen new trails, but also begin making snow on the mountain using reclaimed wastewater from the City of Flagstaff (Arizona Snowbowl 2010). In their lawsuit against the Snowbowl Resort and Coconino National Forest, which retains actual ownership of the land, the Navajo and other Native American tribes from Northern Arizona claimed their religious freedoms were being violated by having to stand back and watch as snowmakers spread human excrement all over a sacred mountain (*Fox 11* 2009). The federal 9<sup>th</sup> Circuit Court of Appeals ruled in favor of the developments on the mountain in 2008, stating that no religious freedoms would be violated. When the United States Supreme Court refused to hear the case a year later, the Navajo, Hopi, and others began appealing directly to the public through local community and city council meetings. Although public opinion amongst non-Native populations remains in favor of expansion and snow making on the flanks of Agassiz Peak, as the Snowbowl is occasionally only able to open for one to two weeks per year due to a lack of natural snow, one compromise currently being suggested by all sides is for clean, uncontaminated drinking water to be used instead of untreated wastewater

(Cole and Ferguson 2010). Doing so, however, would cost significantly more money and call into question the sustainability of Flagstaff's water resources.

Other Navajo sacred mountains are also climbed on a regular basis with repercussions largely unknown to the Caucasian world. Shiprock, for example, could no longer be used as a location for ceremonies to honor young warriors after a Sierra Club expedition first climbed it in 1939. Local displeasure regarding anyone climbing that peak today often comes in the form of vandalism to the mountaineer's vehicle. By climbing high summits and angering the spirits that reside there, the Navajo believe that the Western World will bring destruction upon itself in the same way that they believe the Anasazi did hundreds of years earlier (Griffin-Pierce 2000).

There can be no question that poverty is the norm on Native American reservations throughout the western half of North America. There are, however, signs of hope evident on both the Blackfeet and Navajo Reservations. In Arizona, the revenue generated by roadside stands and an aggressive (if loosely coordinated) strategy of marketing the Native American "mystique" of the Southwest have allowed the Navajo Nation to at least partially stave off the effects of the recent economic recession. An increasing number of non-Native American visitors and residents in the area, however, have also had the negative effect of increased encroachment and outright "defilement" of traditional sacred mountains.

The overt imagery used by the Navajo and their neighbors to draw in tourists stands in contrast to the Blackfeet Reservation in Montana. Aside from the attractions of the reservation's capital of Browning, there is a near total lack of advertisement that a motorist on U.S. 2 or 89 is passing through tribal lands. Nevertheless, a combination of tourist-oriented gambling enterprises and lucrative military construction contracts in Browning itself are providing the local Blackfeet population with an increasing number of jobs as the twenty-first century enters its

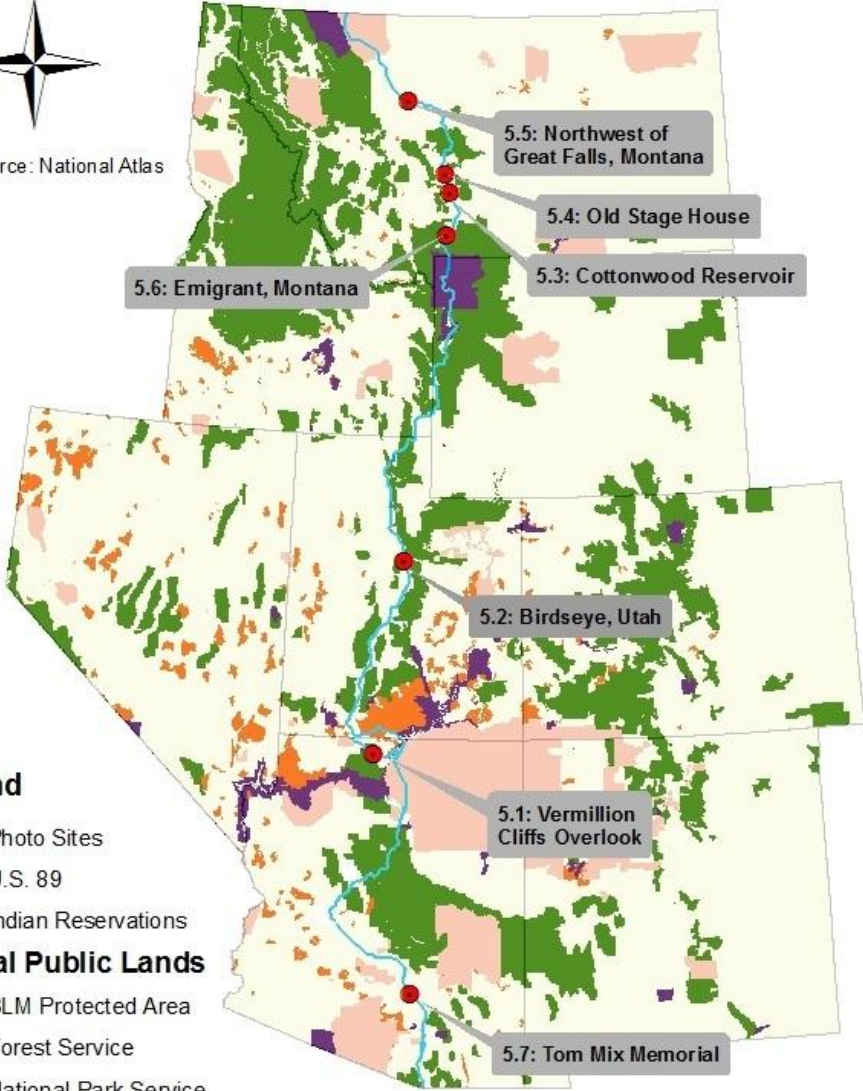
second decade. Negotiations with the National Park Service and Parks Canada may also soon allow local Native Americans to regain some of their lost heritage through the hunting of buffalo herds in the Waterton-Glacier International Peace Park, which may in itself attract more curious tourists to the small towns along the park's eastern edge. Just as it will be important to revisit border landscapes in a few decades in order to see how current political crises will play out in the long term, it will be equally useful to follow how much benefit the Navajo and Blackfeet reservations gain from these small yet beneficial industries over the coming years, as well as to see how (or if) compromises are eventually reached in regards to land use conflicts between Native Americans and the larger American population.



# Chapter 5: Rural Landscapes



Data Source: National Atlas



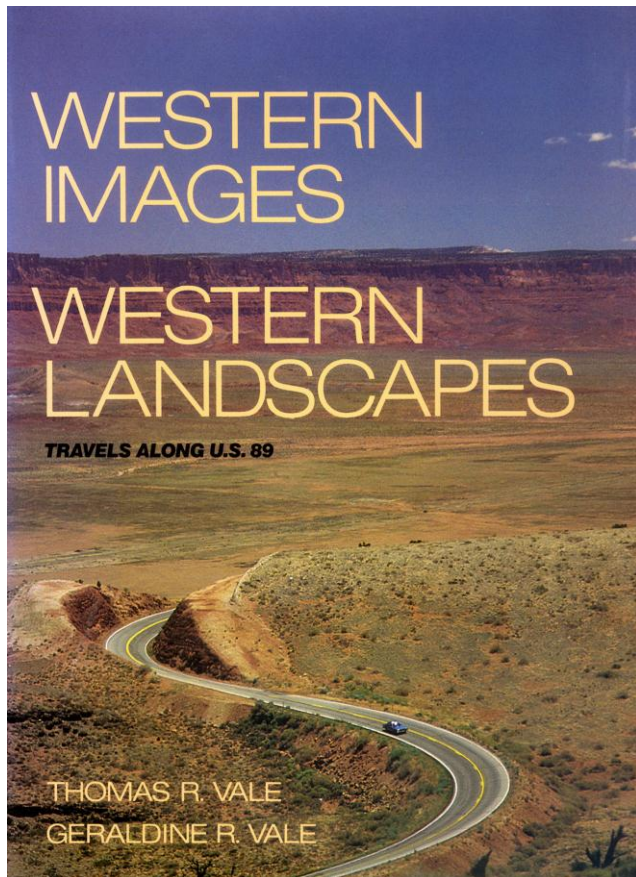
### Legend

- Photo Sites
- U.S. 89
- Indian Reservations
- Federal Public Lands**
- BLM Protected Area
- Forest Service
- National Park Service

0 100 200 400 Miles

Of the eight photographic pairs depicted in the two preceding chapters, five depict landscapes that could be considered both remote and rural. This is unsurprising given the nature of the study area. Excepting coastal California, considered by many to be outside of the region entirely (Hausladen 2003), the American West is generally a place vacant of human habitation. As outlined by Riebsame et al. (1997) and Paul Starrs (2003), populations west of the 100<sup>th</sup> meridian are largely centered in urban pockets, while the countryside is dominated by an overlapping network of public lands and private ranching enterprises. In fact, the average population density for the five states analyzed in this study is just under 22 persons per square mile; far below the national average of eighty-seven (U.S. Census Bureau 2011).

It would not be inconceivable that a selection fifty-three random photographic sites in the American West would reveal little human habitation or change over the course of the past thirty years. The focus on a major U.S. highway results in frequent evidence of landscape change, yet more than twenty of the photographic sets analyzed in this dissertation are located in areas that could be considered both rural and remote. Chapters Five, Six, and Seven examine these images thematically. This chapter analyzes rural landscapes that lack significant connections to tourism or resource extraction industries. Themes include the repopulation and reintroduction of endangered species into the wild, the encroachment of development (real or perceived) upon traditional ranchland, and the memorializing of place after tragedy. Discussion here begins with a photographic pair adjacent to the Navajo lands of chapter four, then proceeds north through Utah to the prairie landscapes of Montana, before returning to Arizona to detail a small, isolated roadside memorial that will lead into the discussions of parks and protected areas in Chapter Six. Chapter Seven will then complete the set of rural locations with an investigation into the development of natural resources in the West.



**Figure 5.1:** A rephotography of the cover image of the Vales' book. The original photograph, credited to James Tallon, reveals a section of U.S. 89A in Northern Arizona near the Vermilion Cliffs. The view is facing east. At an elevation of approximately 6,000 feet, snow is not uncommon here in January.

**Date and Time of Rephotography:** 3:45pm, Monday, January 11, 2010.

The above photographic pair is the only set of images in this dissertation in which the original was not taken by Thomas or Geraldine Vale. It is included here, however, due to its significance as the cover image of their book. The view is of a remote section of U.S. Highway 89A, known as the “Vermilion Cliffs Scenic Road,” in the Arizona Strip (the northwestern section of Arizona isolated from the remainder of the state by the Grand Canyon). The tourist traffic along this road is primarily focused on reaching the North Rim of the Grand Canyon during the summer months. With this photograph, and although U.S. 89 passes through many

highly urban areas between Canada and Mexico, the book's cover clearly asserts the image of the West as a beautiful, yet empty place (Riebsame et al. 2007).

Little visible change has occurred here since the mid-1980s. The scenic viewing area evidently used by James Tallon to take his photograph is now closed, replaced with a larger one approximately ½ mile away, just to the right of the area shown in the photographs. In the distance, as of a presidential proclamation on November 9, 2000, the Vermilion Cliffs have been designated as a nearly 300,000-acre national monument under the stewardship of the Bureau of Land Management. According to official BLM statistics, annual visitation to the monument approximates 60,000, and the vast majority of visitor contacts occur on the north side of the monument in the vicinity of Paria Canyon (Bureau of Land Management 2009). The canyon, world famous for its colorfully banded, smooth rock formations has, along with the Vermilion Cliffs themselves, been designated a wilderness area.

The creation of the national monument has, however, barely affected the landscape along U.S. 89A. Aside from a condor viewing area along House Rock Road, immediately to the north of the photographed area in figure 5.1, there are no park facilities of any kind along the monument's southern border. No regularly maintained road connects U.S. 89A with the ranger contact station, campground, and trailheads in the vicinity of Paria Canyon twenty-five miles away. Additionally, the number of visitors who explore the Vermilion Cliffs is dwarfed by the roughly 300,000 tourists who visit the North Rim of the Grand Canyon annually (National Park Service 2005). Therefore, most of the lodges and convenience stores in the tiny nearby communities of Marble Canyon, Vermilion Cliffs, Cliff Dwellers, and Jacob Lake have barely noticed the slight increase in visitation to the area and still operate largely on a seasonal basis relating to visitors' ability to access the Grand Canyon's North Rim.

Although its visitation is not great, the condor viewing station at Vermilion Cliffs is worth noting as a symbol of a major change in the Southwest. California condors are the largest birds native to North America, with wingspans of up to nearly ten feet. They are also one of the most endangered. Once populating much of the southern United States and Mexico, the worldwide population of these birds dwindled to only 22 by the 1980s, all of which could be found in California. In 1987, the U.S. Fish and Wildlife Service, in conjunction with the Los Angeles Zoo and San Diego Wildlife Park, made the difficult decision to capture all remaining birds in the wild and repopulate the species. The effort has proven a remarkable success. By July 2009, the worldwide population of California condors had surpassed 350, roughly half of which are made up of re-introduced wild populations in California, Northern Arizona, and Mexico's Baja California (Arizona Game and Fish Department 2009).

In Northern Arizona, over seventy of the birds can be found nesting in caves at the Grand Canyon and the Vermilion Cliffs, eight of which have been born in the wild (National Park Service 2009). Periodic releasing of captive birds into the wild, whose human contact beforehand had been limited as much as possible, began at the Vermilion Cliffs in 1996, and is now a tourist attraction. Biologists station themselves at the viewing shelters along House Rock Road to answer any questions from visitors, who themselves provide a temporary boost to the small number of businesses along U.S. 89A such as the Vermilion Cliffs Lodge (Dungan 2009). All birds released are marked and carefully followed, and any unusual behavior such as visible sickness or egg abandonment is extensively investigated to ensure the future survival of the species (Feltes 2010).





**Figure 5.2:** This view depicts U.S. 89 immediately to the north of Birdseye, Utah. The view is facing north, toward the former town of Thistle and the Wasatch Mountains. The tallest mountain in the distance is Uinta National Forest's Spanish Fork Peak, at 10,192 feet above sea level. Although the open range sign has disappeared, this is still, by all indications, open rangeland.  
**Date and time of rephotography:** 2:00pm, Monday, August 3, 2009.

When they passed through the area in the late spring of 1983, Thomas and Geraldine Vale found it impossible to travel the section of U.S. 89 between Birdseye and Spanish Fork, Utah. Heavy rains and spring snowmelt had inundated much of Utah and northern Arizona. As will be shown in figure 6.13, this resulted in the near-loss of the Glen Canyon Dam. Another significant impact of the high amount of moisture, as briefly outlined in chapter one, proved to be a landslide that caused the Spanish Fork River to flood the former town of Thistle to a depth of approximately 120 feet. In the aftermath of the costliest (in economic terms) landslide in American history, and Utah's first presidential disaster declaration, U.S. Highways 6 and 89, as well as the major railway between Denver and Salt Lake City, shut down for several months while the Army Corps of Engineers constructed diversion tunnels to drain the new lake. The town of Thistle never rebuilt, and the federal government rerouted U.S. 89 to slightly higher ground, where passing motorists can still observe the ruins (Sumsion 1984, Milligan 2005, Utah Department of Public Safety 2010). As the detour sign in the 1983 photograph explains, the Vales and other travelers reaching this point in the road needed to backtrack to the town of Mount Pleasant, and instead use a combination of Utah State Highway 132 and Interstate 15 to reach Salt Lake City; adding seventy miles and over an hour to the trip.

Thistle today is mostly forgotten, and the average motorist will likely not understand the meaning behind the partially submerged and destroyed buildings along the side of the road unless they stop at a viewing area along U.S. 6/89 to the north of the former town site. While certainly a noteworthy location to photograph immediately following the landslide, the location of the 1983 detour sign is, today, little more than an average rural landscape just to the south of the Wasatch Mountain Range. Behind the photographer's position is a sparse collection of homes

that makes up the unincorporated town of Birdseye. The nearest incorporated communities, Fairview to the south and Spanish Fork to the north, are both more than twenty miles away.

One noteworthy business in the area is the Birdseye RTC Boy's Ranch, constructed in 1989 by state licensed, Spanish-Fork based Heritage Youth Services for the purpose of using a combination of therapy, education, and outdoor activities to help "adolescent boys overcome sexual behavioral problems" (Heritage Youth Services 2009, 1). The Silverado Boys Ranch, a similar entity specializing in the treatment of substance abuse, also exists along U.S. 89 in the vicinity of Bryce Canyon National Park. Although not run by the Church of Latter-Day Saints, this style of rehabilitation clinic is tied to the history of Mormonism in Utah. As early as the late 1860s, church leaders and "Mutual Improvement Associations" established a series of gender-specific wilderness camps that focused on sporting and recreational activities in the mountains. Here, they believed adolescents would be removed from the destructive temptations of urban lifestyles and learn to become moral, functioning members of society.

Additionally, as Mormons believe the physical body is kept after death ("the body as temple"), maintaining a level of fitness has always been important to many in Utah. Aside from the restorative outdoor clinics along U.S. 89 and elsewhere in the state, other modern manifestations of this belief system can be seen in a higher-than-average number of Utah youths enrolling in scouting organizations, and the hosting of the 2002 Olympic Games in Salt Lake City (Skidmore 1941, Kimball 2003). Other significant impacts of Mormonism upon the landscape of Utah, of which church membership makes up approximately 60% of the population (*Deseret News* 2008), will be discussed in the chapters that follow.

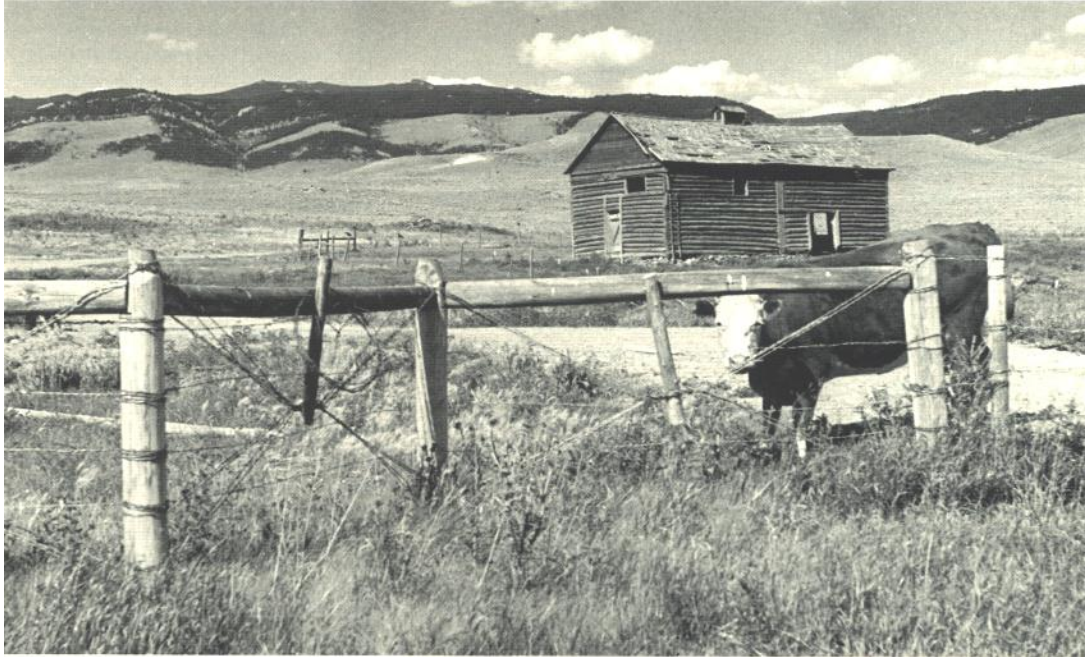




**Figure 5.3:** U.S. 89 between Wilsall and Ringling, Montana, facing southeast. The Bridger and Bangtail (right), as well as the Absaroka (left) mountain ranges are visible in the distance, though are obscured by haze in the 2009 image. Cottonwood Reservoir is also visible in both images at the center right. **Date and Time of Rephotography:** 3:30pm, Sunday, August 12, 2009.

Similar to figures 5.1 and 5.2, figure 5.3 portrays another fairly typical rural landscape with little visible change over the last thirty years. After leaving Yellowstone National Park in the south, and with the exceptions of the Little Belt Mountains (figure 7.4) and the periphery of Glacier National Park (figure 4.1), U.S. 89 traverses the western edge of the Great Plains for the majority of its passage through Montana. Here, in a state with a population density of approximately six persons per square mile (U.S. Census Bureau 2011), and only two metropolitan areas (Billings and Missoula) with more than 100,000 residents, human habitation is sparse and change is an anomaly. Very little, for example, has changed between the images depicted in figure 5.3. Even the amount of water in Cottonwood Reservoir, mentioned nowhere in any travel literature except as a particularly windy spot to bird watch, appeared to be the same in 2009 as it was in 1984. The recently constructed road at center left of the 2009 image appears to lead to the single-runway, unmanned Wilsall airport, which itself is made up of little more than a mowed patch of grass. The town of Wilsall, hidden behind the low rise at right-center, is discussed in chapter eight.

Thirty miles to the north, as depicted in figure 5.4, lies the location of the second of three photographic pairs in this entire study that revealed a loss of manmade structures. The building shown in the 1984 photograph is listed on topographic maps of the area as a “stage house.” Today, only a foundation remains. Historical societies in Helena and White Sulphur Springs could not provide any information as to the former structure’s possible importance. The property in the foreground is still active ranchland, as evidenced by the fence improvements made since 1984. While no cattle are visible in the modern image, a large group of cows stood only a few hundred yards to the southeast.



**Figure 5.4:** An entrance to private ranchland, approximately eight miles north of Ringling, Montana. The view is facing north, toward the Castle Mountains. Aside from a small amount of deforestation on the slopes closest to the camera, patterns of vegetation on the slopes in the distance appear unchanged between the two photographs.

**Date and Time of Rephotography:** 3:30pm, Sunday, August 12, 2009.

Official estimates place rangeland, both public and private, as by far the most widespread land use in Montana. As Starrs (2003) explains, a general rule worldwide is that any land settled that is not urban, forested, planted with crops, or protected in some other way can be considered rangeland. Of the 94.1 million total acres in the state of Montana, 65 million, or approximately 69% are used for grazing. Heads of beef cattle alone outnumber the human population of Montana (roughly one million) by more than two to one (USDA Natural Resources Conservation Service 2010). In Utah, the percentage of rangeland comparative to total state acreage is even higher, at 80%, more than double the national average (Utah State University 2010).

Despite these numbers, rangeland in the American West faces threats where it comes into contact with rapidly expanding urban areas. While Thomas and Geraldine Vale wrote of suburban expansion in places such as Tucson, Phoenix, Salt Lake City, and Great Falls in the early 1980s, Woods (2006) explains that conflict between ranching and other land uses did not really enter mainstream national news until the latter part of that decade. The metropolitan areas of Phoenix and Los Angeles, in particular, have exploded in size over the past thirty years: the population of the Phoenix Metro Area has expanded from 1.6 to 4.2 million people since 1980, while that of Los Angeles has grown from 7.5 to nearly 18 million (U.S. Census Bureau 2011). Even if one considers the urban core of the latter to be outside the boundaries of the American West, its suburban expansion is continuously pushing up against, and often annexing, private ranchland. In fact, prior to the economic crisis of 2008, which will be detailed in later chapters, private rangeland in the West was disappearing at a rate of 50 acres every hour (Travis 2007).





**Figure 5.5:** U.S. 89, approximately thirty miles northwest of Great Falls, Montana. The view is facing northwest, and the structures visible along the road in the distance are power lines.  
**Date and Time of Rephotography:** 2:00pm, Sunday, August 16, 2009.

Though their reasoning is not explained in *Western Images*, *Western Landscapes*, when Thomas and Geraldine photographed the location of figure 5.5 in 1984 they may have expected to see this landscape eventually turn into a suburban residential environment. Clearly, this has not happened. The new owners of the property are evidently also using it for ranching purposes, as homes remain extremely sparse along this stretch of highway. The phone number listed on the 1984 “For Sale” sign remains that of a Great Falls-based real estate agency, though it is now registered to *Gourley & Company* instead of *Ranch Management*.

The fortunes of cities in the West have always greatly affected the pace and scale of change on the nearby rural landscapes. The city of Great Falls, for example, witnessed rapid growth during the 1950s and 1960s after the city became host to Malmstrom Air Force Base during World War II. Its population stagnated and actually declined between the late 1970s and early 1990s, though, due to a steady falling off of local resource extraction industries. Additionally, the 1991 Strategic Arms Reduction Treaty (START) that came at the end of the Cold War temporarily cost the city further jobs with funding cuts to the air force base accompanying the emptying of 200 nuclear missile silos throughout the immediate region. The downward trend reversed itself during the late 1990s, in part due to a re-militarization of the landscape. The briefly emptied silos are once again active and home to the new Minutemen III intercontinental ballistic missiles. The resurgence of military personnel into the city required upgrades and renovations to almost every aspect of the military facilities, leading to the base’s 1999 designation as the “best Air Force installation in the continental United States” (Malmstrom Air Force Base 2010).

With a current metropolitan population of approximately 81,000 (U.S. Census Bureau 2011), Great Falls has grown to be slightly larger than it was in 1980, though neighboring

rangelands do not appear to be greatly threatened by this limited expansion. Several of Montana's other major cities - Billings, Butte, and Helena - grew only moderately over the past three decades. This does not mean, however, that rangeland in Montana is necessarily safe from outside encroachment. Several long-time residents from the outskirts of the capital city of Helena, during the course of my fieldwork in that area, lamented the loss of locally owned ranches to retirees and other wealthy investors from the West Coast. Rather than being confined to the urban fringes, these buyouts can happen virtually anywhere.

Californians are often singled out as the villain, though in Montana, the highest numbers of these "foreigners" actually migrate from the state of Washington at a rate of over 4,000 per year (DelHomme 2005). Primary complaints revolve around the tendency of these new landowners to essentially turn hundreds of acres at a time into nothing more than private retreats by eliminating most or all animal domestication on the premises and fencing off the property from what is sometimes considered to be communal rangeland. Property values (and therefore property taxes) are also raised in areas attracting migration from other states, placing additional burdens on landowners who do not wish to sell their properties. Although none of this has happened to the property visible in figure 5.5, a home only two miles to the southeast displayed a for "sale sign" along U.S. 89 in August of 2009.

As outlined in the California case study of Huntsinger and Hopkinson (1996), ranchers today not only face adversity from land developers, but also from urban environmentalists who wish to see complete wilderness upon leaving their cities. Ironically, although both ranchers and environmentalists generally wish to limit the spread of suburban sprawl, they are often unable to reach common ground on how to do so. By the mid-1990s, 70% of California ranchers actually listed environmentalists as the most serious threat to their existence.

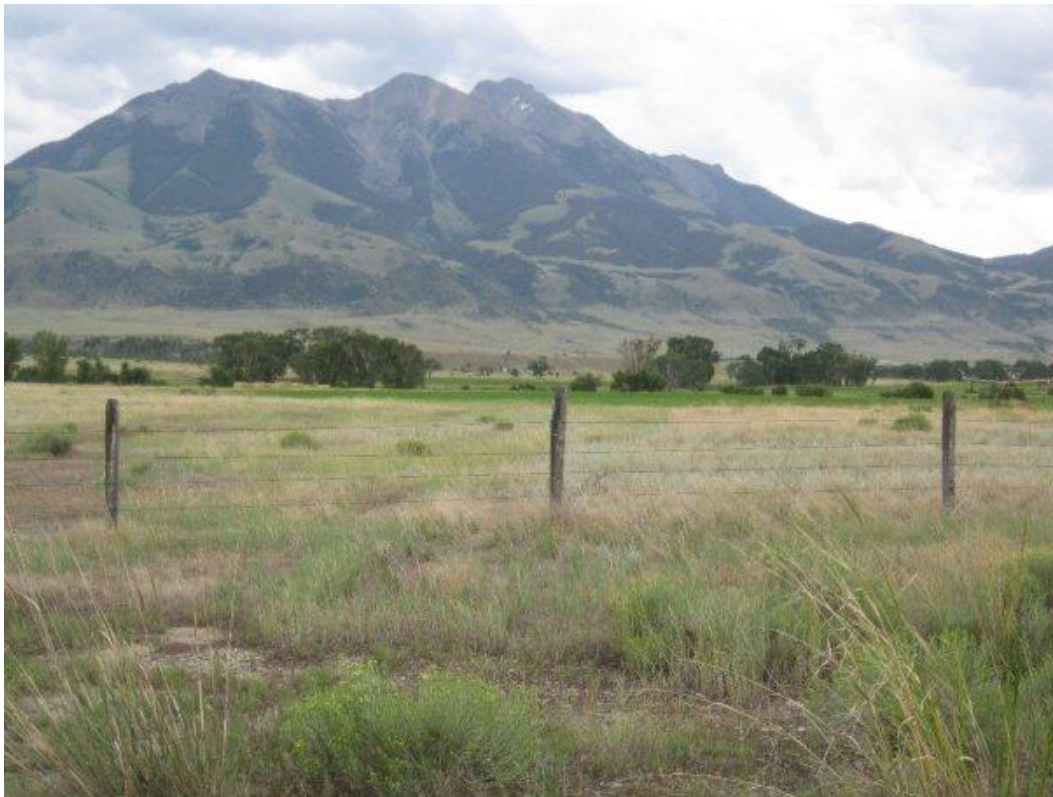
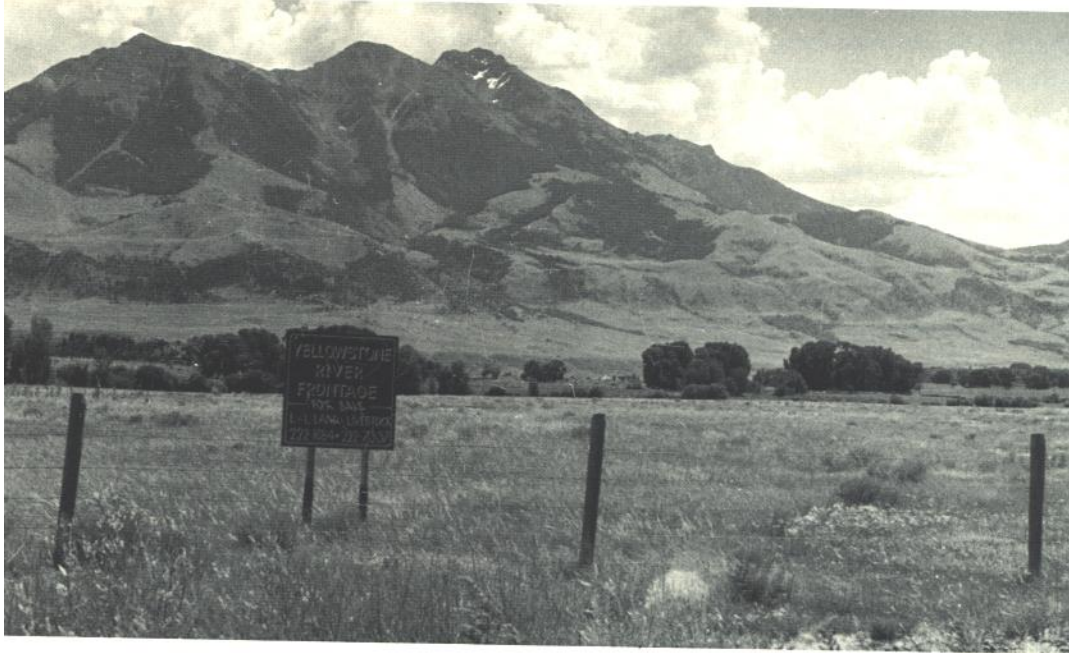
In Montana, the face of environmentalism is that of billionaire Ted Turner. Since his first land purchases in Montana during the late 1980s, the founder of the TNT and CNN television networks has become the single largest landholder in all of North America, at approximately two million acres. The equivalent of over 3,000 square miles, this is more land area than the combined states of Delaware and Rhode Island. Though considered just another wealthy retiree to the region at first, the sheer size of Turner's land acquisitions over the past three decades has aroused suspicion in western ranchers from border to border. Turner's often repeated quote, "I don't want to own every ranch. Just the ranch next door," coupled with a 2007 high profile case in which Turner Enterprises casually outbid all others in a \$10 million purchase of 23,000 acres in western Nebraska, has done little to push such fears aside (Gunther 2006, Jenkins 2007). The most popular conspiracy theory revolves around a belief that Ted Turner is attempting to buy up all private ranchland in the West, forming one enormous wildlife refuge under the guidance of the United Nations, to which he has donated over one billion dollars. Essentially, this would limit human settlement to only a few isolated urban pockets in the region, end ranching in the United States, and create the expansive, continuous "Buffalo Commons" as spoken of by Deborah and Frank Popper (1987, 2006).

Turner Enterprises lists different reasons for the actions of its founder. First and foremost, they say, "Ted" (as he prefers to be called) is simply a businessman who also has a personal interest in protecting the environment. The immense sizes of his properties, such as the 113,613 acre Flying D Ranch in Montana, and the 590,823 acre Vermejo Park Ranch in New Mexico, are necessary to provide habitat for threatened species of the West, such as bison, elk, big horn sheep, and wolves. Populations of many species on the ranches are managed through guided hunting expeditions for tourists. Periodic slaughtering of the bison also occurs for use in the



national restaurant chain, “Ted’s Montana Grill,” which, in part, has the goal of introducing the meat to consumers as a healthier, more sustainable choice to beef products.

In the specific case of the Flying D Ranch, the preserved landscape is said to be a buffer against the rapid development of the Gallatin Valley along U.S. 191 just to the northwest of Yellowstone National Park, coming from both the direction of the Big Sky resort town to the south, and the city of Bozeman to the northeast (Turner Enterprises, inc. 2010). Recently, the ranch has taken in an additional eighty-seven wild bison from Yellowstone National Park, adding to Turner’s total of over 50,000. What makes this most recent addition to the Flying D’s herd so unique is that the wild bison will be kept in isolation from the domesticated stock on the property, and if they should remain disease free for a period of five years, they may be transplanted to a different part of the state or region to create a new line of free roaming bison. Although this philanthropic goal is generally met with positive reactions in nearby Bozeman, where Turner often meets with the local population to talk freely about his role in shaping the landscape, it draws ire from ranchers and environmentalists alike elsewhere in the West. Ranchers fear that an uncontrolled herd of wild bison will ignore weak fences and pose a threat to their own cattle. Environmentalists, meanwhile, object to the point of filing lawsuits to the transferring of Yellowstone bison to private land that is used for the slaughtering of animals (Johnson 2010).



**Figure 5.6:** A view facing east, of Emigrant Peak, Montana (10,921 ft.), from an historical marker turnoff along U.S. 89 approximately twenty straight-line miles north of the north entrance of Yellowstone National Park. The tree-lined Yellowstone River is less than a quarter mile in front of the camera, and is advertised as being part of the property being sold in the historic image.

**Date and Time of Rephotography:** 6:30pm, Thursday, August 6, 2009.

After driving the length of U.S. 89 between Gardiner and Livingston, Montana, Thomas and Geraldine Vale (1989) wrote of their expectations that the Paradise Valley of the Yellowstone River would become equally threatened by development as Ted Turner's neighboring Gallatin Valley to the west. Regarding their photograph in figure 5.6, they stated that "the land sales sign suggests that outside interests are eager to take advantage of the resources that mountainous Montana has to offer" (p. 125). As the repeated image shows, however, no major visible forces of change have come to the property over the past three decades. Pivot irrigation agriculture continues on the land, drawing water from the nearby Yellowstone River. Individual trees remain in their original locations. In the distance, on the lower flanks of Emigrant Peak, some forest expansion has even occurred. Aside from a handful of small lodges and bed and breakfasts scattered along this stretch of highway, and despite being a filming location for such popular modern films as *A River Runs Through it* (1992) and *The Horse Whisperer* (1998), Paradise Valley remains virtually undisturbed by tourists. The turnout, from which the photograph in figure 5.6 is viewed, contains an historic marker dedicated to a short-lived gold rush in the area during the mid-1860s. In August 2009, this wayside appeared to be somewhat overgrown with weeds and unused.

Emigrant Peak itself is a popular summit to climb for the local population. From the peak, all of southern Montana's mountain ranges are in view, as well as the Grand Tetons of Wyoming. Though considered to be a relatively easy climb during the warmer months, winter ascents can be dangerous, as evidenced by the avalanche death of a retired National Park worker and his 14-year old son on New Year's Eve, 2000 (*Orlando Sentinel* 2001).

One historic threat to the valley noted by the Vales has been virtually eliminated from the valley. The Church Universal and Triumphant (CUT), a doomsday cult that in 1984 operated the

12,000-acre Royal Teton Ranch in the vicinity of Corwin Springs, a short distance north of Gardiner and Yellowstone National Park, is now but a shade of its former self. The first blow to the religious organization came in 1990, when the cult's leaders misinterpreted the pending collapse of the Soviet Union as the precursor to their prophesized nuclear war. Nearly three thousand armed followers from around the world entered the church's series of bomb shelters in Paradise Valley on March 15 of that year, only to emerge the following day to find that nothing had happened. After this serious blow to the credibility of the church, its influence slowly waned during the 1990s, culminating in the 1999 resignation of its founder, Elizabeth Clare Prophet.

Over the course of the first decade of the twenty-first century, the new leaders of the Church Universal Triumphant decided to shed the secrecy and cultish nature of their religion, and make every attempt to live in harmony with other residents of Paradise Valley. Membership has dwindled from the thousands to mere hundreds worldwide, 6,300 acres of formerly CUT ranchland has been sold to public land agencies, and although the church headquarters will remain in the Gardiner area for the foreseeable future, it no longer presents any threat to the valley in terms of land development (Branch 1993, McMillion 2005). One of the few points of contention remaining between the church and surrounding landowners and agencies is its tendency to kill Yellowstone bison that stray onto its property (Buffalo Field Campaign 2008).



**Figure 5.7:** The Monument to Tom Mix, located on Arizona State Highway 79 (formerly U.S. 89), between the cities of Florence and Tucson.  
**Date and Time of Rephotography:** 10:30am, Sunday, January 10, 2010.



The final photographic pair of this chapter returns the discussion to Arizona, where a random event seventy years ago transformed an empty stretch of Sonoran Desert into a distinctly western memorial. On October 12, 1940, Western film actor Tom Mix died at this spot in an automobile accident while en route from Tucson to Phoenix. Seven years later, as witnessed by a crowd of over five hundred, the Florence chamber of commerce erected the memorial shown in figure 5.7 (*The Florence Reminder* 1980). The plaque reads:

Jan. 6, 1880 – Oct. 12, 1940  
In Memory of  
Tom Mix  
Whose spirit left his body on this spot  
and whose characterization and portrayals  
in life served to better fix memories of  
the old west in the minds of living man.

While Tom Mix is credited with over three hundred movies over the course of his life, and for being an early influence for future Western movie actors, perhaps the greater reason for his being remembered in this fashion is due to his real life experience as a “cowboy” before becoming rich through Hollywood. Growing up in rural Pennsylvania at the end of the nineteenth century, Mix learned to ride horses at an early age. After briefly serving in the army during the Spanish American War, he moved to Dewey, Oklahoma to be with his third wife, Olive Stokes. Once there, Mix worked on a cattle ranch, competed successfully in local and national rodeos, eventually became the county’s deputy marshal, and finally entered the film industry by showing off his skills on horseback to managers of a nearby production set (Stephen 2010, Tom Mix Museum 2010). Museums dedicated to his life and career exist in both Dewey and in his childhood home of Dubois, Pennsylvania.

Media sensationalism elevated the cowboy actor's credentials to hero status. Obituaries credited him with being a former sheriff of Montgomery County, Kansas (untrue), as having served as a Texas Ranger (an honorary title only), as having accompanied Teddy Roosevelt on his charge up Cuba's San Juan Hill during the Spanish American War (Mix was assigned to different artillery brigades along the East Coast with the purpose of guarding against an invasion that never occurred), and as having volunteered in foreign conflicts around the world: The Mexican Civil War, the Boer War in South Africa, and China's Boxer Rebellion (all untrue). Many Hollywood publicists even insisted on Mix's having been born in El Paso Texas, thus eliminating any stigma of the East from his Western persona (Jensen 2005).<sup>9</sup> Although many younger Americans today may not remember Thomas Hezikiah Mix, his life, both real and imagined, played an important role in solidifying the rugged, honest, individualistic cowboy as a crucial part of the mythical West.

When Thomas and Geraldine Vale visited Tom Mix's monument in 1982, the late movie actor still possessed a significant amount of fame in the country and around the world. In 1980, unknown vandals stole the iron statue atop the monument, dedicated to Mix's favorite and most famous movie mount, "Tony the Wonder Horse." In response, the Pinal County Historical Society immediately ordered a replacement, crafted by inmates of the nearby Arizona State Prison, and held a formal rededication ceremony on July 19, 1980 (*The Florence Reminder* 1980). This second statue disappeared as well in 1989. Although no formal ceremony accompanied its replacement with the current "Tony the Wonder Horse III," Florence resident and former friend to Tom Mix, Billy Earley (then over 100 years old), reported receiving letters from fans as far away as Greece, denouncing the repeated theft of the statue and expressing sympathy. Two years later, an anonymous citizen returned the second horse to Earley, provided

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<sup>9</sup> For an example of this sensationalism, see the *St. Petersburg Independent* (1940).

that no questions be asked by the authorities (Macomber 1994). After a dedication celebration involving some 250 people, that statue now rests at the Pinal County Historical Museum in Florence (Ridder 1994).

Today, as shown in figure 5.7, the third statue of Tony remains atop Tom Mix's monument, though it is now marred by patches of rust and bullet holes. The Pinal County Historical Society remains in control of the monument itself, while the Arizona Department of Transportation (ADOT) maintains the surrounding picnic area. ADOT representatives could not identify exactly when the thatched picnic shelters visible in the Vales' photograph were updated to the modern metal shelters. The surrounding area remains every bit as rural as it was in 1947 or 1982. The city of Florence is twenty miles to the north, while the furthest northern suburbs of Tucson lie more than thirty miles to the south. Additionally, there is no running water and there are no bathroom facilities of any kind at the monument, making the small park inconvenient for anything more than a short picnic stop. Recently, the highly rural, scenic nature of Arizona State Highway 79 has been promoted as the "Pinal Pioneer Parkway" in an attempt to draw motorists traveling between Phoenix and Tucson away from I-15. The Tom Mix Monument is one suggested stop along this alternate route (Stanley 2007).

As noted by Wyckoff (2006), the pace of landscape change in the West is not uniform, nor is it always predictable. Observations noted in this chapter seem to indicate that different processes of change exist in remote rural areas when compared to their counterparts just beyond the urban fringe. Expanses of desert and rangeland surrounding cities such as Phoenix, Salt Lake City, Los Angeles, and Denver are being swallowed up gradually by suburban developments as populations increase over time. Remote rural locations, however, are unaffected by these events. When change comes to such places, it appears to come rapidly and without warning.

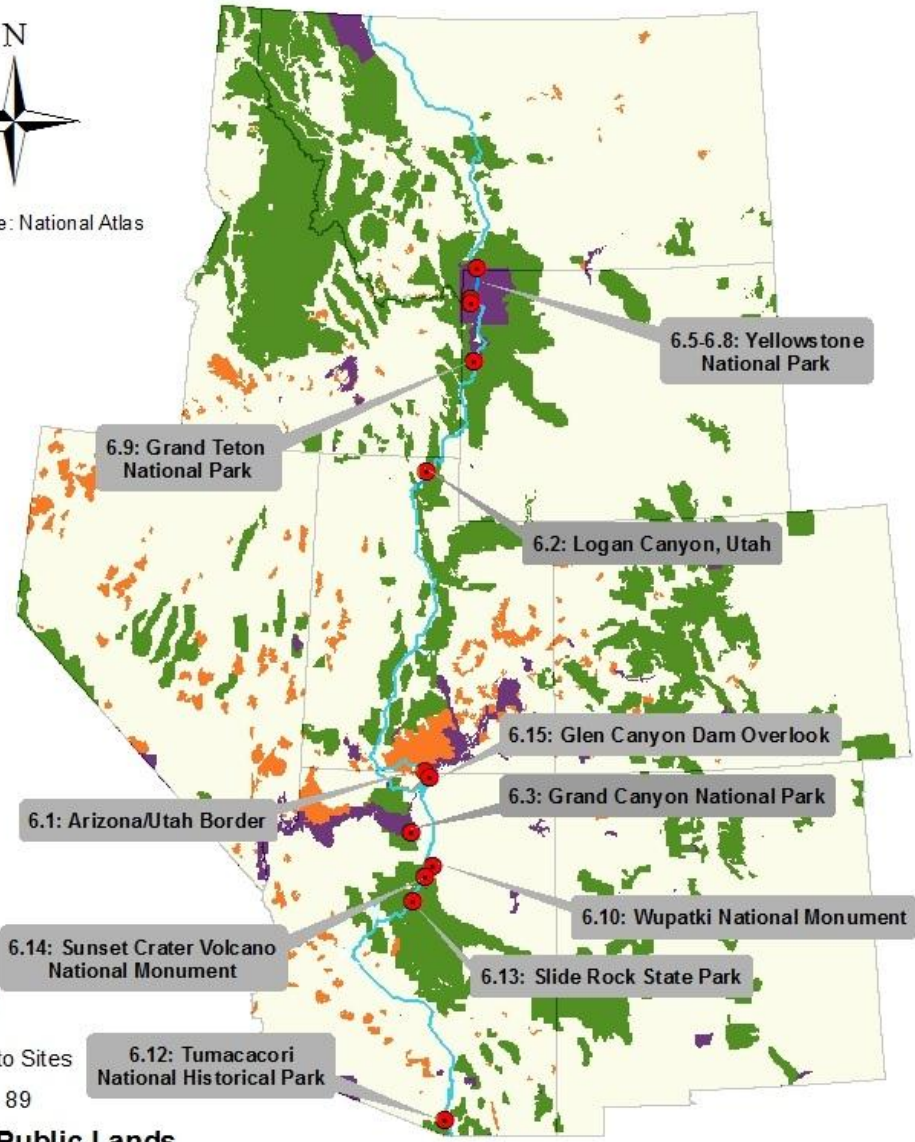


In two photographs depicted in this chapter (figures 5.5 and 5.6), the Vales expected that forces of globalization would swallow up ranchland listed as being for sale during the early 1980s. In neither case did this happen. Two additional study sites, however, revealed how quickly and suddenly change can occur, even if that change did not necessarily come since the time of the Vales' visit. In Thistle, Utah, a catastrophic landslide turned a small but functioning community into a barren, uninhabitable landscape in a matter of only hours. South of Florence, Arizona, a freak accident leading to the death of a prominent actor transformed an empty stretch of desert land into a permanent memorial and minor tourist attraction. Thus, while locations such as the stretch of U.S. 89 between Wilsall and White Sulphur Springs, Montana, or the southern boundary of what is now Vermilion Cliffs National Monument, show no virtually no change over the course of the past several decades, it will be prudent to revisit the sites in twenty or thirty years despite what trends may show, as the unpredictable can happen. It will also be important to trace the development of unseen forces at work in the region. For example, how will reintroduced populations of California Condors thrive or falter over the course of the next several decades, and how (if at all) will their continued presence affect the visible landscape?

# Chapter 6: National Parks and Protected Areas



Data Source: National Atlas

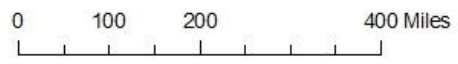


### Legend

- Photo Sites
- U.S. 89

### Federal Public Lands

- BLM Protected Area
- Forest Service
- National Park Service



Any photographic study of U.S. 89 represents the ideal opportunity for an analysis of parks and protected areas of the United States. The route followed by Thomas and Geraldine Vale, which encompassed more than simply U.S. 89 itself, passed through or near two dozen national parks or similarly protected areas run by the United States Forest Service, Bureau of Land Management, and various state park agencies. It is for this reason that the road has been advertised as “the world’s most beautiful highway” during the 1960s (Gray 1976, 6). As outlined by Riebsame et al. (1997) and Lary Dilsaver (2003), the West is where the concept of national parks and protected areas began, and it remains where the majority of them are located. Therefore, it is also an ideal region to analyze regarding the health and evolution of these special places.

Several pressing issues in protected landscapes of the American West will therefore be addressed in this chapter, including how the parks are coping with a general increase in visitation over the past thirty years, and how the visitors change the visible landscape. A related issue is how park management is evolving as the individual National Park Service units set about implementing their improvement projects in accordance with the agency’s 2016 centennial initiative. Visitation in the majority of national parks presented here peaked in the early to mid-1990s, though numbers still tend to be higher than their early 1980s counterparts. After an introduction to the importance of outdoor recreation and parkland in the minds of people in the American West, and to the different types of government agencies involved in the protection of these lands, this chapter will first analyze large, iconic and famous parks (Grand Canyon, Yellowstone, and Grand Teton) before moving on to smaller, lesser known sites, and those protected areas that are nonetheless suffering from effects of overuse.



**Figure 6.1:** U.S. 89 at the Arizona/Utah border. The view is to the northwest, into Utah, with the uplands of Grand Escalante Staircase National Monument (BLM) in the distance. To the right is a close-up image of Utah's "Welcome" sign.

**Date and time of rephotography:** 6:00pm, Monday, April 13, 2009.



The first photographic pair presented is not set within a protected area, though it is included in this chapter due to its nature in revealing the importance that outdoor recreation has in the minds of people living in, or visiting, the American West. The most evident change that one will notice upon first looking at figure 6.1 is that Utah's former "welcome" signs have been replaced with those celebrating that state's scenic landscapes and its hosting of the 2002 Olympics in Salt Lake City.

As will be discussed in chapter nine, the preparations for the Olympic Games drastically altered the character of Salt Lake City and its surroundings. Those changes, however, are not the focus of the sign's imagery. In fact, aside from the text and the ski jumper, the focus is not really on the games at all. Instead, by erecting these signs at all major entrances to the state in 1998, Utah successfully took advantage of the Olympic Games media spotlight to promote its outdoor attractions. On the sign's right hand side is Delicate Arch, the most iconic attraction of Arches National Park. On the left appears to be Mount Timpanogos, an imposing 11,750 mountain in the Wasatch Range that overlooks the city of Provo. The peak, whose name translates to "Water on Rock" in the language of the Ute, is the most climbed mountain in Utah, and since 1922, even boasts its own National Park unit in the form of Timpanogos Cave National Monument (Cooper 2009, National Park Service 2010).

Since the taking of the photograph in figure 6.1, the "Welcome to Utah" sign has changed yet again. In 2008 the Utah Office of Tourism announced its plans to replace all thirty-one welcome signs with new ones depicting scenes from throughout the state. Governor Jon Huntsman commemorated the first of these, displaying a generic skiing image, at the border between Utah and Wyoming along State Route 150. Fittingly, the welcome sign along U.S. 89 now displays an image of Lake Powell. Five other designs include an allosaurus (Utah shares

Dinosaur National Monument with Colorado), Arches National Park, Zion National Park, Golden Spike National Monument, and the Salt Lake City skyline set against the backdrop of the Wasatch Mountains (Utah Office of Tourism 2008). All images are accompanied by the text “Life Elevated,” and the State of Utah expects that these new signs will be seen by nearly twenty million travelers per year. Once taken down, the older markers were sold on the online auction service, Ebay, in order to offset costs of installing the new signs (Daley 2008).

The goal of the most recent signage changes is not, according to the Utah state tourism officials, to leave the Olympics in the past. The games will always be remembered fondly as a part of Utah’s history, and their legacy can be seen in many places. Rather, the new signs are a reaction against a 2006 survey in which the majority of Americans could not identify the state’s popular attractions. Although Utah contains the third largest percentage of public land in the nation (after Alaska and Nevada, see Riebsame et al. 1997), and boasts over two dozen national parks or other protected areas, most believed Arches National Park, Golden Spike National Monument, and even the Salt Lake City skyline to be in other Western states (KSL 5 TV 2008). Even though it is recognized that a large number of motorists may simply be passing through on their way elsewhere, and that nearly everyone likely already has a destination in mind, the Utah Office of Tourism hopes that by educating people as to natural wonders of their state, they will ensure higher visitation in the future.

Such aggressive marketing to tourists may at first seem strange for a state controlled by a Mormon religious population whose ancestors that initially came to Utah to escape the influence of the rest of the country. This line of advertising may even accelerate the migration of permanent residents who, at present rates, are expected to reduce Mormonism to a minority religion in the state by 2030 (Canham 2005). According to several tour guides interviewed at Salt

Lake City's Temple Square, however, this is not a concern in the modern era. The Church of Jesus Christ of Latter Day Saints (LDS) today embraces outsiders and, while not rooted in any scripture, has always maintained a positive stance toward parks and outdoor recreation. Joseph Smith himself had been a sport and outdoor enthusiast, and his encouragement to people to have fun in nature helped him to gain early converts over Protestant faiths that, in the early nineteenth century, shunned recreational activities as sinful and selfish distractions (Skidmore 1941 and Kimball 2003). By advertising and celebrating their natural attractions, the guides explained, it is inevitable that some visitors will also investigate the LDS temples and associated visitor centers scattered throughout the state, and in doing so, take the first steps toward conversion.

While the majority of parks and other recreations areas in Utah may be appreciated by local and visiting populations alike, one invisible change in public lands between the two images in figure 6.1 has proven highly controversial. The cliffs in the distance are now a part of the Bureau of Land Management's 1.9-million acre Grand Staircase-Escalante National Monument, established in 1996 by presidential proclamation. The monument spans from Kanab and Orderville in the west, to Glen Canyon National Recreation Area in the east, and from the Arizona border in the south, to Bryce Canyon National Park in the north. The size of Delaware and Rhode Island combined, it is the third largest protected area of any kind in the contiguous United States, after Death Valley and Yellowstone national parks. Major attractions include the famously rough terrain of the Kaiparowits Plateau, the northern reaches of the Paria Canyon system, the northern portions of the Vermilion and White cliffs, Grosvenor Arch, several other natural arches and bridges, and numerous archaeological sites relating to both Native American groups and early Mormon settlers. Some of these sites are, however, difficult to reach without a



four wheel drive, high clearance vehicle, or in some cases, the ability to hike for hours (or even days) across harsh arid terrain.

According to the Antiquities Act of 1906, and without the consultation of any state or congressional authorities, the President of the United States may declare a national monument in order to protect resources of historic or scientific interest. The size of any such monument is to be limited to “the smallest area compatible with the proper care and management of the objects to be protected” (Rusnack 2003, 675). Many in the Utah government and population therefore accused President Bill Clinton of drastically overstepping the intended purpose of the act, which has generally been interpreted as giving the president power to protect small parcels of important land under immediate threat of development (for example, see Arizona’s 1,120-acre Tonto National Monument, created by President Roosevelt in 1907 for the protection of prehistoric cliff dwellings). Although the text of the monument’s creation states that all existing land use permits would remain in place (The White House Office of the Press Secretary 1996), it has been labeled by many, including Utah’s governor at the time, as “the mother of all land grabs” (Rusnack 2003, 671).

Hundreds of potential jobs did, in fact, disappear when companies holding coal mining leases on the Kaiparowits Plateau suddenly found that they could no longer construct access roads or install power lines over portions of the monument they had not previously leased. Some of the potential mining sites actually belonged to Utah’s Department of Education prior to the monument’s designation, in accordance with an agreement between the federal government and the State of Utah dating back to statehood. The loss of those 180,000 acres meant the elimination of potential education funding through the leasing of mining rights. That issue reached a resolution in 1998, when the federal government awarded Utah’s Department of Education

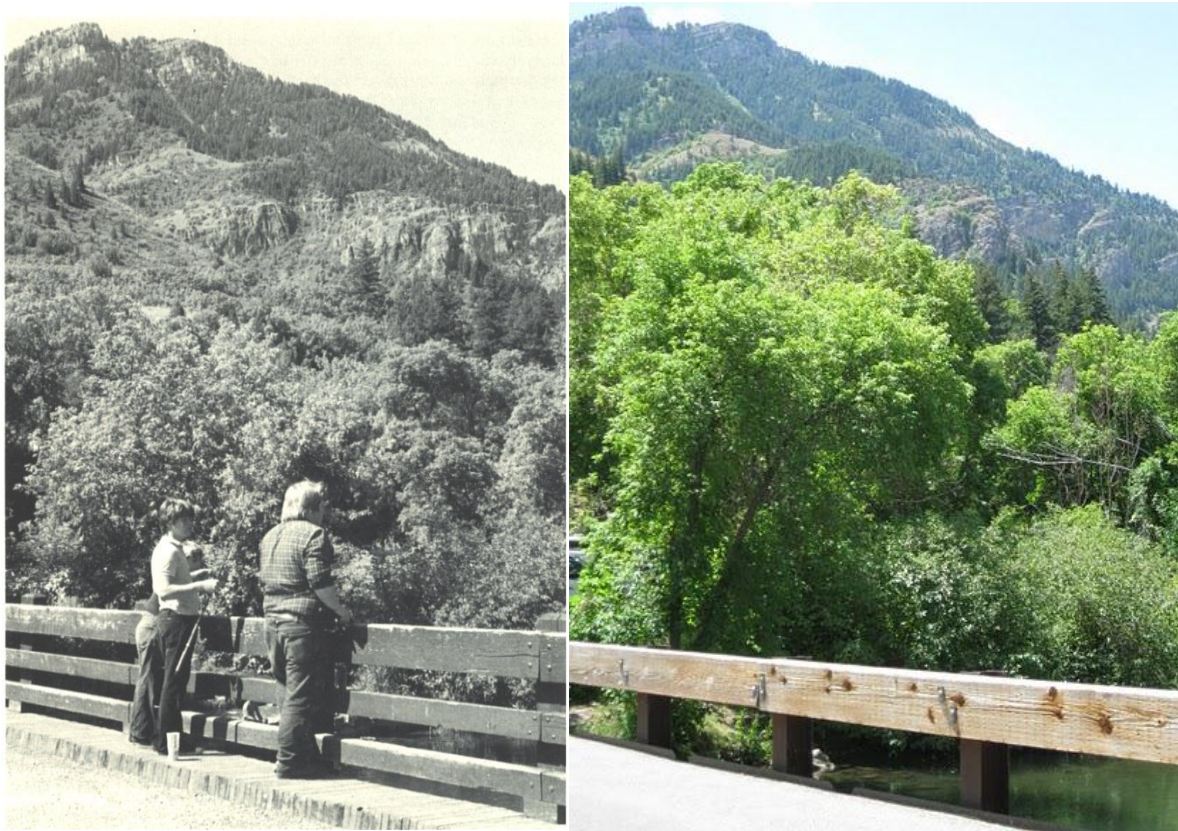


similarly valued plots elsewhere in the state. (Kelly 1999). Adding to the local furor, Utah state officials received only eleven days warning that the proclamation would be made, and that warning came through an information leak to the *Washington Post* (Davidson 1996).

Accusing President Clinton of pandering to environmentalists during the election season at the expense of Utah children and workers, several members of Congress introduced bills to severely curtail the power of the president in declaring national monuments. Most notably, Democratic senator Bill Orton of Utah proposed a law which would allow the president to declare national monument protection for only 180 days, by which time Congress needed to vote on whether to permanently designate it as a protected area. His Republican counterpart, Jim Hansen, followed up by proposing that all future national monuments be limited to a maximum of 5,000 acres. Meanwhile, Senator Larry Craig (Idaho) and Representative Richard Pombo (California), both Republicans, called for mandatory consultations with Congress and state governments over the establishment of any future monuments. None of these proposed bills ever came to a vote, and the Antiquities Act remains unchanged (Davidson 1996).

Contrary to the hyperbole regarding job losses and despite the controversy surrounding its creation, however, Grand Staircase-Escalante National Monument has become a major tourist attraction. By 2000, annual visitation had reached 570,000, making it the thirteenth-most visited site in Utah. This amounts to nearly 200,000 more people than visited Dinosaur National Monument, Canyonlands National Park, or Monument Valley Tribal Park during that same year (Utah Travel Council 2001). Although only approximately 20% of these visitors plan for Grand Staircase-Escalante National Monument to be their primary destination, the vast majority of all visitors surveyed in a 2004 study indicated that they had contributed to the local economy by shopping or lodging in Kanab, Escalante, and elsewhere in the monument's vicinity (Burr,

Reiter, and Blahna 2004). Bureau of Land Management jobs have also been created due to the need to staff four visitor/interpretive centers and maintain dozens of trails, roads, and campsites.



**Figure 6.2:** A southwestward view from a bridge over the Logan River, connecting U.S. 89 to the Spring Hollow Campground within Cache National Forest's Logan Canyon, Utah. Topographical maps of the region do not give a name to the peak in the background.

**Date and Time of Rephotography:** 1:00pm, Thursday, August 6, 2009.

After leaving Grand Staircase-Escalante National Monument, U.S. 89 passes through additional BLM land, and skirts the edge of several National Forests, but does not again enter what could truly be considered to be a “park” until Logan Canyon. Here, in a thirty-mile stretch between Logan and Garden City, near Utah’s border with Idaho, U.S. 89 has been declared a scenic byway. The road follows the Logan River upstream almost to its headwaters as it snakes through the lower elevations of the Bear River Mountains, before climbing over a 7,800- foot pass to reach Garden City and Bear Lake. Much of the land falls within the jurisdiction of Cache

National Forest which, over the past forty years, has become co-managed with the Wasatch (1973) and Uinta (2007) national forests further to the south.

Although not officially designated as a recreation area, Logan Canyon and its surroundings are home to over two dozen attractions, including campgrounds, trail networks, historic sites, the Wind Cave, and fishing lakes. The area has served as a center of recreation almost since the settlement of Utah. In fact, at the Spring Hollow Campground depicted in figure 6.2, one can find the ruins of an early twentieth century lodge once dedicated to bringing young women out into the wilderness: a relic of the previously mentioned and historic LDS practice of taking children and young adults to rural retreats where they would learn teamwork and survival skills, and temporarily escape the evils and temptations of urban life (U.S. National Campground Guide 2007, Skidmore 1941, Kimball 2003). In modern times, the campground holds eleven sites usable by tent or RV. While not the most common route, trails leading south from the campground can also be used to reach the summit of Logan Peak which, at 9,710 feet above sea level, stands as the highest summit in the southern Bear River Mountains. The spot also remains a popular trout fishing location. Although not visible in the modern photograph, three fishermen were standing only a few dozen yards upstream from the bridge.

Unfortunately, no employees at Cache National Forest's Logan offices could provide any details regarding the obvious Logan River bridgework. Several other recorded improvements have, however, been made to Spring Hollow Campground and other parts of Logan Canyon's front country to accommodate a steadily increasing number of visitors per year. Bear Lake State Recreation Area, immediately to the east of the canyon, reported a visitation increase from 160,205 to 310,175 between 1990 and 2002. The principal environmental impact of this has been heavy pressure on the lake's fish population. Between 1995 and 2002, total fishing hours on the

lake rose from 27,711 to 66,645. In order to offset depletion of the lake's species, which include cutthroat trout, whitefish, cisco, and yellow perch, and to ensure a permanent self-sustaining population, four artificial reefs have been constructed in order to create the most beneficial environment possible for breeding (Palacios et al. 2007).

Average daily traffic counts on U.S. 89 between Bear Lake State Recreation Area and the City of Logan nearly doubled between 2000 and 2004, from 2,867 to 5,320 (ibid). To accommodate such a drastic increase in visitation, the Forest Service and Utah state government set about to improve the infrastructure of Logan Canyon and Bear Lake. During the summer months of 2000 and 2001, contractors for Cache National Forest installed new water storage tanks at the Spring Hollow Campground, along with new tent pads and fire rings. New footbridges and low water crossings were constructed across Spring Hollow Creek (Whitaker Construction 2010). Additionally, in 2003, the National Forest successfully petitioned the state and local government to connect several campgrounds in Logan Canyon to Logan's public water supply, which largely comes from springs and reservoirs within the canyon (Logan Ranger District, Wasatch-Cache National Forest 2003). It is likely that the undated bridge renovations visible between the two photographs in figure 6.2 came during this same time period.

The National Park Service, too, is attempting to improve its facilities and adjust its policies to cope with increased visitation nationwide. Although generally lower than their peak in the mid-1990s, annual visitor numbers remain significantly higher than their 1980 values in the majority of national parks. As a whole, the National Park Service counted approximately 220 million recreational visitors in 1980. The number peaked at just over 287 million in 1999, and dipped slightly during the first years of the millennium before returning to approximately 281 million in 2010. Non-recreational visits, which largely consist of through traffic in such places as

Yellowstone or Death Valley national parks, have steadily risen from approximately 80 million in 1980 to 153 million in 2010 (National Park Service Public Use Statistics Office 2011).

During the 1990s, individual parks planned and implemented changes as needed to adjust to alterations in visitor numbers. As of 2007, the entire agency has implemented the Centennial Initiative (or Challenge) to use a mixture of federal funding and non-government partnerships to achieve a variety of goals by the 100<sup>th</sup> anniversary of the creation of the National Park Service. Similar to the Mission 66 effort that coincided with the agency's 50<sup>th</sup> anniversary, the goals of the initiative include the improvement of facilities, invasive species management, reduced environmental impact of park operations, improved outreach programs to children (such as the Junior Ranger booklets that all parks have), cooperation with other land agencies, and a restructuring of the workforce, including a greater number of volunteers, "to meet the needs of America" (Arrington 2007).<sup>10</sup>

Grand Canyon National Park, one of the most famous attractions in the country, and a world heritage site since 1979, has experienced an especially large increase in visitation over the 1980 total of 2.5 million.<sup>11</sup> Reaching a high of over 5.1 million in 1997, statistics in 2010 still numbered approximately 4.4 million: the second highest in the country behind Great Smoky Mountains National Park (National Park Service Public Use Statistics Office 2011). The increased usage is not visible in figure 6.3, which depicts a lightly traveled area on the eastern edge of the Park.

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<sup>10</sup> Although funding cuts since the economic collapse of 2008 have severely hampered the National Park Service's efforts to the point that all mention of the 2016 Initiative has been stricken from the primary [www.nps.gov](http://www.nps.gov) website, all individual parks mentioned in this chapter have incorporated the plans made under the Challenge into their general management plans.

<sup>11</sup> Unless otherwise noted, statistics for individual include both recreational and non-recreational visitors, as both have an effect upon park resources.



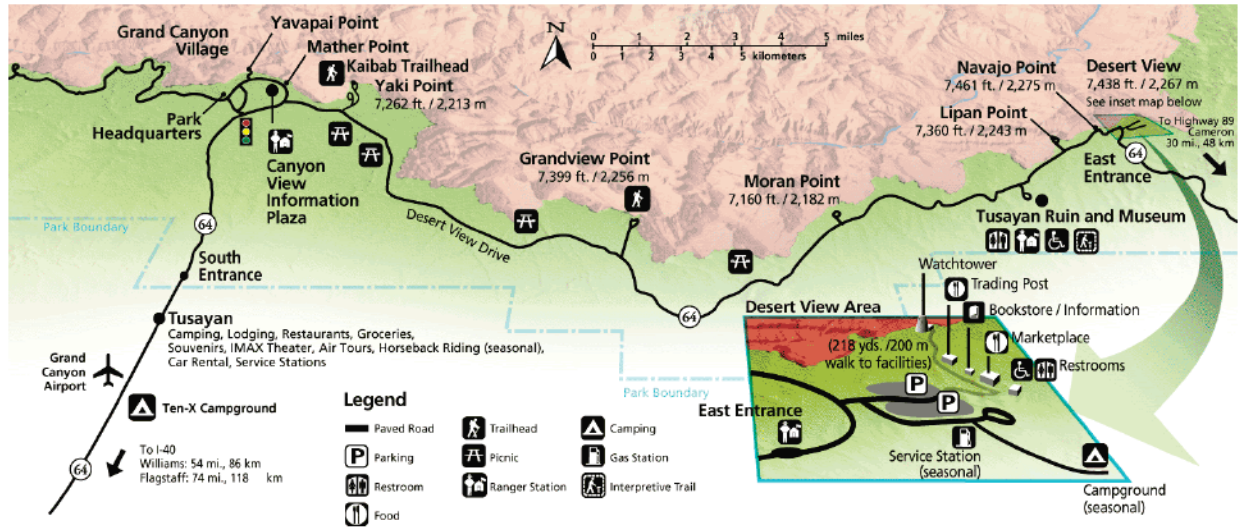


**Figure 6.3:** Desert View, Grand Canyon National Park. The view is facing northeast, across a branch of Tanner Canyon, toward Cedar Mountain. The mesa sits within the national park, though all points beyond are part of the Navajo Indian Reservation. The Cedar Mountain Trail, remnants of an old four wheel drive road, winds around to the east side of Tanner Canyon and circles the mesa, allowing overnight hikers ample opportunity for a trail-less ascent. An employee at the nearby bookstore referred to the formation in the foreground as the “Wolf Pup Rocks.” However, this designation remains unconfirmed by any literature.

**Date and Time of Rephotography:** 11:30am, Sunday, April 12, 2009.

# Desert View Drive Map South Rim

National Park Service  
US Department of the Interior  
Grand Canyon National Park



**Figure 6.4:** The Desert View Area in relation to the South Rim of the Grand Canyon

Desert View, like all points of interest along the South Rim of the Grand Canyon, did experience the effects of the drastically increased visitation that peaked during the mid-1990s. Had Thomas and Geraldine Vale chosen almost any other direction to photograph from their vantage point in figure 6.3, change would be highly evident. The 1995 General Management Plan for the park decried the vehicle congestion, pollution, and threat to wildlife caused by five million visitors per year, and proposed to alleviate the problem in a number of ways. Some of these suggestions have since been implemented. While not allowed on backcountry trails, cyclists and pedestrians may now make use of a network of maintained bike trails that parallel the park's roads and connect major attractions. Rentals are available. West Rim Drive/Hermit Road is now closed to private vehicles from March 1 through November 30, requiring visitors to

instead use shuttle services. The access road to the Yaki Point overlook and trailhead is now restricted year round to shuttle and foot/bicycle traffic only. At Desert View, a new visitor center has been constructed a short distance back from the canyon rim, allowing the famous stone watchtower at the location to be reverted to its historic purpose: that of an elaborate viewing platform that also houses a small book store, as well as some interpretive and Native American artwork displays.

Other more ambitious proposals found within the plan, however, have not been implemented. Although park and ride services to the canyon were made available in the southern gateway community of Tusayan in 2008, there is still no such option for visitors arriving from Cameron and U.S. 89. Likewise, although visitors coming from Tusayan can be advised on congestion and parking difficulty within the park, those entering from the direction of the Navajo Nation have no such information available to them. This is logical, however, as the Tusayan-oriented entrance along U.S. 180 serves the vast majority of visitors coming from the directions of Flagstaff, Phoenix, or Las Vegas, with traffic count of over 1.1 million in 2010. By comparison, the Desert View entrance station recorded only 210,000 (NPS Public Use Statistics Office 2011). A proposed bypass of Desert View for travelers preferring to skip the attraction in favor of points westward failed to come to fruition, as did plans to expand both the employee housing and campground areas at this eastern end of the park's developed area.

In regards to the Centennial Initiative, Grand Canyon National Park's goals closely mirror those that had been put forth by the agency as a whole. Generally speaking, this includes improved environmental stewardship, rehabilitation of seldom used trails throughout the park, the creation of better educational and community outreach programs, and the renovation and revitalization of existing structures to make the park more visitor friendly (Grand Canyon



National Park 2007). Specifically, there are two major projects underway. First, in cooperation with Glen Canyon National Recreation Area (to be discussed at the end of this chapter) and the Grand Canyon River Outfitters Association, research funding is being put toward the development of new motorboat engines that will use alternate sources of fuel in order to reduce both pollution and noise within the two parks (Grand Canyon National Park and Glen Canyon National Recreation Area 2008). Secondly, proposals are being put forth to return the south rim's power house near Grand Canyon Village to active use for the first time since 1956, providing steam powered electricity to nearby facilities. Also within the historic chalet-style building, which currently houses a bookstore and park offices, would be interpretive displays relating to the human history of the park: Native American heritage and early twentieth century tourism and transportation to the canyon, including routes by stagecoach, water, and railroad (Grand Canyon National Park 2007).



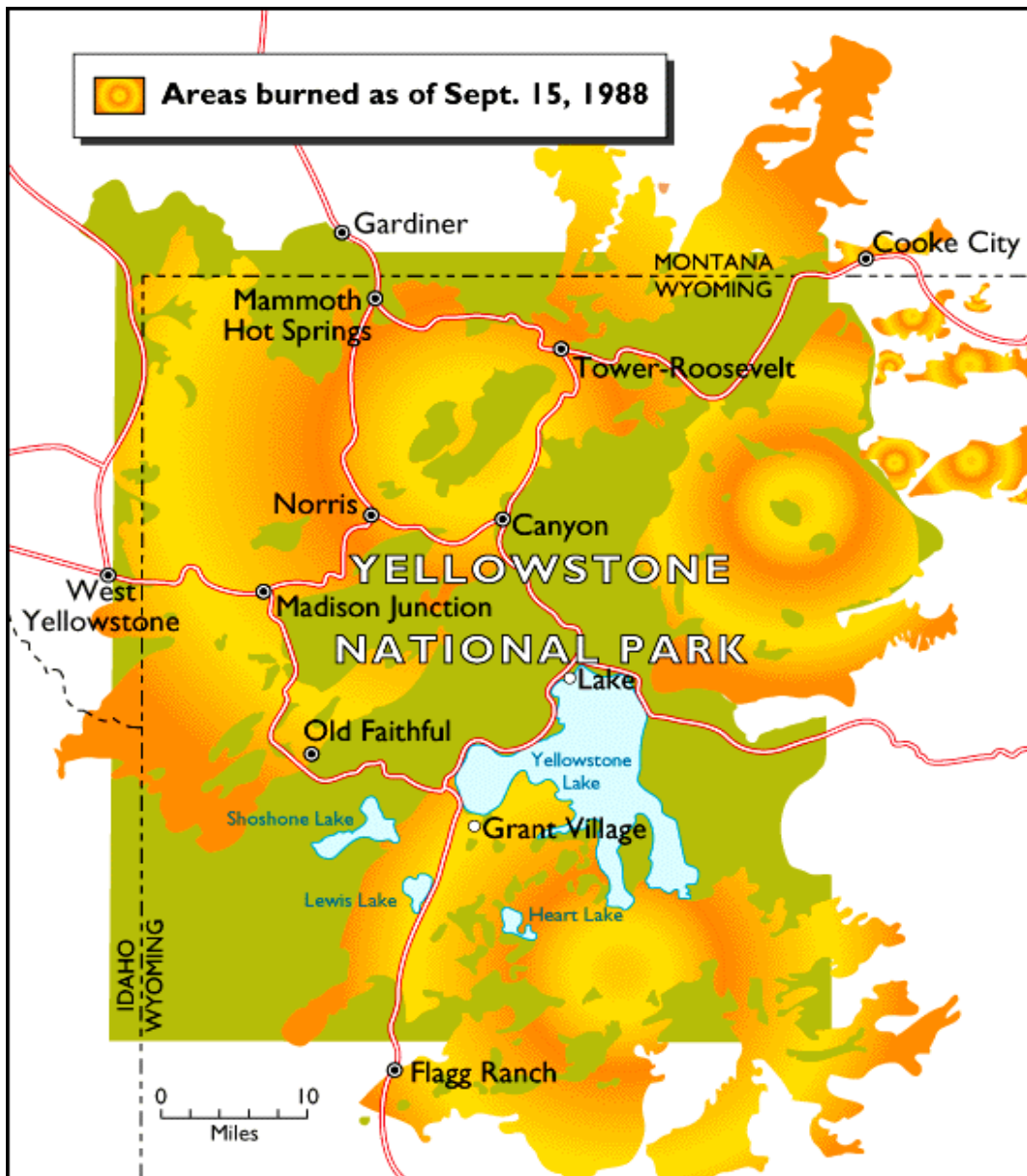
**Figure 6.5:** The northwesterly view from an isolated, unofficial fishing trail along the Firehole River, between the Fairy Falls Trailhead and Grand Prismatic Spring, Yellowstone National Park, Wyoming. This area is known as “Muleshoe Bend” to the fly fishing community. The camera angle and photographer’s position has been lowered slightly in order to minimize erosion on the fragile hillside.

**Date and Time of Rephotography:** 2:30pm, Friday, August 7, 2009

The only major national parks directly passed through by U.S. 89 are Yellowstone and Grand Teton which, since 1972, have been linked together via the John D. Rockefeller Memorial Parkway. In similar fashion to their photograph of Grand Canyon National Park, Thomas and Geraldine Vale chose to capture one landscape in Yellowstone National Park still relatively untouched by humans. Figure 6.5 depicts what the Vales described as a “special place” that had “avoided the crush of humanity” in an otherwise heavily trafficked park (p. 121). In order to reach this location, one must park at an unmarked pull-off along Grand Loop Road (an unlabeled section of U.S. 89) and follow an unofficial social trail to and along the riverbank. The trail, according to Park Historian Lee Whittlesey (2010b), is one of many paths along the Firehole River that have been in continuous use by fly fisherman for decades. Although thermal springs and geyser runoff heat the river to unusually high temperatures, the trout population artificially introduced during the 1880s has adapted well, and the waterway has held the reputation of one of the world’s most unique and beautiful fly fishing destinations since the late nineteenth century (Brooks 1984).

Looking into the distance in figure 6.5’s 2009 image, it is evident that an ecological change has come to the landscape. The deforestation here is a result of the events of the summer of 1988, in which fifty-one different fires caused by lightning strikes (42) and human error (9) burned nearly 800,000 acres; over 1/3 of the entire park burned to some degree. A record hot, dry summer, combined with abundant fuel resulting from fire suppression programs dating back to 1910 (Shea 2008), created the perfect conditions for the largest and most costly fire-fighting effort in American history up until that point. Over 25,000 workers, including firefighters, military personnel, volunteers, and National Park Service staff (both local and temporarily imported from elsewhere) labored throughout the summer for a total cost of \$120 million. As

shown in figure 6.6, every road and attraction in the park needed to be closed and evacuated at some point during the summer, including Grant Village, Mammoth Hot Springs, and the attractions at Old Faithful. In Montana, the governor declared a state of emergency and martial law in Cooke City, evacuating the entire community. He also issued an “order banning all non-essential outdoor activities beyond cities, towns, and settlements in Montana” (Yellowstone National Park 2008, 5).



**Figure 6.6:** The extent of the 1988 Yellowstone Fires. Image source: *Wildfire Today* 2009.





**Figure 6.7:** Facing north from the viewing platform of Yellowstone National Park's Old Faithful Geyser.  
**Date and Time of Rephotography:** 1:30pm, Friday, August 7, 2010.

As depicted in figure 6.7, the 1988 fire's impact on Yellowstone's vegetation is even more pronounced on the ridgeline north of the Old Faithful Geyser, approximately five miles from figure 6.5's Muleshoe Bend. On September 7 of that year, the same day on which the governor of Montana declared martial law in Cooke City, a separate blaze swept over the hillside, raining ash and burning embers down upon the area for over forty-eight hours. Firefighters stationed at the historic Old Faithful Inn, however, managed to protect it and adjacent park facilities from destruction. A week later, colder temperatures and even snow caused all fires within the park and its surroundings to retreat, and by September 23, the crisis had ended. With only rare exception, the predominately lodgepole pine forest grew back faster than expected, aided by the fact that some of that species' cones are serotinous, only opening during exposure to extreme heat. The rebound occurred so rapidly in the vicinity of the Mammoth Hot Springs that the Children's Fire Trail, originally intended to educate young people about the nature and necessity of burned landscapes, needed to be redesigned interpretively in 2003 to tell the story of all natural forces at work in the northern part of the park (Yellowstone National Park 2008).

Throughout Yellowstone National Park today, on nearly any road or trail, one will pass through a patchwork of new and older growth forest that, in most cases, directly relates to the fire of 1988. One example, barely visible in the distance behind Old Faithful in figure 6.7, is the Geyser Hill Loop Trail, constructed during the 1930s (Whittlesey 2010b), which brings visitors from the Old Faithful Boardwalk up 200 feet on the ridgeline in the distance to a wooden platform where they can watch the famous attraction's regular eruptions from above.

Although park officials initially believed that the fire "damage" would deter visitors in the years following the fire, the opposite proved to be true (Yellowstone National Park 2008).

Although numbers dipped from 2.5 million recreational visitors in 1987 to 2.1 in 1988, they rebounded to a previously all-time high of 2.6 million in 1989 as tourists came to see what had happened the previous summer. The numbers continued to grow. Unlike other parks around the country, Yellowstone counted more visitors in 2010 than in any other year: 3.6 million recreational, plus over 900,000 non-recreational (generally those who use the roads of Yellowstone and Grand Teton National Parks as through highways) (National Park Public Statistics Use Office 2011). Approximately 90% of all recreational visitors to the park come to see Old Faithful as a part of their experience (Yellowstone Park Foundation 2010a).

Since the early 1960s, there has also been a growing desire to reach Old Faithful and other major attractions in winter, when much of the park is accessible only by cross country skiing, snowcoach transportation, or snowmobile. Though experimental engines had been designed by various inventors since the first decades of the twentieth century, not until 1960 did practical personal snowmobiles enter the consumer market. Their effect upon Yellowstone National Park was immediately felt. During the 1963-64 winter season, only 1,067 visitors entered the park. By the end of the decade, this number had increased ten-fold. The 1983-84 season, coinciding with the Vales' visit some months later, recorded 48,342 visitors, with an all-time peak of nearly 150,000 guests ten years later (National Park Service Public Use Statistics Office 2011, Yochim 2009). Initially left unchecked with very few regulations, the sheer number of snowmobiles present daily by the mid-1990s led to noise and air pollution in even the most remote corners of the park. In response, officials prepared a series of environmental impact analyses and statements which advocated a variety of solutions ranging from an outright ban of snowmobiles in the park, to limiting the number of such vehicles that can enter the park per day.

Lawsuits have resulted ever since, filed by preservationists and recreation advocates alike. Preservationists argue that snowmobiles violated the Organic Act of 1916, which directed the newly created National Park Service to “conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations” (Yochim 2009, 6). Not only do the vehicles “impair” the natural silence of the area, the preservationist camp argues, but animal species (such as the famous bison herds) are harassed and stressed by the noise to the extent that natural migration patterns may be altered. Advocates for recreation, meanwhile, argue that their snowmobile activities are no more damaging than vehicle traffic during summer months, and that restricting the freedom of movement provided by the machines is simply “un-American” (Smith 2008, 249). Additionally, a hearing by the House Subcommittee on Tax, Finance, and Exports, part of the Committee on Small Business, found in 2000 that the loss of tourist revenue due to a ban on snowmobiling within Yellowstone National Park could cost the five gateway communities (West Yellowstone most severely) nearly \$20 million in revenue, along with the loss of several hundred jobs (Yochim 2009). As of the time of this writing, the situation remains unresolved.

A similar, though less politically charged battle has been playing out in recent years regarding boating on Yellowstone Lake. Just as cross country skiers have complained for years about the noise created by snowmobilers, so too have canoeists complained about noise and wakes generated by motorboats. A compromise in place since the early 1970s created a 5mph speed limit/”no wake zone” within the two remote southern arms of the lake. At the furthest southern tip of these arms, absolutely no motorized traffic is allowed. The number of motorboats on Yellowstone Lake has, however, increased drastically over the past four decades, to the extent



that even canoeists and kayakers at the far southern tips of the arms report that they cannot experience true wilderness. This nuisance to preservationists is in violation to a series of policies adopted by the National Park Service in 2001, which direct the agency to protect natural quiet (Yochim 2007). Although there is no immediate talk of banning motorboats within Yellowstone National Park as is being discussed in regards to snowmobiles, this issue also remains unresolved at the time of this writing.

The National Park Service recently capitalized on the popularity of Yellowstone in order to promote its first nationwide fee-free weekend on August 15-16, 2009. On that Saturday, President Obama and the First Family paid a brief two-hour visit to the Old Faithful area as part of a three day tour of the American West. The following day, they spent a comparable amount of time at the Grand Canyon. When asked the reason for the president's detours to the parks, away from the public town hall meetings that characterized the rest of his tour, White House Press Secretary Robert Gibbs responded "Partly to highlight our national park system, to highlight the weekend where we hope millions of Americans will enjoy the national park system..." (Dewell 2009, 3). Although press photographs generally depicted the First Family visiting the site in solitude with only rangers and the Secret Service as company, personal accounts of the visit mention hundreds of onlookers. Additionally, the Executive Chef of Xanterra Parks and Resorts, the largest concessionaire in the National Park system, presented the high-profile guests with a meal of locally produced food in order to highlight its sustainable practices on the national stage (Pratt 2009). Ultimately, the National Park Service declared the fee free weekend to be a resounding success, and designated several such events in 2010, including the presidentially-proclaimed "National Park Week" from April 17-25 of that year in order to celebrate the 40<sup>th</sup> anniversary of Earth Day.

In regards to the foreground of the photographic pair, it is not possible to conclude whether the higher number of tourists present in the modern image of figure 6.7 is due to the increase in Yellowstone's popularity and visitation. The eruptions of the Old Faithful Geyser are caused by the periodic boiling of the water table by the nearby magma of Yellowstone's super volcano, and their timing can be predicted to within a few minutes. Schedules are posted throughout the park, allowing visitors to plan their tours accordingly. Thus, while I took my photograph approximately five minutes before one such eruption, it is possible that the Vales took theirs shortly after one. Additionally, the shadows in the Vales' photograph indicate that their image was taken during the early morning hours, while my own was taken during the early afternoon.

The dramatic rise in visitation to Yellowstone and Old Faithful has made existing facilities surrounding the attraction inadequate. An assessment of the Old Faithful Visitor Center in 2002 reported that due to overcrowding and a general lack of proper interpretation, the majority of visitors left the attraction without gaining any knowledge regarding the geological processes at work in the park, and some even remained unaware that numerous other geysers existed within a short distance; more, in fact, than in the rest of the world combined (Yellowstone Park Foundation 2010b). Additionally, by 2005 estimates, the outdated structure contributed to a \$22 million backlog in needed maintenance and repair needed in the park (Smith 2008). To help rectify these problems, the private Yellowstone Park Foundation raised \$15 million for the construction of a larger educational center. Groundbreaking occurred in 2006, and construction completed in May 2011. Based out of Bozeman, Montana, the Yellowstone Park Foundation is the official fundraising partner of the park, providing financial assistance for dozens of projects that range from building construction, to trail maintenance and campground

improvements, to research grants and educational outreach programs. The Yellowstone Association, the park's official education partner, raises additional money through the sale of related books, games, and other merchandise both in the park and beyond.



**Figure 6.8:** The Roosevelt Arch and the north entrance of Yellowstone, with the city of Gardiner, Montana in the background.

**Date and Time of Rephotography:** 5:00pm, Friday, August 7, 2010.

It is the Yellowstone Association that is the cause of a major change in figure 6.8, even if it is not readily apparent. Just beyond the park boundary, the historic W.A. Hall General Store in the center of both images dates back to 1903. It was designed by the same architect (Robert Reamer) and constructed in the same year as the more famous Roosevelt Arch that marks the northern entrance to Yellowstone National Park. At the time of the Vales' visit, the building belonged to Cecil and Ethyl Paris, who operated it according to its traditional role as restaurant and general store/gift shop. Their business closed shortly after the turn of the millennium, and after a few years of operation as a subdivided indoor mall, the structure began to attract the attention of major hotel and convenience store chains.

This alarmed the Yellowstone Association's executive director, Pat Cole, who regarded the former general store as being equally important to the Roosevelt Arch, in that both structures served as two of the first attractions to greet visitors as they entered the park through what was then the main entrance. Purchased by the Yellowstone Association in 2008, with remodeling completed in 2009, the building now holds the offices of the Association (formerly housed within the park at Mammoth Hot Springs), an educational bookstore and information desk, historical displays regarding the building itself, and classrooms for community outreach programs (Ronnow 2009). Shortly after the purchase, the Gardiner Chamber of Commerce and Yellowstone Association jointly took down the "Cecil's Fine Foods" sign and gave it away in a free raffle as part of a community open house at the former general store (Gardiner Chamber of Commerce 2008).

In the distance in figure 6.8, the town of Gardiner appears to have changed little. As outlined by Thomas and Geraldine Vale (1989), Gardiner served as the only entrance to Yellowstone National Park during the late nineteenth and early twentieth century. The advent of

the automobile, however, led to the creation of additional roads into the park. The north gate slowly decreased in importance in favor of other routes, and by the time the Vales passed through the area during the early 1980s, both the resident and tourist populations of Gardiner paled in comparison to other gateway communities.

Today, the trends are no different. In 2010, approximately 12% of the 1.18 million vehicles that passed through a park gate entered through Gardiner.<sup>12</sup> Of the five entrances, this number ranks second to last, ahead of only the northeast gate (NPS Public Use Statistics Office 2011). Likewise, of the five immediate gateway communities, Gardiner ranks fourth in population (875) according to the 2010 census behind Jackson, Wyoming (9,577), Cody, Wyoming (9,520), and West Yellowstone, Montana (1,271). Only Cooke City, Montana, with a population of seventy-five, is smaller (U.S. Census Bureau 2011). Thus, while multinational corporations have changed the faces of Cody, Jackson (to be discussed in Chapter Nine), and West Yellowstone over the course of the twentieth century, Gardiner has maintained a small town feel. As previously mentioned, the expected population boom as a result of the influx of Church Universal Triumphant members never occurred. The tourist-dominated downtown maintains a feel of the “Old West,” with saloons and small hotels, while a handful of modern convenience stores and coffee shops have appeared on the town’s northern fringes.

Yellowstone’s north gate itself has also changed little over the past thirty years. The Roosevelt Arch remains the primary attraction here, and during my three passes under its span in August of 2009, tourists could be seen taking photographs of the historic monument. The jump in visitation that occurred in the park following the fire of 1988 did precipitate an upgrade in the entrance station directly behind the photographer’s position in figure 6.8. In 1991, the 10-by-15

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<sup>12</sup> This number excludes the more than 750,000 vehicles that merely pass through the western periphery of the park along U.S. 191.

foot structure, known by park staff simply as “the box” was replaced by a larger, more attractive, log cabin type of structure (Whittlesey 2010a). There are no visitor services offered here, as Mammoth Hot Springs Village is only six miles distant. As a final side note, hitch hiking within Yellowstone National Park was as illegal in 1984 as it is today. Since the 1950s, Montana law has prohibited the soliciting of rides while standing on a roadway (Montana Legislative Services 2009), and in regards to civil matters such as this, the National Park Service defers to local legislation (Kim 2005). The Vales labeled the two individuals in their photograph as “hitch hikers” (p. 123), though as they are neither standing in a roadway nor actively soliciting any vehicle, their activities at that time could have been considered legal.

At the opposite end of the combined Yellowstone/Grand Teton National Park complex, figure 6.8 depicts the southern entrance to the latter, adjacent to the gateway city of Jackson, Wyoming. As noted by the Vales, the two parks, while bordering one another, have drastically different characters. U.S. 89, unlabeled through these federal lands, is generally lined with tall ponderosa pine trees through Yellowstone National Park, awarding few views of the surrounding landscape. In Grand Teton National Park, however, vistas such as that depicted in figure 6.9 are common. This is indicative of the two parks in general. As outlined by Peterson (2010) in his guidebook to the area, all of the famous attractions of Yellowstone can be reached by automobile, and toured by those in “average shape” (p. 10). In the Tetons, however, one must be willing to hike and possibly backpack significant distances to reach the flanks of the major peaks, and possess climbing skills and equipment if they are to reach any of the glacially-eroded summits. The Snake River and manmade Jackson Lake provide for more accessible, active recreation, though additional fees are involved. Thus, the focus of Yellowstone National Park tends to be on geologic features and wildlife, while Grand Teton National Park is known for its



scenery, which is often viewed from the road or from a number of resorts ranging from log cabins to five-star accommodations.



**Figure 6.9:** The southern entrance of Grand Teton National Park. The view is facing northwest, toward the Teton Range. Grand Teton, the highest point visible (mostly obscured by the sign in the 2009 image), stands at 13,775 feet above sea level.

**Date and Time of Rephotography:** 6:30pm, Sunday, August 23, 2009.

Grand Teton National Park's annual number of recreational visits has generally been lower than those of its northern neighbor since the early 1980s: 2.66 million in 2010, compared to Yellowstone's 3.64 (NPS Public Use Statistics Office 2011). The lodging statistics of the two parks reveal the differences in visitor usage more clearly. Both parks post campground statuses at all entrance stations so that visitors can better plan their stays. As was true during my six passes through the region in August of 2009, visitors will notice that virtually all Yellowstone campgrounds (2,086 sites not counting group facilities) fill to capacity by mid-day. At the entrances to Grand Teton National Park, an hour's drive or less from Yellowstone, the boards tend to list the majority of campgrounds (1,070 in total) as having vacancy. In fact, the park's website advises prospective visitors to seek out the Lizard Creek and Gros Ventre campgrounds as two that almost never fill to capacity (Grand Teton National Park 2010). When both campground and other lodging facilities are combined, only one in five visitors to Grand Teton National Park is estimated to spend the night in some capacity. In Yellowstone, the numbers exceeded one third in 2010 (NPS Public Use Statistics Office 2011).

Regardless of its nature, visitation at Grand Teton National Park is far above the numbers of the late 1980s. Though only hit with a glancing blow by the 1988 fire, the disruption of tourism in the greater Yellowstone area that year decreased the number of tourists to 1.2 million, the lowest it had been since 1956. The numbers rebounded to over 2.7 million visitors in 1998, before dipping slightly in the first decade of the twenty-first century (ibid). The new sign, depicted in the 2009 image in figure 6.8, dates to the height of this visitation curve: July of 1998 (Moore 2010). The lack of camera wielding-tourists can be attributed more to the time of day of the rephotography than to any lack of interest in the attraction. Carloads of visitors could be



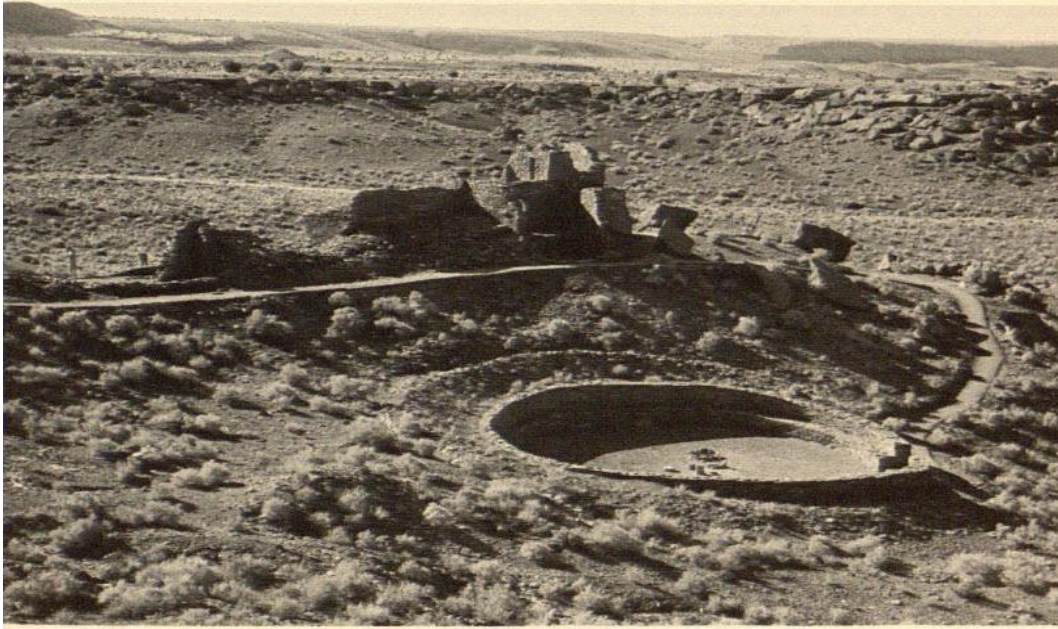
spotted here on other days in August of 2009, though at those times, clouds obscured the Teton Range in the distance.

At the time of this writing, construction is taking place adjacent to the welcome sign. As part of Grand Teton National Park's strategy for the Centennial Initiative, bicycle pathways will be constructed parallel to the major roads throughout the park, as well as between the park and nearby gateway communities (Grand Teton National Park 2007). The plan received a significant boost in August of 2010, when residents of neighboring Teton County to the south voted to fund a twenty-five mile pathway from the city of Jackson, through the National Elk Refuge, to the park's southern border near the welcome sign (Teton County 2010). Other goals relating to the Centennial Initiative, as it was originally outlined, include the acquisition of remaining private inholdings within the park, the restoration of 4,000 acres of native rangeland, the construction of several modern visitor and interpretation centers throughout the park, educational outreach programs with local schools, the increased use of youth conservation programs in trail maintenance, and the purchasing of hybrid vehicles for park operations in order to cut down on local pollution (Grand Teton National Park 2007). The Jackson Hole Airport, the only commercial airport in the country entirely within a national park, has operated under strict noise standards since 1983. The Centennial Initiative goals of the park also attempt to make the facility more environmentally sustainable by proposing runway adjustments with the goal of minimizing risk of skidding off the pavement in icy conditions (a relatively common occurrence with little harm to passengers or equipment, but responsible for severe damage to adjacent vegetation) (Jackson Hole Airport 2008, 2010).

In 2008, the park established the "Green Team," which outlined further objectives of the environmental impact side of the centennial strategy. These include increased recycling of all

possible items, the use of fluorescent light bulbs, and the purchasing of 100% green power for the park's operation. Construction within the park will also be limited to only those structures that have been certified by the Green Building Council, a non-profit organization, based out of Washington D.C. that investigates new construction projects of participating corporations or government agencies in order to judge how well they are minimizing pollution and waste. One major catalyst for these efforts in Grand Teton National Park is the decline of the American pika: a small mammal, related to rabbits, known for its unique squeaking sound. Unable to survive warm climates, these creatures have been gradually forced, since the end of the last ice age, onto what are essentially "islands" of habitat on high mountain summits. Though denied endangered species status by the Obama administration in February 2010 (Wolf 2010), further global warming could eventually cause the species to become extinct all together (Grand Teton National Park Green Team 2009).

Smaller national park units, too, are making strides to improve their facilities in accordance with the Centennial Initiative. Wupatki National Monument, less than fifty miles southeast of the Grand Canyon, protects approximately 35,000 acres of land that hold a number of Ancient Puebloan dwellings. Wupatki Pueblo, the largest and most frequently visited of these, with a one-time population of around ninety people, is depicted in figure 6.10 (Wupatki National Monument 2010). Though not quite at its all-time high of 267,000 in 1992, visitation at the monument has increased from 162,000 in 1980 to 221,000 in 2010 (National Park Service Public Use Statistics Office 2011). The park's 2002 Master Plan details the impact that these numbers have had on the landscape, and details the ways in which these effects will be mitigated in years to come. The goals of the plan also serve the secondary role of fulfilling the park's Centennial Initiative.

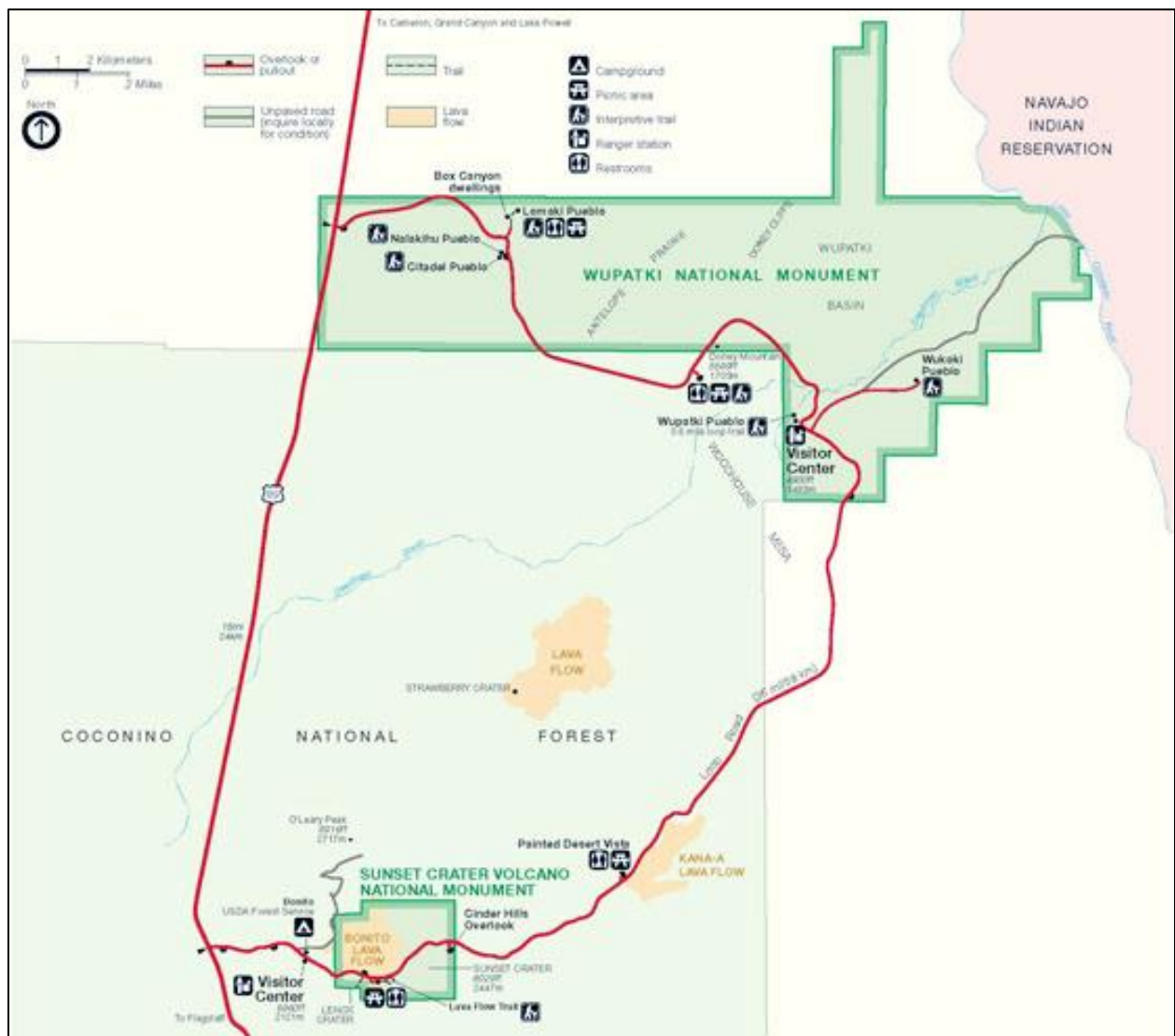


**Figure 6.10:** The kiva and main dwelling at Wupatki National Monument. The photograph is taken from an overlook behind the visitor center, facing northwest, along the trail leading to the site.

**Date and Time of Rephotography:** 12:00pm, Monday, January 11, 2010.

With the exception of the Crack-in-Rock dwelling, which requires a two day guided backpacking trip to reach and explore, none of the attractions in Wupatki National Monument have any permanent, or even regular, ranger presence. During my own ninety-minute stay, no

member of staff could be even be found on the trails surrounding the dwelling directly behind the visitor center, which include two multi-room “houses,” a ceremonial kiva, and a ball court. Therefore, the most significant problem cited in the master plan was, unsurprisingly, the degradation of the park’s cultural resources through the unsupervised actions of visitors (accidental or intentional). Other issues included damage to vegetation adjacent to overused trails and vehicle congestion along Coconino National Forest Road 545: the monument’s only through-route.



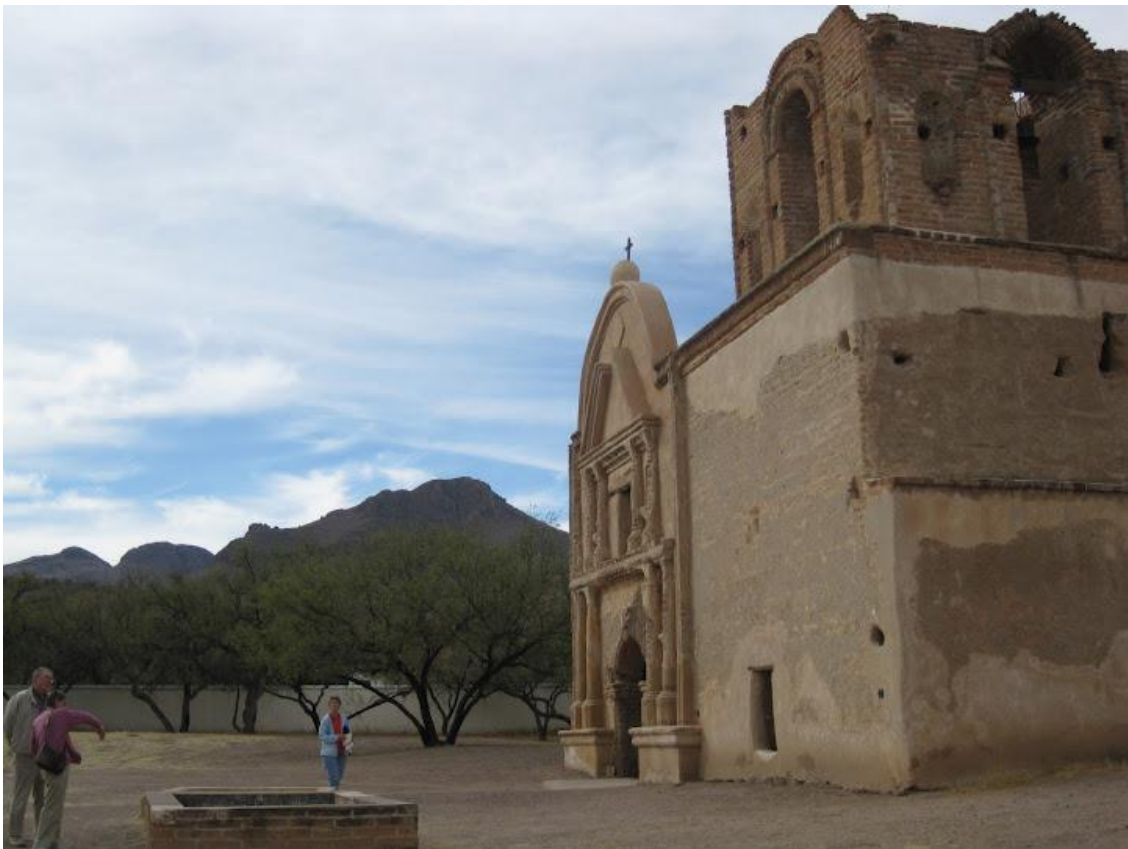
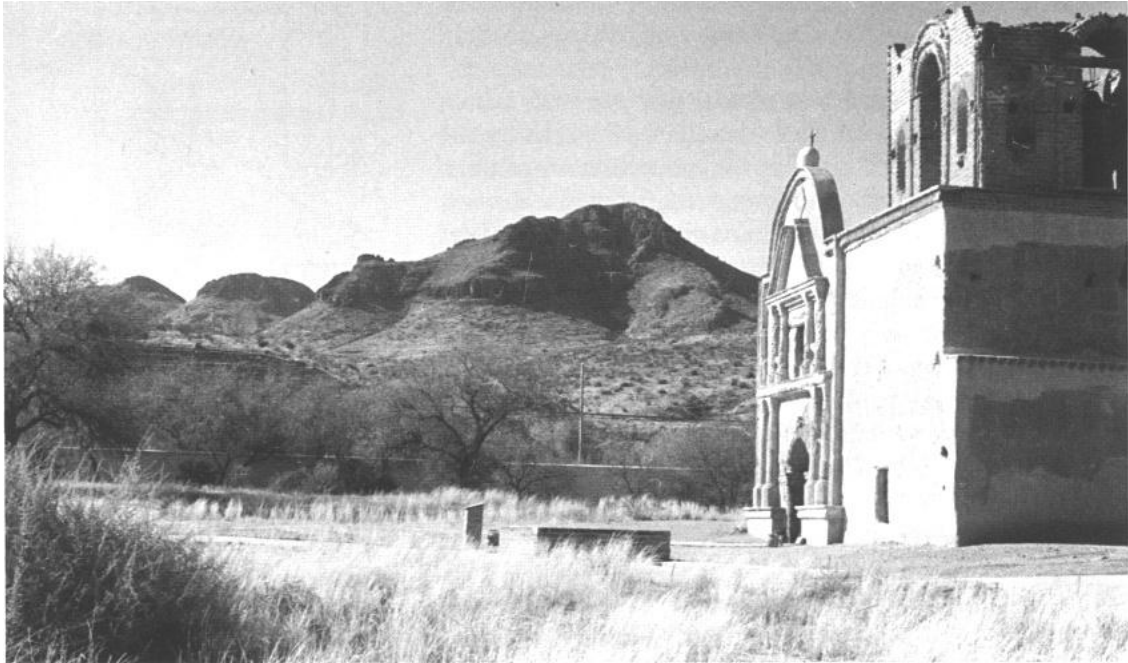
**Figure 6.11:** Wupatki and Sunset Crater National Monuments. Source: Wupatki National Monument 2011.

Although Wupatki National Monument shares management and is often advertised together with the other two “Flagstaff Area” monuments of Sunset Crater (to be discussed toward the end of this chapter) and Walnut Canyon, it is a separate entity. Therefore, one project proposed to mitigate visitor impact is the construction of a new entrance station near the northern intersection of U.S. 89 and Loop Road/Forest Road 545 (see figure 6.11). Currently, only visitors coming from the southerly direction of Sunset Crater pass through a contact station. Those entering from the north do not have to pay a fee or speak with rangers unless they enter the visitor center. A northern contact station will therefore both raise park revenues and educate all visitors as to proper conduct in the various archaeological sites. All spur roads and parking lots will be gated at night in order to prevent unauthorized access to the sites. Additionally, the spur road to Wukoki Pueblo will be remade into a loop in order to reduce traffic jams during busy weeks and months. Finally, the preferred management plan (Wupatki National Monument 2002) calls for 25,000 additional acres of land to be purchased along the park’s northern border. Although there are no immediate plans to develop the new acquisition for visitor use, sensitive archaeological sites would be permanently protected from any future actions of mineral extraction industries in the area.

One additional change to Wupatki National Monument and other nearby parks has occurred in the night sky. During the 1980s and 1990s, the doubling of Flagstaff’s population created light pollution for dozens of miles in almost any direction: a microcosm of a trend affecting rural areas along urban fringes worldwide. In 2001, however, Flagstaff became the first municipality in the world to earn the designation of a “Dark Sky City,” drastically reducing the radius and intensity of its light pollution. Achieving this status does not require any laws or regulations regarding the use of electricity, but rather promotes other methods, such as the use of

shielding on building and lamp posts, and downward facing bulbs on flag poles, to prevent light from escaping skyward (Friederici 2001, Flagstaff Dark Skies Association 2008). Also along U.S. 89 in Arizona, Pinal County and the Phoenix Metropolitan area have societies dedicated to bringing dark skies to those places as well. Although few options exist to legally experience the night sky within the Flagstaff Area National Monuments, those taking part in the overnight hikes to Wupatki's Crack-in-Rock Ruin are likely appreciative of this change.





**Figure 6.12:** San José de Tumacacori Mission, Tumacacori National Historical Park. The view is facing west, toward the prominent peak and mountain range of the same name within Coronado National Forest. Obscured by the park wall in the 2009 image is a very small business district of hotels and restaurants catering to park visitors.

**Date and Time of Rephotography:** 3:00pm, Sunday, January 10, 2010.

Arizona's Tumacacori National Historical Park has expanded significantly since Thomas and Geraldine Vales' passage through the area in 1982. The principal attraction of the park, established as a national monument by President Roosevelt in 1908, is the San José de Tumacacori Mission (figure 6.12). The structure, built by Jesuit missionaries in 1751 for the purpose of converting and civilizing local Native American tribes, is currently kept in a state of arrested decay by the National Park Service. Visitors may pass through and take guided tours of the lower level of the church, where offerings can be left at an altar. Interpretive displays detail the history of the Jesuit monks and the difficulties of life on the frontier of colonial New Spain. The mission's cemetery has also been maintained, and the park's visitor center, constructed in 1937, is now a national historic landmark in its own right.

The "mostly unkempt grounds of the national monument," in the words of the Thomas and Geraldine Vale (p. 22), became a congressionally designated national historical park in 1990 with the acquisition of two other nearby missions, Los Santos Angelos de Guevavi (est. 1732) and San Cayetano de Calabazas (est. 1773). Both are non-contiguous units several miles to the south of the main park. In all, there are over twenty such missions in the vicinity of Tumacacori, constructed by either Jesuit or Franciscan priests during the eighteenth and early nineteenth centuries. Today, they range from active churches to mere rubble. The two locations acquired by Tumacacori National Historical Park in 1990 fall into the latter category (Tumacacori National Historical Park 2010b). In 2002, the park expanded again, to a total of 360 acres, through the acquisition of land adjacent to and east of the Tumacacori Mission. The new parcel includes a one-mile stretch of the Santa Cruz River and its riparian corridor, which historically allowed the mission to become self-sufficient through the irrigation of orchards and other farmland. As



visible in figure 6.12, the increased funding as a result of the land acquisitions also led to a general tidying of the formerly “unkempt” park grounds.

This latest expansion came despite a sharp decrease in visitation to the park. From 55,000 in 1980, the numbers peaked at 66,000 in 1994, before slowly dropping to just below 40,000 in 2010. The latter is the lowest visitor count the park has experienced since 1950 (National Park Service Public Use Statistics Office 2011). In order to attract more interest, officials at Tumacacori National Historical Park conducted a survey in 2009, asking nearby residents and past visitors alike what they would like to see developed for the centennial initiative.

The resulting general management plan, released in September of 2010(a), details three possible paths of development. All three include continued and improved cultural exchange programs with nearby communities and Native American Reservations. Cultural demonstrators, funded solely by donation money for over thirty years, provide visitors with knowledge of how local foods and crafts are made (Cook 2010). During my visit, a tortilla maker was present only a short distance behind the camera’s position in figure 6.12. Additionally, under all proposals, transformation of the newly acquired parcel into orchard and farmland (for historical demonstration purposes) will continue, except for the sensitive riparian corridor immediately adjacent to the Santa Cruz River. More costly proposals address visitor suggestions to construct interpretive trails through this newly acquired landscape. A particularly ambitious plan even recommends acquiring additional right of ways to construct a hiking trail linking all three missions controlled by the park. Currently, the Guevavi and Calabazas ruins are accessible only during the winter through scheduled guided tours (Tumacacori National Historical Park 2010a).

Regardless of the completion of these additional pathways, all alternatives of Tumacacori National Historical Park’s general management plan call for the park to be linked up with the

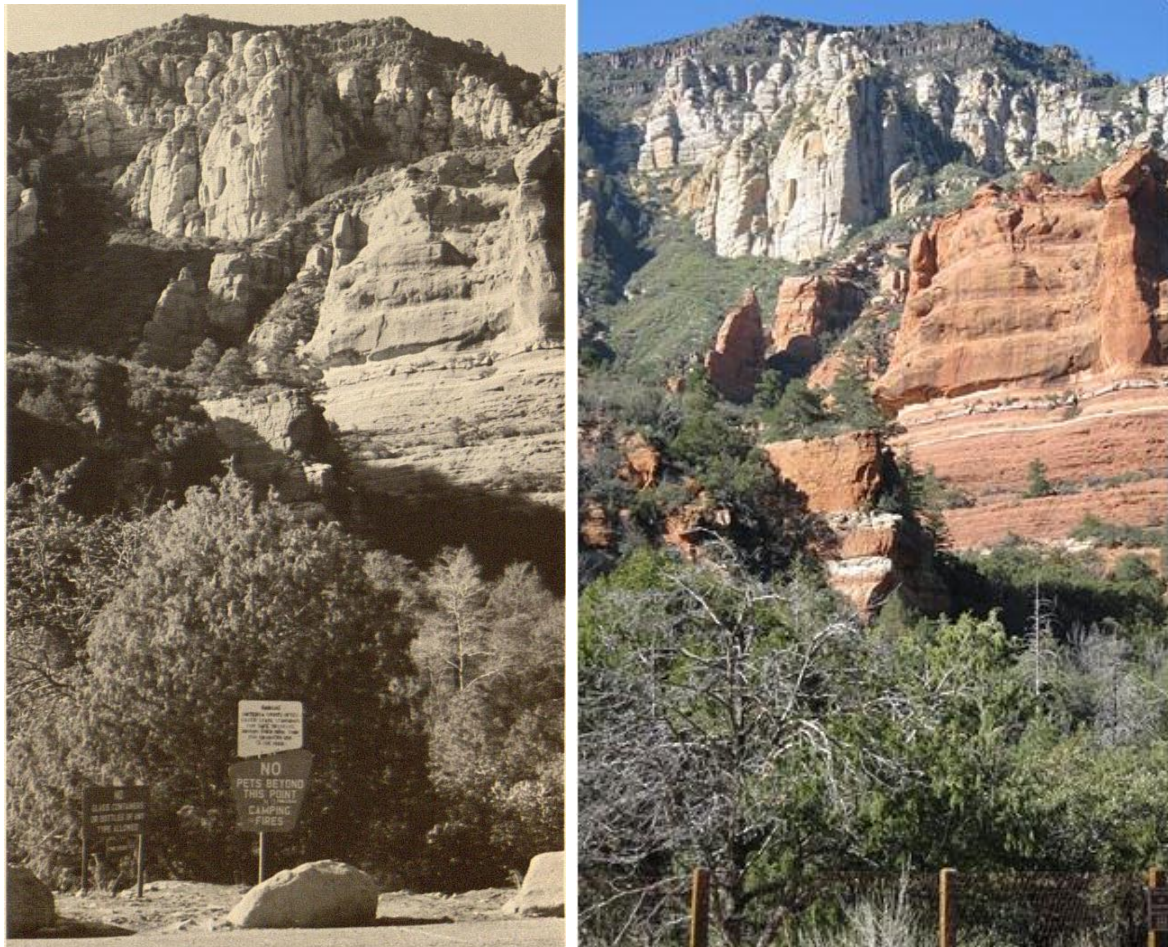
Juan Bautista de Anza National Historic Trail, which runs along a 1,200-mile stretch from the vicinity of Nogales, Arizona, to San Francisco, California. The trail, certified as an official unit of the National Park Service in 2008, follows in the footsteps of the explorer who discovered the first overland route from present-day Mexico to San Francisco Bay in 1776, leading to the founding of that city shortly thereafter. At present, 250 miles of the trail are suitable for hiker use. The remainder is designated as an auto tour. As an extremely long-term goal, the National Park Service intends for the entire route to be traversable by foot by the turn of the twenty-second century (Juan Bautista de Anza National Historic Trail 2010). In the vicinity of the Tumacacori Mission, the footpath parallels Interstate 19 and the Santa Cruz River from the confluence of the Santa Cruz River and Nogales Wash in the south, to Tubac Presidio State Historical Park in the north: roughly fifteen miles of trail, on the middle of which lies Tumacacori.

The Presidio San Ignacio de Tubac, located approximately five miles north of the Tumacacori Mission by trail or road, protected the northern frontier of New Spain after its 1752 construction that followed a Pima Indian uprising in the area. Juan Bautista de Anza II used the fort as his last supply station while en route to the San Francisco Bay (Tubac Presidio State Historical Park 2010). Thus, the site has interpretive value to both the national historical park and trail, which passes directly through the property. The recent economic recession, however, presented an unexpected and immediate threat to this historical and cultural resource. On January 15, 2010, facing a budget loss of \$8.6 million, the Arizona State Parks Board made the painful decision to close thirteen of their state's twenty two parks (Arizona State Parks Press Room 2010a).

Though initially in the group to be cut, the Tubac Presidio gained temporary reprieve through a program initiated in March of 2010 that allowed local organizations and governments to indefinitely take over operation of the state parks to be closed (Arizona State Parks Press Room 2010b). The Tubac Historical Society, based out of the town of the same name, assumed stewardship of the park shortly after the program became official. Through the charging of \$4 entry fees, and through donations from private citizens and other non-profit entities, the society has managed to restore the fort to full operation, open seven days a week. On October 16, 2010, Anza Days, the first festival since the park's closing occurred, featuring such attractions as the historical reenactment of Anza's passage through the presidio, cultural demonstrations, historical talks, and musical entertainment (Arizona State Parks Press Room 2010a).

One of Arizona's few state-owned protected areas not affected by recent budget cuts, due to its popularity, is Slide Rock State Park. Situated in Oak Creek Canyon, north of Sedona, the park's primary attraction is a location in which the creek narrows into a shallow chute that essentially functions as a natural and relatively safe water slide. When the Vales visited the unique geological feature in 1982 (see figure 6.13), the much of the surrounding land actually remained in private hands. Although Coconino National Forest managed Slide Rock itself, the Pendley Family actively farmed the adjacent land to the south. In order to prevent the large parcel of land from being sold to one of the many developers in the rapidly expanding Sedona urban area (to be discussed in Chapter Eight), Governor Babbitt created the Arizona Parks Foundation. This collection of prominent politicians, businessmen, and community leaders held the goal of purchasing the recreation site with private funds, and then donating the land to the State of Arizona for use as a park. Although Slide Rock served as the catalyst for the foundation's creation, its mandate extended throughout the state. The foundation purchased the

land surrounding Slide Rock in 1985 for \$3.6 million, and with the Forest Service's donation of the attraction itself, the new state park opened to the public in 1987 (Eatherly 2010).



**Figure 6.13:** A parking lot formerly granting access to Sedona, Arizona's famous Slide Rock swimming area. The view is facing west, across the floor of Oak Creek Canyon, and toward an unnamed summit at just over 6,700 feet. The visible die-off of Pinyon Pine in the 2010 image is likely due to the heightened presence of the mountain pine beetle throughout the West, which will be discussed in the next chapter.

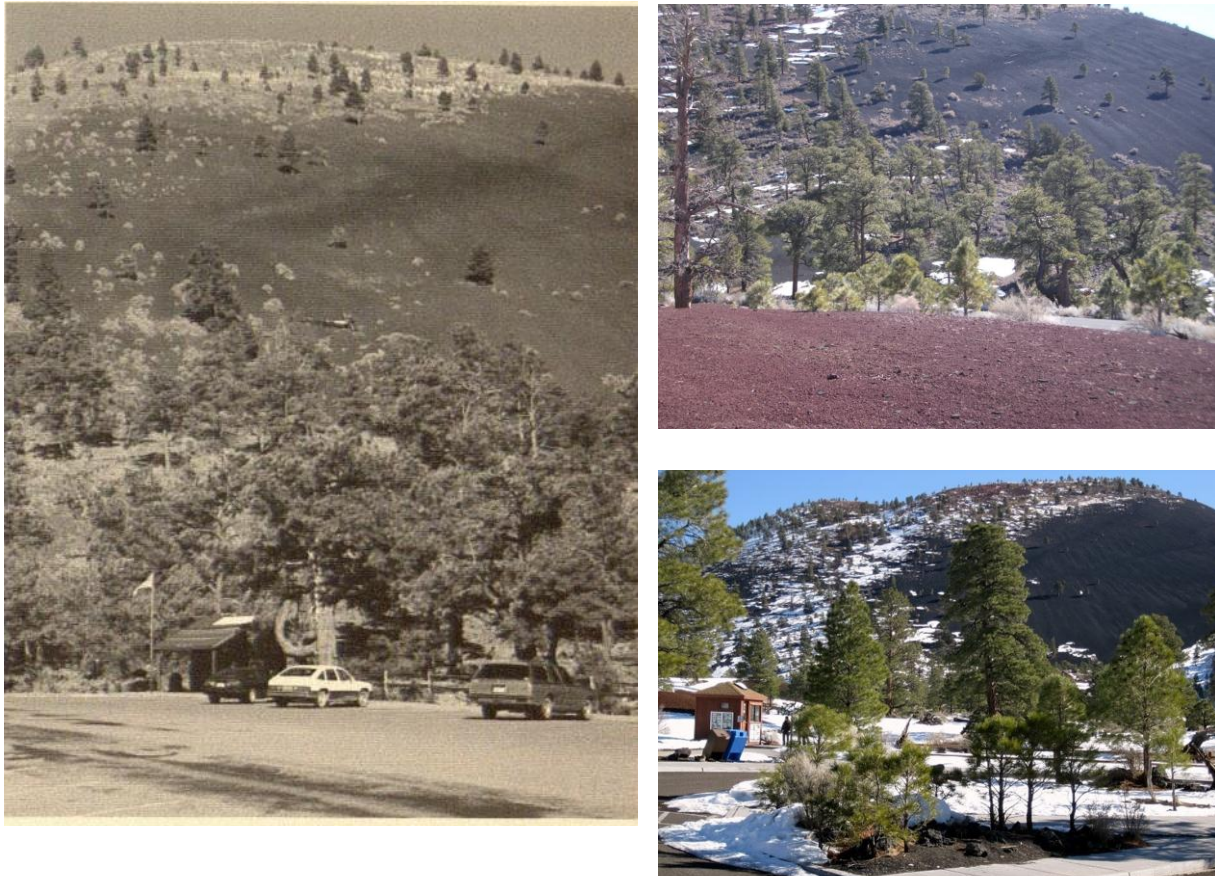
**Date and Time of Rephotography:** 12:30pm, Saturday, January 9, 2010.

The location featured in figure 6.13 is not within Slide Rock State Park, but rather Coconino National Forest. The small pullout along what was then U.S. 89 functioned as a trailhead for those who preferred a steep descent to the swimming area rather than parking fees and groomed pathways at the swimming area's main entrance a short distance to the south. Even three decades ago, the attraction suffered from overuse, as evident by the signs visible in the 1982 photograph. Aside from the standard Forest Service notifications of "no glass," "no pets,"

and “no campfires,” the white sign cautions “Bacteria counts often exceed state standards for safe swimming water when more than 250 swimmers use Slide Rock” (Vale and Vale 1989, 52). In July 2010, visitation averaged 1,470 people per day, with an average of over 700 for the entire year (Arizona Office of Tourism 2010). In addition to water pollution, this overuse of the landscape led to severe environmental damage and creek bank degradation along the network of social trails in the area.

During the spring of 2005, the Red Rock Ranger District of Coconino National Forest made the decision to close and fence the area depicted in figure 6.13. The sign in the lower right-hand corner of the 2010 image reads “Area closed for rehabilitation. No creek access.” Another sign, to the left of the area photographed, directs visitors to a nearby bridge for a vista of the Slide Rock area. Currently, the only legal access to Slide Rock itself is through the state park’s main entrance, where a \$10 fee applies to vehicles and a \$3 fee for bicyclists. During summer months, the parking lot may be completely full during most daylight hours. According to the assistant manager of the state park, unauthorized visitation to the attraction continues. Determined to visit Slide Rock regardless of fees or parking availability, many people simply park their cars in one of many pull-offs along U.S. 89 and either jump over or go around the fence depicted in the 2010 photo of figure 6.13 (VanDevender 2010). In doing so, they remain primarily outside of the state park’s jurisdiction, and the Forest Service has yet to place explicit “no parking” or “limited parking” signs along these pull-offs.





**Figure 6.14:** Parking lot for the Lava Flow Trailhead, Sunset Crater Volcano National Monument, Arizona. On the right hand side, the upper image depicts what has become of the parking lot utilized by Thomas and Geraldine Vale, while the lower image reveals the new parking lot, approximately ½ mile to the west. The view in all images is facing northeast, toward the rim of Sunset Crater itself (an elevation of approximately 8,000 feet above sea level).

**Date and Time of Rephotography:** Old Parking Lot: 11:00am, Monday, January 11, 2010.  
 New Parking Lot: 10:30am, Sunday, March 20, 2010.

Thirty-five miles northeast of Slide Rock State Park, another popular tourist attraction has suffered from overuse over the past several decades. The 3,040-acre Sunset Crater Volcano National Monument surrounds a unique geologic feature in the American Southwest: the largest of a group of cinder cones that formed during the most recent volcanic eruption on the Colorado Plateau, sometime during the eleventh century. The switchback trail leading up thousand-foot-tall cone itself attracted tens of thousands of hikers each year until its closure in 1973. After ascending the volcano, careless tourists often ran down, creating deep scars in the mountain's

side that are still seen today (Vale and Vale 1989, Sunset Crater Volcano National Monument 2010). These scars are slightly visible in all images of figure 6.14.

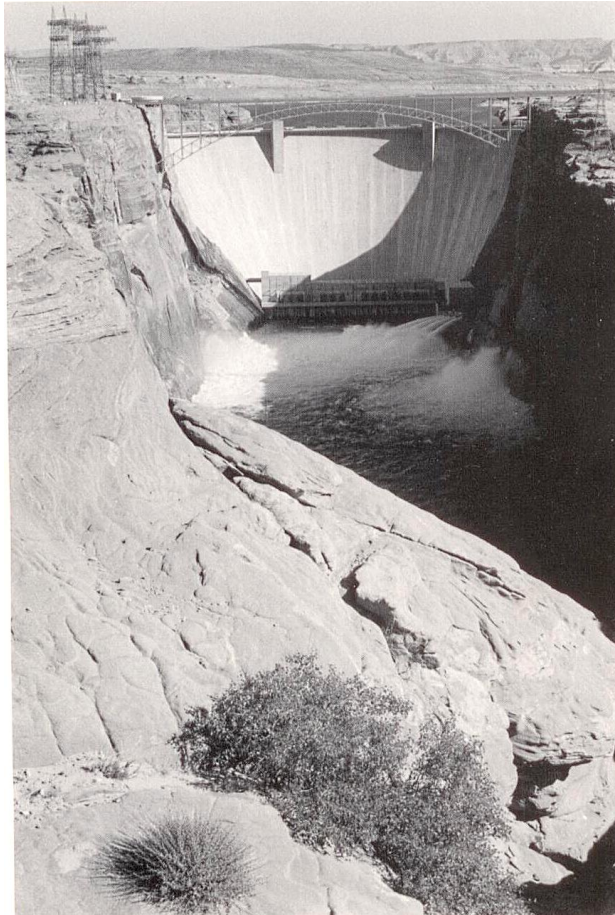
In order to divert would-be climbers' attentions from Sunset Crater, the National Park Service recommends that people ascend two other high points in the area. To experience the summit of a volcanic cinder cone, hiking is allowed on the much smaller (and lesser known) Lenox Crater near the park's western entrance. For a more substantial endeavor that allows a view into Sunset Crater from above, an ascent of nearby O'Leary Peak (8,916 feet above sea level, and approximately 900 feet taller than the crater) is suggested. The latter, a lava dome volcano that formed around the same time as the San Francisco Peaks, sits north of the park in Coconino National Forest and also acts as a fire lookout station (Coconino National Forest 2010).

When the trail up Sunset Crater closed in 1973, the national monument experienced a sudden drop of visitation: 228,700 in 1973 to 193,300 in 1974. These numbers rebounded soon thereafter, increasing over the next two decades to an all-time high of almost 600,000 in 1992, before dropping sharply to less than 200,000 for the majority of the first decade of the twenty-first century (NPS Public Use Statistics Office 2011). Although the exact year has been lost to history, increasing visitation of the late 1980s forced officials at Sunset Crater Volcano National Monument to relocate the parking lot photographed by the Vales in figure 6.14. Then, as now, the lot served as the entrance to the Lava Flow Trail: a short interpretive loop that brings visitors through an area of volcanic rock deposited by the crater's eruption 900-1,000 years ago. Prior to 1973, it had also served as the trailhead to the rim of Sunset Crater itself. In a similar fashion to the Forest Service parking lot conveniently close to Slide Rock, hikers used the Lava Flow Trailhead as a means to sneak up to the crater rim. In moving the facility approximately one half



mile to the west, in part also to accommodate more vehicles due to increasing visitation during the 1980s, park officials erased all traces of where the historic rim trail began (Gallenstein 2010). Work crews rerouted the Lava Flow Trail to begin and end at the new parking lot, which today also contains bathroom and picnic facilities, as well as an unmanned kiosk offering the purchase an interpretive trail guide for one dollar.

Sunset Crater Volcano National Monument's general management plan of 2002, which ties in closely with the Centennial Initiatives of all three Flagstaff Area National Monuments (including Wupatki and Walnut Canyon national monuments), will have only a slight visual impact on the park in the years to come. The plan states that visitors are largely unaware of the distinction or difference between national park and national forest land, and the proposals revolve around greater cooperation between the different federal entities in the vicinity in order to provide superior recreational and educational opportunities to visitors. Toward this end, a joint NPS/Forest Service visitor center will eventually be constructed at the southern intersection of U.S. 89 and Forest Road 545 (see figure 6.11). The goal of updating the park's visitor center with new, multimedia displays has already been accomplished. Additionally, in order to better link services between the two agencies, and because there is no camping allowed within the monument, a trail will be constructed from Coconino National Forest's Bonito Campground (west of the park, near the turnoff to the O'Leary Peak Trailhead), past Lenox Crater, to the Lava Flow Trailhead approximately 1.5 miles to the southeast (Sunset Crater Volcano National Monument 2010).



**Figure 6.15:** Glen Canyon Dam, Lake Powell, and the Colorado River, as seen from the terminus of Glen Canyon National Recreation Area's Dam Overlook Trail. The view is facing northwest. Along with that of the Fire Hole River, this is one of only two photographic pairs in the entire set that requires a hike (approximately 200 yards and ninety vertical feet) to reach. The camera angle has been adjusted slightly due to the construction of a new fence at the trail's end. Presumably, the Vales were able to get slightly closer to the cliff edge, while I abided by a ranger's request not to cross the barrier.

**Date and Time of Rephotography:** 8:30am, Sunday, April 12, 2009.

One hundred miles to the north of Sunset Crater, Glen Canyon National Recreation Area is also implementing policies to deal with a high number of visitors. As is the case of most parks discussed in this chapter, 2010 visitation (~2.1 million) falls far below the 1992 all-time high of 3,590,000, yet still above that of the Vales' visit in 1983 (1,870,000) (NPS Public Use Statistics Office 2011). One notable problem with larger numbers of visitors over the past two decades has been increased noise and water pollution on the lake due to private watercraft. As previously

mentioned, the park's current goal for the Centennial Initiative involves cooperation with Grand Canyon National Park and private concessionaires on the Colorado River to develop "a new generation of cleaner and quieter boat motors by using alternative fuels, reducing the environmental impacts of boating" (Grand Canyon National Park and Glen Canyon National Recreation Area 2008, 1). Off road vehicle use has also spiked along portions of the lake's shorelines, causing unknown levels of environmental damage, and creating the need for an environmental impact study to take place over the next few years (David 2010).

Over the past decade, an average of 450,000 private watercraft departures from the various marinas have been counted on Lake Powell each year, including an all-time high of 625,000 in 2001 (NPS Public Use Statistics Office 2011). Aside from the Centennial Initiative goals, these numbers have forced park officials to implement other policy changes in recent years. Because the lake sits within a series of canyons formed by the Colorado River and its tributaries, cliff jumping has become a popular activity. It is also dangerous, as the public remains largely unaware that jumping into water from great heights can have the same effects on the body as falling onto concrete. One high profile cliff jumping case, dating to July 16, 2001, involved the death of Colorado Spring's Wasson High School track coach, who failed to resurface after jumping off a thirty-foot cliff and landing on his stomach. It had been the second such death that month (Fitzhenry 2001). On September 11, 2004, another death occurred that made worldwide news. John Hodgess, a recent graduate from England's Loughborough University, died of head trauma and subsequent drowning after hitting a shallow water object while jumping off a seventy-foot cliff. Hodgess had been part of a tour group led by Trek America, and while the facts were disputed in court, witnesses claim that the tour guides

themselves were unaware of the dangers involved with jumping from such high elevations and actually encouraged the act (Britten 2006).

Regardless of the exact circumstances, action photographs of that fateful jump are posted at Wahweap Marina as a warning to tourists. In 2006, citing cliff jumping as the number one cause of death in the park, Glen Canyon National Recreation Area officially banned the activity, and was soon followed by all other applicable national park units (Glen Canyon National Recreation Area 2006). A search of Youtube.com, however, will reveal that this law is broken almost on a daily basis.

Another recent problem faced by Lake Powell and other water bodies in the American West has been the threat of the zebra mussel. Native to Eastern Europe, the species reached North America by clinging to the hulls of cargo vessels, and first gained notice in the United States in Michigan's Lake St. Clair in 1988. Zebra and the closely related Quagga mussels are small, multiply quickly, and have extremely adverse effects on the local ecosystem as they will attach themselves to any object, living or inanimate. With their overwhelming numbers they can quickly drain a water body of essential planktons that native species need to survive. By the late 1990s, the mussels had been transported to nearly every major watershed on the eastern half of the continent, as they can survive for long periods of time inside any vessel that has not been completely drained of water. Due to its popularity as a vacation destination for boaters from around the country, experts believed that Lake Powell would be the first body of water west of the Mississippi watershed to be infested (Glen Canyon National Recreation Area 2009). The reality, however, is that while both types of invasive mussel have been spotted in other bodies of water in the West and along the Colorado River (including Lake Mead), Lake Powell remains clean (100<sup>th</sup> Meridian Initiative 2010).

As part of the 100<sup>th</sup> Meridian Initiative, a cooperative network of government agencies at all scales that tries to limit the spread of the mussels west of that line of longitude, Glen Canyon National Recreation Area has implemented strict guidelines that dictate what vessels will be allowed within the park. As of November 2009, all watercraft transported to Lake Powell must be thoroughly inspected by park staff for mussels before they will be allowed to launch from any marina. With the exception of rarely used and remote boat launches, self-certification methods (being able to inspect your own vessel) have been discontinued. Failure to abide by these regulations carries a stiff penalty: a mandatory court appearance that can result in a maximum fine of \$5,000 and six months in jail (Glen Canyon National Recreation Area 2010).

It could be argued that the amount of water in Lake Powell is every bit as foreign to the region as the Zebra and Quagga mussels. Glen Canyon Dam began service in 1963, inundating many of the geologic features first made famous by John Wesley Powell's river expeditions in 1869 and 1871, and later mourned in Edward Abbey's *Desert Solitaire* (1968). The lake, which serves as both a source of water and electricity for the American Southwest, finally filled to capacity in 1980, with a surface elevation of 3,700 feet and a maximum depth (at the dam) of over 550 feet. The spillway flows in the Vales' photograph in figure 6.15 indicate that it was likely taken during or shortly after the heavy flooding that plagued the region in May of 1983: the same event that led to the previously mentioned destruction of Thistle, Utah. Heavy rains and high spring snowmelt in that year filled the lake to a level that threatened to overtop the dam and at least destroy the power production facilities there, if not the entire structure itself. The use of emergency "flashboards" (structures meant to temporarily increase the height of a dam) helped save Glen Canyon Dam. Rapid erosion inside of the canyon walls that occurred as a result of the

spillways operating at high flows, however, could have potentially sprung several leaks adjacent to the dam, draining Lake Powell (Hannon 2003).

Water levels never again reached this critical stage at Glen Canyon Dam, though Lake Powell did fill to normal capacity once more around the turn of the millennium. A severe drought in the area dropped lake levels to an average elevation of 3,570 in 2004, briefly threatening to shut down the power production capabilities of the dam (McKinnon 2004), before replenishing in recent years. In 2010, the average water level of Lake Powell had recovered to 3,629 feet above sea level (Bureau of Reclamation 2011, Lake Powell Water Database 2011).

Further down the Colorado River, however, Lake Mead is running dry at an alarming rate. Scientists speculate that there is a 50% chance that Lake Mead, which provides ninety percent of Las Vegas' water supply, could be completely dry by 2021, and should the lake fall under 26% capacity, Hoover Dam will no longer have the pressure needed to generate electricity. Measures to stop the water loss include cutting back on pipeline deliveries to Las Vegas, Los Angeles, and other cities as part of a 2007 "shortage sharing" agreement amongst all states that signed the 1922 Colorado River Compact divvying out the river's water, increased usage of other water sources in northern Nevada, and the creation of secondary reservoirs downstream of the Hoover Dam to capture excess water flow. The latter further reduces the already virtually nonexistent Colorado River flow in Mexico (Quinlan 2010).

The plight of Lake Mead is touted by the Friends of Lake Powell Association (2010) as proof against "drain the lake" advocacy groups, such as the Sierra Club and the Glen Canyon Institute. The association argues that the water of Glen Canyon National Recreation Area is absolutely essential to the continued livelihood of people throughout the American West. While this may indeed be true, the depletion of Lake Mead, and the inevitable depletion of Lake Powell

should Lake Mead run dry, demonstrates that the current levels of water consumption throughout the American Southwest are unsustainable.

In his analysis of Yellowstone National Park during the early twentieth century, Karl Bryand (2007) argued that national parks serve as barometers of change throughout the United States. If this is true, then trends at the beginning of the second decade of the twenty-first century indicate a renewed public interest in preserved natural and cultural landscapes, as well as optimism toward the future despite hard economic times. The hostility toward public lands following the 1996 creation of Grand Staircase-Escalante National Monument, and as reported by Riebsame et al. (1997), has largely died away in the American West. In its stead, and as evidenced by the redesigned “Welcome to Utah,” are efforts by communities throughout the region to capitalize on these tourist draws (to be discussed in further detail in Chapters Eight and Nine). Preservation vs. recreation conflicts continue in Yellowstone and elsewhere, however, regarding exactly how to use the resources.

The year 2009 marked the end of a decade-long decline in national park visitation: 285.6 million people were recorded, up from 274.8 in 2008. In fact, 2009 represented the third highest visitation ever, behind 1999 (287.1) and 1988 (287.2) (NPS Public Use Statistics Office 2011). In Utah, for example, eleven of its thirteen national park units reported an increase in visitation over the previous year. Ken Salazar, Secretary of the Interior, hypothesized that two factors may have played a role in this sudden spike: the promotion of the National Park Service’s fee-free weekends, and the economic recession which may have families investigating the cheap domestic vacations that national parks tend to provide (Davidson 2010). Supporting this theory is the fact that tent camping within the nation’s national parks rose to a six-year high in 2009 (Outdoor Industry Association 2010), while more expensive concessionaire lodging options



witnessed a decrease of 100,000 guests between 2008 and 2009 (NPS Public Use Statistics Office 2011).

Of the seven national park units discussed in this chapter, four (Grand Canyon, Yellowstone, Glen Canyon, and Sunset Crater) experienced recent increases in visitation. Three (Grand Teton, Wupatki, and Tumacacori) did not. Regardless of current numbers, however, all seven experienced declining numbers of tourists after peaking during the 1990s. Therefore, the photographic pairs presented in this chapter depict not only the ways in which the Park Service adapted to these highs, but also how it attempted to react to the lows of the last decade. Even where little or no change is visible between the historic and modern images, analyses of the surrounding landscapes reveal that major changes are happening.

Most of the Centennial Initiative objectives put forth by these parks stress one thing: cooperation. This means cooperation between the parks and adjacent communities in regards to educational outreach programs and the linking of pedestrian infrastructure, as well as cooperation between federal and state land agencies to provide visitors, who may not understand the distinctions, with a seamless and positive experience. As evidenced by Logan Canyon and what is now Arizona's Slide Rock State Park, the United States Forest Service has been intimately involved in tourism for decades. The Bureau of Land Management, however, is a relative newcomer to the park business, with the creation of Grand Escalante Staircase and Vermilion Cliffs National Monuments in 1996 and 2000, respectively.

Plans to create a joint National Park Service and Forest Service visitor center along U.S. 89 north of Flagstaff will eventually provide perhaps one of the most visible cooperative efforts between land agencies. Other joint initiatives are more subtle, such as the cooperation between Tumacacori National Historic Site, Tubac Presidio State Historical Park, and Juan Bautista de

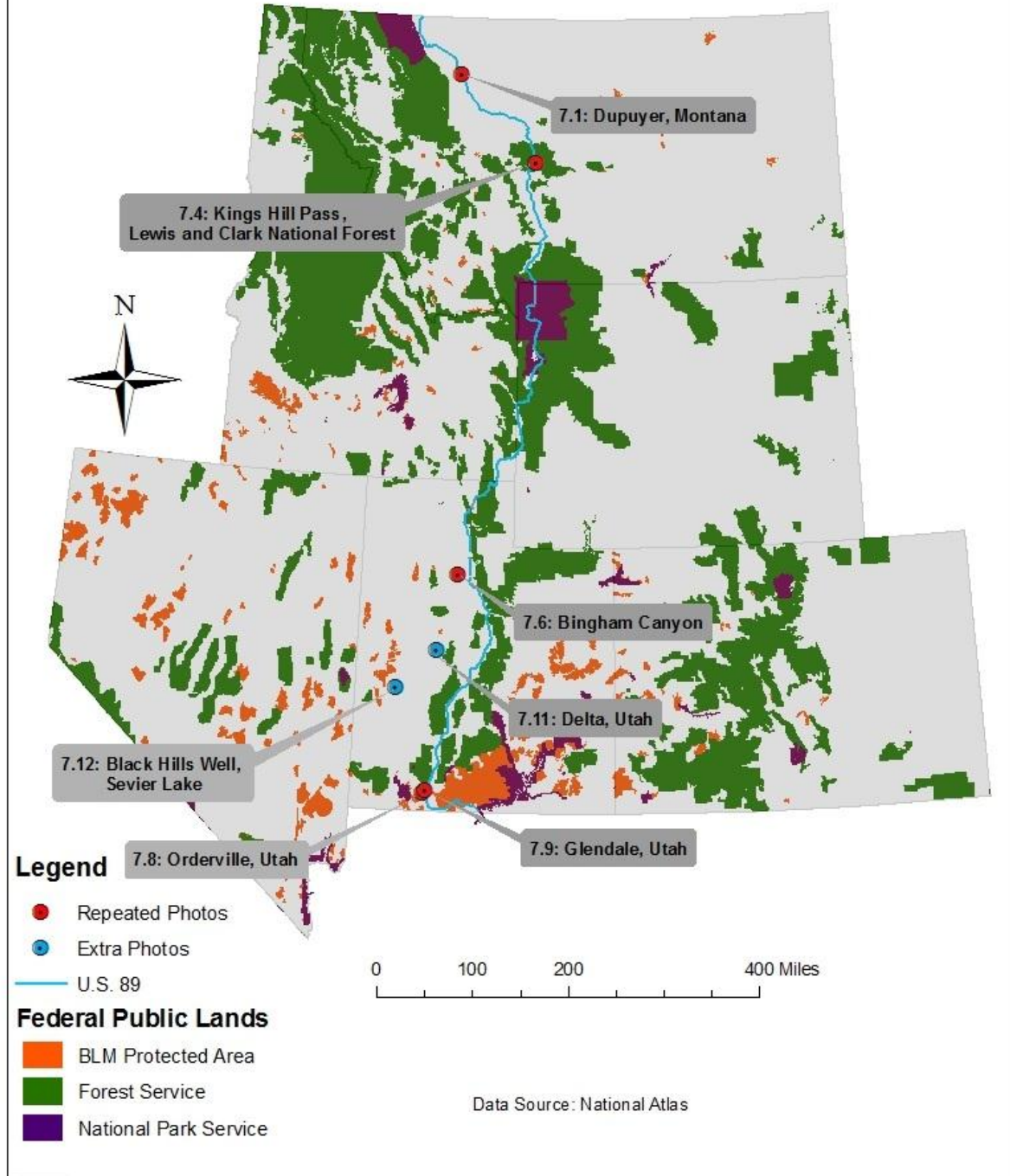
Anza National Historic Trail to create a single pathway that will link together all of the Spanish colonial sites contained within Arizona's Santa Cruz River Valley. In Wyoming, Grand Teton National Park has joined with Teton County to connect its pedestrian and bicycle paths with those of neighboring communities.

Cooperation regarding issues of environmental impact is also occurring. Wyckoff and Dilsaver (2005) cite this as being especially important, as no matter how expansive or secure a park's borders may be, it can still be affected by a variety of external factors. Unfortunately, Yellowstone National Park itself has yet to come to any kind of lasting compromise with neighboring communities regarding the use of snowmobiles and motorboats within its boundaries. Elsewhere, however, the situation is improving. North of Sedona, Coconino National Forest and Arizona State Parks are attempting to limit damage to the ecosystem of the Slide Rock area by reducing access to "social" trails down the fragile banks of Oak Creek. At Sunset Crater Volcano National Monument, visitors are directed to O'Leary Peak in nearby Coconino National Forest in order to deflect their interest in climbing the fragile crater. Grand Canyon National Park and Glen Canyon National Recreation Area are cooperating with each other and with private concessionaires in developing new motorboat engines that will reduce both noise and pollution.

On September 23, 2010, the Department of Interior officials, the National Park Hospitality Association, and the U.S. House Subcommittee on National Parks, Forests, and Public Lands met at a hearing titled "The Role of Partnerships in National Parks." All participants agreed that cooperation such as that outlined above is essential in efforts to "aid park operations and connect twenty-first Century Americans to their parks" (Park Partners 2010, 1). Another analysis of the parks and protected areas presented in this chapter, conducted perhaps a

decade after the completion of the varying Centennial Initiative goals, would reveal exactly how accurate this statement is.

## Chapter 7: Natural Resources Along U.S. 89



One of the major themes outlined by the Vales in *Western Images, Western Landscapes: Travels Along U.S. 89* is that of the “Big Rock Candy Mountain:” a vision of the West as being a region full of natural resources that, if correctly tapped, can be the source of immense wealth. The historic gold rushes of the nineteenth century would be an example of this, as would several modern activities: coal, copper, and uranium mining; timber harvesting, and the drilling for oil and natural gas. Large reservoirs, such as Lakes Powell and Mead, prove that water must also be treated as a precious natural resource in the arid West in order to sustain these activities as well as the major urban areas that have sprouted in the region over the course of the twentieth century.

In addition to the image of Lake Powell from the previous chapter, five photographs within the Vales’ book relate directly to natural resources. Their pairings with modern images will be presented in this chapter both by theme and location, beginning with oil and timber resources in Montana before moving south to mining landscapes of Utah. In every case, multiple land uses occur as resource extraction industries share space with other activities on both public and private property. One such example can be viewed in figure 7.1. Here, less than twenty miles south of the Blackfeet Reservation, and approximately five miles southeast of the town of Dupuyer, oil wells can be seen dotting a landscape that is otherwise dominated by agricultural activities. Specifically, the area photographed lies within the Gypsy Basin Oil Field, encompassing portions of southern Pondera and northwestern Teton Counties. Although the crops had already been harvested by the time of my fieldwork in the area in August of 2009, the patterns of color and mowing indicate that the extent of wheat farming has remained relatively constant in the photographed area over the past three decades.



**Figure 7.1:** A joint wheat and oil field along U.S. 89, approximately five miles southeast of Dupuyer, Montana. The oil field remains active, as seen in figure 7.2. In the distance, to the west, rise the mountains of Lewis and Clark National Forest's Bob Marshall Wilderness.

**Date and Time of Rephotography:** 2:00pm, Thursday, August 20, 2009.





**Figure 7.2:** an active well in the same field as depicted in figure 7.1. The small mound on the right side in the above image is the same as that on the left side of figure 7.1.

Since its establishment in 1889, Montana has proudly boasted its wealth of natural resources. Even in the capital city of Helena, hikers exploring the Scratchgravel Hills, immediately to the north of the urbanized area, will find abandoned gold mines dating back more than 100 years. During the first decades of the state’s existence, the former Montana Department of Agriculture and Publicity published several editions of “The Resources and Opportunities of Montana,” which extolled the scenic wonders and cultural attributes of the state, as well as the seemingly endless opportunities for wealth through various primary economic activities: farming, ranching, timber harvesting, mining, and oil and gas drilling. State authorities distributed copies of the book to Easterners in hopes of attracting them as investors and homesteaders. The eighth edition of this work, published in 1918, gave first mention of what

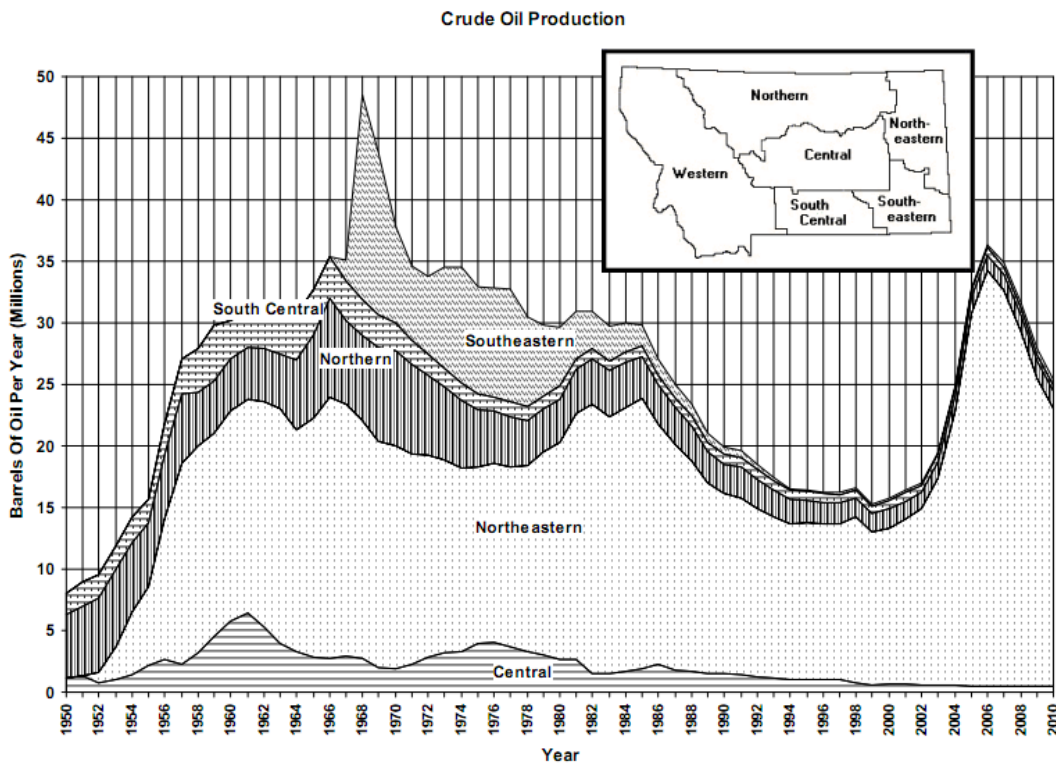


would later be known as the Gypsy Basin Oil Field. A small “district...in Teton County near Dupuyer” is mentioned as having potential for oil and gas exploration (p. 82). The book also predicted the high yield potential of any future wheat farms in this part of the state.

Although many early oil drilling sites in Montana were chosen due to visible pools or seepages on the earth’s surface, the Gypsy Basin field’s inclusion in the 1918 text appears to have been pure speculation. Oil was finally discovered at the site through random drilling exploration in 1958, with the first permanent wells not entering operation until the start of the next decade (Erdmann 1963). In 1984, the year that the Vales appeared to have passed through the area, the basin recorded 23,055 barrels of oil (approximately .08% of the state’s total production), up from 22,191 in 1980. Production in the basin appears to have peaked around this time, however, as it had fallen to 10,500 barrels in 1990, and to an average of only 1,100 during the first decade of the twenty-first century. These numbers are part of a larger trend over the past three decades that has seen northeastern Montana grow substantially in oil production in recent years, while all other regions have fallen to miniscule levels (Department of Natural Resources and Conservation of the State of Montana, Oil and Gas Conservation Division 1980-2011).

The discovery of the Elm Coulee Oil Field in Richland County in 2000, part of the larger Bakken Formation which is estimated to hold over 3.5 billion barrels (U.S. Geological Survey 2008) of oil in North Dakota, Saskatchewan, and Montana, raised the latter’s production to levels not seen since the mid-1980s (see figure 7.3). While far from being sufficient to wean the United States off foreign oil, the fields of the Bakken Formation are the largest ever discovered in the contiguous 48 states (ibid) and are viewed by some as an answer to rising oil prices. Such a large modern discovery is occasionally even cited as a refutation of the theory that the world may be approaching (or already past) peak oil, the point at which more than 50% of the planet’s oil

resources have been extracted, on the grounds that other such findings may occur in coming decades (Corsi 2008, Fader 2010). At current estimates, however, these hypotheses appear overly optimistic. Combining Montana’s roughly 25 million barrels of oil produced in 2010 (Department of Natural Resources and Conservation of the State of Montana, Oil and Gas Conservation Division 2011) with North Dakota’s 113 million (North Dakota Petroleum Council 2011), the two states amounted for less than 7% of the country’s total oil production, and under one half of one percent of the world’s (U.S. Energy Information Administration 2011a,b).



**Figure 7.3:** Oil production in Montana, 1950-2010. Source: Department of Natural Resources and Conservation of the State of Montana, Oil and Gas Conservation Division 2011.

Although oil production in the Gypsy Basin and throughout the region labeled as “Northern Montana” on figure 7.3 has fallen to negligible levels in comparison to the rest of the state and region, Pondera County (2011) still lists small drilling operations as one of its largest

employers. The loss of production is, however, visible on the landscape. The two wells photographed by Thomas and Geraldine Vale (figure 7.1) have now been replaced by a single structure (figure 7.2). Comparing the historic topographic maps of the Dupuyer East Quadrangle with modern satellite imagery shows that approximately half of all oil wells within a mile of the photographer's location in those images have been dismantled over the past three decades. For those that remain, storage tanks exist only a few hundred yards further southeast along U.S. 89.

Today, as in the early 1980s, there appears to be no land conflict occurring between agriculture and oil extraction industries. While oil drilling may be one of the largest employers of Pondera County, agriculture is the greatest money maker. Montana has long been one of the nation's top wheat producers. It and the two Dakotas harvest nearly 70% of the spring wheat crop of the United States, though other regions of the country dominate the winter and summer harvests (Western Organization of Research Councils 2002). Between 1980 and 2009, Montana's wheat production nearly doubled, from approximately 120 million bushels, to over 215 million (the majority of which are not irrigated and can be classified as "spring" wheat). This amounts to 9.8% of the national total (United States Department of Agriculture National Agricultural Statistics Service 2011).

Pondera County has followed this national trend regarding agriculture. Production over the past thirty years has increased dramatically, with over 9.1 million bushels of wheat harvested in 2010, compared to only 6.6 million in 1980 (ibid). With an average bushel price of approximately \$5.70 in 2010 (Anderson 2011), the crop amounted to a \$52 million industry.

One final item of interest in the vicinity of figure 7.1 has little to do with natural resources, but is nonetheless worth mentioning. Just as oil wells dot the landscape of north-central Montana, surrounded by a sea of cropland and cattle ranches, so too do the

Intercontinental Ballistic Missile (ICBM) silos first mentioned in Chapter Five. One such installation (T-49) existed only 1/3 mile northeast of the oil well in figure 7.2 until 2008; it operated out of Malmstrom Airforce Base near Great Falls some seventy miles distant. The small parcel of land, accessible only by a gated dirt road, remains under the jurisdiction of the Air Force, and is otherwise surrounded by locally owned farm and ranchland. Aerial images of the region around Great Falls show hundreds of these small slabs of nondescript pavement interspersed amongst ordinary prairie and agricultural landscapes. In 2006, Bush Administration military officials made the decision to deactivate T-49 and forty-nine other nuclear missile silos operated under Malmstrom's 564<sup>th</sup> Missile Squadron, explaining that not only were these particular Minuteman III missiles out of date in regards to communication systems, but also that the strategic considerations of the twenty-first century do not necessitate as many intercontinental ballistic missiles on alert status (Franz 2008, Kirkpatrick 2010). Deactivation of these sites was completed in the summer of 2008.

According to the terms of the Strategic Arms Reduction Treaty (START) of 1991 and 1993, silos deactivated by that agreement must be completely dismantled and imploded in order to permanently prevent future use (The Military Standard 2010). A renewal of the treaty occurred in February 2011. The fifty silos deactivated in 2008, however, were voluntarily shut down outside of treaty obligations. Therefore, it remains uncertain whether they will be destroyed or sold to the private sector for use as homes or businesses, as was done with the deactivated Atlas Missile Silos of the 1960s and early '70s. For some examples of the latter for sale, see *20th Century Castles, LLC* ([www.missilebases.com](http://www.missilebases.com)), which itself is operated out of a former Atlas-E missile silo in Kansas. Regarding the remaining 150 active nuclear missiles under the command of Malmstrom Air Force Base, it is estimated that only ten more will be

deactivated as a result of the renewed START treaty, thus having very little impact on the culture and economy of north-central Montana (Johnson 2010).

One hundred and fifty miles to the southeast of the Gypsy Basin Oil Fields, on the opposite side of the Great Falls urban area, U.S. 89 passes over Kings Hill Pass in the Little Belt Mountains. The photographs of figure 7.4, taken a short distance south of the summit of that pass, reveal landscape changes that can occur as a result of timber harvesting. Little has changed from the description of the area given by the Vales (pages 129-130). Interpretive signs, erected at a nearby scenic vista by Lewis and Clark National Forest, still tell that story of what has been happening here over the past five decades (see figure 7.5). The visible scar in the foreground of the images dates to a clear-cut logging operation in 1963. The patch of fledgling vegetation present in 1984 has grown into a lodgepole pine thicket that may soon join seamlessly with the surrounding forest matrix.



**Figure 7.4:** A view facing northwest from U.S. 89 as it approaches Kings Hill Pass (~7,400 feet above sea level) in the Little Belt Mountains of Lewis and Clark National Forest. On the upper right-hand side of both images, on the flanks of Porphyry Peak (~8,200 feet of elevation), are the trails of the Showdown Ski Resort.

**Date and Time of Rephotography:** 5:00pm, Sunday, August 12, 2009.



The landscapes surrounding you reflect society's ever-changing priorities and need for natural resources. Yesterday's values affect today's landscapes.

As you drive through Neihart or along Carpenter Creek or the Dry Fork of Belt Creek, watch for evidence of mining, and how it impacted the landscape of the late 19th century, and still affects it today. Some of these mines produced lead for the war efforts of World War I.

Between Kings Hill Pass and White Sulphur Springs look for homesteaded farms and ranches, with their cabins, fields, and fences. The nation's Homestead Act provided these lands for farmers and rangers eager to settle the West.

In the 1930's, skiers needed a place to ski. The ski runs in front of you are evidence of recreation's effects on the landscape.

The clear cut in the photo at right was harvested in 1963 during the era of the "baby boomer" generation. Harvesting wood for millions of new homes was the driving priority. You can still see evidence of the old harvest unit today.

Fire suppression since the early 1900's has affected Ponderosa pine and Douglas-fir stands. They are no longer open and park-like in appearance, but are undergrown with trees that thrive in the shade.

Today, society's natural resource priorities continue to evolve. Perceptions of timber harvesting, mining, recreation and fire suppression are changing. How will they affect this landscape that will always be dominated by wildfire?



**Figure 7.5:** Excerpts from the interpretive signs at Kings Hill Pass, overlooking both the slopes of Showdown Ski Area and historic timber harvests further south. This particular display is entitled “Little Belt Scenery.” The clear cut depicted in the above image is the same as that in figure 7.4, though from a different angle further to the north. The “natural openings” on the ridgeline in the distance are still present and remain virtually unchanged. Photographs taken by author.

The purpose of the interpretive displays is to educate visitors as to the necessity of timber harvesting in many of the country's western national forests. This is an understandable approach, as it is rare that clear-cuts can be viewed so close to a major road, and even rarer that they can be viewed from popular recreation areas. Although not new in this location, these signs are an example of a larger movement attempting to increase ecological literacy amongst the American public (Hull et al. 2000). While no longer official policy, the U.S. Forest Service has generally attempted to hide timber harvesting behind permanently wooded buffers along roads, trails, and other areas that people tend to frequent. In some eastern states, such as New Hampshire (University of New Hampshire Cooperative Extension 2004) and Georgia (North Carolina Division of Forest Resources, Forest Management, and Development Section, Forestry NPS Unit 2003), timber harvesting buffers remain in place by law specifically to preserve the aesthetic



quality of public highways. In Maine, a 2005 proposal to harvest timber in state forest lands bordering Baxter State Park met significant resistance due to the fact that visitors entering through the park's northern (Matagamon) gate would see significant harvesting not far from the road that they had previously believed would bring them into a wilderness area (Austin 2005).

Denis Wood, former professor of design at North Carolina State University, slammed the concept of roadside buffers in a 1988 edition of the *Landscape Journal*. He argued that such barriers deliberately mislead the public into believing that the extensive consumer culture of the Western World can be sustained without any impact upon the natural environment. Interpretive signs posted at the entrances to Maine's Baxter State Park, at Kings Hill Pass as seen in figure 7.5, and in other locations as recommended by Virginia Tech Professor of Forestry Bruce Hull et al. (2000), attempt to change these beliefs in American society by revealing the balance between wilderness and resource extraction that is necessary in order to sustain the nation's economy.

In the case of the Kings Hill Pass interpretive displays, timber harvesting is described as a means of correcting past mistakes of the U.S. Forest Service. Active fire suppression during the first half of the twentieth century led to old, dying stands of trees with significant undergrowth: the perfect formula for a large fire similar to that which ravaged Yellowstone in 1988. By harvesting and clearing these old stands, the agency claims, it is restoring balance to nature by mimicking the role of naturally caused fires.

The displays also point out, albeit indirectly, that clear cuts in the forest for the purpose of timber harvesting often appear little different than those created for recreational activities such as skiing. The slopes of the Showdown Ski Area, while only partially visible in figure 7.4, are directly ahead of anyone standing at Kings Hill Pass. Established in 1936, predating any of the roadside timber harvests in the vicinity, Showdown boasts the oldest ski slopes in Montana. It is

interesting to note, however, that no recent harvests could be viewed along U.S. 89 through the Little Belt Mountains. Given that the annual timber harvest estimate of 8-12 million board feet cited by the interpretive sign has remained accurate since the 1940s (Lewis and Clark National Forest 2010), it appears that the Forest Service is keeping the modern activities of timber companies away from the eyes of tourists, even as it educates visitors as to what has gone on in past decades.

Although not mentioned on the signs at Kings Hill Pass, another reason behind the need to harvest old stands of pine trees in Lewis and Clark National Forest and elsewhere western North America is the recent outbreak of the mountain pine beetle (*dendroctonus ponderosae*). These small insects bore holes through a tree's bark and into its core, laying eggs that eventually produce larvae which will consume and kill the pine from the inside before maturing and leaving to attack another tree during the following spring. Specifically, the insects consume the tree's phloem, or sap-producing vascular system on the inside of the bark, thus preventing the spread of nutrients throughout the organism (Montana Department of Natural Resource Conservation 2011b). Older stands are especially susceptible to infestation, while younger trees are better able to resist by flooding the beetles' holes with sap, or "pitch" (Leatherman et al. 2010). Trees killed by the insects turn orange or red before losing their needles entirely and several examples of this phenomenon can be seen in the modern image of figure 7.4.

The mountain pine beetle is a species endemic to the region, and therefore a natural part of the Rocky Mountain ecosystem. The past several years, however, have experienced the largest outbreak of the species in three decades. As of the time of this writing, approximately 4 million acres throughout the Western United States are affected by the mountain pine beetle each year. By comparison, fires across the entire nation destroy only an average of 3.4 million acres

annually (Puckett 2008). Of the affected area in 2009, 1.75 million acres were found in Montana. When other forms of beetle infestations are included, the current infested acreage is increased to over two million (United States Department of Agriculture Forest Service Region 1 2011). These are the highest numbers recorded in that state since 1982 (Cramer 2009), in another historic outbreak that continued through 1990 (Montana Department of Natural Resource Conservation 2011a), and although the Vales undoubtedly witnessed the related destruction during their travels along U.S. 89, it is not mentioned in their publication, and the lack of color in their photographs does not readily allow for a comparison of the two events.

Meanwhile, in Canada, the provinces of Alberta and British Columbia reported 21 million acres of pine forest killed off by 2006 (Struck 2006). By 2008, 50% of the British Columbia's marketable forests had died (*CBC News* 2008). To the east, outbreaks have been reported in the Black Hills and Nebraska National Forests (*Alliance Times* 2011). In the worst case scenario, the infestation could either continue spreading across the sporadic forests of the Great Plains, or bypass the region entirely and affect the entire North American continent within a decade. Until now, cold winter temperatures in Montana and places further north have kept the mountain pine beetle from becoming a major threat in those regions during most years. Five full days at temperatures of -20 degrees Fahrenheit or below can kill the insect's larvae even deep inside a tree. Due to warming trends as a result of climate change, however, such sustained low temperatures have been rare during recent years even in the higher elevations of the northern Rockies (Struck 2006, Natural Resources Canada 2010). Chemicals can also be used to prevent the spread of the species, though this is impractical on a large scale.

A particularly cold winter in northern British Columbia during the 2007-2008 season, coupled with a simple lack of additional trees to devour, did serve as a setback to the pine beetle

there (*CBC News* 2008). Problems associated with the outbreak, however, continue. The trees killed during the infestation are now serving as fuel for increasingly intense forest fires that envelop the region each year. Forestry officials in Alberta and elsewhere are taking note of this situation, and are preparing for the inevitable uncontrolled burns that will occur once their own pine beetle outbreaks conclude (*CBC News* 2011).



**Figure 7.6:** The view westward from the modern terminus of State Highway 48 in Copperton, Utah. When the Vales passed through here in 1983, it was possible to proceed into Bingham Canyon from this spot. Today, expansion of the copper mine of the same name has buried the location in the historic photograph under hundreds of feet of tailings. Even the ridgeline of the 8,500-foot high Oquirrh Range in the distance is nearly hidden from view. The blue sign directs sight-seers to the mine's visitor center.

**Date and Time of Modern Image:** 2:30pm, Monday, August 3, 2010.

After the Morenci Mine in eastern Arizona, the Bingham Canyon Copper Mine is the second largest copper producer in the United States, accounting for 13% of the nation's annual supply (Rio Tinto 2009). Situated approximately twenty miles southwest of downtown Salt Lake City, it is the largest manmade excavation on earth. At two and a half miles wide and 4,000 feet deep, the mine can be seen from space (Crump 2005). Additionally, it is the oldest open pit copper mine in the world, dating to 1904, and for this reason, earned the designation as a national historic landmark in 1966. Today, curious tourists can drive to the rim of the manmade crater, peer into the abyss (see figure 7.7), and learn about its history in a multimedia visitor center. Since 1992, 2.6 million visitors have come to view the mine, spending over \$2 million on entry fees and souvenirs. All profits from this money are donated to various charities (Kennecott Utah Copper Corporation 2011).



**Figure 7.7:** The view southward from the visitor center overlook at Bingham Canyon Copper Mine. The ridgeline of the Butterfield Peaks rises in the distance to elevations of over 9,000 feet. As an object of scale, the trucks depicted here stand as tall as a two story building (Crump 2005). Aside from aerial photography, there is no camera angle that can capture the entire mine, and in fact, the vantage point here may be threatened by planned expansions over the next decade.

**Date and Time of Photograph:** 4:00pm, Monday, August 3, 2011.



Arriving at a tumultuous time in the mine's history, reporting the road to the visitor center (then in a different location) closed, the Vales lamented their inability to view the excavation during their 1983 visit. During that decade, four different companies vied for control of the operation. In 1981, Standard Oil of Ohio (SOHIO) acquired the Kennecott Copper Corporation (KCC), which had owned rights to all mining operations in the vicinity Brigham Canyon since 1936. Low copper prices during the early 1980s forced the mine's complete closure between 1985 and 1987, after which British Petroleum (BP) took control of both SOHIO and KCC. Finally, another British minerals company, Rio Tinto Zinc, acquired the mine in 1989. This parent company rebranded the Kennecott Copper Corporation as Kennecott Utah Copper, under whose guidance the mine still operates today (Crump 2005).

Modernization and expansion of the mine occurred during the 1990s, forcing the relocation of the visitor center and public viewing area to its current location. The section of Bingham Canyon photographed by the Vales closed and began filling with mine tailings in 1998. Previously, that landscape had been home to several distinct company-owned mining communities, though the last of these had been torn down by 1980 in order to support expanded mining operations (*ibid*). Today, the town of Copperton, at the mouth of the canyon, is the only one of the old company towns remaining, and while the mine has relinquished control in the modern era, this fact led to the entire community with a population of approximately 800 being added to the national register of historic places in 1986 (Crump n.d., NPS National Historic Landmark Program 2010).

Directly behind the photographer's position in figure 7.6 is the Ore House Saloon, the last remaining miner's establishment within Bingham Canyon dating back to the 1920s (Robb 2010). Food and drink is served seven days a week, with live bands and other events occurring on the



weekends. Parts of the structure, including the bar itself, date to the nineteenth century (Park, Giauque, and Jeppesen 2009). Unfortunately, a suspected arsonist's fire in August of 2009 damaged or destroyed a significant percentage of the building (ibid 2009, Reavy 2009). After making several renovations that have both repaired and modernized the building, the establishment reopened in March of 2010, billing itself as Ore House Saloon 2.0 (*Salt Lake City Weekly* 2010).

The copper deposits under the Bingham Canyon Mine may extend to a depth of nearly sea level (Crump 2005). Although past analyses estimated that the costs involved with continued digging threatened to make the operation unprofitable in the twenty-first century, recent advances in technology have led to plans proposing to keep Bingham Canyon operational through the 2030s. The mine's closure would mean a loss of over 2,000 jobs, and nearly \$1 billion from the economy of the Salt Lake Valley when wages, taxes, and vendor contracts are all taken into account (Oberbeck and Gorrell 2010). In order for the Kennecott Utah Copper company to remain operational, the south wall of the mine is planned to be pushed back by 1,000 additional feet in order to allow for 300-800 more vertical feet of excavation (Kennecott Utah Copper Corporation 2010), yielding an expected 700 million tons of copper ore (Oberbeck and Gorrell 2010).

An expansion of the Bingham Canyon Mine to this extent would, of course, generate high levels of pollution. Air quality of the Salt Lake Valley would be adversely affected, as would local aquifers and bodies of water (including the Great Salt Lake). Additionally, more space for mine tailings, already forming artificial mountains more than 1,000 feet high, would be required. Modifications of 25 of Kennecott Utah Copper's seventy environmental permits are needed for

this expansion, and the Utah Department of Environmental Quality may not reach a decision on the matter until at least the summer of 2011 (Daley 2010, Utah DEQ 2010).

Realizing that environmental stewardship and community outreach is important to their plans for expansion, Rio Tinto and Kennecott Utah Copper have devoted considerable resources toward these endeavors. In 2009, the Environmental Protection Agency (EPA) removed the Bingham Canyon Mine and its surroundings from its list of potential Superfund sites (the most environmentally contaminated places in the country). In order for this to happen, Kennecott Utah Copper invested \$400 million toward cleaning much of the damage caused by nearly 150 years of mining in Bingham Canyon. Prior to its being inundated with waste rock and mine tailings, Bingham Creek carried lead and arsenic-contaminated slurry down from the Oquirrh Mountains, through the towns of Copperton, Harriman, and West Jordan, and into the greater watershed of Great Salt Lake. During the 1990s and continuing through the past decade, Kennecott worked with the EPA to remove contaminated soil in residential areas and public spaces throughout the southern Salt Lake Valley. In 1994, efforts to remove tailing piles and reclaim Butterfield Creek Canyon concluded, and the area is now a popular spot for recreation, including scenic drives, mountain biking opportunities, and trails that provide for a top-down view of the Bingham Canyon mine from the south. Additionally, efforts continue to both clean and eliminate some of the toxic tailing ponds adjacent to the Great Salt Lake (Johnson 2009).

In regards to outreach programs, Kennecott Utah Copper donates approximately \$750,000 per year to various charities, sponsors community events approximately twice per month, and as gifts to such entities as the Utah Museum of Natural History (\$250,000), the Magna Ethnic and Mining Museum (\$100,000), and the University of Utah's College of Mines and Earth Sciences (\$500,000). Due to the site's status as a national historic landmark, the public

relations staff at the Brigham Canyon Mine also works with the National Park Service in order to give visitors the most entertaining and educational experience possible. For these reasons, a 2006 telephone survey of 1,000 heads of Utah households revealed that 83% of respondents both knew of Kennecott Utah Copper and rated the business favorably and 67% had traveled to the mine's visitor center. 94% agreed that mining is a necessary activity, and two thirds felt that Kennecott behaves in an environmentally friendly way whenever it is feasible to do so (Kennecott Utah Copper Corporation 2006). When all of these activities and positive public relations are taken into account, it seems likely that the proposed expansions of Bingham Canyon Mine will take place. It is also possible that, thirty years from now, further advances in technology will allow for new widening and deepening of the excavation.

The prominent attention devoted to Bingham Canyon public attention is the exception rather than the rule for mining activities. Figure 7.8 features a much smaller mining endeavor: a gravel pit in the Elkhart Cliffs just south of Orderville, Utah. Approximately 200 such operations exist around the state, accounting for a \$120-140 million annual industry (Aggregate Research 2003, USGS and Utah Geological Survey 2003). There are, however, no visitor centers, designated overlooks, or tours of these facilities.

These small scale operations can be controversial. Residents of Orderville, with a current population of approximately 600, have lodged complaints about their local gravel quarry for decades. Specifically, the town council has heard complaints over dust and water pollution, as well as disturbances caused by heavy equipment rumbling through the community at all hours of the day (Cundiff 2003b). Elsewhere in Utah, complaints also include damage to public roads and hazards caused by gravel pebbles falling off of trucks and cracking the windshields of following vehicles (Aggregate Research 2003). Unlike other kinds of mining activities throughout the state,

gravel and sand pits are also exempt from requirements to reclaim land with vegetation after operations conclude (Utah Geological Survey 2003).



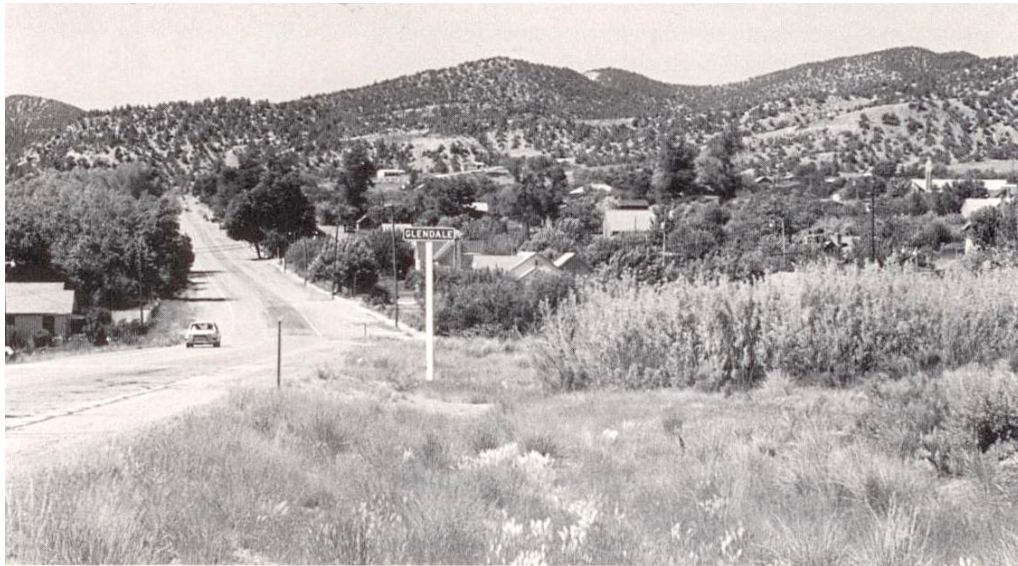
**Figure 7.8:** The Elkhart Cliffs (an extension of the more famous White Cliffs further to the south) of the Virgin River Valley, a short distance south of Orderville, Utah. The line of cottonwood trees marks the course of the Virgin River. The fields in the foreground are still used for the production of hay, and different camera angles would have captured a few bales.  
**Date and Time of Rephotography:** 3:50pm, Tuesday, March 17, 2009.

There is at least some circumstantial evidence in figure 7.8 that not everyone minds living close to a gravel pit. Since the 1980s, a large house has been constructed on the slope above the mine (the bright blue metal roof is visible in the 2009 photograph). Aerial photographs show a pattern of curvilinear dirt roadways and cul de sacs cut into the surrounding vegetation, reminiscent of a suburban development. There have, in fact, been several new subdivisions of this nature developed in the Virgin River Valley over the past three decades. In 1981, the Orderville Town Council adopted zoning laws which allowed for orderly development of this sort to take place outside of its traditional jurisdiction. Twelve years later, it also annexed the unincorporated towns of Mount Carmel and Mount Carmel Junction to the south, the latter of which serves as the eastern gateway to Zion National Park (Cundiff 2003a). These annexations are largely the cause of Orderville's population growth from 422 to 577 people between 1990 and 2010 (U.S. Census Bureau 2011). Influx of new residents to the area appears to be minimal, as only a handful of homes have been constructed in the new subdivision described above.

A short distance to the north of Orderville, the town of Glendale, Utah has also annexed land to its south (see figures 7.9 and 7.10). This land acquisition of the late 1980s occurred for a simple reason: the need to bring public water and sewage systems to those living in a previously unincorporated section of the community (Brinkerhoff 2010, Colston 2010). As was the case in Orderville, the annexation of land and the laying of infrastructure appeared to have had the effect of increasing Glendale's population slightly: from 282 in 1990, to 381 in 2010 (U.S. Bureau of the Census 2011). Both expansions have also extended what the Vales referred to as the "Middle Landscape:" pockets of the predominantly "Wild" West that have been visibly transformed by human culture. Then, as now, one of the most striking examples of this phenomenon is in Utah, where green, well-manicured lawns, shade trees, and agricultural fields stand in sharp contrast to



the surrounding semi-arid land. This garden image will be more pronounced in the two chapters that follow. It is introduced here, however, due to the drain on water resources that it represents.



**Figure 7.9:** The former southern approach into the town of Glendale, Utah. The blue sign in the 2010 image's foreground refers to Bauer's Canyon Ranch RV Park. Though leafless due to the season of the more recent photograph, non-native deciduous shade trees still line U.S. 89 just as they did in 1983.  
**Date and Time of Rephotography:** 3:30pm, Tuesday, March 17, 2009.



**Figure 7.10:** The new southern boundary of Glendale, approximately two miles south of the location depicted in figure 7.9.

**Date and Time of Photograph:** 5:15pm, Wednesday, March 18, 2009.

According to the *Arizona v. California* Supreme Court case of 1964, while the water in the Colorado River itself must be divided amongst several western states, its tributaries, such as the Virgin, fall under the jurisdiction of the states they are within (Anderson 2002). In Nevada, the river is almost entirely consumed by the demands of Las Vegas. In fact, a full 20% of the Virgin River water brought into that state is used by casinos. Another 11% is consumed by golf courses, and 50% of the overall total is used to sustain various kinds of residential development (Winters and Johnson 2006). Beginning in 1990 and continuing into the twenty-first century, the Mesquite Farmstead Water Association, based in the Nevada city of the same name, opened negotiations with neighboring Arizona for rights to pump Virgin River water across the border,



on the grounds that the sparsely populated northwestern portion of the latter state has very little need for the resource (University of Arizona 2004).

Both states, however, must contend with the growing population of Utah, located upstream. Even the small population increase in the Upper Virgin River Valley, with its corresponding increases in water usage, could affect these negotiations and water use throughout the entire watershed. More significant than the minor changes in Glendale and Orderville are turn of the millennium estimates regarding Utah's Lower Virgin River Valley. Residential and industrial water needs, especially in the vicinity of St. George, are expected to triple over the next fifty years, surpassing even the requirements of local agriculture (Anderson 2002).

Immediately to the north of the Virgin River watershed is that of the Sevier River. This ribbon of water in otherwise highly arid terrain begins at the intersection of several mountain streams near Long Valley Junction (between the towns of Hatch and Glendale), and terminates in the predominately dry Sevier Lake near the town of Delta approximately 100 miles southwest of Salt Lake City. The drainage system also includes the San Pitch River tributary running through the towns of Manti, Ephraim, and Fairview to the east. Visiting Delta in 1983, the Vales described the Sevier River as being one of the most utilized in the country. Although the Sevier Lake had been temporarily filled due to flooding earlier that year, irrigation shortfalls along the Lower Sevier River were evident. The high levels of water usage made it impossible to know whether there would be enough to irrigate all of the crops in the Delta area from year to year. Even when supplies held out, the recycled water coming from agricultural activities upstream led to a high level of salinity in the river at lower elevations. Additionally, residents complained of a recent influx of industrial complexes, particularly coal plants, which were in the process of buying up precious water rights throughout the region.

Today, many of the same processes are at work, though exasperated. Although the landscape of the Lower Sevier River (see figure 7.11) remains primary agricultural rather than industrial, water shortages in the area have reached critical levels. As of the turn of the millennium, an average of only 4% of Sevier River water reached Sevier Lake (Utah Board of Water Resources 1999). During years in which irrigation water runs out in the lower basin, farm fields quickly revert to sand dunes (United States Department of Commerce Technology Opportunities Program 2001).

During my visit in August of 2010, signs along U.S. Highway 50 put out by the “West Millard [County] Sheriff’s Posse” warned against driving onto the Sevier Lakebed due to the possibility of quicksand, as well as the \$500 minimum rescue fee should a vehicle get stuck. There were, however, scattered tourists ignoring this warning with no apparent ill effects. On the west side of the lake, a collection of buildings and rusted out vehicles labeled as the “Black Hills Well” on local topographical maps stood seemingly abandoned (see figure 7.12) except for new locks on the doors. It appeared that no productive water collection had taken place here in some time.



**Figure 7.11:** The riparian corridor of the Sevier River, as seen from U.S. Highway 6 (facing east) just upstream from the city of Delta, Utah.

**Date and Time of Photograph:** 1:30pm, Wednesday, August 11, 2010.



**Figure 7.12** The Black Hills Well, on the western side of the dry Sevier Lake. The Cricket Mountains rise in the distance. From this location, it is a one mile hike further east to the “shore,” with an elevation loss of more than 100 feet.

**Date and Time of Photograph:** 12:00pm, Wednesday, August 11, 2010

Estimated at 56,700 people in 1997, the population of the Sevier River Basin is expected to nearly triple by 2050 (Utah Board of Water Resources 1999). Clearly, this level of development, even if exaggerated to an extent, is unsustainable given current water usage. In 2000, the Bureau of Reclamation attempted to mitigate the problem somewhat by installing twenty monitors throughout the watershed, at key reservoirs, diversion dams, and canals, measuring water levels and flow rates at all times. The purpose is to allow controllers of reservoirs, such as those held back by the Piute and Otter Creek Dams, to release water exactly when it is needed, and in as close to the exact amount needed as possible. Some monitors also measure salinity content in the water so that farmers can know when irrigation may actually cause damage to their crops (United States Department of Commerce Technology Opportunities Program 2001). Additionally, the Sevier River will be supplemented by water pumped in from the Colorado River as a result of the Bureau of Reclamation's Gooseberry Project. Cloud seeding (the spreading of dry ice and aerosols in the atmosphere to stimulate cloud development and rain) may also be used during particularly dry conditions (Utah Board of Water Resources 1999). The continued abundance of farms throughout the Sevier River watershed provides evidence that these programs are indeed working, though it remains to be seen whether they will survive the expected population growth over the next several decades.

There does not appear to be any single theme to resource extraction industries in the American West, either in regards to impact on the landscape, or in terms of public perception of the activities. Mines, historic and present day, exist sporadically along U.S. 89 for nearly its entire passage from Canada to Mexico. They are described in the *Atlas of the New West* as "spectacles" of the region (Riebsame et al. 1997, 135), causing waste and pollution that acidifies rivers and eliminates habitat for dozens of species. The gravel pits along the Virgin River are

often seen as a nuisance by the communities they exist adjacent to, not only because of the possibility for water contamination, but also due to noise disturbances, damage to roads, and high levels of dust. It is therefore ironic that the Bingham Canyon Mine, the largest manmade excavation on earth, with tailing piles the size of small mountains, is treated as a tourist amenity with high levels of local public support for its continued operation for decades to come.

On the surface, by observing its interpretive signage in Montana's Little Belt Mountains, it would appear that the U.S. Forest Service is pursuing a course of transparency similar to Kennecott Utah Copper by encouraging the public to observe its timber harvesting activities. It is important to note, however, that along the entirety of U.S. 89, no other forest clear cuts were observed. Therefore, it is possible that once evidence of the 1963 harvest is eliminated by the new growth, the signs will be taken down and the practice of logging will once again be quietly hidden behind the thin veil of roadside buffers.

Elsewhere in Montana, a short distance to the south of the Blackfoot Indian Reservation the oil and gas industry appears as a neutral force on the landscape. Oil rigs and gas wells stand quietly on what is otherwise a mix of rangeland and agricultural fields on the edge of the Great Plains. This peaceful coexistence is not found elsewhere, however. In Wyoming, the picturesque Red Desert, which has never received protected status despite numerous attempts by various parties throughout the twentieth century, has been the focus of natural gas exploration and development since the mid-1990s. Of its six million acres of twisting canyons, towering cliffs, hoodoo fields, and sand dunes, two million are now developed by oil and gas companies (Behar 2008). It is not only the gas wells themselves that disturb both the wilderness and the territories of native animal species, but also the network of roads that must be created to service these installations. Despite the substantial amount of tax money brought into Wyoming from the new

development, a Bureau of Land Management survey of 80,000 public comments between 2000 and 2004 found that 95% of respondents opposed the opening of the 620,000 acre Jack Morrow Hills region of the Red Desert to natural gas exploration. Regardless of public opinion, however, 50% of the hills are now leased to private companies (The Wilderness Society Not Dated).

Although not generally considered to be as picturesque as the Red Desert, the Powder River Basin of northeastern Wyoming is also a source of recent controversy regarding the extraction of coal bed methane. The process involves pumping water from coal seams in order to reduce pressure and release the methane gas toward the surface. Since the late 1980s, ranchers in the basin have complained that their lands are slowly being bought up by major natural gas companies. Those local residents who remain, and in some cases even make a profit by leasing portions of their ranches, still find their lifestyles altered. The wells, plants, and infrastructure (roads and railroads) of the natural gas development stress cattle and do not allow for the size or range of herds that existed in decades past (Clifford 2001). In terms of damage to the native ecosystem, the Environmental Protection Agency is concerned that the water extraction involved in coalbed methane development can cause intermittent streams to become permanent, thus altering the distribution of local and foreign invasive plant species (Bleizeffer 2009).

Parts of Northern Colorado, meanwhile, made national news in 2010 due to a controversial new method of natural gas extraction taking place there. The process of hydraulic fracturing, or “fracking” as it is more commonly known, involves the injection of water, sand, and chemicals into the earth with the goal of breaking up rocks and releasing gas. As featured on the HBO documentary *Gasland*, this has led to severe contamination of both wells and public water supplies to the point that tap water can actually be lit on fire (Hemmat 2010).

This pollution of the West's water in these ways is especially unfortunate, given the scarcity and overuse of the resource within the region. The drain on water in the West is occasionally directly visible if one observes the falling level of Lake Mead, or the reduction of flow at the terminus of the Sevier River. More often, however, it is the face of human development that indicates a further loss of the resource. Every new mining operation, suburban development, industrial complex, or commercial strip further saps both ground and surface water supplies. In some communities throughout the region, this has been recognized. While the Mormon West remains comparatively green, metropolitan Phoenix and other major cities in the region have seen a recent surge in both artificial turf and xeriscaping: the use of rock gardens, rather than green lawns, to decorate one's property (Heinemann 2008). Where xeriscaping does occur, it is generally accompanied by the planting of desert plants. Perplexingly, this use of native fauna has actually been outlawed by some homeowners associations in Las Vegas, Nevada. Even in the city most likely to face severe drought and water rationing in the decades to come, these organizations mandate the watering of green lawns, and/or green strips between the street and sidewalk, (de la Pena 2009).

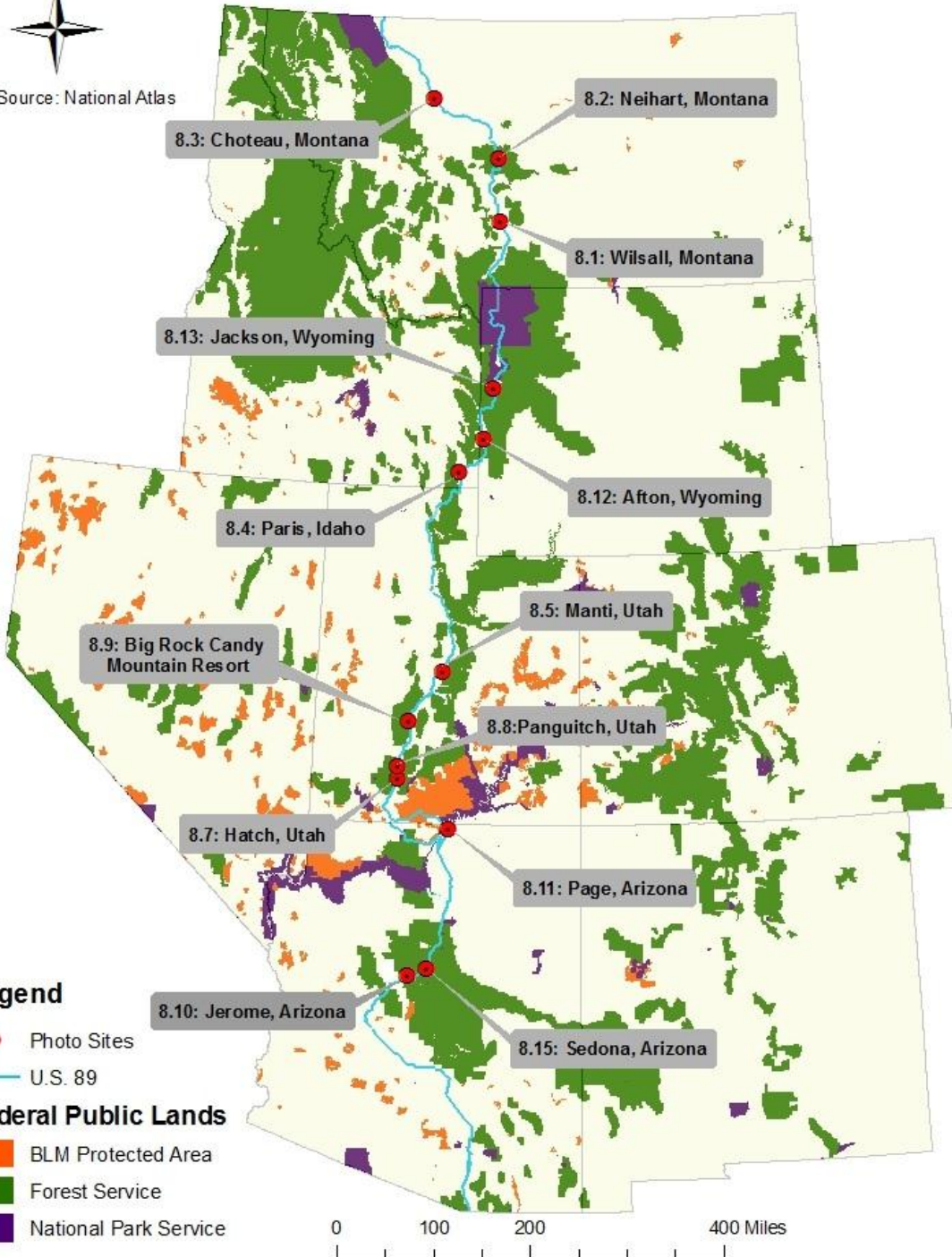
The changing face and development of towns and cities of the American West, of every size, will be the subject of the two chapters to follow. Regardless of the processes at work in these densely populated areas, however, they take place against a backdrop of continued natural resource extraction. The image of the West as a land of bountiful natural wealth, the "Big Rock Candy Mountain" as described by the Vales (1989), continues to this day and shows no signs of slowing down for decades to come.



# Chapter 8: Small Towns



Data Source: National Atlas



The West has been characterized by various academics as a “blank space on the map” (Riebsame et al. 1997, 55), or “empty quarter” (Vale and Vale 1989, 7). Of the five states covered in this dissertation, an average of 50% of all land area is mostly uninhabited federal/public property. Approximately 90% of the population of Arizona and Utah resides in scattered urban clusters, a value that exceeds that of even most states on the East Coast. Well over half the populations of Montana, Idaho, and Wyoming also fall into the urban classification. Conducting a repeat photography analysis of the West along a cross sectional highway will necessitate a disproportionate focus on these populated places: a focus that is required in order to analyze changes in culture, infrastructure, and demographics sweeping the region.

Of the fifty-two photographs contained within Thomas and Geraldine Vales’ *Western Images, Western Landscapes: Travels Along U.S. 89*, half were taken within populated areas, ranging from unincorporated towns with only a few hundred inhabitants, to the immense urban sprawl of Phoenix that boasts nearly 4.2 million residents within its metropolitan area (U.S. Census Bureau 2011). Some of these locations have been covered in the context of other chapters: Nogales, Arizona in Chapter Three, Browning, Montana in Chapter Four, Gardiner, Montana in Chapter Six, and Glendale and Orderville, Utah in Chapter Seven. The following two chapters address the remainder. This chapter details the evolution of small towns and cities throughout the study area, ranging from those in which change has been minimal over the past thirty years, to those that are reinventing themselves around the “New West,” to those that served as resort communities even before the Vales’ journey. Chapter Nine will then explore the major urban areas of Tucson, Phoenix, and Salt Lake City.



**Figure 8.1:** Downtown Wilsall, Montana. The view is facing east down Clark Street, toward the intersection (at the stop sign) of Elliott Street/U.S. 89. Partially obscured by clouds in the modern image, the Crazy Mountains rise in the distance.  
**Date and Time of Rephotography:** 9:30am, Sunday, August 16, 2009.

In a repeat photography analysis of Montana over the course of the twentieth century, William Wyckoff (2006) noted the starkly uneven pace of change across the state. While Montana's cities and recreation-oriented communities are evolving at a pace rivaling any other region of the country, many of its isolated rural towns look much as they did in the 1920s. Though not completely unchanged over the past several decades, the small town of Wilsall, in Park County, Montana, falls into the latter category. Images archived at the Yellowstone Gateway Museum (2009) reveal that Wilsall possessed a bustling economy from approximately 1910 through 1935, which included two hotels and several restaurants. By the 1980s, those businesses had long since closed and further economic losses have occurred in more recent times. Since the early 1980s, Wilsall's grain silos (including the one visible in figure 8.1) had been in operation under the Shields Valley Grain Company, along with those of the slightly larger town of Clyde Park, eight miles to the south. Their functionality, however, had been reduced to the storage and sale of chemicals and fertilizer, and during the first few years of the twenty-first century, even this operation closed down. The town's population declined by nearly one fourth with this loss of revenue, from 237 in 2000 to 187 in 2010 (U.S. Census Bureau 2011). The Shield Valley Line of the Northern Pacific Railway Company, running behind the grain silos and unused since 1977, is currently under study for removal and toxic cleanup efforts due to its having transported pesticides and fertilizer for decades prior to closure (Tetra Tech 2008).

Despite the decline of Wilsall's industrial base, its downtown remains alive. The building hosting the ice machine in the 2009 image of figure 8.1 once held the town's bank. Though no such business exists in Wilsall any longer (the closest bank is in Clyde Park), the building is now home to the "Bank Bar" restaurant and tavern. Across U.S. 89, the town's former post office has

become the site of the “Old Post Office Liquor Store,” adjacent to which stands the Wilsall Mercantile Company (a grocery and general store). A wide mural painted on the Mercantile Company’s west wall depicts how the downtown appeared during the mid-twentieth century. A newer post office has been constructed on the north side of town, also along U.S. 89. The 2009 image of figure 8.1 also clearly depicts new commercial development underway. It is possible that Wilsall will one day be able to further expand its economic opportunities by capitalizing on Yellowstone National Park in the same way that the rest of Park County has, having increased in population from approximately 13,000 in 1980 to 15,600 in 2010 (Montana Department of Health and Human Services 1999, U.S. Census Bureau 2011), though a more than ninety minute drive from the park’s north gate makes this unlikely in the short term.

Eighty miles north of Wilsall lies another community that has experienced only minimal change over the past three decades. Unlike Wilsall, Thomas and Geraldine Vale considered Neihart (see figure 8.2) to have potential for growth in the years that followed their visit. Nestled in the heart of the Little Belt Mountains, the town played into both the “Playground” and “Rock Candy Mountain” images of the West as outlined in *Western Images, Western Landscapes: Travels Along U.S. 89* due to its proximity to both the Showdown Ski Area and resource extraction industries within Lewis and Clark National Forest (both of which are discussed in Chapter Six). Despite indications that Neihart could become either a resort and retirement community, or a rejuvenated mining town if operations resumed throughout the region, neither scenario occurred and its population actually fell from ninety-one to fifty-one inhabitants between 1980 and 2010 (Montana Department of Commerce 2001, U.S. Census Bureau 2011). The town’s government offices have fallen into disrepair, and despite the visible re-occupation of

the log home in the foreground, shortly after the 2009 image of figure 8.2 was taken, the owner of the blue roofed building further down the road put the home up for sale.

This is not to say that Neihart has no appeal, however. Just as in the time of the Vales' passage through the area, newly constructed homes were visible in 2009, on both sides of U.S. 89, behind a thin wooded buffer. In Neihart's downtown, Bob's Bar, Hotel, and Restaurant advertises its proximity to a plethora of outdoor recreation opportunities, and in the winter even offers package deals in conjunction with the Showdown Ski Area (Virtual Montana 2011). Additionally, Neihart is the only remaining community in the immediate vicinity dating back to the lead, zinc, and silver mining boom of the late nineteenth century (Russell Country 2011). All others have been reduced to ghost towns that can be reached by either hiking trail or unimproved road.





**Figure 8.2:** The southernmost edge of Neihart, Montana. The photographs were taken from the parking lot of a garage belonging to the Montana Department of Transportation, facing roughly northwest along Main Street/U.S. 89. On the mountain slopes in the distance, when compared to the 1984 photograph, the 2009 image reveals both a revegetated area on the left and the creation of a new meadow on the right.  
**Date and Time of Rephotography:** 11:00am, Sunday, August 16, 2009.

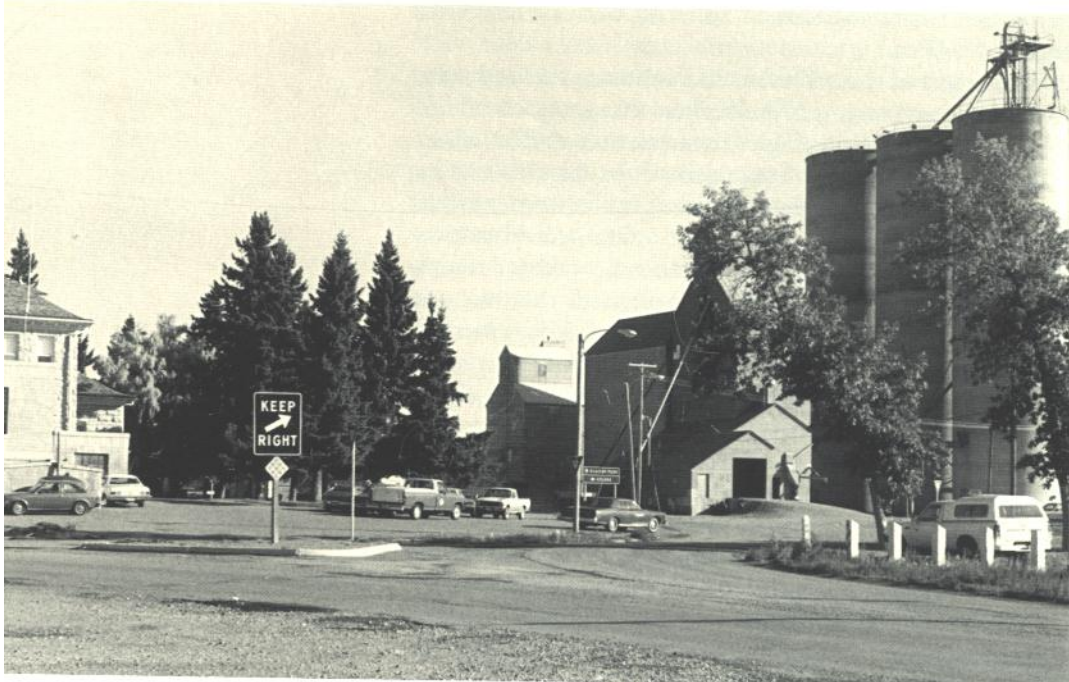


When these amenities are taken into account, coupled with Neihart's proximity to the international airport at Great Falls (one hour distant), it is easy to imagine the town revitalizing itself as a tourist attraction. A sign posted on the southern approach to the community, however, may shed light onto why this has not happened. It reads "Our small town is like **Heaven** to us, please don't drive like **Hell** through it." As also stated by an anonymous employee at the nearby Showdown Ski Area, this sign may indicate an underlying sentimental value to the size of Neihart, and therefore residents do not necessarily wish it to become a town overrun by tourists. This is not an isolated phenomenon. Emilian Geczi (2005) found similar results in his study of local sense of place in two towns in northeastern Vermont, an area in the process of using ecotourism and outdoor recreation as a means of offsetting the economic downturn resulting from the cessation of timber harvesting in the region. An analysis of the debates surrounding this shift from a resource extraction to service sector economy revealed that many residents preferred no new development whatsoever. To them, continuing decline is preferable to seeing their home forever changed by corporate hotels, chain stores, bike paths, and limitations on hunting and fishing.

One hundred miles to the north of Neihart, the Teton County Seat of Choteau also boasts of its small town character. In fact, the first sentence displayed on the Teton County homepage (<http://www.tetoncomt.org/>) reads "Welcome to Teton County: A rural county proud of its small towns, offering comfort and good family values." This website, as well as an identical description posted on that of Choteau itself (<http://www.choteaumontana.com>), also claims that the area is "a slice out of America's heartland and, in some ways, is a slice out of this country's past. Crime rates are low out here and violent crime is almost non-existent. We don't have gangs in our schools or on our streets, and we still enjoy old-fashioned pleasures like community

dances, family picnics and going for a drive in the country.” Teton County’s site touts its population density of 2.8 people per square mile, and both it and Choteau’s continue with “We value the wide open spaces, the pristine wildlife habitat, the clean air and bountiful water. We’re accustomed to seeing deer in our gardens and hay fields, hearing the yip and howl of coyotes on moonlit nights and watching as hawks and eagles soar over the prairie, seeking rabbits and ground squirrels.”

Clearly, the people of Choteau and the rest of Teton County have an aversion toward excessive growth that would threaten their rural, small town character. In contrast to the actions of other counties across the country, Teton County allocated none of the \$7.55 million it received from President Obama’s February 2009 Recovery Act toward the development of tourist infrastructure (Thornton 2009). As evidenced by the grain silos flanking the city’s downtown in both the 1984 and 2009 photographs of figure 8.4, agriculture (wheat, specifically) remains the largest industry in the county. Although grain prices have generally fallen from their levels during the 1980s, neither the acreage farmed, nor the annual wheat yield has changed significantly in Teton County over the past three decades. According to the 2007 Census of Agriculture, the crops produced \$30.8 million in sales during that year (United States Department of Agriculture National Agricultural Statistics Service 2011). Population, too, has remained stable with only a slight decline. Between 1980 and 2010, Teton County recorded a drop from 6,491 residents to 6,073, while Choteau itself experienced a loss of slightly over 100 persons (1,798 to 1,684) during the same period (Montana Department of Commerce 2001, U.S. Census Bureau 2011).



**Figure 8.3:** Choteau, Montana, at the roundabout that serves as the intersection of U.S. Highways 89 and 287. The view is facing north, and the building on the far left is the Teton County Courthouse.

**Date and Time of Rephotography:** 2:00pm, Friday, August 14, 2009.

Despite its self-proclaimed small town mentality, as well as the lack of stimulus money going towards the effort, Choteau possesses a chamber of commerce that actively tries to draw in visitors. As described by the Vales during their passage through the community, Choteau

remains a Great Plains community that prefers to be associated with the Rocky Mountains. In their work, they referred to the writings of their contemporary, but now deceased author A.B. Guthrie, Jr. who described his hometown of Choteau as the location “where he came to know and love the wide, wild, unspoiled grandeur of the high country” (p. 138). Today, Choteau’s website invites outsiders to come and experience Lewis and Clark National Forest and the Rocky Mountain Front Range, with all of the hiking and wildlife viewing opportunities they provide.

As in the mid-1980s, any plan to greatly capitalize on the mountains, distantly visible on the horizon west of Choteau, may be overambitious. Immediately to the north of town, Teton Canyon Road grants access to a number of remote campsites and hiking trails within the national forest, as well as the Teton Pass Ski Resort in winter. Package ski deals are offered by all four motels in Choteau, and a free shuttle service between the lodging facilities and the mountain runs from 8am until the close of the resort’s bar every day (Teton Pass Ski Resort 2011). These amenities, however, are overshadowed both regionally and nationally by the attractions of Glacier National Park, only a 90 minute drive to the northwest. Though vastly cheaper, the lodging and dining options in Choteau cannot compete with the more convenient facilities available in gateway communities such as East Glacier and Babb, or within the park itself.

Realizing this unfortunate reality, the Choteau Chamber of Commerce also advertises other attractions. Freezeout Lake, to the southeast of the city along U.S. 89, is advertised as a birdwatcher’s paradise due to its status as a resting place for hundreds of thousands of geese during the annual migrations. The town is also home to the Old Trail Museum, which celebrated its 40<sup>th</sup> anniversary in 2008. Also featuring exhibits relating to the history of the community, including previously mentioned author A.B. Guthrie, Jr, local artist Jesse Gleason, and Choteau’s last hanging, the museum is most known for its participation in Montana’s Dinosaur Trail, a

collection of museums, state parks, and excavation field stations. These attractions, spread across the state, appeal to visitors with their displays of unique prehistoric discoveries that have taken place in Montana over the course of the past century.

During its first year of promotion, in 2005, the Dinosaur Trail proved to be a resounding success in bringing visitors to towns and cities that had never before experienced an economic boom due to tourism, especially along U.S. Highway 2 in the far north of the state (*USA Today* 2005). In Choteau, the primary attraction is the ongoing project to reconstruct the first skeleton of an adult maiasaura, discovered locally in 1989 in the town of Pendroy, twenty miles to the north (Old Trail Museum 2011). Between Choteau and Pendroy, in the community of Bynum, lies another prominent site along the Trail. The Two Medicine Dinosaur Center, established in 1995, features “Bob” the seismosaurus, the longest (head to tail) dinosaur ever discovered (Two Medicine Dinosaur Center 2011).

Some five hundred miles to the south of Choteau lies the Bear Lake County Seat of Paris, Idaho. Like Teton County, Montana, Bear Lake County is a predominately rural area with a comparatively sized population of approximately 6,000 (U.S. Census Bureau 2011). Here, too, agriculture is a leading industry in the county, though due to a land area of less than half the size of Teton County’s, profits from wheat, barley, and beef number in the hundreds of thousands per year, rather than in the tens of millions (U.S.D.A. National Agricultural Statistics Service 2011). This, however, is where the similarities between the two counties end.



**Figure 8.4:** Paris, Idaho. The view is facing eastward, toward the downtown, from the intersection of West Center and South 1<sup>st</sup> West Streets. This is the only photographic pair within the state of Idaho.

**Date and Time of Rephotography:** 4:30pm, Thursday, August 6, 2009.

Paris, Idaho exists as a geographic anomaly in the West. Although it holds the status as seat, it is, with a population of 513, more than five times smaller than Montpelier, the largest city in the county. Both communities date to 1863, when Mormon pioneers moved north out of Salt Lake City in order to settle as much land as possible before Eastern homesteaders could stake claims in the region. By the end of the nineteenth century, however, Montpelier had become the county's railroad hub and far surpassed Paris in terms of both population and economic growth



(Bear Lake Valley Conventions and Visitors Bureau 2012). Even today, Montpelier is the only community in Bear Lake County with standard lodging accommodations (four motels in total). Although railroad operations largely faded away by the 1970s, the city has since experienced a tourist boom as a result of the establishment of two national historical trails through the area: The Oregon Trail (1978) and the California Trail (1990). In 1997, Montpelier bore witness to the construction of the National Oregon/California Trail Center, operated by an independent organization by the same name that formed out of an alliance of local businesses and community leaders in 1991. The center, made possible by a combination of private donations and grants from the National Highways Administration, USDA Rural Development Agency, and Idaho Transportation Department, tells the story of pioneering families through interpretive displays, murals, films, and even live action role playing sessions (Allen 2011).

Ten miles to the southwest, Paris does not appear to have capitalized on the tourist draw of the historical trails. Due to its being a seat of local government, however, the community's population has remained stable while that of the Bear Lake County as a whole has decreased by more than 1,000 residents since 1980 (Albrecht 2008). Jobs in Paris actually increased in 1990, when it became the new home to the offices of the county school district. This helped to offset the impact of the loss of jobs stemming from the slow migration of businesses, such as the Paris Drug, to higher profit opportunities in Montpelier (Sizemore n.d.).

The town's primary attraction is the Paris Tabernacle, prominent in both the historic and 2009 images of figure 8.4. The structure dates to 1889, and is open to visitors with both guided and self-guided tours and regular organ recitals during the summer months (Visit Idaho 2011). The tabernacle boasts a seating capacity of 1,500, or slightly less than three times the town's population (Church of Jesus Christ of Latter Day Saints no date). The dominance of the building



is one of several attributes of Mormon towns, as outlined by Richard Francaviglia (1978), that are visible in the landscape of Paris. Others include the open field and unpainted sheds and granaries very near to the town center, the brick homes visible in the distance, and the somewhat darker color tone of the buildings in the community, in comparison to those populated by non-Mormons.

Also in Paris' downtown is the community's historical museum that opened in 1989 with artifacts from the town's early history, portraits and descriptions of the first settlers in the area, and pamphlets guiding visitors to various historic local homes. During my exploration of Paris' downtown, the bemused museum docent remarked that visitation to his attraction, as well as to the neighboring café, had increased in recent years from an unexpected source. Greater numbers of French tourists, traveling between Grand Teton National Park and Salt Lake City, have been stopping in Paris during the summer months to investigate the town sharing the name of their capital city. Unfortunately for these visitors, if they make contact with a museum employee or otherwise knowledgeable member of the community, they find that the town has no connection with Paris, France. Rather, the town's name is a misspelling of its first surveyor, Fred Perris (Haddock 1976).



**Figure 8.5:** Facing roughly southwest from the intersection of Main (U.S. 89) and 400 South streets, Manti, Utah. The sand bags in the historic image are indicative of the previously mentioned flooding during the spring of 1983.

**Date and Time of Rephotography:** 9:30am, Monday, August 3, 2009.

Moving further south into the heart of the Mormon cultural region, the city of Manti, like Paris, is a county seat that is not the largest community within its political jurisdiction. The disparity between the two, however, is not nearly as great. Of the nearly 28,000 residents of Utah's Sanpete County, approximately 3,300 reside in Manti, and approximately 6,100 reside in neighboring Ephraim to the north. Both Ephraim and Sanpete County as a whole have roughly doubled in population since 1980, while Manti has grown more slowly from 2,080 people. This trend is indicative of the state as a whole, which has also nearly doubled in population from 1.46 million in 1980 to 2.76 million in 2010 (U.S. Census Bureau 2011). Utah is now listed as the third fastest growing state in the country, behind only Nevada and Arizona (Christie 2010), up from its 9<sup>th</sup> place ranking between the 1980 and 1990 censuses (Utah State Data Center 1989). Due to the majority of this population increase stemming from an in-migration of people seeking amenity homes in Utah's picturesque landscape, or high-paying jobs in the Salt Lake City metropolitan area, the native Mormon population may no longer be a majority by the midpoint of the twenty-first century (Canham 2005).

Mormon culture is still prominent in the landscape of Manti, however. On the northern edge of town, the Manti Temple, the third oldest LDS temple in operation dating to 1888, is still the focal point for the entire Sanpete Valley. Each June, the temple grounds become a regional attraction, hosting pageants that reenact scenes from the Bible, Book of Mormon, and stories from the Mormon Pioneer Trail (Church of Jesus Christ of Latter Day Saints 2010). Although the temple itself is off limits to all non-Mormons, visitors are welcome to enter any of the half dozen chapels spread across town. Figure 8.7 depicts the most prominent of these, situated in downtown Manti. Public green spaces surround both the chapel and temple, again fitting with themes in Mormon-dominated landscapes outlined by Francaviglia (1978).



**Figure 8.6:** The chapel of the Church of Jesus Christ of Latter Day Saints, Downtown Manti, Utah. The view is facing westward, across Main Street/U.S. 89.

**Date and Time of Photograph:** 9:10am, Monday, August 3, 2009.

Although the predominately Mormon culture of Manti seems to be little affected by its increased population, there have been other impacts upon the landscape. During a 2008 sampling of county residents and leaders, many of those surveyed expressed a concern over the nature of development in their valley. Many new subdivisions cater to wealthy, seasonal amenity migrants, driving up land values and turning away young working professionals who may otherwise wish to start their careers in the area (Sanpete County 2008). Regarding the home depicted in figure 8.5, a phone call to the local Coldwell Banker Realty office (the company listed on the blue and white “For Sale” sign visible in the modern image) revealed the price of that parcel of land to be

\$285,000 in August 2009. That value undoubtedly rose around 2006 when, according to employees of Manti's library, the owners added the garage to the home.

Others involved in the 2008 survey also cited worry over the preservation of the Sanpete Valley's historical resources. Two years previously, President Bush had designated a significant portion of U.S. 89 running from Fairview, Utah to Page, Arizona, as well as the loop formed by Utah State Highways 12 and 24, as the Mormon Pioneer National Heritage Area. As is the case with all National Heritage Areas, a program started by President Reagan in 1984, the Mormon Pioneer unit is an alliance of private, local, and state entities within the designated area that receive limited funding and training from the National Park Service for the interpretation and preservation of historical, cultural, and natural resources (National Park Service 2011). Thus, it falls to the community of Sanpete County to protect the integrity of U.S. 89 and adjacent lands against development that may adversely impact the historical quality of the landscape.

Regarding Manti itself, the small city serves as the focal point for the Mormon Pioneer National Heritage Area's Little Denmark, a region named for the history of Mormon Scandinavian settlers ordered by Brigham Young to populate the area shortly after the founding of Salt Lake City (Mormon Pioneer National Heritage Area 2011b). The central attraction of "Little Denmark" is the Manti Temple and its annual pageant. Aside from this imposing structure, however, it is the characteristically Mormon wide cross streets and well-kept stone and brick houses (such as the one seen in figure 8.5, see Francaviglia 1978) that maintain the local historical integrity along U.S. 89: precisely the resources most threatened by the specter of uncontrolled suburban development.





**Figure 8.7:** The view north from East 100 South Street, Hatch, Utah.  
**Date and Time of Rephotography:** 3:30pm, Wednesday, March 18, 2009.

To the south of “Little Denmark” within the Mormon Pioneer National Heritage Area lies the “Sevier Valley,” an area discussed in detail in Chapter Seven. South of that lies the

“Headwaters” area, so named for its being the source many rivers that allow agriculture to thrive in southern Utah (Mormon Pioneer Heritage Area 2011a). Within the scope of this research, five photographic pairs can be found within the Headwaters region. Two of these, Orderville and Glendale, have already been discussed in Chapter Seven (figures 7.8 and 7.9, respectively). Three others, Hatch, Panguitch, and the Big Rock Candy Mountain Rest, fall under the scope of this chapter. Though different processes are at work in each of these three locations, the commonality between them is, in contrast to Manti and its temple, the promotion of primarily recreational rather than historical resources.

Hatch, Utah, a small community within Garfield County, is one example of a town that has witnessed very little demographic change since the early 1980s. In 1980, the population stood at 121. By 2010, the number had raised only slightly to 133, 70% of whom aged twenty-one or older (U.S. Census Bureau 2011). As in Paris, Idaho, open fields exist very close to the town’s main street, which runs one block west of the photographed location in figure 8.9. Two of the wooden sheds in the images remain unchanged, the closest of which is an excellent example of a Mormon “Inside-Out” granary like that photographed by Francaviglia (1978, p. 24) in Spring City, Utah some 150 miles to the north and also along U.S. 89. More recent structures can be seen in the background of the 2009 image, topped with green roofs.

Hatch’s Main Street has been the site of the small town’s most significant changes in recent years. In 1988, the Daughters of Utah Pioneers constructed an historical marker in the parking lot of the local chapel of the Church of Latter Day Saints at the intersection of Main and Center Streets. The plaque tells the story of how the community received its name from Meltier Hatch, who constructed a saw mill at the nearby headwaters of the Sevier River in 1872 (Utah State History 2010).



Much of Hatch's recent development has not been in regards to the promotion of local history, so much as it has been directed toward local recreational opportunities, specifically Bryce Canyon National Park, some thirty miles distant by road. Established as a park during the 1920s, Bryce Canyon, with its dozens of miles of hiking trails through picturesque rock formations, is by no means a new attraction to the area. There has been, however, a recent and significant surge in visitation to the park. During the early 1980s, numbers hovered around the 500,000 mark. In 2009, the park boasted an all-time high of 1,285,000 visitors. In a similar fashion to most national parks around the country (see Chapter Six), Bryce Canyon suffered a 30% drop in visitation between 1996 and 2002 before rebounding (National Park Service Public Use Statistics Office 2011). This surge in tourism has overwhelmed the facilities at Bryce Canyon City and spilled into other gateway communities. In Hatch, this has led to significant investment in lodging facilities on previously agricultural land along U.S. 89/Main Street both to the north and south of the town center.



**Figure 8.8:** Facing Southwest along U.S. 89 through downtown Panguitch, Utah.  
**Date and Time of Rephotography:** 2:00pm, Wednesday, March 18, 2009.

In the Garfield County seat of Panguitch, changes that have resulted from increased tourism attention to the region are even more pronounced. Population has increased with the

tourism, rising from 1,343 in 1980 to an estimated 1,520 in 2010 (U.S. Census Bureau 2011). The first two sentences of the city's internet home page read "Southern Utah offers the highest concentration of scenic natural wonders in America. Panguitch is just 25 miles north west [sic] of Bryce Canyon National Park" (Panguitch, Utah 2008, 1). Differences observed in the historic and current images of figure 8.8 initially indicate that Panguitch has fully transformed from an isolated, nearly self-sufficient community, to a town mostly dependent on tourism for survival. The Southern Utah Equitable Bank, Grocery, and Dry Goods Store has been closed since the mid-1980s (Powell 2003), replaced with abandoned storefronts and the "Bronco Bobbi's" coffee and gift shop. Likewise, the Western Auto Parts store on the right hand side of the historic image has become an establishment selling "cowboy collectibles."

The reality, however, is that traditional businesses remain in Panguitch, and the downtown is not as abandoned as it appears in figure 8.8. Establishments offering services to the local population have simply moved into larger venues that remain within walking distance of the downtown. Less than a block away from the photographer's position in the 2009 image lies Joe's Main Street Market, a "box" style grocery store on the southwest corner of Main and Center streets. To the right of what is now "Cowboy Collectibles," a building formerly belonging to "Panguitch Rexall Drugs" has become a thrift store, bounded on its other side by the same Indian Gifts establishment mentioned by the Vales in their 1983 pass through Panguitch. The drug store now exists in a larger, more modern building two blocks away, at the corner of Center (U.S. 89) and North 100 East streets. An automotive store also still exists on this city block, though it is now affiliated with the national chain, NAPA Auto Parts, which moved in to take over many Western Auto locations across the country after that company's collapse in 2003 (Whitehead 2003). Despite the shuttered storefront labeled "Thunder Horses Mercantile" in

figure 8.8, the business of the same name, operating as a coffee and ice cream shop and internet café, now exists across the street in a building formerly occupied by the City of Panguitch's volunteer fire department (which itself has moved to a larger facility adjacent to the previously mentioned Rexall Drug Store). Finally, and despite the city's growth over the past thirty years, the distinct lack of national chain stores and restaurants noted by the Vales remains true to this day. In addition to the NAPA Auto Parts on Main Street, stand a Radio Shack electronics store, a True Value Hardware outlet, and both the Arby's and Subway fast food restaurants. All other establishments, including a general store, ten motels, and nearly as many restaurants, remain unaffiliated with any nation-wide company.

Still, the "garden image" of Panguitch, described by the Vales in their 1989 work as an agricultural landscape sustained by traditional small town businesses, has been permanently altered. The nearly two dozen Western-themed motels, restaurants, and souvenir stores may be locally owned, but they are tourist oriented nonetheless. Although the 2007 Garfield County Economic Development Plan still lists the primary industries of ranching and timber harvesting among the top local employers, tourism has risen to the forefront. In fact, an overdependence on the tourist sector is listed as the greatest weakness facing the communities of both Hatch and Panguitch. In similar fashion to concerns expressed in Manti's Sanpete County, it is difficult to attract a young, skilled workforce with low wage and largely part time service sector jobs. Also similar to Manti, much of Panguitch's growth in recent years has been from seasonal amenity migrants who come to live amongst the national parks of southern Utah during the warmer months of the year. Proposals to bring more permanent jobs to the city include the construction of a golf course and regional airport, as well as investment into research that could potentially diversify the agriculture of the surrounding area (Garfield County 2007).





**Figure 8.9:** A southwesterly view of the Big Rock Candy Mountain Resort, along U.S. 89 in the Marysvale Canyon of the Sevier River. The peak in the background, rising approximately 1,100 feet above the road to an elevation of nearly 7,000 feet, is a part of the larger Sargent Mountain ridgeline.

**Date and Time of Rephotography:** 3:30pm, Wednesday, March 18, 2009.

North of Garfield County, though still within the Headwaters Region of the Mormon Pioneer National Heritage Area, lies Piute County: the second smallest in Utah by population,

with 1,556 residents (U.S. Census Bureau 2011). Thomas and Geraldine Vale had little positive to say after passing through the area in 1983. Citing abandoned homes and storefronts, they used both the county seat of Junction and the nearby town of Marysvale as examples of the boom and bust cycles of the American West: victims of a decline in both agriculture and uranium mining throughout the region (p. 79). Regarding the Big Rock Candy Mountain Resort depicted in figure 8.9, five miles to the north of Marysvale, the Vales pointed out the irony of its name (p. 82). The concept of the “Big Rock Candy Mountain,” they argued while citing Wallace Stegner’s (1943) work of the same name, symbolized the fantasy of endless opportunity and wealth in the American West. The resort, struggling at the time of their visit with little visitation, revealed the fantasy to be exactly that: fiction.

It is hard to argue the Vales’ point of view during the time of their visit. Ten years later, the Big Rock Candy Mountain Resort had closed. Its former owner, more than \$100,000 in debt, took a job at a gas station in Mesquite, Nevada, simply to make ends meet (Jorgensen 1994). In recent years, however, the entire economic character of the county has transformed as a result of the Paiute ATV Trail. The network of nearly 250 miles of official trails (and hundreds more unofficial), in a nearly 1,500 square mile area, dates to 1990. It is the culmination of negotiations to link together a web of old mining and logging roads, belonging to a variety of private, local, state, and federal land agencies, ranging from the cities of Filmore (Millard County) and Salina (Sevier County) in the north, to Circleville (Piute County) and Beaver (Beaver County) in the south. Backcountry campgrounds have also been constructed along the trails that grant access to remote scenic vistas, long forgotten ghost towns, and gold panning sites (Madsen 1991, 1992a, 1992b). Each year, ATV jamborees occur in both Filmore and Marysvale, attracting thousands of tourists to these small communities.

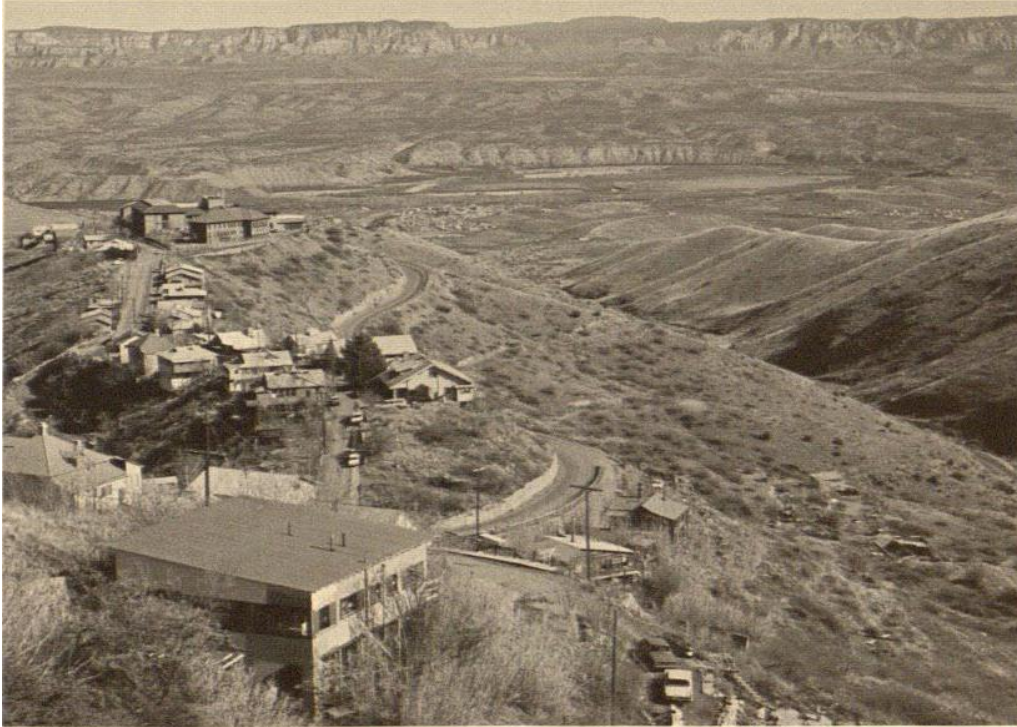
By 1992, the Paiute Trail system had been completed and advertisements brought in adventurers from all over the world. The effects upon the local economy were immediate, and even today, it is the first attraction displayed on the websites of the town of Marysvale, Piute County, and the Headwaters Region of the Mormon Pioneer National Heritage Area. Two years after it had shut its doors, the Big Rock Candy Mountain, in the center of the trail network, entered the real estate market with a value of \$535,000 (Smith 1995), and sold to new owners shortly thereafter. Today, the resort appears to be thriving during the warmer months, and the new owners have also reopened the gas station and convenience store across the street, described as abandoned during the Vales' passage through the canyon (p. 82). The combined complex offers ATV rentals and tours with easy access to the Paiute Trail, white water rafting trips down the Sevier River, a restaurant and bar, and lodging options that include motel rooms, rustic cabins, and RV campsites. Music sheets to Harry McClintock's *Big Rock Candy Mountain*, for which the resort is named, can be purchased in the gift shop. Since 2005, a rails-to-trails bike path has linked Big Rock Candy Mountain with the town of Sevier to the north (Edwards 2005), and as of my own visit in March 2009, the gift shop staff reported that purification efforts were underway to resume sales from the famous "lemonade springs" at the site, known for the blend of minerals that add a shade and slight taste of lemonade to the water.

Regarding the town of Marysvale, with a stable population of approximately 400, the impact of the new-found tourism is easily observed. In fact, the town now bills itself as "the heart of the Paiute Trail" (Marysvale, Utah 2010). In similar fashion to the Big Rock Candy Mountain Resort, the historic, nineteenth-century Old Pine Hotel reopened in 1995 after years of standing vacant. The new owners, Randy and Katie Moore, formerly of Layton Utah, correctly assumed that tourism would take off with the coming of the ATV trail, and even stocked the bed



and breakfast's bookshelves with Zane Grey novels in order to play to the Western mystique (for an analysis of Grey's impact on the region, see Blake, 1995). That same year, Ron Bushman, mayor of Marysvale, predicted that his town would soon become the "Wasatch Front's playground" (Repanshek 1996, H3). Since then, the Moore Old Pine Inn (as it is now known) has been joined by more than a half dozen more resorts, bed and breakfasts, and cabin rental facilities.

While it is true that the economy of Marysvale and all of Piute County has drastically improved over its status during the early 1980s, residents have echoed the same concerns with New West tourism as found in Manti, Hatch, and Panguitch. The jobs brought to the community as a result of the Paiute Trail are largely seasonal in nature, causing local people to struggle to make ends meet during the winter (Henetz 2006). Snowmobiling is allowed throughout the trail system, and presents an avenue for future job expansion in the region, though few routes are completely passable even in the height of winter (*UtahATVTrails.com* 2002, Marysvale, Utah 2010).



**Figure 8.10:** A view of Jerome, as seen from a now-blocked off scenic pull off along Arizona State Route 89A to the southwest of the city. The view is facing northeast, into the Verde River Valley and to the cliffs of the Mogollon Rim beyond.  
**Date and Time of Rephotography:** 2:20pm, Saturday, January 9, 2010.

Far to the south of Marysvale, another town of similar size has reinvented itself around tourism in order to recover from economic collapse. Unlike Choteau, Paris, or the towns of Southern Utah discussed in this chapter, Jerome, Arizona does not exist along or near any kind of amenity “trail.” Rather, it stands alone at approximately one mile above sea level, on the flanks of Mingus Mountain in the far northeastern corner of Yavapai County. Some two thousand feet below lay the cities of Clarkdale and Cottonwood, both within the urban sprawl of the Verde River Valley along Interstate Highway 17. Together, the towns have grown from a 1990 combined population of only 8,000, to over 15,000 today. The population increase of the entire Verde Valley is even more dramatic, rising from less than 16,000 in 1980, 22,400 in 1990, to approximately 50,000 in at the turn of the millennium, to a 2011 estimate of nearly 77,000 (*Verde Independent* 2011). This growth is visible in the valley below Jerome in the 1982 and 2010 photographs of figure 8.10, and is indicative of the state of Arizona as a whole, which has held the title of the second fastest-growing state by population (behind Nevada) since 1980 (Barringer 1989, Hansen 2010).

Though situated less than three miles from the expanding communities of the Verde River Valley, Jerome has not followed their trends. The town’s population has remained steady at approximately 400 since the early 1980s (Vale and Vale 1989, U.S. Census Bureau 2011), though this is far below historical levels. Jerome existed as a prosperous copper mining city with a population exceeding 15,000 during the 1920s. After the last mines closed in 1952 and 1953, in a textbook example of the West’s cycles of boom and bust, the population rapidly diminished to only fifty residents (Jerome Historical Society 2011). It is for this reason that the town advertises itself as “the largest ghost town in America,” in addition to “the most vertical town in America” (Jerome, Arizona 2004). The seemingly dying city needed to reinvent itself to survive, and the

Vales observed this process underway during their 1982 tour of Jerome's streets. At that time, "restaurants, antique shops, trinket outlets, and artists" occupied "some of the old buildings" (p. 46), many of which appealed to the frontier/ghost town image.

Today, the transition from decaying mining town to tourist amenity is even more pronounced. Two major themes dominate Jerome's economy. First, there is the artisan community. Throughout Jerome, Arizona State Route 89A and its adjacent streets are lined with art galleries, pottery stores, leather crafting markets, gem shops, wineries, and nineteenth-century hotels revitalized as bed and breakfasts. The old Jerome High School, the red-roofed building visible in the distance in figure 8.10, has become home to dozens of art studios. The structure dates to 1920 as a hospital constructed by the United Verde Expansion Mining Company. It was, however, never used as such, and the company donated the complex to the growing Jerome School District in 1929. The school closed along with the mines in 1952, though it reopened briefly between 1960 and 1972 due to the overcrowding of the Clarkdale School District in the valley below. By the late 1970s, artisans had begun renting space in the old high school, and the trend has continued with time (Holt 2010).

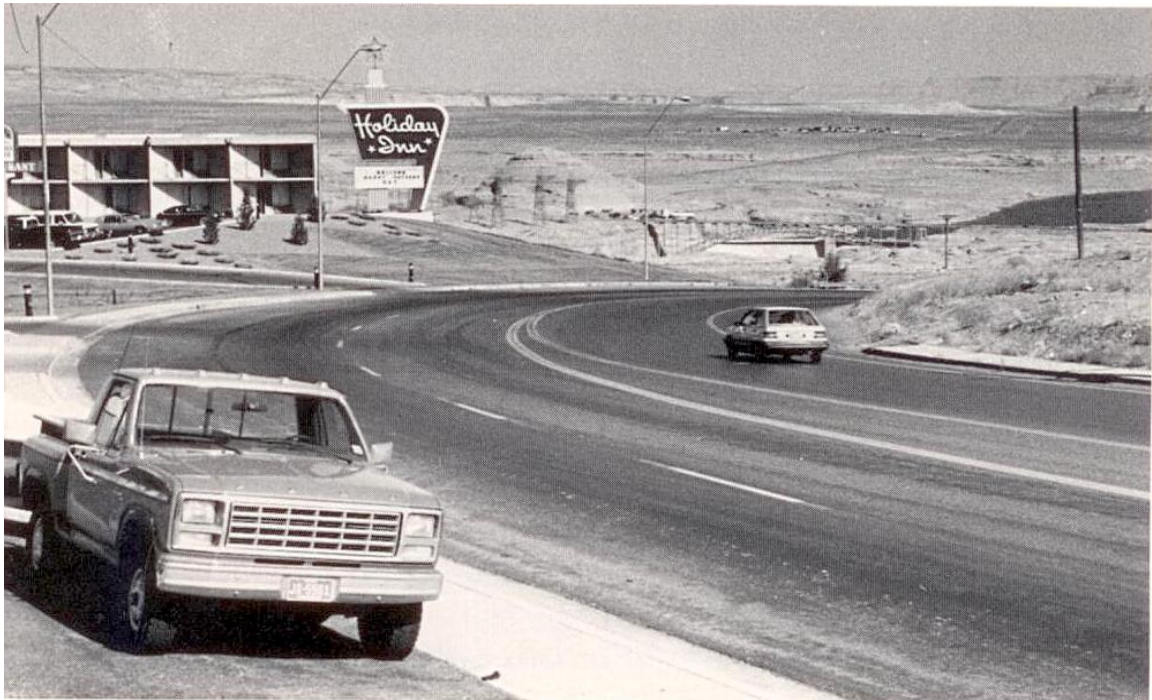
Secondly, Jerome's businesses have significantly capitalized on its "ghost town" status, and in February 2011, national audiences saw the town featured on the Travel Channel's *Ghost Adventures* program. Abandoned buildings and foundations can be found on the outskirts of town in both directions along AZ 89A. Northwest of town, decaying mining structures and equipment remain accessible along unmaintained roads. To the south, U.S. 89 in the direction of Prescott is lined with memorials to motorists who have died crossing the high mountain pass (over 7,000 feet in elevation) on winding, exposed stretches of road.

It is not these outlying sites, however, that draw the attention of most thrill seekers, so much as the history of the town itself. Nightly ghost town tours leave from Sedona, Cottonwood, and various lodging establishments in Jerome itself, shuttling or walking visitors through the side streets and alleys of the town. Along their journey, clients are told stories of the town's violent past associated with its days as a frontier mining community, and are even provided with flashlights and electromagnetic radiation detectors in an attempt to document paranormal activity. Daytime tours of the same sites are also available for those not interested in the haunted aspect of Jerome's history. These daytime excursions include visits to the Jerome Historical Society's Mine Museum, as well as the early twentieth century Douglas Mansion which, since 1965, has interpreted the mining history of the surrounding area as the headquarters of Jerome State Historical Park (Ghost Town Tours 2011, Tours of Jerome 2011).

The Jerome Grand Hotel, resting at nearly one mile in elevation, represents the most significant addition in the history of the community's growing tourist industry. The building dates to 1926. Like the former high school, it began as a hospital for the Verde United mining company. Unlike the high school, however, it actually served as a functioning hospital until 1950 when the collapse of the local mining industry forced its closure. Forty-four years later, realizing the economic potential of such a business venture, the Altherr Family purchased the expansive building and began renovating it into a hotel and restaurant (Jerome Grand Hotel 2011). The Jerome Grand Hotel and associated growth has contributed significantly to the town's job market since the hotel's opening in 1997. For this reason, and citing more utility hookups than people, many town officials feel that the 2006 census estimate of 330 may have been too low. By 2014, it is expected that this number will have more than doubled (*Verde Independent* 2010). Some



new growth is evident in figure 8.10, regarding the construction of the blue-trimmed building in the center of the 2010 image.



**Figure 8.11:** The Quality Inn at Lake Powell (formerly the Holiday Inn), with the landscape of Glen Canyon National Recreation Area in the distance. The view is facing northwest from the intersection of North Lake Powell Boulevard and Rim View Drive, Page, Arizona.  
**Date and Time of Rephotography:** 9:00am, Friday, March 20, 2009.

Around the time of Jerome's revitalization as an artisan and ghost town tourism-based community, another community in the northern part of Arizona needed to do the same. The origins of Page, Arizona can be traced to a Bureau of Reclamation labor camp, established in 1956 to house workers involved in the construction of the Glen Canyon Dam. That project completed in 1965, and ten years after that, the Bureau of Reclamation turned over control of the community to elected officials from the general public (John Wesley Powell Memorial Museum 2010). The newly incorporated city was, however, separated from the remainder of non-Indian Coconino County by nearly 100 miles of Navajo land.

When the Vales passed through Page in the spring of 1983, they described it as a city that seemed "to have little sense of what it is" (p. 65). As previously mentioned in Chapter Six, that year was the first time that Lake Powell filled to capacity. Once existing more than one thousand feet below the city, in an inaccessible canyon, the Colorado River suddenly became the lifeblood of Page's economy. The Vales bore witness to the early transition of the city from an industrial community involved with the construction and operation of the dam and of the nearby Navajo Generating Station, to one dependent upon tourism. Today, in the words of the local historical society, "growth through tourism is Page's future" (John Wesley Powell Museum 2010, 1).

Growth has indeed occurred over the past thirty years. In 1980, the population of Page numbered slightly more than 4,900 people (U.S. Census Bureau 1980). By 2009, at the time of my rephotography, the population approximated 7,250 (U.S. Census Bureau 2011). With the growth has come investment from major corporations. Though the Vales photographed the Holiday Inn, they made no mention of other nationally known lodging or food service companies in town. Today, they are everywhere, existing alongside locally owned establishments such as Bashful Bob's Motel or Ken's Old West Restaurant. Though the complex photographed by the



Vales has been a Quality Inn since 1998 (Cobb 2010), a Holiday Inn Express still exists in Page, on the southeast side of town. Behind the photographer's position in the 2009 image is a Travelodge, and to the right is a Best Western. A Wal-Mart supercenter has even opened along U.S. 89.

The gazebo and line of trees visible further down Lake Powell Boulevard in the 2009 image of figure 8.11 are evidence of a major expansion that occurred on the western edge of town during the 1990s. In 1994, a Courtyard Marriott hotel opened near the intersection of Lake Powell Boulevard and U.S. 89. One year later, the scenic eighteen-hole Lake Powell National Golf Course opened, surrounding the hotel and creating an expanse of greenery 1/3 mile wide and 1.2 miles long between Page and U.S. 89 (Cobb 2010). After leaving Page, the Vales wrote that although the town's identity had not yet been firmly established, residents may have been moving toward the creation of a "new town built for a modern society" (p. 66): what Riebsame et al. (1997) would refer to as the "New West." This is exactly what Page has become over the past thirty years.

The local economy is, however, completely dependent upon Lake Powell for its survival. In 1999, the then-executive director of the Page Chamber of Commerce, Joan Nevills-Stavely, predicted that whether it be by overconsumption of water in the West, or by a new environmental policy to return rivers to their natural states, "If the lake goes, it would be the end of Page" (Graham 1999, 1). The Friends of Lake Powell Association (2010), a group that advocates protecting the lake against efforts by the Sierra Club and other conservation organizations to drain it, lists the fate of Page as one of the most important reasons not to upset the status quo. The group argues that hopes of the community remaining prosperous through the promotion of canyoneering and white-water rafting are misplaced, on the grounds that there is no convenient

river access in the area, and that the same environmentalists who wish to drain the lake would also likely oppose the construction of modern roads down the steep 1,000-foot canyon walls. It is unlikely that other attractions in the area, such as the Vermilion Cliffs or Grand Staircase-Escalante national monuments, or the southeastern edge of the Mormon Pioneer National Heritage Area, could make up for the potential losses.

Larger than Jerome, but not nearly the size of Page, Afton, Wyoming was another community experiencing a transition from a traditional to tourist-dominated economy at the time of the Vales' visit during the early 1980s. The prominent arch in the center of Afton dates to 1958 at a cost of \$2,500. It is constructed of approximately 3,000 elk antlers from the Wyoming Elk Preserve to the north, which the city's chamber of commerce obtained by permit from the state fish and game commission (Call 2011). According to the Vales, a sign previously existed at the site describing the purpose of the arch "to publicize Afton and all of the Star Valley as a scenic part of the Old West, with its attractions of hunting, fishing, and camping" (p. 104). An outdoor attraction remains Afton's primary draw, in the form of one of the world's only cold water geysers, situated in Bridger-Teton National Forest's Swift Creek Canyon to the east of the city. A new sign at the antler arch, however, makes no mention of the "Old West" or outdoor recreation. Rather, it gives the dimensions of the arch, explains the difference between permanent horns and temporary antlers that are shed annually. Elks possess the latter, creating a misnomer in the word "elkhorn." The sign also explains that if the monument were made today, it would cost \$300,000 "for the antlers alone."



**Figure 8.12:** Facing northeast along North Washington Street/U.S. 89 through the downtown of Afton, Wyoming. In both images, the small plaques under the prominent “Afton Wyoming” sign read “World’s Largest Elkhorn Arch.” A Ford and Honda dealership exists immediately to the left of the area photographed here, adjacent to the arch.

**Date and Time of Rephotography:** 6:00pm, Thursday, August 6, 2009.

Afton has experienced significant growth for a town of its size since 1990. Throughout much of the twentieth century, the community’s population wavered between 1,000 and 1,500 residents. In 1980, the count stood at 1,481 (Wyoming Water Development Commission 1991). Although this number had dropped to 1,324 by 1990 (Wyoming Department of Employment,

Research & Planning 2001), twenty-first century population estimates revealed a significant rebound to 1,911 residents by 2010 (U.S. Census Bureau 2011). This growth is indicative of trends occurring in Wyoming's Star Valley as a whole: a north-south running 12x50 mile strip of lowland near the Idaho border running from Afton and Fairview in the south, to the town of Alpine in the north. National Forest land surrounds the valley, rising to mountaintops of over 10,000 feet (approximately 4,000 feet over the elevation of Afton). Over the past two decades, this valley has been Wyoming's fastest growing region as a result of a growing tourist industry, amenity migrants and retirement communities (Star Valley, Wyoming Online 2011).

Three separate expansions to Afton's Star Valley Medical Center that have occurred over the past two decades reveal that this growth is also attracting a number of skilled, high paying jobs, at least partially offsetting the concerns cited by Manti and Panguitch, regarding low wages and high land values. Still, as in Panguitch, Utah, businesses catering to tourists or new residents have replaced traditional small town establishments. The Los Cabos and Agave Mexican restaurants, standing nearly across the street from one another, indicate the entrance of international cuisine into the community, as do the nearby Wok Inn Chinese restaurant and Star Valley Chocolate Factory, which imports European chocolate for use in all of its creations (Star Valley Chocolate Factory 2011). The advertised sale of alcohol, evidenced by a Budweiser banner reading "Welcome Bikers" hanging from Los Cabos' front entrance (fieldwork here was conducted shortly before the Sturgis Motorcycle rally in neighboring South Dakota), stood in contrast to other small towns along U.S. 89 that, like Afton, were founded by nineteenth century Mormon pioneers. The religion still has a visible presence here, however, as a prominent LDS chapel sits near the intersection of Jefferson Street and East Third Avenue, two blocks from U.S. Highway 89.

The Gephart's General Store depicted in the 1983 photograph, the last of a Western chain that began in 1910 in Bingham Canyon, Utah, closed in 1993 with the retirement of one of the original founder's descendants (Gephart 2009). The store's Afton branch had been in operation since 1932 (Meldrum et al. no date), and has now been replaced by a modern, yet still locally owned supermarket (the Familee Thriftway) several blocks north of downtown along U.S. 89. Today, the former general store has been transformed into the Mountain Valley Gallery, a studio owned and operated by nationally-renowned wood carver Jonathan Andrew LaBenne.

Both the Gephart's store and the neighboring Western Auto Parts dealership have had their plain facades replaced with a log cabin-like appearance. The former Western Auto Parts dealership has been divided into two establishments: the Erickson Capital Employee Benefits insurance company, and the Home Design Showcase. The latter is part of a small chain of quilt dealerships, For the Love of Thread, stretching from California to Ontario. One business that has remained in Afton's downtown over the past three decades, as visible in figure 8.12, is the city's drugstore. Pamida, a corporate chain of department stores based out of Omaha, Nebraska, has been in control of the former Star Valley Drugstores in both Afton and nearby Thayne since the early 1990s, though the original names of these establishments are still listed in many business directories.

Within Afton today, the marketing of the "Old West," reported as being prevalent in the city during the time of the Vales' visit, remains visible in small doses, though it is now scattered amongst book and jewelry stores, sculpting and artist studios, international restaurants, and fast food chains. Situated behind the photographer's position in figure 8.12, and across the street from a Wells Fargo Bank, the Cowboy Bar and Golden Spurs Café remains a prominent

landmark in Afton's downtown. Elsewhere in town, the Corral Motel and Bar H Cabins also pay homage to Wyoming's ranching culture.

The Maverik convenience store and gas station visible in the 2009 image of figure 8.12, in the place of the Texaco station during the early 1980s, is also prominently rooted in western imagery. The company originated in Afton in 1928, with the first store founded by twenty-year old Reuel Call (Maverik, Inc. 2011). With its chain of stores stretching across the states of the American West, Maverik advertises itself as "Adventure's First Stop." Entry level station attendants are referred to as "Adventure Guides," and wear brown park ranger-like uniforms. The company even doubles as a travel agency, and Western vacation packages can be purchased on its website (<http://vacations.maverik.com/>).

A handful of such packages are directed to a famous valley seventy miles to the north of Afton, also along U.S. 89: Jackson Hole, Wyoming, of which the city of Jackson (see figure 8.13) is the only incorporated community. It is, in fact, the only incorporated city in all of Teton County. Along with Sedona, Arizona, Jackson is one of two cities discussed in this chapter that have served as major international tourist destinations for the past several decades. Due to its location in the greater Yellowstone region, and near the base of the high peaks of the Teton Range, the city has catered to tourists almost since the time of its founding in the late nineteenth century (Vale and Vale 1989). Today, the city is by far the largest gateway community to both Yellowstone and Grand Teton national parks.

During their passage through Jackson, the Vales commented that although the city had always been a national attraction, an emerging dilemma pitted the interests of the tourist industry, and those of outside investors and speculators, against the more traditional ranching industry (including dude ranches) that were being systematically eliminated from the

surrounding landscape due to urban expansion. Between 1970 and 1980, the populations of both Jackson and Teton County nearly doubled, from 2,700 and 4,800 to 4,500 and 9,350, respectively. Growth slowed in the 1980s, with the population of Jackson remaining stable and that of the county increasing by less than 2,000. The 1990s, however, bore witness to another near doubling, with Jackson residents numbering 8,600 by the 2000 census, with 10,000 more in the remainder of Teton County. Growth slowed again by 2010, though the county population still increased to over 21,000, approximately 10,000 of which reside in the City of Jackson (Wyoming Department of Administration & Information, Economic Analysis Division 2011).

The City of Jackson (2002) cites a 1983 decision by the Federal Aviation Administration to allow commercial jets to fly into the Jackson Hole Airport as a primary reason for the population growth. The sudden, improved accessibility to the southern edge of Grand Teton National Park produced two major effects upon growth: a drastic increase in the number of service sector jobs to correspond with the elevated tourist demands, and the rise of a market for seasonal, amenity homes. In an extreme case of a trend found in other cities along U.S. 89, such as Manti and Panguitch, Utah, the rise of housing costs of Jackson Hole, as a result of seasonal home construction, has far outpaced wages in the region. By 1993, the median single-family home price had reached \$235,000: double that of the country as a whole and far more than could be afforded with the median income of that time of \$37,000 (ibid).

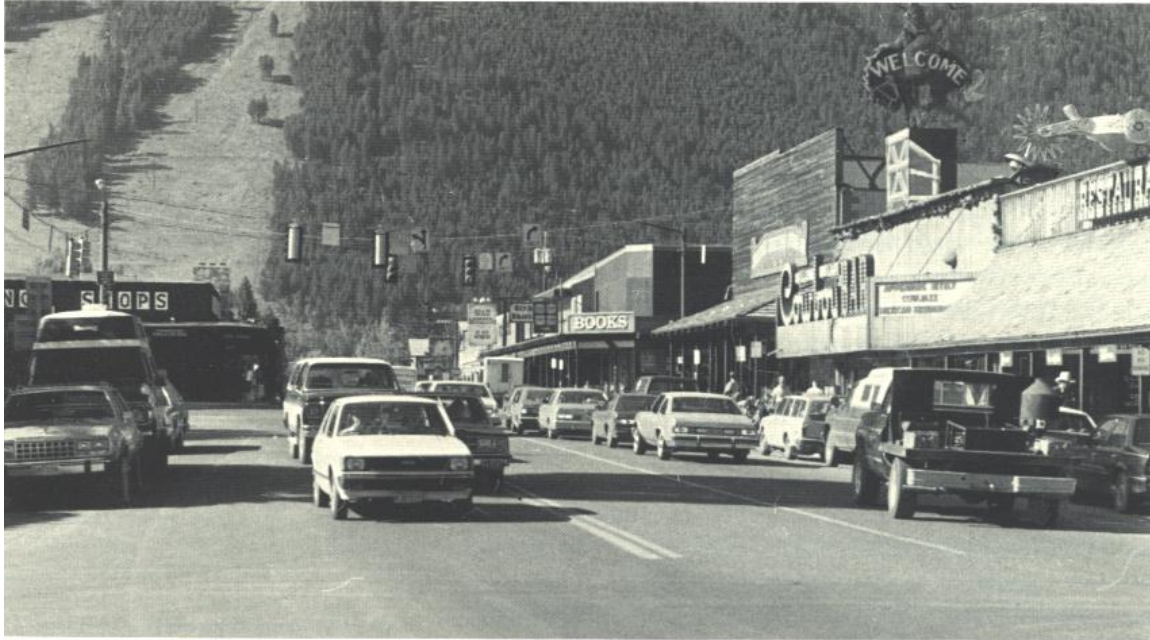
Despite the call for the creation and subsidization of affordable housing for the working class population, the problem has persisted into the twenty-first century. Estimates from 2009 placed Jackson's median home value at \$556,700: nearly ten times the national median household income of \$58,000 (U.S. Census Bureau 2011). A sampling of real estate and apartment rental ads from the *Jackson Hole Daily* newspaper between August 2009 and March



2011 reveal relatively stable prices despite the ongoing national housing market collapse.

Though condominiums within the City of Jackson could be found from \$250,000 and up, not a single house was listed for less than \$740,000. Large ranches are sold for upwards of millions of dollars.

These classifieds and listings also reveal where the lower-level employees of Jackson's service sector economy tend to live. Apartments and homes, half the value of those in Jackson, can be found to the south, in Hoback and Alpine (at the northern edge of the Star Valley, thirty-five miles distant), as well as in Victor, Idaho, approximately twenty-five miles to the west. In this respect, Jackson has partially undergone the process of "aspenization:" a derogatory word coined during the 1970s and early 1980s to describe a town being completely taken over by outside tourist interests and ultra-rich amenity migrants, to the point that it is nearly impossible for members of the lower or middle classes to live within its jurisdiction (Travis 2007, Richey 2010).



**Figure 8.13:** Downtown Jackson, Wyoming. The view is facing slightly west of south along North Cache Drive/U.S. 89, 26, and 191, from the intersection of that road and Deloney Avenue. Visible in the distance are the ski slopes of the Snow King Resort, surrounded by terrain under the jurisdiction of Bridger-Teton National Forest. Though smaller than Afton's, Jackson also possesses an elkhorn arch that serves as a popular point of photography for tourists, located immediately to the left of the photographer's position.

**Date and Time of Rephotography:** 9:30am, Friday, August 7, 2009.

The ever-rising affluence of Jackson is well depicted in figure 8.13. Nearly every structure displayed in the image has changed in some way. The Golden Spur Restaurant, on the far right-hand side of the 1980s image, was replaced by the Cadillac Grille in 1983, shortly after the Vales took that photograph. A glance at the establishment's seasonal menu alone indicates that Jackson is a global community unlike nearly any other small town or city in the American West. Appetizers, for example, include both crab cakes and Prince Edward Island mussels (Jackson Hole Restaurant Review 2011). Meanwhile, on the far right corner of the traffic lighted intersection in both images, the remodeled store formerly labeled "Books" is now an outlet for the "Shirt off my back" company, a ski and snowboard apparel business based in Breckenridge, Colorado. The bookstore and adjacent wax museum (now an Eddie Bauer outdoor apparel outlet) have new life a short distance behind the photographer's position in figure 8.13. Across the street from the "Shirt off my back" outlet, to the left (east) of the traffic lights in another newly renovated building, is the Town Hall Tavern, a sports bar frequented by the local population. Elsewhere in Jackson, as the Vales also reported, is an abundance of art galleries.

In the distance, the Snow King Resort is also evolving, and its future is far from certain. The ski slopes, within easy walking distance of Jackson's downtown, date to 1939 as some of the first in the United States. Due to its proximity to the community and its cheap rates, Snow King is known affectionately to locals as the "Town Hill." Despite the loyalty of the local population, and package lift deals with the two other ski resorts in the vicinity, Snow King's maximum elevation of 7,808 feet (1,571 feet above the valley floor) is unable to compete with the Jackson Hole and Grand Targhee resorts, both of which offer several thousand feet of vertical elevation. In December 2010, Manuel Lopez, one of the owners of the Snow King Resort, announced that

although his business' hotel and restaurant services would remain open, all ski slope operations would cease after the season's end.

To residents and government officials of Jackson alike, this raised a very real and frightening prospect of housing developments taking over the lower slopes of the mountain, beneath the land currently leased from Teton-Bridger National Forest. As a result, city officials have joined with the Jackson Hole Land Trust to purchase all private land parcels on the mountain and place a recreation easement upon them. Even if maintaining ski lifts and trails proves to be too expensive for the city to handle, the goal is to keep the mountain itself accessible for generations to come (Huelsmann 2011a). The purchase and transfer of the resort's ice skating rink to the Friends of Snow King nonprofit organization, effective March 20, 2011, is viewed as the first success in this effort (Huelsmann 2011b).

Taking these coming changes to the "Town Hill" into account, the only feature in figure 8.13 that has not changed between the historic and 2009 images is the Million Dollar Cowboy Bar, largely due to its historical legacy in the town. The establishment dates to 1937, as the first saloon to acquire a liquor license after the end of the prohibition era. The current owners have promised their business will remain unchanged for the foreseeable future "because The Million Dollar Cowboy Bar has the best live western music in the Tetons and it remains the number one bar in Jackson Hole. It is a vital part of western Americana, and, is renowned throughout the world as an example of what the wild Wyoming west was, and still is" (Million Dollar Cowboy Bar 2011, 1). Through this bold statement, the Cowboy Bar reveals that, despite the housing market boom and associated subdivision of ranches, despite the influx of modern art studios, jewelry stores, wax museums, and dance clubs, the community of Jackson still celebrates its frontier image.

This same theme is also observed northwest of the city, on a property adjacent to Teton Village and the Jackson Hole Mountain Resort. The Shooting Star Club offers cabin and home sales, as well as a wide range of amenities, including fine dining, spa treatments, a world class golf course, deals to the nearby ski resort, premier trout fishing opportunities, 1,300 acres of open space to explore, and the club's neighboring Silver Valley Ranch. This working cattle ranch with 3,800 head started in 1929 and is now on the National Register of Historic Places (Shooting Star 2011). For this reason, the club advertises itself located where the "Old West Meets The New West" (Shooting Star 2009, 27). It appears, therefore, that the Old West will continue to be celebrated throughout Jackson Hole, even as it is replaced by the land uses of the New West.

Far to the south, Sedona, straddling the line between Yavapai and Coconino counties in Arizona, also still features remnants of traditional Western imagery, such as saloon-themed restaurants, historically-themed bed and breakfasts, the Sedona Heritage Museum, and tours of nearby canyons by railroad, jeep, or horseback. These are not, however, the primary images that the city portrays to visitors or new residents. By the early 1980s, Sedona's character began evolving in a way not reported upon by the Vales. During the late 1970s, and culminating in her 1981 declaration of Sedona as "the heart chakra of the planet" (Sedona.biz 2010, 1), nationally known psychic and author Page Bryant investigated and reported upon several vortexes of spiritual energy throughout the immediate area. Her statement evoked centuries of Native American ceremonies in the valley. According to the Yavapai people, Sedona is where their civilization began again with Kamalapakwia ("Old Lady with a White Stone"), the only survivor of a flood that had destroyed their previous world at the bottom of Montezuma's Well, twenty-five miles distant (Williams, Khera, and Williams 2011).<sup>13</sup>

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<sup>13</sup> Though National Park Service divers reached the bottom of this mysterious 124-foot deep sink hole in 2006, no scientific instrument has been able to penetrate two air vents at the bottom of the well (Ayers 2009).

The four strongest vortex sites (see figure 8.14) are all prominent natural landmarks: Bell Rock, Cathedral Rock, Airport Mesa, and Boynton Canyon. Secondary vortexes include Schnelby Hill, the West Fork Canyon of Oak Creek, and the manmade (Catholic) Chapel of the Holy Cross. Heavily twisted juniper trees are said to mark the locations of the strongest energy flows (Baumann and Baumann 2009). There is no specific etiquette required to experience the spiritual energies of these locations, and because the vortexes cover broad areas around these sites, all can be reached with minimal physical effort (Braidwood 2007). The popularity of the sites took off after designation by Page Bryant.

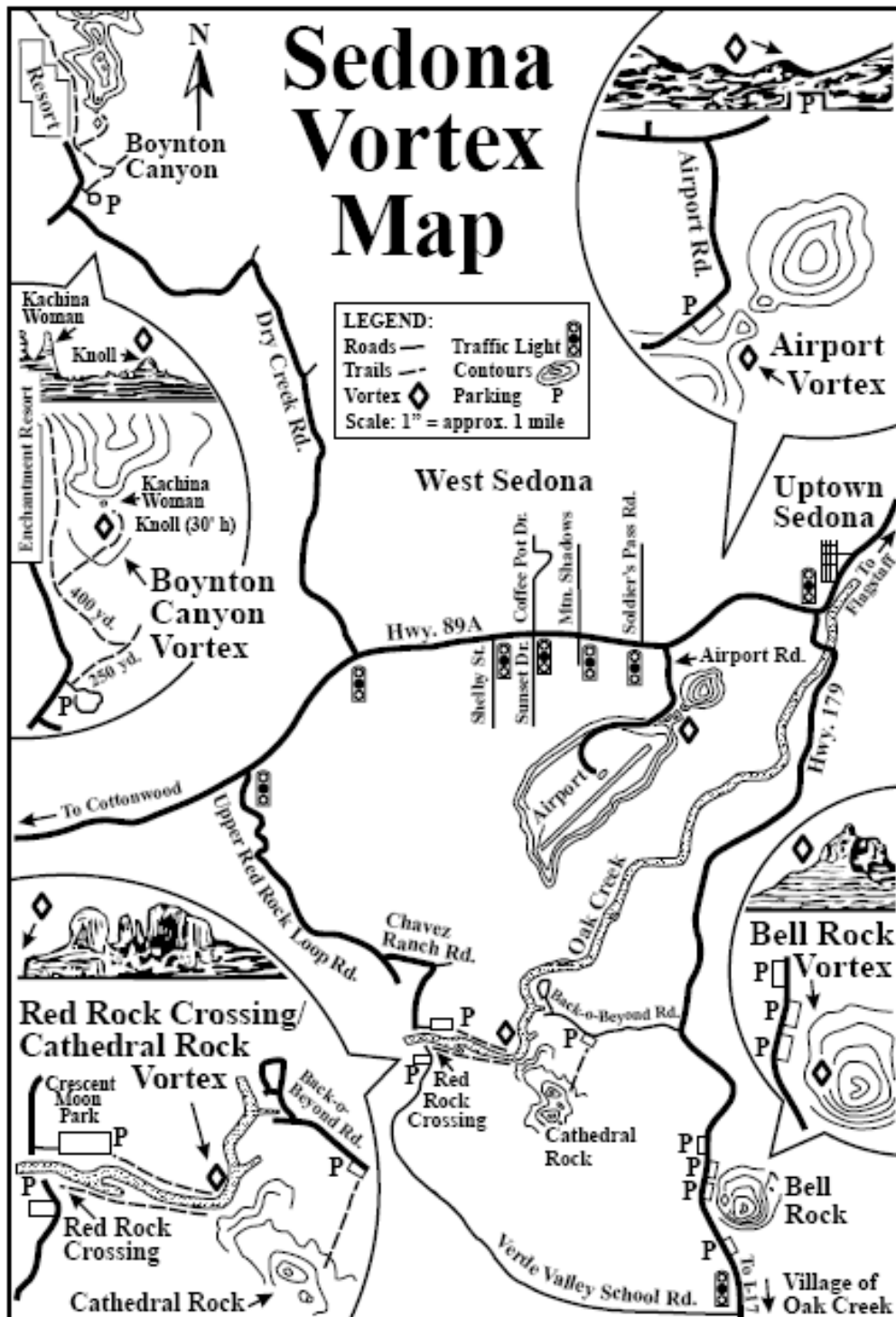
Today, Sedona and its immediate Coconino National Forest surroundings are the second-most visited attraction in Arizona after the Grand Canyon, with nearly four million tourists annually (U.S. Forest Service Lands and Realty Management 2007). A twenty-first century study commissioned by the City of Sedona and conducted by Phoenix's Behavior Research Center (2005) revealed that 8%, or approximately 320,000 of these annual visitors come for some kind of spiritual experience. The number is higher for overnight guests (10%) than day-trippers (6%). As a result, several companies in Sedona now offer package tours of the vortex sites.

In a few cases, national news has been made by these spiritual tourists. During the "Harmonic Convergence," a rare planetary alignment that occurred August 16-17, 1987, 5,000 visitors converged on Sedona at once. Many of these visitors competed for seats atop Bell Rock, which they believed to be a space ship preparing launch in the direction of the Andromeda Galaxy (McClure 2009). More recently, in 2009, tragic events at a sweat lodge run by California self-help practitioner James A. Ray led to the heat and dehydration-related deaths of three individuals, and the hospitalization of several others. The highly publicized manslaughter trial of Ray, as well as the ensuing lawsuits against the Angel Valley spiritual center, temporarily cast a

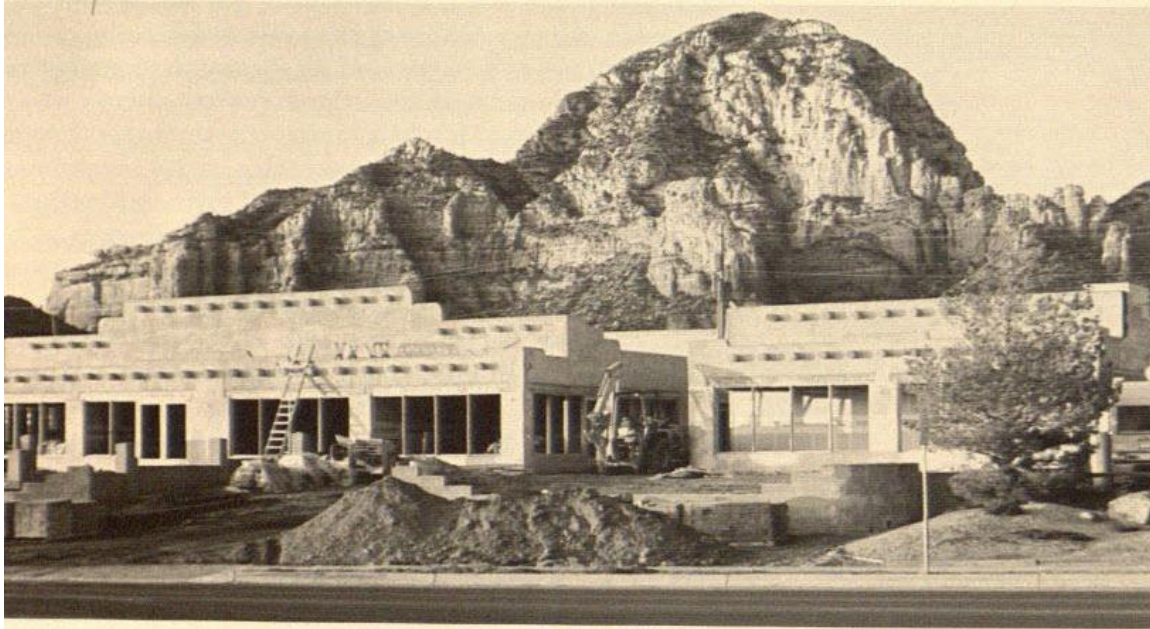
shadow over metaphysical tourism in the area. Some related business owners reported a 20% drop in sales, though they also hypothesized that this could also have been due to the ongoing nation-wide economic recession (Lacey 2010).

Despite this recent setback, the draw of Sedona's spirituality, adding to the city's long-held image as a site with extraordinary scenic beauty and outdoor recreation (including nearby Slide Rock, discussed in chapter six), has led to a growth in population over the past three decades. When the Vales passed through Sedona in 1982, the population numbered fewer than 7,000 and the community had yet to be incorporated into a city. The downtown was already dominated by the same New-West tourist attractions observed in Jackson, and seemingly uncontrolled growth to the south and west threatened "the garden image of Sedona" (p. 50). As of 2010, 10,000 people resided in the city year-round, accompanied by over 1,000 additional seasonal residents. According to official estimates, there is still room to grow further, as only 71% of available city land has been developed (Raber 2009). Sedona is more affordable than Jackson in terms of cost of living, though the 2010 median housing price of slightly more than \$500,000 almost tripled the national average in a city where the median household income is approximately one tenth of that (U.S. Census Bureau 2011). More than just residents have been affected by the costs of Sedona's growth, as evidenced by visitors citing high prices and traffic congestion as their greatest complaints about the city (Behavior Research Center 2005).





**Figure 8.14:** The four principle spiritual vortexes of Sedona. At the center of this map, on the southwest corner of the intersection of Arizona State Highway 89A and Coffee Pot Drive/Sunset Drive, is the location of the photo pair in figure 8.15. Map courtesy of Deva Designs (2009).



**Figure 8.15:** A view of West Sedona’s commercial strip, facing roughly north from the parking lot of a *KFC* restaurant, near the intersection of Arizona State Route 89A and Coffee Pot Drive. “West Sedona” is an informal district of the city of Sedona, rather than a separate political entity. The Capitol Butte, within Coconino National Forest’s Secret Mountain/Red Rock Wilderness Area, rises in the distance to an elevation of 6,355 feet (approximately 1,000 feet above the valley floor). The Coffee Pot rock formation, for which the above road is named, exists immediately off camera to the right.  
**Date and Time of Rephotography:** 1:20pm, Saturday, January 9, 2010.

Of all of the towns and cities discussed in this chapter, Sedona is the one that most closely resembles the stereotypical landscape of American suburban sprawl (though with spectacular views in the distance). Southwest of Sedona's downtown, Arizona State Highway 89A passes through four miles of landscapes similar to that of figure 8.15. The adobe strip mall in the photograph taken by the Vales has since been replaced by the nearly "placeless" Sedona Center (also referred to as the Sedona "Financial" Center by some sources). As the latter name implies, the suites and peripheral buildings in the complex are occupied primarily by finance related companies. Sedona presents a unique phenomenon not seen in the other towns and cities discussed in this chapter, in that its growth has led to the creation of true suburban sprawl, albeit sprawl that is not linked to any other community. For now, expanses of unpopulated arid landscapes still exist between Sedona and the communities of the Verde Valley to the south and southwest.

Many small towns along what is or used to be U.S. 89 have reinvented themselves to increase tourism over the past thirty years. Two of these have done so independently. Jerome and Sedona demonstrate that developing tourism based upon paranormal activity can be a successful business venture. Elsewhere, communities that are not necessarily destination attractions in their own right are banding together into tourist trails, such as the Dinosaur Trail in Montana and the Paiute ATV Trail in Utah.

Neither of these trends are confined solely to U.S. 89 or even the American West, but are rather indicative of processes at work nationwide. Atchinson, Kansas (*KMBC.com* 2004) and St. Augustine, Florida have both become major destinations for paranormal thrill seekers in recent years. In the case of the latter, it has been proven that "ghost" tourism increases visitation and revenue to historic sites, and so should be encouraged by local chambers of commerce: findings

that could easily be transferrable to the growing economy of Jerome (Weiss 2010). Regarding tourist trail networks and alliances, other prominent examples include the Southwest Michigan Wine Trail (Wargenau and Che 2006), and South Dakota's Oyate Trail, which runs along U.S. Highway 18 along the southern border of that state, and which has been cited as being a successful model for all future endeavors along these lines (Edgell and Edwards 1993).

Federally-operated National Historic Trails, though not explicitly established to promote local tourism, nevertheless have that effect. Montpelier, Idaho has benefited from the establishment of the California and Oregon National Historic Trails, both of which run through that city. As mentioned in Chapter Six, the Juan Bautista de Anza National Historic Trail, designated alongside the California Trail in 1990, has already helped to revitalize Arizona's Tubac Presidio State Historic Park, and in coming decades will benefit many towns and cities along its 1,210-mile route between Nogales and San Francisco. Cooperative networks and tourist trails clearly have measurable benefits to the economies of smaller towns and cities. Although a relatively new phenomenon in the American West and throughout the nation as a whole, these alliances appear to be the wave of the future in regarding any community that lacks a world-renowned attraction such as Yellowstone or Grand Canyon national parks.

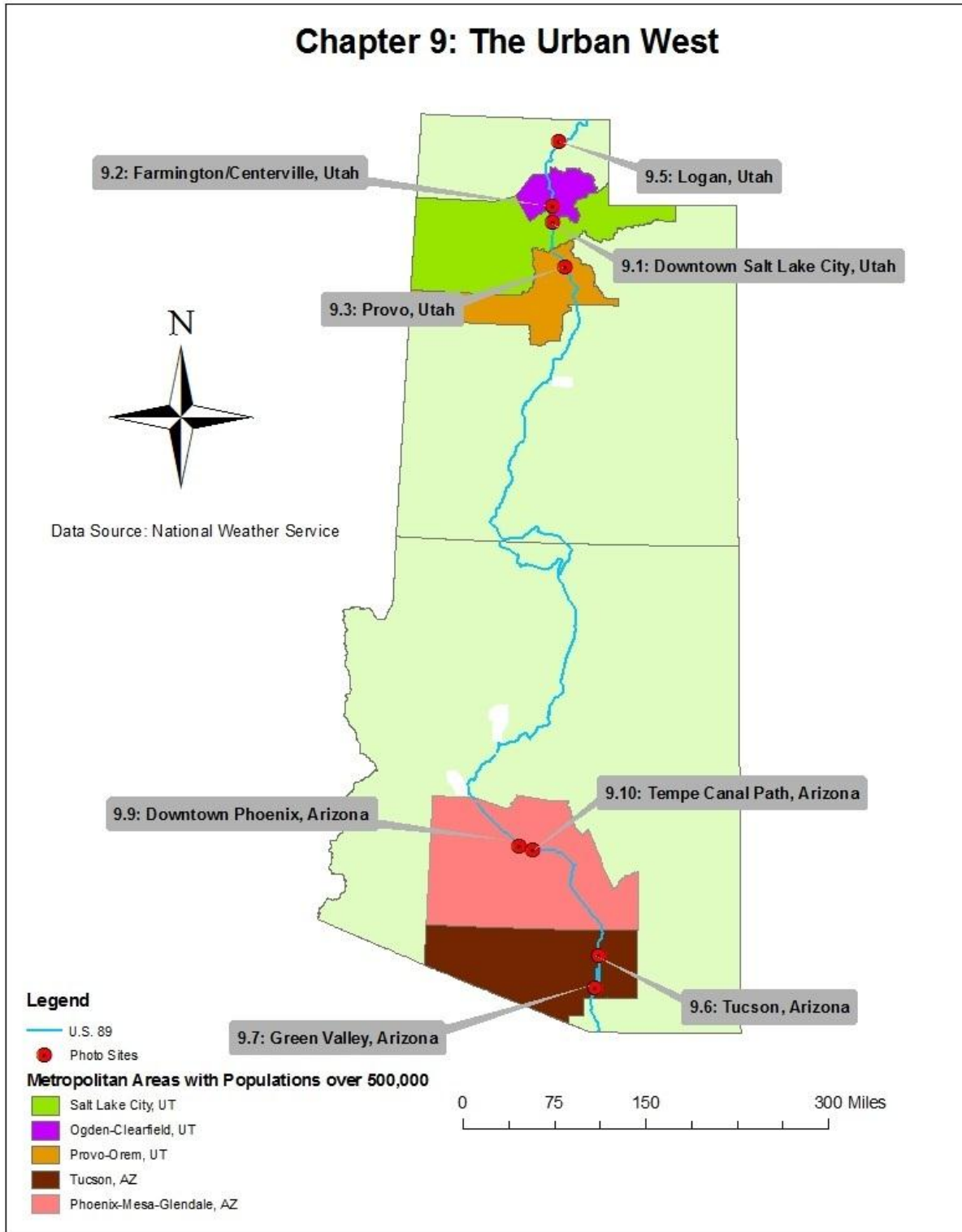
Yet not every community in the West is evolving in the same nature or at the same speed. Two small towns in Montana, analyzed in this chapter, exhibited barely any change at all. Having experienced a decline in its grain industry during the second half of the twentieth century, and lacking any natural or historic tourist attraction, the town of Wilsall has dwindled to a population of barely more than 200. A small yet functioning downtown indicates that Wilsall's complete collapse into ghost town status is not imminent, though this may yet happen at some

point over the coming decades, contributing more land to the “Buffalo Common,” outlined by Popper and Popper (1987, 2006).

Neihart, meanwhile, has remained relatively unchanged by choice. The former mountain mining and logging community could easily promote itself as a skiing destination and as a summer gateway for ghost town tourism and pristine hiking opportunities, but this has not happened. The residents of Neihart, who proudly post signs proclaiming love for their quiet town, have perhaps watched and learned what has come of an economic transition to tourism elsewhere in the country.

From Jackson, Wyoming to Jerome, Arizona, there persists a common perception: service sector, visitor oriented jobs simply do not produce the salaries needed to sustain a local population or draw in skilled professionals, especially not once amenity migrants begin driving up land values. “Aspenization” seems to mean a sustained robust economy, as seen in Jackson and Sedona, thus “a common complaint echoes through the New West: only the newcomers can afford to live there” (Riebsame et al., 1997, 102-103). It is therefore easy to understand why some communities, even those that are arguably dying, would be reluctant to make such an economic transition. Countering this perception is the increased tourism and population in Sedona, Arizona and Afton, Wyoming that has been accompanied with growth in other sectors of the economy.

# Chapter 9: The Urban West



During their journey along U.S. 89, Thomas and Geraldine Vale passed through three major cities: Tucson, Phoenix, and Salt Lake City. Today, the combined metropolitan areas of these cities encompass more than 6.3 million people, or approximately two percent of the national population (U.S. Census Bureau 2011). As described by William Travis, in his *New Geographies of the American West* (2007), the West is the fastest growing region of the country, and the majority of that growth has occurred in ever-expanding suburbs around these cities and others such as Denver and Las Vegas. In one of the more shocking statistics contained within this book, during the first half of the first decade of the twenty-first century, development in the Rocky Mountain West was spreading at a rate of fifty acres per hour. Although the recession that began shortly after Travis' publication slowed this pace, as will be discussed at the end of this chapter, the 2010 census found Nevada's population to be the fastest growing in the union over the past decade, followed by Arizona, Utah, and Idaho (Christie 2010).

It is thus unsurprising that some of the most dramatic change found throughout the course of this research occurred within the urban cores of Arizona and Utah. This chapter addresses each of the major metropolitan areas that U.S. 89 passes (or passed) through in turn, beginning with Salt Lake City, followed by Tucson, and finally Phoenix. In each case, the central city will be introduced first, followed by an analysis of processes at work in its suburbs and other peripheral areas.

Although Richard Francaviglia's 1978 study of Mormon landscapes incorporates only small towns, at least one of his findings would ring true regarding twenty-first century Salt Lake City. Temple Square is very much at the center of the expansive community, and it is surrounded by dozens of acres of publicly accessible green space. As shown by figure 9.1, however, this is a relatively recent development.





**Figure 9.1:** Facing south along North State Street, toward the Eagle Gate, in downtown Salt Lake City. The camera angle needed to be adjusted slightly for safety, as the center median is no longer elevated above the road's surface. Panning the camera slightly to the right would also reveal the eastern entrance to Temple Square.

**Date and Time of Rephotography:** 9:00am, Tuesday, August 4, 2009.

When Thomas and Geraldine Vale arrived in Salt Lake City during the summer of 1983, debris from the swollen City Creek had recently dammed up its underground system of early

twentieth century culverts, forcing State Street to be used as a sandbag-lined diversion channel. Although the idea had been previously proposed by environmentalists and city planners alike, the national media attention on what was essentially a river flowing through downtown Salt Lake City helped to spur local interest and activism in restoring the historic City Creek to surface stream status. Early efforts toward this goal involved creating hiking and biking paths along the waterway as it wound its way northeast of the city into the Wasatch Mountains. These public rights of way connected the people of the Salt Lake Valley with historic sites in City Creek Canyon, including campsites established by Brigham Young on his first expedition to the area, as well as early sawmills and watering holes used by the Mormon pioneers (Love 2005, Harrison 2011).

It was not until the late 1990's, however, that re-channelization came to City Creek between Memory Grove Park in northern Salt Lake City and its confluence with the Jordan River west of downtown. Today, the water feature serves as the central focal point for three new urban parks, two of which are visible in figure 9.1 after replacing the parking lots visible in the earlier image. In the foreground of the 2009 photograph is the four-acre, municipally owned, City Creek Park. Though small, the park's picturesque reflecting pools, curvilinear walkways, and arched brick footbridge won the Landmark Design (2011) landscape architecture firm an award for excellence from the Utah chapter of the American Planning Association in 1998.

One block from the photographer's position in figure 9.1, on the southeast corner of North State Street and East North Temple Street/Second Avenue, is Brigham Young Historic Park, part of the most recent expansion of the attractions at Temple Square. Constructed on the site of Brigham Young's first estate in Salt Lake Valley, the park's statues and interpretive displays tell the story of the Young family and other early Mormon pioneers during and after the

founding of Salt Lake City. Also, during the summer months, concerts and public speaking events occur at Brigham Young Historic Park several times per week. Here, City Creek flows beneath an historic waterwheel before turning west into Temple Square proper, where it serves as the source for a series of cascades culminating in a picturesque fountain just to the east of the temple itself. Each morning that the weather allows, dozens of volunteers maintain the grass and flower beds surrounding the creek.

Though gentiles are not allowed to enter the Salt Lake Temple (or any other), it has nonetheless served as a focal point for tourists visiting the city since the 1870s. When the Vales passed through the city in 1983, two visitor centers portrayed Mormon heritage and belief systems. By the late 1980s, church leaders eyed the over four million visitors per year to Temple Square, and realized that more could be done to spread their religious message. Consequently, in 1995, the Utah Salt Lake City Temple Square Mission was established, with the previously local volunteer staff being replaced with over 1,000 missionaries (predominately, but not entirely, female) from around the world (*Temple Square World* 2011). Tours are offered in over three dozen languages, and in 2001, both visitor centers received multimedia upgrades and renovations.

Although all of these improvements and beautification efforts along City Creek were planned for some time, their rapid completion around the turn of the millennium tied directly into valley-wide projects to prepare Salt Lake City for its role in hosting the 2002 Winter Olympic Games. Three blocks from the photographer's position in figure 9.1 is another example these preparations. Salt Lake City's light rail system (TRAX), initially running along the median of South Main Street between Temple Square and the suburb of Sandy to the south, opened in 1999. High demand for the service quickly necessitated additional and larger trains and a spur line to

the University of Utah Campus. During the 2002 Olympic Games, TRAX alleviated traffic congestion throughout the city by carrying over four million passengers (Light Rail Progress 2003). The main line additionally grants access to the outdoor Gateway Mall and Clark Planetarium, west of Temple Square and also part of the Olympic Games revitalization efforts.

This is not to say that development in downtown Salt Lake City ceased after the Olympic Games, however. Salt Lake City's population has continued to grow, and the urban landscape has continued to change with it. Although the city proper has gained only 23,000 people between the 1980 and 2010 censuses, for a current total of 186,440, Salt Lake County grew far more substantially, from 619,000 in 1980 to over one million in 2010 (U.S. Census Bureau 1980, 2011). Additional light rail spurs are being planned to accommodate this growing population, which include a line to the city's international airport, and additional southward routes to the suburbs of Draper, West Jordan, and West Valley City (UTA 2011).

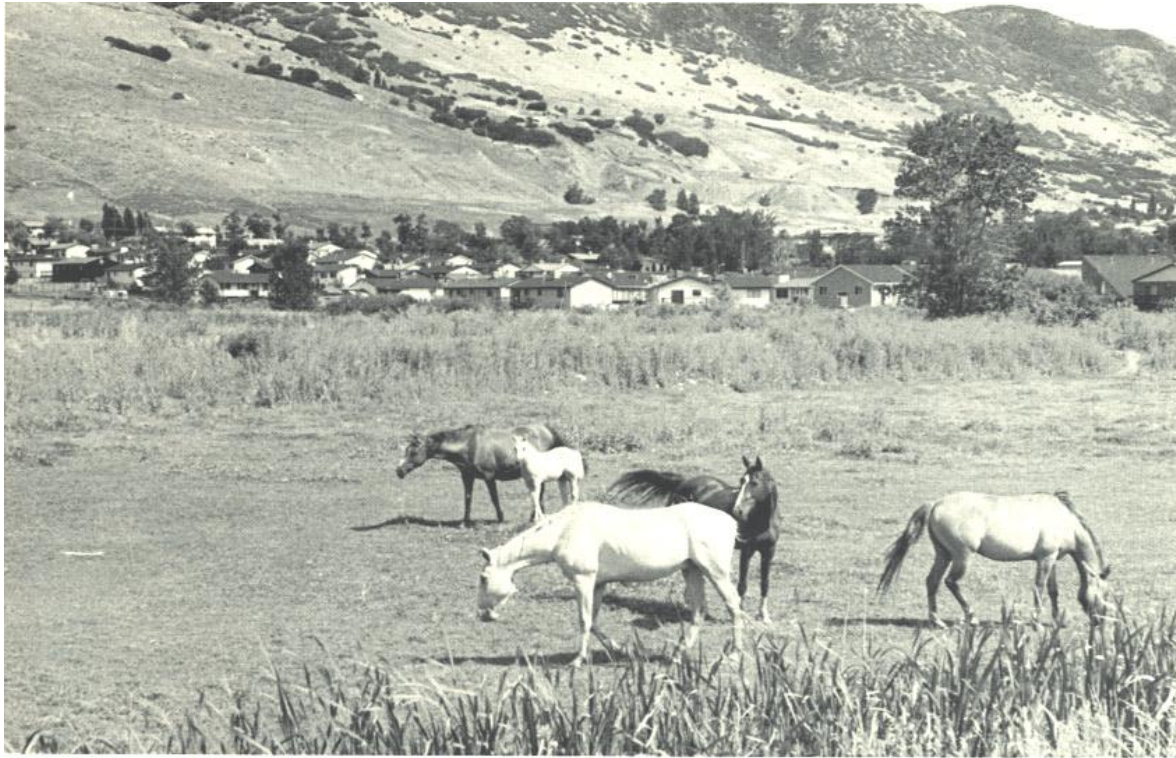
These planned spurs are part of the *Downtown Rising Movement*: an alliance of concerned Salt Lake City residents and private investors (including the Church of Jesus Christ of Latter Day Saints) with the goal of organizing and coordinating previously disjointed and independent development projects taking place across the city. A major revitalization effort is also taking place immediately to the southwest of the Eagle Gate (the historic entrance to the Brigham Young Farm). City Creek Center, a mixed commercial and residential development incorporating three city blocks across the street from Temple Square, is slated for completion by the end of 2011. Obviously, in order for such development to take place, pre-existing structures needed to be torn down, including multiple parking garages, two indoor malls, and the Inn at Temple Square. In August of 2007, in the most publicized of these demolitions, the Key Bank

tower at 50 South Main Street became the first building in Salt Lake City to be imploded since 1983 (Smeath 2007).

The end result, much of which is already open for business, will be an outdoor mall (similar to the Gateway Mall on the western edge of the downtown area) with apartments existing above the ground-level shops and restaurants. After exiting Temple Square, City Creek will flow through the center of this neighborhood, as the latest in a series of efforts to create a continuous green corridor from City Creek Canyon to the Jordan River. As a very long-term goal, this corridor will become a small part of a broader plan to create a series of interconnected public greenways throughout Salt Lake City and the valley as a whole (Downtown Rising 2007).

Despite the efforts to attract new, affluent residents to Salt Lake City itself, however, the vast majority of the region's growth is occurring in the suburbs. As outlined by Travis (2007), recent infrastructure improvements meant to clear up traffic congestion throughout the urban west have actually served as fuel for heightened growth around the urban peripheries. In Salt Lake Valley, the planned light rail extensions will serve this role in, and south of, the capital city. In the north, the Legacy Parkway has helped to ease congestion by as much as 20% on I-15 between the City of Farmington and Salt Lake City International Airport. As the name implies, the four-lane parkway is surrounded by green space, and is advertised by Utah's Department of Transportation (UDOT) as a scenic alternative to the much busier interstate. Biking and hiking paths meander along beside the road, for those who prefer alternative methods of transportation (UDOT 2011).





**Figure 9.2:** Suburban developments spanning the towns of Farmington and Centerville, Utah. The view is facing southeast from Farmington's Frontage Road, near its intersection with 1470 South Street at Skater Park. The foothills of the Wasatch Mountains rise in the distance.

**Date and Time of Rephotography:** 6:30pm, Wednesday, August 5, 2009.

The photographer's location in figure 9.2 is less than three miles south of the northern terminus of the Legacy Parkway. Here, the need for alternative routes to I-15 is clear, as all

vehicular traffic is funneled into a very narrow space. In southern Farmington and northern Centerville, the corridor of human settlement is reduced to a width of only one mile, all of which is visible in the above photographs. Interstate 15 (also U.S. 89) and the Legacy Parkway parallel each other directly behind the camera's position. To the east rise the mountains of Uinta-Wasatch Cache National Forest, while the Utah Division of Wildlife Resources-operated Farmington Bay Waterfowl Management Area is immediately to the west of the highway.

Although both Farmington and Centerville date to the earliest days of Mormon settlement in Utah, when Thomas and Geraldine Vale viewed this landscape in 1983, they commented on how placeless suburban developments were supplanting the Mormon "Middle Landscape" of self-sufficient small towns surrounded by agricultural fields. Over the next three decades, this trend clearly continued. In 1980, Farmington and Centerville possessed respective populations of approximately 4,700 and 8,000, respectively. By 2010, Centerville had nearly doubled to 15,300, while Farmington had tripled to over 14,000 (Farmington Historic Preservation Commission 2011, U.S. Census Bureau 1980, 2011). The new home construction in the middle-left of the 2009 image illustrates this growth.

Beyond human structures, this increase in suburban, commuter populations has had other visible effects on the landscape. Agriculture and grazing have declined in both Farmington and Centerville. The horse pasture photographed by the Vales is now overgrown, and vegetation shields much of the distant housing development from view. At the time of my visit, horses were grazing approximately one half mile further south along Frontage Road, though I saw few other animals of any kind throughout the entire area. Additionally, figure 9.2 shows forest re-growth on the slopes of the Wasatch foothills. The Wasatch-Cache-Uinta National Forest's Salt Lake Ranger District (2010) does not allow grazing on the predominately recreational lands



overlooking the Salt Lake Valley, though private lands extend nearly to the line of continuous forest in both images. The acquisition of these properties by landowners uninterested in grazing animals seems to have actually increased local biodiversity: a phenomenon also outlined by Travis (2007) regarding the advent of “amenity” ranches. The rejuvenation of the native landscape could prove to be short lived, however, in the event that developers construct new housing subdivisions along this section of the Wasatch Front in coming years.

South of the narrow corridor occupied by Farmington and Centerville, the scenery of U.S. 89 changes dramatically. Already bypassed by Interstate 15 at the time of the Vales’ research, the road has since faded further into obscurity in the Salt Lake Valley due to additional bypasses created by Interstate 215 and the Legacy Parkway. Much of the old highway exhibits a visible transformation similar to that observed by William Wyckoff (1992) in his analysis of what happened to Denver’s Colfax Avenue (U.S. 40) after it became bypassed by Interstate 70. With some notable exceptions, including Salt Lake City’s downtown and the neighborhoods surrounding the South Towne Marketplace and Mall in the city of Sandy, the commercial strip of U.S. 89 generally exhibits a feeling of degradation and lacks any cohesive identity. A variety of ethnic stores and restaurants are mixed with old and, in some cases, seemingly abandoned industrial yards. On adjacent streets, historic brick homes now appear to be subdivided into small apartments. Car dealerships, strip clubs, and cheap off-brand lodging are also themes found here, and in one interesting mixture of cultures, the Zion Motel sits nearly across the street from one of the city’s Southern X-Posure strip clubs.

South of Sandy, Utah, U.S. 89 joins with Interstate 15 for some thirteen miles before reemerging as a separate entity in the city of American Fork: one of the northern suburbs of the Provo-Orem metropolitan statistical area. Today, this pocket of urban sprawl in the Utah Valley

is separated from that of Salt Lake City by fewer than two miles of open space that is thus far preserved on the slopes of the Traverse Mountains. Multiple housing developments now spanning the range along Traverse Ridge Road and Suncrest Drive between the cities of Draper and Highland, however, provide evidence that the urban areas of the Utah and Salt Lake Valleys may soon merge. Though only half the size of Salt Lake County in terms of total population, Utah County has grown faster than its northern neighbor, more than doubling in population from 218,000 in 1980 to over 500,000 in 2010 (U.S. Census Bureau 1980, 2011).

Provo, the seat of Utah County and another historic Mormon community dating to 1849, has likewise increased in population over the past thirty years, from 74,000 in 1980 to 112,500 in 2010 (*ibid*). Though bypassed here too by I-15, the U.S. 89 corridor through Provo and its surrounding communities takes on a more standard, suburban “commercial strip” feel, when compared to its passage through Salt Lake City. Although the strip mall depicted in figures 9.3 and 9.4 has existed since before the Vales’ 1983 passage through the area, a comparison of the establishments contained within between the historic and 2009 images reveals Provo’s, and by extension Utah’s, increased connectedness to the rest of the nation and world.



**Figure 9.3:** A shopping plaza at 1700 North State Street (U.S. 89), in Provo, Utah. The view is facing northeast, toward Mount Timpanogos: the second highest peak of the Wasatch Range, at 11,749 feet above sea level.  
**Date and Time of Photography:** 3:30pm, Monday, August 3, 2009.



**Figure 9.4:** A clearer image of the billboard depicted in figure 9.3. “Cougar Rentals” is an agency specializing in apartment rentals for students attending Brigham Young University.

Where only local establishments existed in 1983, two multinational corporations (Meineke and Weight Watchers), and one nation-wide corporation (Dollar General) are visible and/or depicted on the billboard in the 2009 image of figure 9.3, respectively based in Texas, Tennessee, and New York. This does not indicate any kind of eradication of local business, however. Of those seen or advertised in the historic photograph in figure 9.3, Alpine Electronic Supply, Electric Motor Service, Wallpaper Warehouse, Pentad Properties, and the South China Restaurant still exist in nearby locations. Regarding the Golden Dragon Fireworks stand photographed by the Vales, the sale and use of fireworks remains legal in Utah between June 26 and July 26 (incorporating both the Fourth of July and Utah’s Pioneer Day on the 24<sup>th</sup>), as well

as the days surrounding both the Western and Chinese New Year's celebrations (Utah State Fire Marshall 2011). Although the 2009 photograph was taken outside of these windows, there are no online listings for fireworks dealers within the City of Provo.

The differences in establishments depicted in the historic and 2009 images of figure 9.3 also reveal an increase of cultural diversity within Utah. Taken by themselves, Chinese and Mexican restaurants are not necessarily indications of significant minority populations within a community. The presence of Spanish on three of the signs posted on the billboard, however, does provide visual evidence of Utah's increasing Hispanic population. In 1980, the number of state residents claiming "Spanish origin" stood at only 60,000, or slightly over 4% of Utah's total (U.S. Census Bureau 1980). In 2010, those claiming "Hispanic or Latino origin" stood at 13% or over 350,000 people (U.S. Census Bureau 2011). Although the nationwide number of Latino Mormons has grown substantially since the mid-1980s, from fewer than 50,000 to more than 200,000 (Gonzalez 2005), the fact that more than 70% still subscribe to Catholicism (Murray 2011) contributes to predictions that Mormons in Utah may become a minority within the next thirty years (see Canham 2005).

While politics of immigration rage in Arizona, there has been no equivalent backlash against documented or undocumented Latino populations in Utah. In fact, the leadership of the Church of Jesus Christ of Latter Day Saints, along with approximately half of its membership within the state, has recently backed the "Utah Compact" which would discourage local police forces from enforcing immigration statutes (Montero 2011). The Church's stance is reportedly both a practical approach that ensures the safety and success of its missionaries working in Latin America, as well as a reflection of empathy among a significant portion of the Mormon population. Having witnessed the staunch poverty, government corruption, and growing drug

violence in Mexico and elsewhere, missionaries returning from the region are often supportive of those seeking a better life in the United States, regardless of legal status. Additionally, immigrants and migrant laborers entering into Utah's urban areas are viewed as potential converts to the Mormon faith (Lawrence 2011).

Approximately 120 miles to the north of Provo, and eighty miles north of Salt Lake City's downtown, lies the city of Logan. Situated where the Cache Valley meets the western slopes of the Wasatch Range's Bear Mountains, Logan is not located within any major urban area. With a population of nearly 50,000 people, however, it is included here due to its being nearly five times larger than any community covered in Chapter Eight. Additionally, in a similar fashion to trends observed throughout the Salt Lake and Utah Valleys, the photographic pair depicted in figure 9.5 reveals the clash between the traditional Mormon "Middle Landscape" as outlined by the Vales and Francaviglia, and the effects of population growth.

When Tomas and Geraldine Vale photographed the house depicted in figure 9.5, they commented on the unique nature of the structure: a Cape Cod-styled home seemingly transplanted from New England, but fronted with a traditional Mormon lawn and roadside irrigation canal (p. 98). The uniqueness of the structure is also highlighted in a 1970 frontal-view image archived by the Logan Library (2011). By the time of this study, the nature of the property had clearly changed. Although the dry canal in the 2009 image of figure 9.5 is a result of the difference in time of year from the Vales' photograph rather than any change in land use practice, and though the physical structure of the home remains intact, the lawn is now overgrown and the bridge spanning the canal has vanished. The City of Logan's online GIS database ([map.loganutah.org/basemap](http://map.loganutah.org/basemap)) reveals a possible cause for this change. Constructed in



1939 as a single family home, the residence is now operated as an apartment complex by a landlord living in California.



**Figure 9.5:** Facing west from a bridge (1983) and canal (2009) near the intersection of 400 North (U.S. 89) and 600 East Streets, Logan, Utah. The bridge stood upon by the Vales is directly behind the photographer's position in the 2009 image. However, any photograph taken from that vantage point today will reveal only dense foliage mere inches from the camera. In fact, due to the dense vegetation, there is no longer any camera angle that can entirely capture the home depicted in the 1983 photograph.  
**Date and Time of Rephotography:** 12:00pm, Thursday, August 6, 2009.



Such a transition is likely due to the home's location less than a block away from the Utah State University campus. Just as the City of Logan's population has nearly doubled from a 1980 count of 26,800 (U.S. Census Bureau 1980, 2011), enrollment at Utah State University increased from just under 10,000 students in 1980 (Torrens 2011) to an all-time high of 25,767 in 2010, 16,472 of whom attend the main Logan campus (Kirk 2010). Given its proximity to such a large and growing transient population, it was arguably only a matter of time before an entrepreneur purchased and transformed the Cape Cod-styled home into student-affordable housing.

More than eight hundred miles south of Logan, the Armory Park neighborhood of Tucson, Arizona captured in figure 9.6 has also undergone devaluation over the past three decades. Despite substantial population growth in both Tucson and Pima County as a whole, which have respectively increased from 330,500 to 520,000 and from 531,000 to 980,000 over the past thirty years, this neighborhood immediately to the south of downtown has actually lost residents over the same time period. The disappearance of the two homes depicted in the historic photograph of figure 9.6 gives a visual representation of this. The reason for the depopulation, as outlined by William Travis (2007) and also observed in figure 9.2's depiction of Farmington and Centerville, Utah, is the rapid outmigration of residents from the central city to the suburban landscapes. In fact, the sprawl developing along Arizona's I-10 corridor is expected to lead to the creation of a new megalopolis within the next twenty years, through a merger of the Phoenix and Tucson urban areas (Reagor 2006, Travis 2007).



**Figure 9.6:** A view northward from East 17<sup>th</sup> Street, Tucson, Arizona, near the intersection with South Stone Avenue (formerly U.S. 89). The camera angle has been adjusted slightly in the 2010 image to reveal the complete demolition of the two homes photographed by the Vales in 1982. The skyscrapers in the distance are the three tallest buildings in Tucson. From left to right and in decreasing order of height, they are the Unisource Energy Tower (2010 image only), Bank of America Plaza Tower, and the Pima County Legal Services Building (displaying the time of 3:07pm in the 1982 image).

**Date and Time of Rephotography:** 11:30am, Sunday, January 10, 2010.

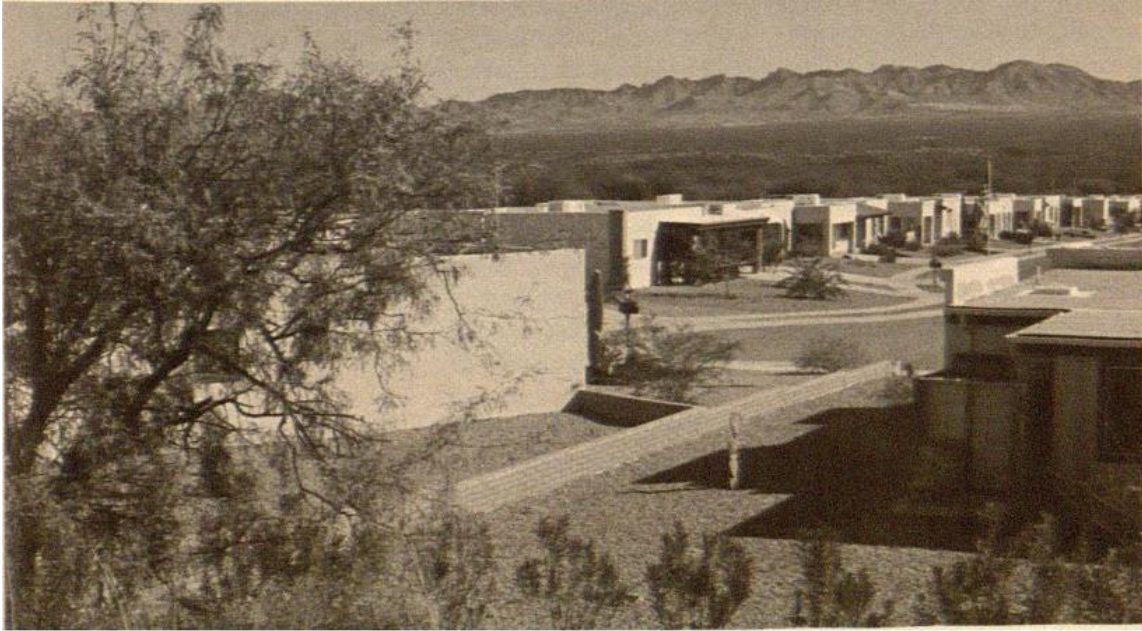
There have, however, been incentives by the city government to bring residents and businesses back to Tucson's downtown and surrounding neighborhoods. For example, the

Armory Park neighborhood rests within the Downtown Infill Incentive District. Tucson's Incentive Districts are zones in which a prior lack of attention has led to depopulation, heightened crime, dilapidated and vacant buildings no longer meeting safety codes, and in some cases, even environmental contamination. Within this zone, commercial or residential development projects totaling more than \$250,000 in cost will receive aid toward their completion (Mayor and Council of the City of Tucson 2006). This aid can include expedited paperwork regarding the permit process and rezoning of properties, exemption from development fees and taxes, and "relief from development standards" (ibid, 16). Although the area depicted in figure 9.6 remains a vacant lot as of the 2012 tax year (Pima County Assessor's Office 2011), these development incentives could very likely have a visual impact upon the landscape in the years to come. In the meantime, the lot and adjacent stretch of 17<sup>th</sup> street contribute to Tucson's revitalization efforts through their being used as the staging ground for the city's Downtown Parade of Lights, which has occurred every December since 1994 (Vitu 2008a, Downtown Tucson Partnership 2011).

The Parade of Lights is one of many initiatives undertaken by the local government, and allies such as the Downtown Tucson Partnership, to rejuvenate the city center itself, located approximately six blocks to the north of the immediate area depicted in figure 9.6. As the photographic pair show, there has clearly been some downtown development since 1982. The 330-foot high Unisource Energy Tower opened in 1986, stealing the title of Tucson's tallest building from the nearby Bank of America Plaza Tower, constructed a decade earlier. By the end of the 1980s, plans had been made to add a second tower identical to the Unisource Energy structure, which is named for one of Arizona's largest providers of natural gas and electricity. Though developers laid a foundation for the sister tower, which still exists to this day, the

movement of commercial enterprises to Tucson's suburbs lowered demand for downtown office space to the point that the full project needed to be called off (Vitu 2008b). Despite this setback to downtown revitalization, the Unisource Energy Corporation broke ground in 2010 on a smaller, nine story complex at the intersection of 6<sup>th</sup> Avenue and Broadway, two blocks east of its namesake tower. The building, scheduled for completion in by January 2012, will serve as the new headquarters for Tucson Electric Power, one of Unisource Energy's subsidiaries, increasing its downtown staff from 85 to 425 persons. Additionally, 11,000 square feet of retail space and a conference center will be available for rent (Vitu 2010, City of Tucson 2011).

While Tucson attempts to draw young, professional workers to its downtown, the city's suburbs have continued to grow. One of these, located approximately twenty five miles south of the photographic pair in figure 9.6 but still within Pima County, is the unincorporated community of Green Valley. By the time the Vales passed through in 1982, Green Valley had already become a hub for retirees seeking a warmer and/or drier climate. Today, the trend continues. Between 1980 and 2010, the community's population nearly tripled, from just under 8,000 to over 21,000 (U.S. Census Bureau 1980, 2011). Of these residents today, 85% are over the age of sixty, with a median age of seventy-one (U.S. Census Bureau 2011). Green Valley's Chamber of Commerce, which is linked with the neighboring and similarly sized city of Sahuarita, boasts of being an ideal place to live or visit due to its warm and sunny climate, as well as ample opportunities for outdoor recreation and the exploration of historical museums (Green Valley Sahuarita Chamber of Commerce 2011). Sahuarita, a more traditional suburb (in terms of median age) existing between Tucson and Green Valley, has grown from a small town of 3,200 in 2000 to over 25,000 in 2010 (City of Sahuarita 2011).



**Figure 9.7:** A view eastward along East Santa Belia Road, Green Valley, Arizona. The Santa Rita Mountains rise in the distance. Due to a recent re-grading of the I-19 Frontage Road (see figure 9.8), it is impossible to recapture the camera angle used by Thomas and Geraldine Vale in 1982.  
**Photograph Courtesy of Daniel Arreola.** Taken Monday, 22 February, 2010.





**Figure 9.8:** A view of the Frontage Road vantage point used by Thomas and Geraldine Vale in 1982, as taken from the shoulder of Interstate 19 Northbound. Construction here prevented me from replicating the Vales' photograph during my visit in early January 2010, thus requiring the generous assistance of Dr. Daniel Arreola of Arizona State University approximately six weeks later. **Photograph Courtesy of Daniel Arreola.** Taken Monday, February 22, 2010.

The construction taking place on the I-19 Frontage Road visible in figure 9.8 is a direct result of Green Valley's rapid population growth. Increasing traffic congestion had led to a heightened number of accidents approximately two blocks to the north of the areas depicted in both figures 9.7 and 9.8, at the three-way interchange between I-19, Continental Road, and the Frontage Road (Walenga 2011). When the project is complete, the seven-mile Frontage Road and adjacent section of Continental Road will be upgraded with paved and widened shoulders, improved signage and lane markings, and new bridges over three of Green Valley's washes. The Frontage Road paralleling I-19 South is likewise scheduled for lighting improvements.

The appeal of Arizona to retirees is not limited to Green Valley and its surroundings. The state's climate as a whole has appealed to prospective residents for more than 100 years. Along with its neighbors in the Southwest, Arizona became a turn of the century destination for people seeking to treat a variety of illnesses including tuberculosis, asthma, arthritis, and polio. Sanatoriums and resorts in Tucson, Phoenix, and Prescott distributed pamphlets around the country, explaining how the desert's hot and dry climate (and high elevation in the case of Prescott) had been medically "proven" to treat or even reverse the effects of a number of ailments (University of Arizona Libraries 2011). By the 1980s, Arizona ranked third among all fifty states in its number of retirees. After the 2000 census, it had surpassed California to take the second place slot just behind Florida, and by 2030, it is estimated that over 22% of Arizona's population will be age 65 or over (Vestal 2006).

In Phoenix's West Valley suburbs, the cities of Sun City and Sun City West have passed laws requiring that at least one person in every household be aged fifty-five or older. Permanent residence by children under the age of nineteen is forbidden (Brandon 2010). The homeowners associations of Sun City Grand, adjacent to Sun City West but within the City of Surprise, have passed similar regulations. The Del Webb Corporation originally planned all three communities as centers of retirement, structured around golf courses, recreation centers, and shopping complexes, where residents could be free of school taxes. The original Sun City, established during the 1960s, has changed little in population over the past thirty years, and has actually decreased slightly from 40,500 to 37,500 (U.S. Census Bureau 1980, 2011).

At the time of the Vales' passage through Phoenix and its surroundings in 1982, Sun City West had only recently been founded, and Sun City Grand did not exist at all. Today, the Sun City trio boasts a combined population of over 80,000 (U.S. Census Bureau 2011, Sun City West



2011, Sun City Grand 2011). The 16,000 people living within Sun City Grand alone have helped to contribute to Surprise's substantial growth from a small town of 3,700 in 1980 to nearly 120,000 in 2010 (U.S. Census Bureau 1980, 2011). In fact, Surprise's growth from a 2000 count of just over 30,000 individuals earned it the title of the country's second fastest growing incorporated place during the first decade of the twenty-first century after the Sacramento suburb of Lincoln City, California (Mackun and Wilson 2011).

The growth of Surprise and the Sun City communities represents only individual parts of a much larger picture. Like Salt Lake City, Phoenix presents an example of a multi-city metropolis. Taken as a whole, the more than fifty incorporated and unincorporated places within the Phoenix metropolitan area have grown from a population of 1.5 million in 1980, to over four million in 2010 (U.S. Census Bureau 2011). Between 1990 and 2000, in fact, Phoenix ranked as the eighth fastest growing metropolitan area in the country (Perry and Mackun 2001). Mesa, Scottsdale, Gilbert and Glendale, all with populations numbering more than 200,000, rank among the largest of Phoenix's suburbs.

The central city itself, however, remains by far the largest single entity in the region. Nearly 1.5 million people live within Phoenix proper, making it the sixth largest city in the country by population. This is an increase from 790,000 in 1980, when the city ranked ninth (U.S. Census Bureau 1980, 2011). Like Tucson and Salt Lake City, as well as other major cities throughout the American West and the nation as a whole, Phoenix's urban core suffered from degradation and neglect as both jobs and skilled workers moved into the ever expanding suburban landscape. Also in a similar fashion to other cities around the country, partnerships between Phoenix's government and a variety of private organizations are trying to promote and revitalize the city's downtown area. In a study published in 2004, the City of Phoenix listed

several soon-to-be draws that it could build upon to bring businesses and people back to its downtown. These include recent additions including Arizona State University's downtown campus (opened in 2006), the joint University of Arizona and Arizona State University "Phoenix Biomedical Campus" (opened in 2007), the coming of a mass transit system to all of the Phoenix metro area (opened in 2008), and major expansions to the downtown convention center, to the left of the photographer's position in figure 9.9, that occurred in both 2006 and 2009.

Progress on Phoenix's downtown revitalization is clearly visible in figure 9.9. A series of plaques surrounding St. Mary's Basilica explain the story behind the transition of the adjacent stretch of 4<sup>th</sup> street between Monroe and Van Buren Streets from an ordinary city road to an urban green space. Opened in 1915, the structure stands as the oldest Catholic Church in the Phoenix metropolitan area. By the time of the Vales' visit, the church had already become a National Historic Landmark. In 1985, two years prior to his visit to Phoenix and several other cities in the United States, Pope Jean Paul II promoted the place of worship from a church to a minor basilica. Such a status both classifies St. Mary's as a place of historic importance to the Catholic Church, and allows the establishment to display three important symbols which denote its rank: the banner of the Papacy, the *tintinnabulum* (bell) which is carried in front of any church procession, and the *conopaeum* (canopy, or umbrella) which sits aside the basilica's altar and is used to symbolically "shade" the Pope should he visit the building (Galles 1991).



**Figure 9.9:** Downtown Phoenix, Arizona, at what used to be the intersection of East Monroe and 4<sup>th</sup> Streets. In the foreground stands St. Mary's Basilica, while in the distance rises the Chase Tower: Phoenix's tallest building at 40 stories and nearly five hundred feet.  
**Date and Time of Rephotography:** 4:30pm, Saturday, January 9, 2010.

With its promotion to a minor basilica, and especially after the pope visited the site in 1987, the Church of St. Mary became a heightened point of interest for Catholic pilgrims and religious tourists in general (“In the Spirit of Chartres” Committee 2006, The Mariological Society of America 2011). At the turn of the millennium, realizing that their structure had gained international attention, the Diocese of Phoenix set plans into motion to improve the landscape around the newly designated basilica. By 2001, the convent and antiquated diocese office buildings to the east of the church (and immediately to the right of the photographer’s position in figure 9.9) had been demolished. In its place today, completed in 2003, is an expansive complex hosting all of the offices and functions of the diocese, which includes a public plaza facing eastward onto 5<sup>th</sup> Street. During the same time period, the city closed the section of 4<sup>th</sup> street between the basilica and diocese center, and deeded the land to the church under the terms that the area be made into a park and walkway open to the public. Diocesan employees now refer to the landscape, which includes a fountain, flower gardens, statues, and a canopy of palo verde trees, as a “quiet spiritual oasis in a busy downtown” (Wolford 2011, 1).

As of 2011, the Diocese of Phoenix is considering designating St. Mary’s basilica as their cathedral, which would officially make it the most important church in the jurisdiction and home to the local bishop. Currently, a larger church at the intersection of 27<sup>th</sup> and Maryland Streets serves that role, though the diocese’s leaders recognize that St. Mary’s offers both a more centralized location and a site of significantly deeper historical and spiritual significance. A transfer of cathedral status would, however, require the basilica to be expanded northward into what is currently a parking lot in order to allow for more space to worship (Clancy 2011). As with any property listed on the National Register of Historic Places, renovations to the basilica

would need to be proposed to the Advisory Council on Historic Preservation if any federal money is to be attached to the church in the future (National Register of Historic Places 2011).

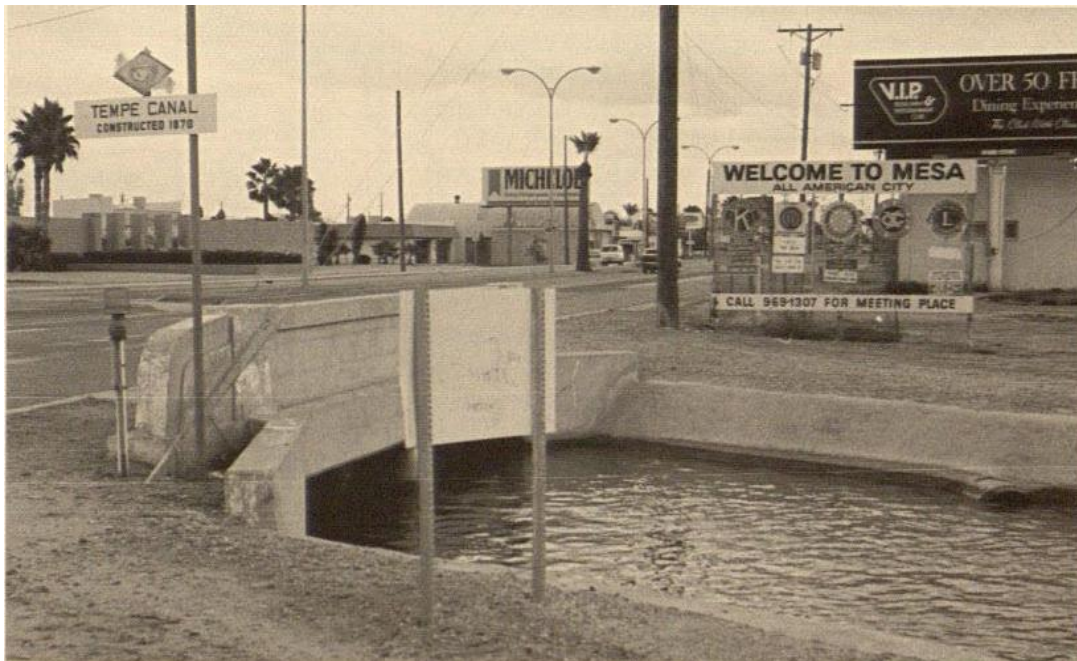
Other examples of the relatively recent revitalization and beautification of Phoenix's downtown can also be seen in figure 9.9. Behind the Chase Tower, which has stood as the tallest skyscraper in Phoenix's downtown since 1972, stands the 44 Monroe Tower. At thirty-four stories and nearly four hundred feet of vertical rise, the building is the tallest residential structure in the Phoenix metropolitan area. It is also one of the city's newest landmarks, with construction finished in 2008 on the site of an abandoned eleven-story bank. In-house amenities include a spa and swimming pool, outdoor terrace with barbecue facilities, fitness and business centers, and private parking (44 Monroe 2011). Despite these attributes and the tower's convenient location within walking distance of many of Phoenix's downtown attractions, the housing market collapse late in 2008 initially threatened the skyscraper's profitability, as only fourteen of the building's more than 200 condominiums had been sold by the end of 2009 when Chicago-based ST Residential purchased the property.

Today, the new owners have transformed the condos into luxury apartments, in hopes that a transient renter population will bring in more revenue than permanent "home" buyers (Anderson 2011). The gamble has thus far paid off, as over 50% of the 44 Monroe Tower is currently occupied. With apartment rental prices in the tower beginning at \$1,300 per month for a 1,100 square foot, one bedroom arrangement that includes a private balcony (Downtown Phoenix 2011), the Vales' comments regarding the extreme wealth disparity they observed between Phoenix's downtown and the outlying suburbs during the early 1980's (specifically Scottsdale and the neighborhoods surrounding Camelback Mountain (p. 42-43)) appear as though they are becoming outdated in light of the city's revitalization efforts.

Increased business in downtown Phoenix is also visible in figure 9.9. One block to the north of the Chase Tower, partially hidden by the spires of St. Mary's Basilica in the 2010 image, stands the 26-story Freeport-McMoRan Center. Constructed even more recently than the 44 Monroe Tower, the center took the space of what used to be a parking lot in 2009. The center's name is the same as that of its primary occupant, the Freeport-McMoRan Copper and Gold Corporation, which is the world's largest company involved in copper mining (Freeport-McMoRan Center 2011). The corporation's plans to rent out office space below the nineteenth floor of the tower, however, failed to materialize due to the same real estate market collapse that hindered the 44 Monroe Tower. The solution, decided upon in March 2010, proved to be the transformation of the vacant office space into a branch of the Westin Hotel chain. Renovation of floors eleven through eighteen concluded one year later (Neighbor 2011). Included with the hotel is a new culinary addition to Phoenix's downtown: the Province restaurant, which features "seasonally driven American" cuisine "with the influences of South America and Spain" (Seftel 2011, 1).

One of the most important driving forces behind Phoenix's downtown revitalization has been the creation of a combined system of bikeways and Valley Metro light rail stations that connect the outlying suburbs to the central city. By chance, the Vales photographed a location at the Tempe/Mesa border that today serves as an intersection of these very recent additions to the metropolitan area. The light rail, which extends approximately twenty miles from western Mesa to northwestern Phoenix near the border of Glendale, began operation in December of 2008 (Creno 2008). Expansions are also planned deeper into northern Phoenix and central Mesa. Attractions currently and directly serviced by the rail include both the Tempe and Downtown

Phoenix campuses of Arizona State University, the Phoenix Sky Harbor Airport, the 1,500-acre Papago Park spanning Phoenix and Tempe, and the previously mentioned 44 Monroe Tower.



**Figure 9.10:** The view eastward into Mesa, Arizona from the Tempe bank of the Tempe Canal. The road adjacent to the photographer’s position is Apache Boulevard East (Tempe) and West Main Street (Mesa). Though the City of Mesa’s prominent welcome sign viewed in the Vales’ photograph no longer exists, a “Welcome to Tempe” marker stands immediately to the left (north) of the area depicted here.

**Date and Time of Rephotography:** 8:45am, Sunday, January 10, 2010.

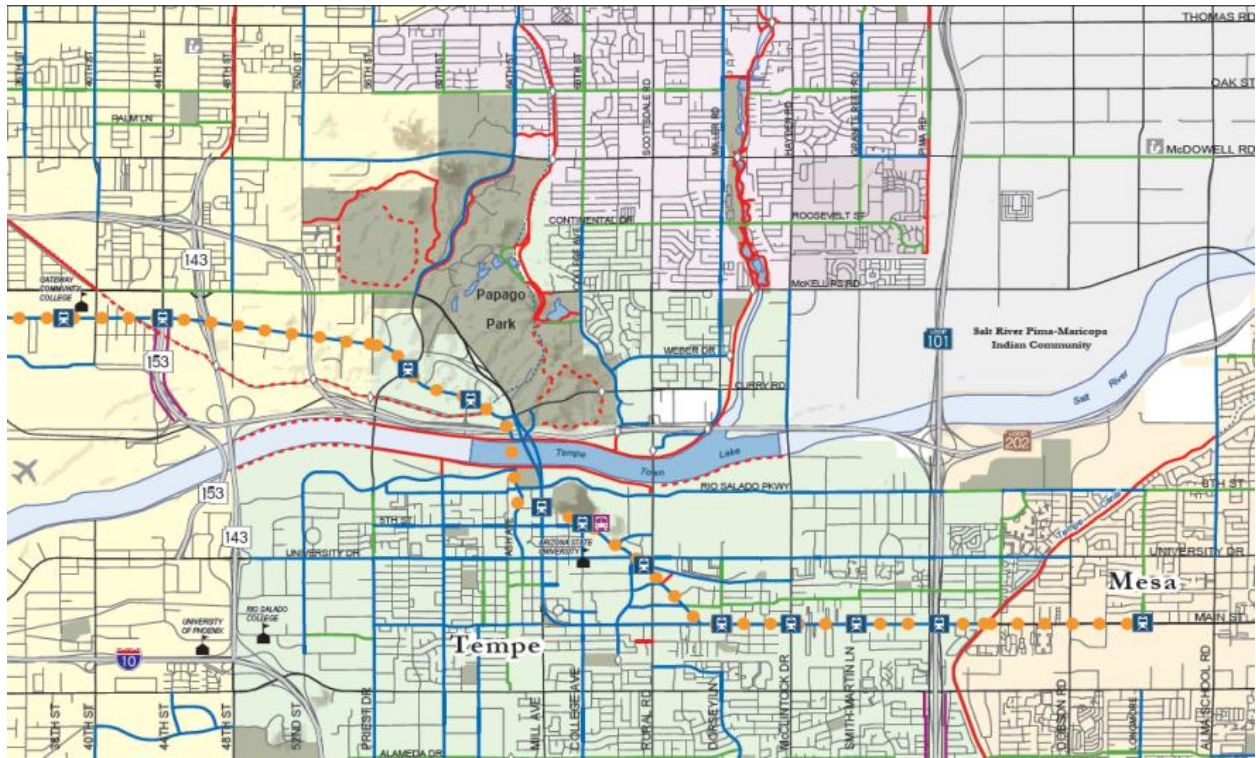


Although the train system still requires the assistance of both local and federal government funds to remain operational, ridership has vastly exceeded expectations. An average of 40,000 passengers daily rode the light rail during the first half of 2009, whereas the planners and city governments behind the light rail's creation had predicted 25,000 (Richard 2009). Fiscal yearly ridership totals (counted between the first of July and thirtieth of June) in 2010 and 2011 have both approximated 12.5 million (Valley Metro 2011).

Metropolitan Phoenix's system of bike lanes and trails has also proven to be a remarkable success in recent years. The Tempe Canal Path, pictured in figure 9.10, opened for use in its entirety in June of 2009 (City of Tempe Quality of Life Committee 2009). In all, more than five hundred miles of bicycle routes of varying kinds connect the various municipalities of the region. The longest of these, the Arizona Canal Path, runs for thirty-eight miles and connects Glendale, Phoenix, and Scottsdale together (City of Phoenix 2011). As revealed in figure 9.11, bike routes intersect the light rail in several locations, and bicycles are allowed in the trains. Likewise, the Valley Metro bus system has also implemented biker-friendly measures in recent years. Every bus is equipped with a bike rack that is available for use on a first-come first-serve basis (ibid). In the 2011 fiscal year, 1.5 million bicyclists took advantage of this service (Valley Metro 2011).

Such an intricate network of transportation systems across several municipalities obviously requires an immense amount of cooperation. Filling this role is the Maricopa Association of Governments, founded in 1967 by an alliance of local cities that had recently come together to both study traffic within the valley and create a regional sewer treatment plant in Phoenix. The organization's bylaws identify it as being founded "on the principle that cities, towns, counties, and Indian Communities, which are closest to the people, should exercise the basic initiative and leadership and should have the primary responsibility for addressing those

local problems and needs which require action on an area-wide or regional basis” (Maricopa Association of Governments 2011b, 1).



**Figure 9.11:** A portion of Metropolitan Phoenix’s system of bikeways and light rail stations. The location of figure 9.11 is visible here, where the light rail crosses the Tempe Canal Path on the border between Tempe and Mesa.

Map and key courtesy of the Maricopa Association of Governments (2008).

During the 1970s, four successive governors of Arizona designated the Maricopa Association of Governments as the Phoenix Valley’s primary agency in charge of regional transportation planning, water and air quality, and solid waste disposal (Maricopa Association of Governments 2011a). Today, nearly every municipality within Maricopa County has joined the association, as has the Arizona Department of Transportation. This includes three Indian Reservations (the Fort McDowell Yavapai Nation, Salt River Pima Maricopa Community, and

Gila River Community), as well the cities of Cave Creek and Wickenburg, to the northwest and northeast of Phoenix respectively, that possess populations of fewer than 7,000 persons and remain outside of the metropolitan area as of the 2010 census (U.S. Census Bureau 2011). Notably absent, however, are representatives from the previously mentioned Sun City communities (Maricopa Association of Governments 2011c).

Travis (2007) cites the Maricopa Association of Governments as one of several cooperative public-sector alliances that exist throughout the American West. Others include the Sacramento Area Council of Governments, San Francisco's Association of Bay Area Governments, and Seattle's Puget Sound Council of Governments. As outlined in *New Geographies of the American West*, although competing interests of the assorted cities included in these organizations can make long term goals difficult to achieve, common visions for the future can at the very least ensure that some progress toward improved infrastructure and sustainable development is made. Thus, while it is unlikely that the Maricopa Association of Governments has the ability (or even the will) to impose any uniform legal restrictions upon the growth of the Phoenix Metropolitan Area, the continued expansion bicycle routes and light rail lines will help to mitigate both traffic congestion and the air pollution that accompanies it. Feasibility studies are currently being conducted regarding the hypothetical expansion of both services deep into Phoenix's West Valley, including the cities of Surprise, Buckeye, and even distant Wickenburg.

Perhaps the greatest driving force behind recent downtown revitalization activities and the development of alternate means of public transportation throughout the American West has not been any partnership of concerned governments or citizenry, but rather the major shift in the national (and global) economy since 2008. As previously mentioned, the stock and housing

market collapse that occurred in that year did impact city centers, as seen in the near abandonment of Phoenix's 44 Monroe Tower. It was the outlying landscapes of suburban sprawl, however, that suffered the most. Entire neighborhoods now lie vacant in the Phoenix Metropolitan Area, either because of foreclosures or the inability of developers to attract residents in the first place. Homeowners who had watched their land values skyrocket through 2007 saw, on average, these same numbers plummet by more than 50% the following year, dropping to levels not seen since 2000 (*CBS News* 2011, White and Angelova 2011).

Despite the resulting affordable homes entering the market for sale, a combination of rampant unemployment (210,000 jobs were lost in all of Arizona between 2008 and 2010) and weariness regarding any home investment led to nearly 80,000 residences remaining vacant in the Phoenix Metropolitan Area by the time the photographs in figures 9.9 and 9.10 were taken (Reagor 2010). Trends studied in Denver's metropolitan area over the past three years have shown that even those who have the money to purchase new suburban homes are opting to rent closer to the central city rather than take the risk of investing in a property when its value may not increase or even remain stable over time (*CBS News* 2011). The successful transition of Phoenix's 44 Monroe Tower from condominiums to rental units reveals that Denver is not an isolated phenomenon in this respect.

Rising fuel prices are also contributing to the stagnation of some of the more distant suburbs in Phoenix and around North America. In a study conducted on trends observed in the twelve largest Canadian metropolitan areas between 1986 and 2006 (including Western Canadian cities such as Calgary, Edmonton, and Vancouver), Tanguay and Ian (2011) found that gas prices are the most important variable governing the growth or decline of urban sprawl: more important than commuting distance, housing values, population density, or the costs of public

transportation. These results are perhaps unsurprising, and tie directly into efforts being put forth by Metro Phoenix's West Valley suburbs to provide alternate means of commuting for their current and prospective residents. Though not yet rebounded to levels witnessed in early 2008, gas prices once again came close to the \$4 per gallon mark across the United States in 2011. On average, American households spent nearly \$370 per month on gasoline in 2011, a drastic increase from approximately \$175 in 2009. In Arizona, this amounted to more than 7% of the average monthly household income (Rooney 2011).

Although Phoenix, along with Las Vegas, often takes center stage in any media story concerning home foreclosures and vacancies in the American West, the other two major urban areas covered in this chapter have fared only slightly better in recent years. In terms of singular cities, Tucson ranked nineteenth in the nation in home foreclosure rates during the first quarter of 2011, with approximately one out of every fifty homes being affected (*Arizona Daily Star* 2011). Regarding complete metropolitan areas, Salt Lake City ranked 16<sup>th</sup> during the same time period, with approximately one of every eighty homes affected (Fulmer 2011).

In 2011, as in 2008, gas prices also became a problem for commuters in Utah, where fuel for personal vehicles accounts for nearly 8.5% of the average monthly household income (Rooney 2011). In Layton, Utah, a city of approximately 70,000 ten miles northwest of Farmington and the area depicted in figure 9.2, one family described their need to move into a smaller home in Salt Lake City proper in order to save money on their increasingly expensive commute to the western edge of the state's capital. It is likely that Salt Lake City-employed residents of Farmington and Centerville will also feel pressured to find new housing closer to their places of work if current trends continue. Any future extension of the central city's light rail

system to the north, in a similar fashion to plans of expansion into West Jordan and Draper to the south, could offset the damage done by higher fuel prices.

Except for Farmington and Centerville, however, none of the smaller cities photographed by Thomas and Geraldine Vale in this chapter stand to directly suffer from these trends in the housing market. Logan and Provo have served as stand-alone centers of population and commerce since the time of their founding. Utah State and Brigham Young Universities, respectively, continue to draw young, skilled workers and a variety of industries to these cities. Though a first-ring suburb of Phoenix, Tempe gains the same result through its being host to Arizona State University: the single largest college campus in the country by population, with nearly 70,000 students enrolled in 2010 (The Ohio State University 2011). It is also unlikely that self-contained retirement communities such as Green River or the Sun Cities will feel significant effects from rising fuel prices, as commuting is a non-factor in these places and the climate of the Southwest will continue to attract new elderly residents who wish to be among peers. These continued suburban success stories, however, are now the exception rather than the rule.

William Travis (2007) argues that the perceived “boom and bust” cycle of the American West is largely an historical myth. Even in difficult economic times, including the occasional failure of a few isolated communities, the overall population of the region continued to grow. In 2010, the population center of the United States continued its southwesterly march across Missouri, and in all likelihood, it will continue to do so through 2020. None of the development master plans surveyed for any city discussed in this chapter predict any significant decrease in population. As evidenced by the twenty-first century skyscrapers of Phoenix’s downtown, the soon-to-be constructed Tucson Electric Power building, and Salt Lake City’s beautification efforts throughout the Temple Square area, however, the recent shifts in the global economy

indicate that new development over the next several years will be largely focused upon urban cores rather than their outlying regions.



## Chapter 10: Reflections upon a Journey, and upon a Methodology

At the conclusion of their two-year journey across the American West, Thomas and Geraldine Vale reflected upon what they had witnessed and made predictions and prescriptions for the future. Some of the future events in the region proved difficult to forecast. Take, for example, two concluding statements regarding what they perceived as unwise investments in Rocky Mountain development made on pages 162-163 of *Western Images, Western Landscapes*: “Developers can no more succeed in pumping their pipelines full of petroleum by wishful thinking than the owners of the Big Rock Candy Mountain Resort in Utah could succeed in their lemonade springs by laying plastic pipes.” As discussed in chapter eight, the Big Rock Candy Mountain Resort is now a successful enterprise, aided significantly by the creation of the Piute ATV Trail. Meanwhile, and although it is not visible along U.S. 89, the oil and gas industry is booming in northeastern Montana, and the rising fuel costs during the first decade of the twenty-first century have led to heightened investment and development of shale oil resources in Colorado, Utah, and Wyoming. Utah’s Bingham Canyon Copper Mine has not only expanded its operation since 1980, covering the site photographed by the Vales under hundreds of feet of mine tailings, but also has plans to expand operations for decades to come.

Some of the more general observations and predictions made by the Vales, however, continue to be true and have also been recently confirmed in William Travis’ (2007) analysis of the region. As was the case in 1980, the image of the West as wild, unsettled, and generally untamed place remains the most important defining characteristic of the region, regardless as to whether that image is true or not. In some places along what is or used to be U.S. 89, the image comes naturally: the mysterious ruins left behind by Ancient Puebloan people and early Spanish missionaries, the expanses of unsettled desert and mountains in northern Arizona, the untamed

natural features of Grand Teton and Yellowstone National Parks, and the vast open grazing country of central Montana.

Even in the busy downtowns of the region's urban centers, the image of the West as frontier can be found. In Phoenix, the elevation of an early twentieth century Catholic Church to basilica status inspires visitors to remember a time when the city's population numbered fewer than 20,000. In Salt Lake City, an entire city block adjacent to Temple Square and very near the capitol has been converted to an historical park dedicated to telling the story of Mormon pioneer history.

In other places, the theme, while present, appears less authentic. In Jackson, Wyoming, for example, establishments such as the Million Dollar Cowboy Steakhouse and Snake River Grill bear Western names and external facades while serving local fare. At the same time, however, they also offer five-star meals using ingredients imported from around the world, and find themselves surrounded by multi-million dollar homes and exclusive resorts occupied by seasonal migrants from places far beyond the West. The permanent residents of this world-renowned "frontier," meanwhile, find themselves pushed ever further from the city they or their parents once called home.

Many smaller towns along U.S. 89 have tried to emulate the success of Jackson and similar communities without losing their traditional identities. Along U.S. 89 in southern Utah and extreme northern Arizona, town and county governments have banded together, along with the National Park Service, to create the Mormon Pioneer National Heritage Area. Aided by this newly designated region surrounding them, as well as the advent of internet listing and advertising, western-themed businesses have begun appearing in places such as Panguitch, Hatch, and Manti: cities that as recently as twenty years ago existed off the tourist "radar." This

repeat photography project makes plain what the average visitor may fail to see: these establishments are relatively new to the landscape, replacing or displacing more traditional (if less flashy) businesses of the small town American West.

Thomas and Geraldine Vale also described conflicts between competing land uses and visions regarding what the nature of the West should be. The political struggle between preservation and use within the region's public lands, for example, remains as real today as it was thirty years ago. Even limiting the focus to places visited during the course of this study, there have been many theaters to this conflict over the past thirty years. In Yellowstone, lawsuits continue over the status of motor boating and snowmobile use within the national park. Ranchers beyond its boundaries, meanwhile, fear for their cattle and strongly protested the reintroduction of wolves to the environment during the mid-1990s and have fought repeated battles for the right to exterminate the animals without regulation. Far to the south, miners and ranchers alike vehemently protested President Clinton's creation of Grand Staircase-Escalante National Monument with Bureau of Land Management land in southern Utah. Although federally designated wilderness and mining establishments are both intricate parts of Western imagery (referred to as "Protected Wild Nature" and the "Big Rock Candy Mountain" by the Vales), they are rarely compatible when placed adjacent to one another.

Elsewhere, conflict has resulted from the effects of outside forces suddenly manifesting themselves on the landscape of the West. As discussed in chapter three, the borders of the United States have witnessed a drastic increase in security over the past three decades: a result of American reaction to heightened illegal immigration and drug trafficking, the recent war between the government of Mexico and various drug cartels, and the terrorist attacks of September 11, 2001. While Mexico's problems affect only the southern border of the United

States, heightened security since the advent of the War on Terror has affected residents living along both of the nation's boundaries.

In the context of the landscape along U.S. 89, this has led to renewed conflict between the federal government and Native American groups who feel that their land rights are again being threatened. In the north, the Blackfeet Nation views the construction of a new inspection station as a turn-of-the-millennium federal land grab, and continues to file lawsuits against any construction projects undertaken by the U.S. Customs and Border Patrol. New laws requiring all persons traveling between the United States and Canada to possess a federally issued passport have hampered trade and cultural exchanges between the Blackfeet people and their Blood Nation relatives to the north. The cost and logistics of acquiring a passport are simply beyond the means of many tribal members, 70% of whom are unemployed.

The same theme plays out on the southern border, to the east of Nogales, Arizona. Here, the Tohono O'odham people find their traditional lands literally split in two by barbed wire fencing that is policed by guards who will no longer accept their tribal identification cards. Although there has always been a federal presence along the country's borders, the drastically increased patrols, newly reinforced (and opaque in many places) physical barriers, and high-tech surveillance technology make the desert landscape of the American Southwest seem a little less majestic in its remoteness. The desert's native inhabitants, meanwhile, find their traditional freedom of movement restricted even further.

These types of disputes indicate that there may well never be a unified plan or vision for the West. In their conclusions to *Western Images Western Landscapes*, the Vales stated: "Better land-use planning, better ecological understanding, and better economic and social institutions will each help mold the best for the West, but what is really needed is a vision for the future, a

vision of what future western landscapes can and should be” (p. 169). Though focused primarily on urbanizing environments, William Travis (2007) made a similar recommendation some twenty years later. There has been some progress toward these goals. National Heritage Areas and Historic Trails utilize the resources of the National Park Service to bring far-flung communities together for the common goals of tourism promotion and at least some image uniformity. Community and local government associations in the Phoenix and Salt Lake City metropolitan areas are making strides in connecting their residents to urban greenways and networks of alternate transportation options.

It is exceedingly unlikely, however, that any alliance can truly bring together all of the opposing forces in the West, especially in cases such as the previously mentioned preservation vs. use and border security debates, where national politics and outside influences come into play. Few governments or community networks have managed to place any meaningful restrictions upon growth. Although efforts have been made to reduce water consumption throughout the region, through methods such as a number of Homeowner’s Associations requiring the use of xeriscaping rather than grass lawns, the money that can be gained through land annexation and sale has proven simply too great for developers, investors, or local governments to resist. In those few cases in the West where the limitation of growth has been achieved, such as Aspen (Hammond 1995) and Boulder (Fodor 1998), the victory has come at the cost of soaring land prices. Also, in the case of Boulder, a glance at any aerial photograph of the region will reveal that the city’s greenbelt is not only being leapfrogged to the east and northeast, but is also coming under pressure from the expansion of Denver’s urban area to the southeast.

It is this nearly unchecked suburban development and, though they did not use the term themselves, growing feeling of “placelessness” in the region that Thomas and Geraldine Vale

identified as a threat to the entire West that can be agreed upon by nearly everyone. This threat has continued into the twenty-first century. Nearly all incorporated cities along what is or used to be U.S. 89 have increased in population since 1980. In particular, the Phoenix metropolitan area has more than doubled in size to its current total of over four million inhabitants. Although the post-2008 decline of the housing market has undoubtedly mitigated William Travis' staggering 2007 statistic of Western development spreading at a rate of 50 acres per hour, the visual effects upon the landscape are undeniable. Excepting their mountain backdrops (which are not always visible) and possibly xeriscaped yards, many strip malls and suburban housing developments in Surprise, Arizona, Provo, Utah (figures 9.3 and 9.4), Great Falls, Montana, or even the resort community of Sedona, Arizona (figure 8.15) will look nearly identical to their equivalents in Chicago, Detroit, Atlanta, or Long Island. As revealed by the Sedona photographic pair, even the adobe and stucco pattern that separates Southwestern cookie-cutter developments from their Eastern counterparts has been replaced by the national norm in many places.

The value of repeat photography becomes especially evident through the Sedona photo pair, as well as others such as Afton, Wyoming, and Panguitch and Provo, Utah (figures 8.10, 8.8, and 9.3, respectively). To once again cite the words of Turner et al. (2003), the advantage of this methodology is that one can collect visual data in more intricate detail and from multiple angles. Aerial imagery of these photographic locations would reveal miniscule change in the roof structures of Sedona and Afton, and likely none at all in Panguitch or Provo. Immense change has come within these buildings, however. Photographs of the storefronts highlight the increased diversity of restaurants, the replacement of traditional small town businesses by tourist-oriented shops and services, and the increased presence of national and international corporate chains in the region.

The repeat photography in this study also includes a textual description and analysis of the landscape surrounding each photographic pair. This, too, can allow for greater cultural understanding of the locations in question than can be attained through remote sensing that is absent of extensive “ground truthing,” and will serve as useful framework for researchers wishing to conduct a similar study of any other region in North America. Aerial images of the location depicted in figure 7.4 would show the same forest regeneration in the Little Belt Mountains as ground-level photography, as well as evidence of past and present logging activity just beyond the nearby ridgelines. What would be missed is the interpretive display shown in figure 7.5 that alludes to how the general public perceives resource extraction in what they would normally consider to be “wilderness” (as well as how the government responds to this public perception). Similarly, although aerial repeat photography would capture the transition to parkland of Phoenix’s 4<sup>th</sup> street adjacent to St. Mary’s Church (figure 9.9), the story of the structure’s promotion to minor basilica and the growth of pilgrimage tourism would be lost.

Each photographic pair, then, is more than a simple set of images. It is instead a focal point of a greater story that is woven through the landscape of the West, a story that will prove useful to both academics and the general public. Rather than just reading news stories and census bulletins regarding the state of their city, county, or region, residents of the West can see how their landscape is being shaped by the forces and conflicts described earlier in these conclusions. Census records and newspapers (both local and national) are, of course, used in this study in order to uncover the meaning and history behind each set of images. Sources also include other forms of written media acquired throughout my travels, as well as internet research, in addition to extensive field notes and informal conversations with local residents.



The images and accompanying background research regarding Nogales in Chapter Three display both heightened border security and evidence of the increasing Hispanic/Latino population of the American Southwest. Chapter Four depicts the continued importance of tourism to impoverished Native American reservations, as well as the importance of Native American imagery throughout the region. Chapter Five highlights how the vast majority of terrain in the West remains free of human habitation, while Chapter Six provides evidence of the shifting and sometimes conflicting policies governing those uninhabited lands of the West that are used by travelers from around the world for recreation. Few better examples of this type of policy shift exist than the National Park Service's effort to hide any trace of the trail that once existed on the slope of Sunset Crater (figure 6.14). Chapter Seven depicts and describes the (generally) heightened levels of resource extraction in the vicinity of U.S. 89 since 1980. The expansion of the Bingham Canyon Mine (figure 7.6) and expansion of Glendale's city limits in order to extend the community's water rights (figures 7.9 & 7.10) represent dramatic examples here. Finally, chapters Eight and Nine reveal vastly different rates of change in the West's built environments, ranging from continuity in the quiet towns of Montana's Great Plains (figures 8.1 and 8.2), to the ongoing implementation of Salt Lake City's re-imagined downtown (figure 9.1).

Unexpectedly, and in contrast to all of the cultural changes occurring throughout this dissertation's study area, very few of the fifty-three photograph pairs revealed any significant change in the physical or (more surprisingly) biogeography of the region. Despite the tendency for the Vales to focus on populated landscapes, or at least those places being impacted by human use (including Highway 89 itself), it would not be unreasonable to expect to notice soil erosion and/or invasive species introduction. Notable exceptions to this absence of change include the Yellowstone fire and subsequent forest recovery (figures 6.5-6.7), and the ongoing reintegration

of the Little Belt Mountains timber harvest into the forest matrix, which is being hampered somewhat by the recent mountain pine beetle outbreak (see figures 7.4-7.5).

Prevalent throughout all of these chapters, is the undeniable reality that globalization has reached every corner of the West, and no resident of the region would be able to argue that he or she is not more connected to the rest of the world than they (or their families) were thirty years ago. The threat of international terrorism has severely hampered movement across the previously porous Canadian border in Montana, while international oil prices and distant Wall Street bankers came together in 2008 to create a housing market collapse that severely impacted all of the West's metropolitan areas. Elsewhere, those engaged in primary industries now pay closer attention to the worldwide demand for grain, copper, oil, and natural gas. All sizeable cities in the region have experienced an increase in cultural diversity, bringing with it ethnic stores and restaurants, as well as branches of international corporations. Small towns previously unknown to all but the best travel agents are expanding their service sector industries by using internet advertising to attract domestic and international tourists alike. In fact, there is now a US Route 89 Appreciation Society ([us89society.org](http://us89society.org)) dedicated to promoting the cultural and physical attractions of Highway 89, including those sections decommissioned over the past twenty years.

The repeated images of this dissertation, in conjunction with those collected by other scholars such as Martin Mitchell (1996), Turner et al. (2003) and William Wyckoff (2006), as well as those contained within various publications by "Then and Now" series authors<sup>14</sup>, and within the upcoming works by Frank Brusca relating to U.S. 40, empower greater decision making ability among policy makers and amongst the general population. Just as the works of Ives (1987), Mosley (2006), and Salick et al. (2005) helped both predictions and prescriptions to

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<sup>14</sup> For a sampling of these works in the West, see Chung's (2002) rephotography of Las Vegas, Dinar's (2002) work in Denver, Scharbach and Akers' (2005) rephotography of Phoenix, and Huffaker's (2008) analysis of Salt Lake City.

be made in the Himalayan Mountains, so too can the results of this dissertation shed light upon what the outcomes of various planning decisions (or lack thereof) in the West may be. As one example, if Jerome, Arizona, Panguitch, Utah, and/or Afton, Wyoming continue to invest money in tourism development and promotion, do Jackson and Sedona provide examples of what their downtowns and commercial strips may look like in decades to come? Similarly, as border security continues to grow in importance within American politics, do the reinforced barricades along the national border in Nogales Arizona foreshadow the type of fencing that may one day stretch through the remote prairie and mountain landscapes of northern Montana? See The Canadian Press (2011) for discussions into this possibility.

The fifty-three sets of photographs contained within this dissertation also provide another set of data points for future scholars to use. In the realm of physical geography and biogeography, Turner et al.'s *The Changing Mile Revisited* (2003) demonstrates the intricate relationships of cause and effect that can be drawn out with three or more photographic sets over time. The same can be true for research in human and cultural geography. Just as Frank Brusca is using photographs from both George Stewart and Thomas and Geraldine Vale along U.S. 40 in order to depict sixty years of change along a cross section of the United States, so too will future researchers eventually be able to use a combination of this dissertation and the Vales' original photographs to depict change along a cross section of the American West over the course of fifty to sixty years.

## References

- 20th Century Castles, LLC. 2010. *Welcome to missile bases.com*. [www.missilebases.com](http://www.missilebases.com) [last accessed 22 November 2010].
- 44 Monroe. 2011. *44 Monroe St Collection*. <http://www.44monroe.com/> [last accessed 22 July 2011].
- 100<sup>th</sup> Meridian Initiative. 2010. *About the 100<sup>th</sup> Meridian Initiative*. <http://www.100thmeridian.org/> [last accessed 7 November 2010].
- Abbey, Edward. 1968. *Desert solitaire: A season in the wilderness*. New York: McGraw Hill Book Company.
- Aggregate Research. 2003. Utah gravel pits' effect to be studied. 20 June. <http://www.aggregate-research.com/articles/2462/Utah-Gravel-Pits-Effect-to-Be-Studied.aspx> [last accessed 5 December 2010].
- Albrecht, Don E. 2008. Population brief: Trends in the western U.S. *Western Rural Development Center*. [http://wrdc.usu.edu/files/uploads/Population/Idaho\\_WEB.pdf](http://wrdc.usu.edu/files/uploads/Population/Idaho_WEB.pdf) [last accessed 23 February 2011].
- Alliance Times*. 2011. US Forest Service announces forest health survey. 27 January. <http://www.alliancetimes.com/breaking%20news.htm> [last accessed 27 January 2011].
- Allred, Steve. Secretary/Treasurer, National Oregon/California Trail Center. 2011. Email Correspondence. 21 May.
- Anderson, D. Larry. 2002. *Utah's perspective: The Colorado River*. <http://www.water.utah.gov/interstate/thecoloradoriverart.pdf> [last accessed 9 December 2010].
- Anderson, J. Craig. 2011. Downtown Phoenix condos to be converted into apartments. *AZ Central*. 4 January. <http://www.azcentral.com/business/realestate/articles/2011/01/04/20110104downtown-phoenix-condos-converted-into-apartments-44-monroe.html> [last accessed 25 July 2011].
- Anderson, Kim. 2011. 2011/12 wheat marketing year average price \$7.50. *Southwest Farm Press*. 1 March. <http://southwestfarmpress.com/grains/201112-wheat-marketing-year-average-price-750> [last accessed 28 August 2011].
- Anderson, Terry L, and Parker, Dominic. 2008. Sovereignty, credible commitments, and economic prosperity on American Indian reservations. *The Journal of Law Economics* 51 (4): 641-666.

- Arizona Department of Transportation. 1992. *An application from the Transportation Department of Arizona for the elimination of U.S. Route 89*. Washington, D.C.: American Association of State Highway And Transportation Officials. 22 June. Print.
- Arizona Daily Star*. 2011. Tucson jumps to nineteenth highest nationally in foreclosure rates. 28 July. [http://azstarnet.com/business/local/article\\_bb2f7140-b968-11e0-b631-001cc4c002e0.html](http://azstarnet.com/business/local/article_bb2f7140-b968-11e0-b631-001cc4c002e0.html) [last accessed 5 August 2011].
- Arizona Department of Transportation. 2008. *Statewide transportation planning framework, Northern Region: Existing and future conditions*. [http://www.azdot.gov/bqaz/PDF/Northern\\_WP2\\_ExistingRdSystem\\_2\\_4\\_1.pdf](http://www.azdot.gov/bqaz/PDF/Northern_WP2_ExistingRdSystem_2_4_1.pdf) [last accessed 26 September 2010].
- Arizona Game and Fish Department. 2009. *California Condor recovery*. [http://www.azgfd.gov/w\\_c/california\\_condor.shtml](http://www.azgfd.gov/w_c/california_condor.shtml) [last accessed 5 October 2010].
- Arizona Office of Tourism. 2010. *Arizona state park visitation*. <http://www.azot.gov/research-and-statistics/monthly-and-quarterly/state-parks> [last accessed 14 October 2010].
- Arizona Snowbowl. 2010. Planned upgrades to ski trails and lifts at the Arizona Snowbowl. [http://www.arizonasnowbowl.com/resort/trails\\_lifts\\_expansion.php](http://www.arizonasnowbowl.com/resort/trails_lifts_expansion.php) [last accessed 26 September 2010].
- Arizona State Parks Press Room. 2010(a). *Parks with five day schedules*. [http://www.pr.state.az.us/press/2009/PR\\_04-11-09.html](http://www.pr.state.az.us/press/2009/PR_04-11-09.html) [last accessed 14 October 2010].
- Arizona State Parks Press Room. 2010(b). *State Parks Board approves entering into agreements with local towns to operate p-arks*. [http://www.pr.state.az.us/press/2010/PR\\_03-18-10.html](http://www.pr.state.az.us/press/2010/PR_03-18-10.html) [last accessed 14 October 2010].
- Arreola, Daniel D. 2001. La Cerca y Las Garitas de Ambos Nogales: A postcard landscape exploration. *Journal of the Southwest* 43 (4): 505-541.
- Arreola, Daniel D., and James R. Curtis. 1993. *The Mexican border cities: Landscape anatomy and place personality*. Tucson: The University of Arizona Press.
- Arreola, Daniel D., and James R. Curtis. 1996. Tourist Landscapes. *U.S.-Mexico borderlands: Historical and contemporary perspectives*. Oscar J. Martinez, ed. Wilmington: Scholarly Resources, Inc.
- Arrington, Todd. 2007. *Centennial challenge to revitalize national parks and the National Park Service*. <http://www.nps.gov/home/supportyourpark/loader.cfm?csModule=security/getfile&pageid=148381> [last accessed 11 October 2010].

- Associated Press. 2007. *Blackfeet factory*. 14 December.  
<http://www.reznetnews.org/article/blackfeet-factory-6220> [last accessed 29 June 2010].
- Associated Press. 2009. *Port of Piegan work shut down by Blackfeet Tribe*. 2 July.  
<http://www.abcmontana.com/news/state/49689897.html> [last accessed 9 May 2010].
- Austin, Phyllis. 2005. Controversy over Baxter park logging plan. *Maine environmental news*. 11 March. <http://www.meepi.org/files05/pa031105.htm> [last accessed 28 November 2010].
- Ayers, Steve. 2009. Special report: Exploring the depths of Montezuma well – with video!: Into the abyss. *Verde Independent*. 3 March.  
<http://verdenews.com/main.asp?SectionID=1&subsectionID=1&articleID=29428> [last accessed 25 March 2011].
- Barringer, Felicity. 1989. Northeast gains some population. *The New York Times*. 16 September. <http://www.nytimes.com/1989/09/16/us/northeast-gains-some-population.html> [last accessed 3 March 2010].
- Baumann, John, and Micki Baumann. *What is a vortex?*  
<http://www.lovesedona.com/vortmap3.pdf> [last accessed 26 March 2011].
- Bear Lake Valley Convention and Visitors Bureau. 2012. *History of Bear Lake Valley*.  
<http://www.bearlake.org/history.html> [last accessed 22 February 2012]
- Behar, Michael. 2008. The red zone: Wyoming's Red Desert. *Backpacker Magazine*. September.  
[http://www.backpacker.com/september\\_08\\_wyoming\\_red\\_desert/destinations/12549](http://www.backpacker.com/september_08_wyoming_red_desert/destinations/12549) [last accessed 1 February 2011].
- Behavior Research Center, Inc. 2005. *2005 Sedona visitor study*.  
<http://www.visitsedona.com/uploads/document/2005sedonavisitorstudy.pdf> [last accessed 30 May 2011].
- Bingham Canyon Mine a mainstay. *Deseret News*. 28 February 2010.  
<http://www.kennecott.com/library/media/KUC%20%20Bingham%20Canyon%20Mine%20a%20mainstay%20-%20Des%20News%20-%20202.28.2010.pdf> [last accessed 21 May 2010].
- Blackfeet Tribal Business Council. 1997. Blackfeet Class II Gaming Ordinance NO. 96. *Montana Memory Project: Montana's Digital Library and Archives*.  
<http://cdm103401.cdmhost.com/cdm4/document.php?CISOROOT=/p15018coll30&CISOPTR=145&REC=18> [last accessed 28 June 2010].

- Blackfeet Tribal Business Council. 2009. *Press Release: Blackfeet Tribal Business Council announces \$200 per capita*. 7 December. <http://www.blackfeetnation.com/news/51-tribal-business-council-announces-per-capita.html> [last accessed 29 June 2010].
- Blake, Kevin. 1995. Zane Grey and images of the American West. *Geographical Review* 85 (2): 202-216.
- Blake, Kevin. 2001. Contested landscapes of Navajo sacred mountains. *North American Geographer* 3 (1): 29-62.
- Bleizeffer, Dustin. 2009. Wyoming trying to satisfy EPA's coalbed methane concerns. *Billings Gazette*. 3 December. [http://billingsgazette.com/news/state-and-regional/wyoming/article\\_b721f034-dfc9-11de-815e-001cc4c002e0.html](http://billingsgazette.com/news/state-and-regional/wyoming/article_b721f034-dfc9-11de-815e-001cc4c002e0.html) [last accessed 1 February 2011].
- Bogan, Jesse. 2009. In pictures: America's busiest border crossings. *Forbes.com*. 2 April. <http://www.forbes.com/2009/04/01/mexico-texas-economy-business-border.html> [last accessed 21 June 2010].
- Brandon, Emily. 2010. 10 places with the most retirees. *U.S. News Money*. 4 October. <http://money.usnews.com/money/retirement/articles/2010/10/04/10-places-with-the-most-retirees> [last accessed 11 July 2011].
- Border Wars*. 2009. City under siege. *National Geographic* 11 May.
- Braidwood, Alison. 2007. Mystical vortexes in Sedona, Arizona. *Arizona Leisure Vacation Guide*. <http://www.arizona-leisure.com/mystical-vortexes.html> [last accessed 25 March 2011].
- Branch, Rick. 1993. Church Universal and Triumphant. *The Watchman Expositor* 10 (4). <http://www.watchman.org/profile/unipro.htm> [last accessed 24 August 2010].
- Brinkerhoff, Erik. Former Mayor, Town of Glendale. 2010. Telephone Correspondence. 2 February.
- Britten, Nick. 2006. The moment our son jumped to his death. *Telegraph.co.uk*. 26 April. <http://www.telegraph.co.uk/news/uknews/1516687/The-moment-our-son-jumped-to-his-death.html> [last accessed 7 November 2010].
- Brooks, Charles E. 1984. *Fishing Yellowstone waters*. New York: Lyons & Buford Publishers.
- Browning Area Chamber of Commerce. 2004. *Faught's Blackfeet Trading Post*. <http://www.browningchamber.com/faughts.html> [last accessed 27 June 2010].



- Bryand, Karl. 2007. Integrating preservation and development at Yellowstone's Upper Geyser Basin, 1915-1940. *Historical Geography* 35: 136-159.
- Buffalo Field Campaign. 2008. *What is the Church Universal Triumphant?*  
<http://www.buffalofieldcampaign.org/faq/whatiscut.html> [last accessed 26 August 2010].
- Bureau of Land Management. 2009. *Vermilion Cliffs National Monument FY 2009 manager's report.*  
<http://www.blm.gov/pgdata/etc/medialib/blm/az/pdfs/nlcs.Par.90258.File.dat/Vermilion%20Cliffs%20NM%202009%20Annual%20Report.pdf> [last accessed 27 August 2010].
- Bureau of Reclamation. 2011. *Upper Colorado region reservoir operations: Lake Powell.*  
<http://www.usbr.gov/uc/crsp/GetSiteInfo> [last accessed 14 January 2011].
- Burgess, Kelly. 2010. Visitation to national parks increased in 2009. *Los Angeles Times*. 24 February. <http://latimesblogs.latimes.com/outposts/2010/02/national-parks-visitors-increase.html> [last accessed 20 October 2010].
- Burr, Steve, Doug Reiter, and Dale Dlahna. 2004. Front country visitors to the Grand Staircase Escalante National Monument and community tourism development in southern Utah. *Institute for Outdoor Recreation and Tourism: Utah State University.*  
[http://ertr.tamu.edu/index.php?option=com\\_content&view=article&id=1994:front-country-visitors-to-the-grand-staircase-escalante-national-monument-and-community-tourism-development-in-southern-utah&catid=159:human-dimensions-of-natural-resources-in-the-western-us-conference&Itemid=64](http://ertr.tamu.edu/index.php?option=com_content&view=article&id=1994:front-country-visitors-to-the-grand-staircase-escalante-national-monument-and-community-tourism-development-in-southern-utah&catid=159:human-dimensions-of-natural-resources-in-the-western-us-conference&Itemid=64) [last accessed 3 October 2010].
- Byers, Alton. 1987. Landscape change and man-accelerated soil loss: The case of the Sagarmatha (Mt. Everest) National Park, Khumbu, Nepal. *Mountain Research and Development* 7 (3): 209-216.
- Call, Lee. 2011. *Star Valley and its communities.* [http://www.svhs.us/Elkhorn\\_Arch.html](http://www.svhs.us/Elkhorn_Arch.html) [last accessed 10 March 2011].
- Cameron Trading Post. 2005. *History of the Cameron Trading Post.*  
<http://www.camerontradingpost.com/cameronhx.html> [last accessed 7 July 2010].
- Campbell, Craig S. 2000. In George R. Stewart's footsteps: Revisiting U.S. 40 in Missouri and Kansas. *Focus*. 46 (1): 23-31.
- Campi, James Jr. 2002. *Civil War battlefields: Then and now.* San Diego: Thunder Bay Press.
- The Canadian Press. 2011. U.S. mulls Canadian border fence. *CBC News.*  
<http://www.cbc.ca/news/politics/story/2011/09/29/fence-border-canada.html> [last accessed 11 October 2011].

- Canham, Matt. 2005. Mormon population of Utah steadily shrinking. *Salt Lake City Tribune*. 24 July. <http://www.religionnewsblog.com/11785/mormon-portion-of-utah-population-steadily-shrinking> [last accessed 4 October 2010].
- Casselman, Ben. 2010. Oil industry booms – in North Dakota. *The Wall Street Journal*. 26 February. <http://online.wsj.com/article/SB10001424052748703795004575087623756596514.html> [last accessed 17 November 2010].
- CBC News. 2008. *Expert says B.C. pine beetles have run out of food, stopping epidemic*. 25 March. <http://www.cbc.ca/money/story/2008/03/25/bc-pine-beetle.html> [last accessed 29 November 2010].
- CBC News. 2011. *B.C. shares pine beetle lessons with Alberta*. 16 January. <http://www.cbc.ca/canada/british-columbia/story/2011/01/16/bc-pine-beetle-forest-fire.html> [last accessed 1 February 2011].
- CBS News. 2011. Cities that weathered housing busy now suffering. 31 May. <http://www.cbsnews.com/stories/2011/05/31/ap/business/main20067629.shtml> [last accessed 3 August 2011].
- Charlton, John. 1998. Rephotographing Alexander Gardner's 1867 "Across the continent on the Union Pacific Railway, Eastern Division." *Transactions of the Kansas Academy of Science* 101 (3/4): 63-81.
- Charlton, John. 2000. Kaw River Valley scenes revisited after 130 years. *Transactions of the Kansas Academy of Science (1903-)* 103 (1/2): 1-21
- Chung, Su Kim. 2002. *Las Vegas then and now*. San Diego: Thunder Bay Press.
- Choteau Chamber of Commerce. 2011. *About Choteau*. <http://www.choteaumontana.com/aboutchoteau.htm> [last accessed 17 February 2011].
- Christie, Les. 2010. Ten fastest-growing states. *CNN Money*. [http://money.cnn.com/galleries/2010/pf/1012/gallery.fastest\\_growing\\_states/index.html](http://money.cnn.com/galleries/2010/pf/1012/gallery.fastest_growing_states/index.html) [last accessed 20 May 2011].
- Church of Jesus Christ of Latter Day Saints. No date. *Paris Tabernacle*. Tourist Brochure.
- Church of Jesus Christ of Latter Day Saints. 2010. *Manti – The Mormon Miracle Pageant*. <http://lds.org/placestovisit/eng/pageants/manti-the-mormon-miracle-pageant> [last accessed 23 February 2011].
- City of Flagstaff. 2008. *Project update: Flagstaff Metropolitan Planning Organization*. <http://www.flagstaff.az.gov/index.aspx?NID=1007> [last accessed 26 September 2010].

- City of Jackson. 2002. Chapter 5, appendix A: Affordable housing needs assessment. *Comprehensive plan, third printing, October 2002.*  
<http://www.ci.jackson.wy.us/resources/files//Government/I.%20Development%20Regulations%20and%20Comprehensive%20Plan/Comprehensive%20Plan/Chapter5a.pdf> [last accessed 22 March 2011].
- City of Phoenix. 2004. *Downtown Phoenix: A strategic vision and blueprint for the future*. 14 December. <http://phoenix.gov/downtown/visionmaps.pdf> [last accessed 16 July 2011].
- City of Phoenix. 2011. *Bicycling*.  
<http://phoenix.gov/transportation/around/bicycling/index.html>  
[last accessed 28 July 2011].
- City of Sahuarita. 2011. *Quick facts*.  
<http://www.ci.sahuarita.az.us/index.php/quick-facts.html>  
[last accessed 10 July 2011].
- City of Tempe Quality of Life Committee. 2009. *Minutes*. 28 May.
- City of Tucson. 2011. *Unisource energy building project*.  
<http://dot.tucsonaz.gov/projects/project.cfm?cip=5ADA8BE9-0049-903E-AD031811909A46CF> [last accessed 9 July 2011].
- Clancy, Michael. 2011. Phoenix Diocese considering St. Mary's for its cathedral. *AZ Central*.  
<http://www.azcentral.com/community/phoenix/articles/2011/06/23/20110623phoenix-diocese-downtown-cathedral.html> [last accessed 20 July 2011].
- Clifford, Hal. 2001. Wyoming's powder keg. *High Country News*. 5 November.  
<http://www.hcn.org/issues/214/10823> [last accessed 1 February 2011].
- Cobb, CC. Executive Director, Page-Lake Powell Chamber of Commerce. 2010. Email Correspondence. 29 January.
- Coconino National Forest. 2010. *O'Leary Peak Trail*.  
<http://www.fs.fed.us/r3/coconino/recreation/peaks/oleary-peaks-tr.shtml> [last accessed 4 November 2010].
- Cole, Cyndy, and Joe Ferguson. 2010. Members of the public divided over Arizona Snowbowl. *Arizona Daily Sun*. 30 August.  
[http://azdailysun.com/news/local/article\\_d9ed43ce-b4c2-11df-b7d5-001cc4c002e0.html](http://azdailysun.com/news/local/article_d9ed43ce-b4c2-11df-b7d5-001cc4c002e0.html)  
[last accessed 28 September 2010].

- Coleman, Travis. 2010. Blackfeet continue working with Defense Department. *Great Falls Tribune*. 13 June.  
<http://www.greatfallstribune.com/article/20100613/NEWS01/6130304/Blackfeet-continue-work-with-Defense-Department> [last accessed 24 June 2010].
- Colston, Betsy. Treasurer, Kanab Chamber of Commerce. 2010. Email Correspondence. 29 January.
- Cook, Gabby. Ranger, Tumacacori National Monument. 2010. Email Correspondence. 21 January.
- Cooper, Ed. 2009. *Soul of the Rockies: Portraits of America's largest mountain range*. Guilford, CT: The Globe Pequot Press.
- Corsi, Jerome R. Billions of gallons of oil in North Dakota, Montana: Geological Survey calls find largest reserves outside Alaska. *World Net Daily*. 13 April.  
<http://www.wnd.com/?pageId=61488> [last accessed 17 April 2010].
- Cowlin, James. 2010. Highway history. *U.S. 89 Appreciation Society*.  
<http://us89society.org/89RoadTripGuides/USRoute89RoadTripIntroduction/HighwayHistory/tabid/168/Default.aspx> [last accessed 30 July 2010].
- Cramer, John. Mountain pine beetle problem spreads in Montana, official says. *Missoulian*. 15 September. [http://missoulian.com/news/state-and-regional/article\\_3c14631c-a276-11de-af60-001cc4c002e0.html](http://missoulian.com/news/state-and-regional/article_3c14631c-a276-11de-af60-001cc4c002e0.html) [last accessed 29 November 2010].
- Creno, Glen. 2008. Coping with light-rail costs. *The Arizona Republic*. 9 December.  
<http://www.azcentral.com/news/articles/2008/12/09/20081209lrail-money1209.html> [last accessed 27 July 2011].
- Cross, Steven. 2010. *Agassiz Peak*.  
[http://www.summitpost.org/view\\_object.php?object\\_id=150289](http://www.summitpost.org/view_object.php?object_id=150289) [last accessed 27 September 2010].
- Crump, Scott. No Date. *History of Copperton, Utah*.  
<http://www.onlineutah.com/coppertonhistory4.shtml> [last accessed 2 December 2010].
- Crump, Scott. 2005. *Bingham Canyon: The richest hole on Earth*. Salt Lake City: Great Mountain West Supply.
- Cundiff, Rosemary. 2003a. Orderville (Utah) Council minutes. *Utah Division of Archives and Records Service*. <http://www.archives.state.ut.us/research/inventories/24261.html> [last accessed 6 December 2010].

- Cundiff, Rosemary. 2003b. Orderville (Utah). *Utah Division of Archives and Records Service*. <http://www.archives.state.ut.us/research/agencyhistories/746.html> [last accessed 6 December 2010].
- Cutter, Susan L., Reginald Colledge, and William L. Graf. 2002. The big questions in geography. *The Professional Geographer*. 54 (3): 305-317.
- Daley, John. 2008. New signs welcome people to Utah. *KSL TV 5 News*. 27 August. <http://www.ksl.com/index.php?nid=148&sid=4118129> [last accessed 11 November 2010].
- Daley, John. 2010. Kennecott wants new pollution permits to expand mine. *Ksl.com*. 3 September. <http://www.ksl.com/?nid=148&sid=12280912> [last accessed 3 December 2010].
- David, Joe. Glen Canyon National Recreation Area environmental protection specialist. 2010. *Off-road vehicle management plan/environmental impact statement*. <http://parkplanning.nps.gov/projectHome.cfm?projectID=19520> [last accessed 5 November 2010].
- Davidson, Christina. 2009. Recession on the Navajo Reservation. *The Atlantic*. 31 August. <http://www.theatlantic.com/national/archive/2009/08/recession-on-the-navajo-reservation/24131/> [last accessed 29 July 2010].
- Davidson, Lee. 1996. Orton's bill would erase power to declare permanent monument. *Deseret News*. 27 September. <http://www.deseretnews.com/article/902865/Ortons-bill-would-erase-power-to-declare-permanent-monument.html> [last accessed 3 October 2010].
- Davidson, Lee. 2010. National park visits boom amid recession. *Deseret News*. 25 February. <http://www.deseretnews.com/article/700011542/National-park-visits-boom-amid-recession.html> [last accessed 10 November 2010].
- De la Pena, Nonny. 2009. Native Wisdom. *LA Times Magazine*. <http://www.latimesmagazine.com/2009/04/springs-preserve-las-vegas.html> [last accessed 12 December 2010].
- DelHomme, PJ. 2005. California: official scapegoat of Montana? *New West Missoula*. 26 November. <http://www.newwest.net/index.php/city/article/4480/C8/L8> [last accessed 23 August 2010].
- Dennisen, Jaap, L. Neumann, and M. van Zalk. 2010. How the internet is changing the implementation of traditional research methods, people's daily lives, and the way in which developmental scientists conduct research. *International Journal of Behavioral Development* 34 (6): 564-575.

- Department of Natural Resources and Conservation of the State of Montana, Oil and Gas Conservation Division. 1980-2010. *Annual review relating to oil and gas: Volumes 24-54*. Base directory: <http://bogc.dnrc.state.mt.us/annualreview/> [last accessed 28 August 2011].
- Department of Natural Resources and Conservation of the State of Montana, Oil and Gas Conservation Division. 1984. *Annual review for the year 1984 relating to oil and gas: Volume 28*. [http://bogc.dnrc.state.mt.us/annualreview/AR\\_1984.PDF](http://bogc.dnrc.state.mt.us/annualreview/AR_1984.PDF) [last accessed 17 November 2010].
- Deseret News*. 1995. Rusting border fence cuts crime – and crossings. 1 June.
- Deseret News*. 2008. LDS population of Utah declining. 29 November. <http://www.deseretnews.com/article/705266634/LDS-population-of-Utah-declining.html> [last accessed 19 August 2010].
- De Souza, Mike. 2010. Politicians cancel oil sands pollution probe, tear up draft reports. *The Montreal Gazette*. 6 July. <http://www.montrealgazette.com/business/Politicians+cancel+oilsands+pollution+probe/3242727/story.html> [last accessed 11 December 2010].
- Deva Designs. 2009. *Sedona vortex map*. <http://www.lovesedona.com/vortmap3.pdf> [last accessed 26 March 2011].
- Dewell, Thomas. 2009. Obama to visit Y'stone. *Jackson Hole Daily*. 8-9 August.
- Dilsaver, Lary. 2003. National significance: Representation of the West in the national park system. *Western places, American myths: How we think about the West*. Gary Hausladen, ed. Reno: University of Nevada Press, 111-132.
- Dilsaver, Lary, and William Wyckoff. 2005. The political geography of national parks. *Pacific Historical Review* 74 (2): 237-256.
- Dinar, Joshua. 2002. *Denver then and now*. Thunder Bay Press.
- Downtown Phoenix. 2011. 44 *Monroe rentals gaining exposure*. 14 June. <http://www.downtownphoenix.com/blog/2011/06/44-monroe-rentals-gaining-exposure/> [last accessed 25 July 2011].
- Downtown Rising. 2007. *A new vision for Salt Lake City*. <http://www.downtownrising.com/DTR-media/downloads/DTRbookletFIN3-11.pdf> [last accessed 6 June 2011].
- Downtown Tucson Partnership. 2010. *Downtown Parade of Lights*. [http://www.downtowntucson.org/downtown\\_parade\\_of\\_lights/](http://www.downtowntucson.org/downtown_parade_of_lights/) [last accessed 7 July 2011].

- Dungan, Ron. 2009. 4 Condors to join flock at Vermilion Cliffs. *The Arizona Republic*. 4 March. <http://www.azcentral.com/travel/features/articles/2009/03/04/20090304weekendc p0306.html> [last accessed 5 October 2010].
- Eatherly, Charles R. 2010. History of Slide Rock State Park. *Arizona State Parks*. <http://azstateparks.com/Parks/SLRO/history.html> [last accessed 14 October 2010].
- Fodor, Eben. 1998. *Better, not bigger: How to take control of urban growth and improve your community*. Gabriola Island, BC: New Society Publishers.
- Edgell, David L. Sr., and Susan Edwards. 1993. A new initiative in tourism development .... South Dakota's Oyate Trail. *Business America*. 5 April.
- Edwards, Hal. 2005. Sevier opens bike-walk trail. *The Salt Lake Tribune*. 11 September. B6.
- Eley, Thomas, and Cherie Northon. 2003. The geography of the Russell fence. *Geographical Review* 93 [1]: 114-123.
- Elliott, Brian. 2010. Owner, Faught's Blackfeet Trading Post. Email Correspondence. 11 February.
- Ellis, William. 1976. *The majestic Rocky Mountains*. Washington: National Geographic Society.
- Erdmann, C.E. 1963. Outline history of oil and gas development. *Mineral and water resources of Montana*. Helena: Montana Bureau of Mines and Geology. <http://www.mbmgs.mtech.edu/sp28/contents.htm#fu> [last accessed 16 November 2010].
- Fader, Carole. 2010. Fact check: Is the Bakken Formation America's oil bonanza? *The Florida Times Union*. [http://jacksonville.com/news/metro/2010-03-07/story/fact\\_check\\_is\\_the\\_bakken\\_formation\\_americas\\_oil\\_bonanza](http://jacksonville.com/news/metro/2010-03-07/story/fact_check_is_the_bakken_formation_americas_oil_bonanza) [last accessed 17 November 2010].
- Farmington Historic Preservation Commission. 2011. *Historic Farmington*. [http://www.farmington.utah.gov/historic\\_preservation\\_commission.main.html](http://www.farmington.utah.gov/historic_preservation_commission.main.html) [last accessed 7 June 2010].
- Feltes, Eddie. 2010. California condor releases in Arizona – Notes from the field: Spring 2010. *The Peregrine Fund: World center for birds of prey*. [http://www.peregrinefund.org/notes\\_category.asp?category=California%20Condor%20Releases%20in%20Arizona](http://www.peregrinefund.org/notes_category.asp?category=California%20Condor%20Releases%20in%20Arizona) [last accessed 5 October 2010].



- Fitzhenry, Mark. 2001. Cliff-diving accident kills Wasson coach. *The Colorado Springs Gazette*. 19 July. [http://findarticles.com/p/articles/mi\\_qn4191/is\\_20010719/ai\\_n9989956/](http://findarticles.com/p/articles/mi_qn4191/is_20010719/ai_n9989956/) [last accessed 13 January 2011].
- Flagstaff Dark Skies Association. 2009. *Flagstaff is world's first "international dark sky city: What does it mean?* <http://flagstaffdarksbies.org/idsc.htm> [last accessed 18 October 2010].
- The Florence Reminder*. 1980. Tom Mix Monument to be rededicated. 17 July. 1.
- Fonseca, Felicia. 2009. Navajos largely unscathed by recession. *The Associated Press*. 18 May. <http://diverseeducation.com/article/12572/navajos-largely-unscathed-by-recession.html> [last accessed 29 July 2010].
- Fox 11*. 2009. Tribes appeal decision in Arizona Snow Bowl case. 15 August. <http://www.fox11az.com/archive/57712427.html> [last accessed 26 September 2010].
- Franz, Zachary. 2008. Malmstrom airmen close out missile silos. *Great Falls Tribune*. 1 August. [http://www.airforcetimes.com/news/2008/08/ap\\_malmstrom\\_080108/](http://www.airforcetimes.com/news/2008/08/ap_malmstrom_080108/) [last accessed 19 November 2010].
- Freeport-McMoRan Center. 2011. *Freeport-McMoRan Center*. <http://www.freeportmcmorancenter.com/landing.html> [last accessed 25 July 2011].
- Friederici, Peter. 2001. Stargazers defend darkness in Arizona. *High Country News*. 3 December 2001. <http://www.hcn.org/issues/216/10890> [last accessed 13 January 2011].
- Friends of Lake Powell. 2010. *25 good reasons not to drain Lake Powell*. [http://www.lakepowell.org/page\\_two/information/25\\_reasons/25\\_reasons.html](http://www.lakepowell.org/page_two/information/25_reasons/25_reasons.html) [last accessed 8 November 2010].
- Friends of Pathways. 2010. Pathways update: WY 22 & U.S. 89. *Friends of Pathways Newsletter Summer 2010* 15 [1]: 1, 3. [http://www.friendsofpathways.org/assets/148/Summer\\_Newsletter\\_2010\\_Final.pdf?1279741775](http://www.friendsofpathways.org/assets/148/Summer_Newsletter_2010_Final.pdf?1279741775) [last accessed 2 November 2010].
- Frontra NorteSur. 2009. Tourism down in Juarez and in Mexico, adding to economic downturn. *Newspaper Tree: El Paso's Online Newspaper*. 22 January. <http://newspapertree.com/news/3357-tourism-down-in-juarez-and-in-mexico-adding-to-economic-downturn> [last accessed 22 June 2010].
- Fulmer, Melinda. 2011. Foreclosure rates: 20 cities with highest filings and state-by-state rankings. *MSN Real Estate*. <http://realestate.msn.com/article.aspx?cp-documentid=28364347> [last accessed 5 August 2011].
- Gallenstein, Gwenn. Museum Curator, North Central Arizona Monuments. 2010. Email Correspondence. 5 February.

- Galles, Duane L.C.M. 1991. Inaugurating a new basilica. *The Catholic Liturgical Library*.  
<http://www.catholicliturgy.com/index.cfm/FuseAction/ArticleText/Index/65/SubIndex/116/ArticleIndex/38> [last accessed 20 July 2011].
- Gardiner Chamber of Commerce. 2008. *Gardiner Community Newsletter*. 26 March.
- Garfield County, Utah. 2007. *Garfield County economic development plan, prepared December 2007*. [http://garfield.utah.gov/files/Garfield\\_Economic\\_Development\\_Plan.pdf](http://garfield.utah.gov/files/Garfield_Economic_Development_Plan.pdf) [last accessed 1 March 2011].
- Georgopoulos, A. 1980. Rediscovery of the photogrammetric gun. *The Photogrammetric Record* 10[56]: 243-244.
- Geczi, Emilian. 2005. From resource dependence to tourism: Discourses of place in two Vermont towns. *Proceedings of the 2005 Northeastern Recreation Research Symposium*. 7-16.
- Gephart, Clyde. 2009. Information for Gephart, Clyde: My story. *BRHS class of '59: Our 50<sup>th</sup> reunion*. <http://bears59.org/?pg=enterOrView&id=70> [last accessed 15 March 2011].
- Ghost Town Tours. 2011. *The ghost tour*.  
<http://ghosttowntoursjeromearizona.com/ghosttour.html> [last accessed 6 March 2011].
- Gildersleeve, Charles Richard. 1978. *The international border city: Urban spatial organization in a context of two cultures*. Ann Arbor: University Microfilms International.
- Glen Canyon National Recreation Area. 2006. *Ramp and area update for June 27, 2006*.  
<http://www.nps.gov/glca/parknews/loader.cfm?csModule=security/getfile&pageid=117311> [last accessed 7 November 2010].
- Glen Canyon National Recreation Area. 2009. *Quagga/zebra mussel frequently asked questions, March 2009*. <http://www.nps.gov/glca/parknews/upload/ZMFAQandTimeline2009.pdf> [last accessed 7 November 2010].
- Glen Canyon National Recreation Area. 2010. *Zebra mussel advisory*.  
<http://www.nps.gov/glca/parknews/zebramussel1.htm> [last accessed 7 November 2010].
- Graham, Christopher Fox. 2010. Judge releases sweat lodge documents. *Sedona Red Rock News*. 8 January.
- Graham, Patrick. 1999. Ecologists push to drain Arizona's Lake Powell, restore Glen Canyon. *The Los Angeles Times*. 23 May.  
<http://articles.latimes.com/1999/may/23/local/me-40139> [last accessed 8 March 2011].

- Gonzalez, Marcia. 2005. Latino Mormons grow in number nationwide. *Ventura County Star*. 7 March. <http://www.religionnewsblog.com/10481/latino-mormons-grow-in-number-nationwide> [last accessed 27 June 2011].
- Grand Canyon National Park. 1995. *General management plan: August 1995*. [http://www.nps.gov/grca/parkmgmt/upload/GRCA\\_General\\_Management\\_Plan.pdf](http://www.nps.gov/grca/parkmgmt/upload/GRCA_General_Management_Plan.pdf) [last accessed 12 October 2010]
- Grand Canyon National Park 2007. *First annual centennial strategy for Grand Canyon National Park: August 2007*. [http://www.nps.gov/grca/parkmgmt/upload/GRCA\\_Centennial\\_Strategy.pdf](http://www.nps.gov/grca/parkmgmt/upload/GRCA_Centennial_Strategy.pdf) [last accessed 12 October 2010].
- Grand Canyon National Park and Glen Canyon National Recreation Area. 2008. *Accomplish alternative motorboat propulsion research*. [http://www.nps.gov/grca/parkmgmt/upload/2008alt\\_motorboat\\_proposal.pdf](http://www.nps.gov/grca/parkmgmt/upload/2008alt_motorboat_proposal.pdf) [last accessed 12 October 2010]
- Grand Teton National Park. 2007. *First annual centennial strategy for Grand Teton Nat'l Park*. [http://www.nps.gov/grte/parkmgmt/upload/GTNP\\_Centennial\\_Report.pdf](http://www.nps.gov/grte/parkmgmt/upload/GTNP_Centennial_Report.pdf) [last accessed 2 November 2010].
- Grand Teton National Park Green Team. 2009. Save the pika! *Teewinot trip planner*. Summer 2009 – July 1 – September 7.
- Grand Teton National Park. 2010. *Campgrounds*. <http://www.nps.gov/grte/planyourvisit/campgrounds.htm> [last accessed 2 November 2010].
- Gray, Ralph. 1976. Forward. *Exploring America's scenic highways*. Washington, D.C.: National Geographic Society.
- Green Valley Sahuarita Chamber of Commerce. 2011. *Welcome to the official web site of the Greater Green Valley ~ Sahuarita, Arizona chamber of commerce & visitor center!*. <http://www.greenvalleychamber.com/> [last accessed 9 July 2011].
- Griffin-Pierce, Trudy. 2000. *Native peoples of the Southwest*. Albuquerque: University of New Mexico Press.
- Gunther, Marc. 2006. Ted Turner's Montana adventure. *CNN Money*. 4 October. [http://money.cnn.com/2006/10/03/news/economy/pluggedin\\_gunther\\_bison.fortune/index.htm](http://money.cnn.com/2006/10/03/news/economy/pluggedin_gunther_bison.fortune/index.htm) [last accessed 24 August 2010]
- Haddock, Edith. 1976. *The History of Paris*. Paris, Idaho: Paris City Historical Museum.

- Hammond, Jennifer J. 1995. *Growth management in Aspen, Colorado*. Aspen Historical Society.  
<http://www.aspenhistorysociety.com/documents/GrowthManagementinAspenCO1960to1977searchable.pdf> [last accessed 13 November 2011].
- Hannon, Steven. 2003. The 1983 flood at Glen Canyon. *Glen Canyon Institute*.  
<http://www.glencanyon.org/publications/hiddenpassage/hp2stev.php> [last accessed 8 November 2010]
- Hansen, Ronald J. 2010. Arizona's population: 6.4 mil. *The Arizona Republic*. 22 December.  
<http://www.azcentral.com/arizonarepublic/news/articles/2010/12/22/20101222census-az1222.html> [last accessed 3 March 2011].
- Harrison, Ty. 2011. *History of City Creek*.  
<http://people.westminstercollege.edu/faculty/tharrison/citycreek/Index2.html> [last accessed 1 June 2011].
- Hastings, J. R., and R. M. Turner. 1965. *The changing mile: An ecological study of vegetation change with time in the lower mile of an arid and semi-arid region*. Tucson: University of Arizona Press.
- Hausladen, Gary. 2003. Introduction. *Western places, American myths: How we think about the West*. Gary Hausladen, ed. Reno: University of Nevada Press, 1-20.
- Haverluck, Terrence W. 2003. Mex-America: From margin to mainstream. *Western places, American myths: How we think about the West*. Gary Hausladen, ed. Reno: University of Nevada Press, 166-183.
- Heinemann, Barbara. 2008. Local HOA 'going green' with artificial turf. *azcentral.com*. 30 April. <http://www.azcentral.com/news/articles/0430gl-nbyhoa0430.html> [last accessed 12 December 2010].
- Hemmat, Heidi. 2010. Documentary on Colorado's 'fire water' fueling action. *Fox 31 Denver*. 28 June. <http://www.kdvr.com/news/kdvr-firewater-documentary-txt,0,2458526.story> [last accessed 11 December 2010].
- Henderson, Craid Radden. 2001. Patterns of population change in Wyoming. *Wyoming Department of Employment, Research & Planning*.  
<http://wydoe.state.wy.us/lmi/0901/a2.htm> [last accessed 12 March 2011].
- Henetz, Patty. 2006. Rustic mystique; Exploring Utah; Paiute County; ATV trails lure tourists, but quiet calm pleases residents. *The Salt Lake Tribune*. 9 April. B1.
- Heritage Youth Services. 2009. *Birdseye RTC: A new beginning*.  
<http://www.birdseyertc.com/> [last accessed 19 August 2010].

- Hoffman, Peter Richard. 1983. *The internal structure of Mexican border cities*. Unpublished Ph.D. dissertation. University of California, Los Angeles.
- Holt, Colleen. Volunteer, Jerome Historical Society. 2010. Email Correspondence. 9 February.
- Huelsmann, Kevin. 2011[a]. Jackson, JH Land Trust working on Snow King deal: Group would secure conservation easement for base of ski hill. *Jackson Hole News & Guide*. 26 January. [http://www.jhnewsandguide.com/article.php?art\\_id=6923](http://www.jhnewsandguide.com/article.php?art_id=6923) [last accessed 23 March 2011].
- Huelsmann, Kevin. 2011[b]. Town, King, prepare handover of ice rink: refinancing of bonds is a preliminary step for facility to be taken over by nonprofit. *Jackson Hole Property Guide*. 10 March. <http://www.jhpropertyguide.com/jackson-hole-real-estate-news/425/> [last accessed 23 March 2011].
- Huffaker, Kirk. *Salt Lake City Then and Now*. 2008. Thunder Bay Press.
- Hull, R. Bruce, D. Robertson, G. Buhyoff, A. Kendra. 2000. What are we hiding behind the visual buffer strip? Forest aesthetics reconsidered. *Journal of Forestry* 98 [7]: 34-38.
- Huntsinger, Lynn, and Peter Hopkinson. 1996. Viewpoint: Sustaining rangeland landscapes: a social and ecological process. *Journal of Range Management* 49 [2]: 167-173.
- Hyde, Anne F. 1997. Round pegs in square holes: The Rocky Mountains and extractive industry. *Many Wests: Place, culture, & regional identity*. David M. Wrobel and Michael C. Steiner, ed. Lawrence: University Press of Kansas.
- Ibarra, Ignacio. 2010. Taking surprise out of border crossings. *Arizona Daily Star*. 10 April. <http://www.nusd.k12.az.us/schools/nhs/gthomson.class/articles/border/border.camera.traffic.htm> [last accessed 7 May 2010].
- “In the Spirit of Chartres” Committee. 2006. *ISOC pilgrimages*. <http://www.isoc.ws/pilgrimages.html> [last accessed 20 July 2011].
- Indermill, Roc H. 1990. *Roadside fever: The social organization of roadside frontage tenure in the context of the Navajo beadwork trade, 1928-1988*. Masters Thesis. Northern Arizona University.
- Instituto Nacional De Estadistica Y Geografia. 2011. *Informacion nacional, por entidad federativa y municipios: Nogales, Sonora*. <http://www.inegi.org.mx/sistemas/mexicocifras/default.aspx?ent=26> [last accessed 8 August 2011].

- Ives, Jack. 1987. Repeat photography of debris flows and agricultural terraces in the Middle Mountains, Nepal. *Mountain Research and Development*. 7 [1]: 82-86.
- Jackson Hole Airport. 2010. *Airport history*.  
[http://www.jacksonholeairport.com/admin\\_history.htm](http://www.jacksonholeairport.com/admin_history.htm) [last accessed 3 November 2010].
- Jackson Hole Airport. 2008. *Request for qualifications: Airport planning services [planning]*.  
<http://www.jacksonholeairport.com/downloads/R-W%20Safety%20Enhan.%20Study.pdf>  
 [last accessed 3 November 2010].
- Jackson Hole Restaurant Review. 2011. *Cadillac Grille*.  
<http://www.jacksonholerestaurants.com/cadillac.shtml> [last accessed 22 March 2011].
- Jackson, Richard H. 2003. Mormon Wests: The creation and evolution of an American region. *Western places, American myths: How we think about the West*. Gary Hausladen, ed. Reno: University of Nevada Press, 135-165.
- Jenkins, Nate. 2007. Ted Turner's land grab generates suspicion in Nebraska. *The Associated Press*. 29 November.  
[http://seattletimes.nwsourc.com/html/nationworld/2004041411\\_tedland29.html](http://seattletimes.nwsourc.com/html/nationworld/2004041411_tedland29.html) [last accessed 24 August 2010].
- Jensen, Richard D. 2005. *The amazing Tom Mix: The most famous cowboy of the movies*. Lincoln, Nebraska: iUniverse.
- Jerome, Arizona. 2004. *Jerome, Arizona*. <http://www.azjerome.com/> [last accessed 3 March 2011].
- Jerome Grand Hotel. 2011. *Hotel history*.  
[http://www.jeromegrandhotel.com/Hotel\\_History.htm](http://www.jeromegrandhotel.com/Hotel_History.htm) [last accessed 6 March 2011].
- Jerome Historical Society. 2011. *History*.  
<http://www.jeromechamber.com/pages/history.htm> [last accessed 3 March 2011].
- John Wesley Powell Memorial Museum. 2010. *The history of Page, Arizona*.  
<http://www.powellmuseum.org/PageHistory.html> [last accessed 6 March 2010].
- Johnson, Frances. 2009. Kennecott invests \$400 million in removing Utah land from proposed inclusion on EPA's superfund list. *Utah Focus*. February 2009: 5-7
- Johnson, Kirk. 2010. Deal puts Yellowstone bison on Ted Turner's ranch. *The New York Times*. 21 May. <http://www.nytimes.com/2010/05/22/us/22bison.html> [last accessed 24 August 2010].

- Johnson, Peter. 2010. Malmstrom officials expect minimal ICBM cuts. *The Great Falls Tribune*. 6 June.  
[http://www.airforcetimesw.com/news/2010/06/gns\\_malstrom\\_mission\\_safew\\_060610/](http://www.airforcetimesw.com/news/2010/06/gns_malstrom_mission_safew_060610/)  
 [last accessed 22 November 2010]
- Jorgensen, Chris. 1994. Big Rock Candy Mountain, Utah's candy mountain, hits rock bottom. things have gone sour at Utah's lemonade springs. *The Salt Lake Tribune*. 7 August. A1.
- Juan Bautista de Anza National Historic Trail. 2010. *Trail certification requirements*.  
<http://www.nps.gov/juba/parkmgmt/certificationrequirements.htm> [last accessed 12 October 2010].
- Kelly, Shannon. 1999. Grand Staircase-Escalante National Monument, Utah. *Land use history of North America: Colorado Plateau*. <http://www.cpluhna.nau.edu/Places/gsenm4.htm> [last accessed 3 October 2010].
- Kennecott Utah Copper Corporation. 2006. *Five year community relations plan: December 2006*.  
[http://www.kennecott.com/library/media/Community\\_Relations\\_Plan\\_2006\\_2007.pdf](http://www.kennecott.com/library/media/Community_Relations_Plan_2006_2007.pdf)  
 [last accessed 30 November 2010].
- Kennecott Utah Copper Corporation. 2010. *Mining: The first step in the copper production cycle*.  
<http://www.kennecott.com/library/media/Mining%20Fact%20Sheet%202010.PDF> [last accessed 30 November 2010].
- Kennecott Utah Copper Corporation. 2011. *Visitors center*.  
<http://www.kennecott.com/visitors-center/> [last accessed 1 February 2011].
- Kidston, Martin J. 2009. Security on the Blackfeet Reservation goes largely unsupported by federal government. *Helena Independent Record*. 25 September 2007.  
[http://helenair.com/news/state-and-regional/article\\_b0745f1a-ffaf-56e4-bd32-b61443162f4d.html](http://helenair.com/news/state-and-regional/article_b0745f1a-ffaf-56e4-bd32-b61443162f4d.html) [last accessed 9 May 2010]
- Kim, John D. 2005. Re: regulation of hitchhiking within national parks. *Department of the Corporation Counsel. County of Maui. December 20, 2005*. Ed. Bob Carroll.  
<http://www.co.maui.hi.us/archives/173/2005-24.pdf> [last accessed 27 October 2010].
- Kimball, Richard Ian. 2003. *Sports in Zion: Mormon recreation, 1890-1940*. Urbana and Chicago: University of Illinois Press.
- Kirk, Arie. 2010. USU enrollment numbers surge. *The Herald Journal*. 14 October.  
[http://news.hjnews.com/news/article\\_6a6dde70-d74d-11df-a1c5-001cc4c002e0.html](http://news.hjnews.com/news/article_6a6dde70-d74d-11df-a1c5-001cc4c002e0.html) [last accessed 3 July 2011].



- Kirkpatrick, James. 2009. *Malmstrom AFB Minuteman Missile site coordinates*.  
<http://asuwlink.uwyo.edu/~jimkirk/malmstrom.html> [last accessed 19 November 2010].
- KMBC.com. 2004. Ghost hunters investigate Kansas town: Travel Channel show a boon to Atchison's economy. <http://www.kmbc.com/news/2863832/detail.html> [last accessed 26 March 2011].
- Kocherga, Angela. 2010. Nogales feeling loss of tourism. *Fox11az.com*. 14 May.  
<http://www.fox11az.com/news/local/Nogales-business--93795669.html> [last accessed 22 June 2010].
- Krannich, Ruchard, and A.E. Luloff. 1991. Problems of resource dependency in US rural communities. *Progress in Rural Policy and Planning, Volume 1*. A. Gilg, D. Briggs, R. Dilley, and O. Furuseth, eds. London: Belhaven.
- KSL 5 TV. 2008. *Utah bids farewell to Olympic welcome signs*. 26 August.  
<http://www.ksl.com/?nid=148&sid=4106944> [last accessed 3 October 2010].
- Lacey, Marc. 2010. After sweat lodge deaths, fewer tourists with spiritual needs. *The New York Times*. 19 October. [http://www.nytimes.com/2010/10/20/us/20sedona.html?\\_r=2](http://www.nytimes.com/2010/10/20/us/20sedona.html?_r=2) [last accessed 30 May 2011].
- Lake Powell Water Database. 2011. *Averages by year*. <http://lakepowell.water-data.com/index2.php> [last accessed 27 November 2011].
- Landmark Design. 2011. *Portfolio of recent projects*.  
<http://www.lidiut.com/awardsportfolio.html> [last accessed 1 June 2011].
- Larson, David J. 1995. Review: Time and the Tuolumne landscape: Continuity and change in the Yosemite high country. *Annals of the Association of American Geographers* 85 [1]: 196-197.
- Lawrence, Stewart J. 2011. The Latter Day Saints come marching in. *The Guardian*.  
<http://www.guardian.co.uk/commentisfree/cifamerica/2011/mar/21/christianity-religion>  
 [last accessed 27 June 2011].
- Leatherman, D.A, I. Aguayo, and T.M. Mehall. *Mountain pine beetle*.  
<http://www.ext.colostate.edu/pubs/insect/05528.html> [29 November 2010].
- Lemons, Stephen. 2010. Radical resistance. *Phoenix New Times* 41 [21]: 10-11.
- Levin, Brian D. Chief Border Patrol Officer/Public Affairs Liason, Tucson Field Office. 2010. Private Email Correspondence. 6 May.
- Lewis and Clark National Forest. 2010. *About us*.  
<http://www.fs.fed.us/r1/lewisclark/about/> [last accessed 29 November 2010].

- Lewis, George. 1985. Review: *U.S. 40 Today: Thirty years of landscape change in America*. *Geographical Review* 75 [2]: 241-243.
- Lewis, Michael E. 1991. Review: Western images, Western landscapes: Travels along U.S. 89. *Geographical Review* 81 [3]: 371.
- Light Rail Progress. 2003. *Salt Lake City: Light rail's a hit*. [http://www.lightrailnow.org/features/f\\_slc001.htm](http://www.lightrailnow.org/features/f_slc001.htm) [last accessed 4 June 2011].
- Logan Library. 2011. *Logan history – Historic photo collection*. <http://library.loganutah.org/archives/historicPhotos/HistoricPhotos.cfm?pagenum=12> [last accessed 3 July 2011].
- Logan Ranger District, Wasatch-Cache National Forest. 2003. *Scoping letter: Eight small project proposals*. <http://governor.utah.gov/rdcc/Y2003/03-2955.pdf> [last accessed 8 October 2010].
- Licon, Adriana Gomez. 2010. Mexico 2010 census effort a daunting task amid drug violence. *El Paso Times*. [http://www.elpasotimes.com/ci\\_15100142](http://www.elpasotimes.com/ci_15100142) [last accessed 18 August 2011].
- Love, Ron. 2005. Daylighting Salt Lake's City Creek: An urban river unentombed. *Golden Gate University Law Review*. 35 [3]: 343-376.
- Mackun, Paul, and Marc Perry. 2001. Population change and distribution. *Census 2000 brief*. <http://www.census.gov/prod/2001pubs/c2kbr01-2.pdf> [last accessed 14 July 2011].
- Mackun, Paul, and Steven Wilson. 2010. Population distribution and change: 2000 to 2010. *2010 Census briefs*. <http://www.census.gov/prod/cen2010/briefs/c2010br-01.pdf> [last accessed 14 July 2011].
- Madsen, Reed. 1991. Task force works on rules for Paiute ATV Trail. 22 March. <http://www.deseretnews.com/article/152784/TASK-FORCE-WORKS-ON-RULES-FOR-PAIUTE-ATV-TRAIL.html> [last accessed 2 March 2011].
- Madsen, Reed L. 1992[a]. New 8-unit campground to be constructed near Fishlake National Forest's Paiute Trail. 30 April. <http://www.deseretnews.com/article/223751/NEW-8-UNIT-CAMPGROUND-TO-BE-CONSTRUCTED-NEAR-FISKLAKE-NATIONAL--FORESTS-PAIUTE-TRAIL.html> [last accessed 2 March 2011].
- Madsen, Reed L. 1992[b]. Utah Trail draws national interest. 25 November. <http://www.deseretnews.com/article/260902/UTAH-TRAIL-DRAWS-NATIONAL-INTEREST.html> [last accessed 2 March 2011].

- Magzul, Lorenzo, and Rojas, Alejandro. 2005. Report on the Blood Tribe [Kainai Nation]: Community vulnerabilities. *Prairie Adaptation Research Collaborative*. <http://www.parc.ca/mcri/pdfs/papers/iacc051.pdf> [last accessed 24 June 2010].
- Macomber, Bill. Wonder horse gets second home in town: Tom Mix's Tony to be dedicated this Saturday. *Florence Reminder*. 17 February. 1, 3.
- Malmstrom Air Force Base. 2010. *History of Malmstrom Air Force Base*. <http://www.malmstrom.af.mil/library/history/malmstromhistory.asp> [last accessed 23 August 2010].
- Maricopa Association of Governments. 2008. *Bike ways: Metropolitan Phoenix*. [http://www.azmag.gov/Documents/MAG\\_2008-Bike-Pathways-Map.pdf](http://www.azmag.gov/Documents/MAG_2008-Bike-Pathways-Map.pdf) [last accessed 26 July 2011].
- Maricopa Association of Governments. 2011a. *History of MAG, formation and designations*. [http://www.azmag.gov/Administration/About\\_Us/MAG\\_History.asp](http://www.azmag.gov/Administration/About_Us/MAG_History.asp) [last accessed 29 July 2011].
- Maricopa Association of Governments. 2011b. *MAG's purpose*. [http://www.azmag.gov/Administration/About\\_Us/MAGs\\_Purpose.asp](http://www.azmag.gov/Administration/About_Us/MAGs_Purpose.asp) [last accessed 28 July 2011].
- Maricopa Association of Governments. 2011c. *Membership agencies*. <http://www.azmag.gov/Other/Default.asp> [last accessed 28 July 2011].
- The Mariological Society of America. 2011. *62<sup>nd</sup> annual program: The Virgin Mary in the United States and Canada [Part 1: Until 1900]*. <http://www.mariologicalsociety.com/msprog2011proof2.pdf> [last accessed 20 July 2011].
- Marosi, Richard. A real Tijuana hangover. *Los Angeles Times*. 17 February. <http://articles.latimes.com/2008/feb/17/local/me-tijuana17> [last accessed 22 June 2010].
- Marysvale, Utah. 2010. *Welcome to Marysvale: Heart of the Paiute ATV Trail*. <http://www.marysvaleutah.org/> [last accessed 2 March 2011].
- Maverik, Inc. 2011. Maverik, Inc. *Linkedin*. <http://www.linkedin.com/company/maverik-inc> [last accessed 21 March 2011].
- Mayor and Council of the City of Tucson. 2006. *Resolution 20487: Relating to development; Establishment of the Downtown Infill Incentive District; And declaring an emergency*. <http://cms3.tucsonaz.gov/sites/default/files/imported/maps/city/infillincentivedistmaterial.pdf> [last accessed 6 July 2011].

- McClure, Rosemary. 2009. The mystique of Sedona. *Los Angeles Times*. 3 April.  
[http://travel.latimes.com/articles/la-trw-sedona5-2009apr05?content=%2C+western+Sedona+and+uptown+Sedona.&single\\_page=y](http://travel.latimes.com/articles/la-trw-sedona5-2009apr05?content=%2C+western+Sedona+and+uptown+Sedona.&single_page=y) [last accessed 25 March 2011].
- McCombs, Brady. 2010. Wave of death terrorizes Nogales. *Arizona Daily Star*. 16 February. [http://azstarnet.com/news/local/border/article\\_bc00721f-7857-5e99-97b6-295e8036253b.html](http://azstarnet.com/news/local/border/article_bc00721f-7857-5e99-97b6-295e8036253b.html) [last accessed 22 June 2010].
- McKinnon, Shaun. 2004. Powell's declining levels stir new worry. *The Arizona Republic*. 10 September. <http://www.azcentral.com/specials/special26/articles/0910drought-power10.html> [last accessed 8 November 2010]
- McMillion, Scott. 2005. CUT undergoes change of perception. *Bozeman Daily Chronicle*. 13 March.  
<http://www.buffalofieldcampaign.org/media/press0405/news0405/031305.html> [last accessed 24 August 2010].
- Meldrum, Lamar, L.M. Anderson, M.M. Lisota, E. Lisota. No Date. Franklin DeVoe Meldrum. *Star Valley Historical Society collections – Life sketches*.  
[http://www.svhs.us/Meldrum\\_De.html](http://www.svhs.us/Meldrum_De.html) [last accessed 15 March 2011].
- Michalak, Erin E. 1998. The use of the Internet as a research tool: The nature and characteristics of seasonal affective disorder (SAD) amongst a population of users. *Interacting With Computers* 9: 349-365.
- The Military Standard. 2010. *Minuteman*.  
<http://www.themilitarystandard.com/missile/minuteman/destruction.php> [last Accessed 22 November 2010].
- Milligan, Mark. 2005. Thistle landslide revisited, Utah County, Utah. *Geosights*.  
<http://geology.utah.gov/surveynotes/geosights/thistle.htm> [last accessed 17 August 2010].
- Million Dollar Cowboy Bar. 2011. *The Million Dollar Cowboy Bar history*.  
<http://www.milliondollarcowboybar.com/history.htm> [last accessed 23 March 2011].
- Missoula Independent*. Border double-crossing: Blackfeet and feds go head-to-head over a U.S. customs station. 23 September 1999.
- Mitchell, Martin. 2001. From Salina, Kansas to Taos, New Mexico. *Focus* 21 [1]: 21-28.
- Mogerman, Josh. 2010. Press Release: Canis lupus listed: Wolves regain endangered species status. *Natural Resources Defense Council*. 6 August.  
<http://www.nrdc.org/media/2010/100806.asp> [last accessed 5 October 2010].

- Montana Associated Technology Roundtables. 2009. *Pikuni Industries on the Blackfeet Indian Reservation, awarded \$3.2 million for research and development*. 20 December. <http://www.matr.net/article-37201.html> [last accessed 29 June 2010].
- Montana Department of Commerce. 2001. *Population of incorporated places (cities/towns) in Montana, 1890-2000*. <http://ceic.mt.gov/Demog/historic/Censusplace18902000.pdf> [last accessed 20 February 2011].
- Montana Department of Agriculture and Publicity. 1918. *Resources and opportunities of Montana: Edition of 1918 "The land of opportunity."* Helena: The State of Montana.
- Montana Department of Health and Human Services. 1999. *State population by county: Montana, 1999, 1990, and 1980*. <http://www.dphhs.mt.gov/statisticalinformation/vitalstats/1999report/99tbl02.pdf> [last accessed 27 March 2011].
- Montana Department of Justice. 2010. *History of gambling in Montana*. <http://www.doj.mt.gov/gaming/historygambling.asp> [last accessed 28 June 2010].
- Montana Department of Natural Resource Conservation[a]. 2011. *History of the MPB and 2009 distribution*. <http://beetles.mt.gov/Biology/History&Dist.asp> [last accessed 1 February 2011].
- Montana Department of Natural Resource Conservation[b]. 2011. *Mountain pine beetle*. <http://www.dnrc.mt.gov/forestry/Assistance/Pests/mtnpinebeetle.asp> [last accessed 27 January 2010].
- Montana Legislative Services. 2009. 61-8-507. Pedestrian soliciting rides, business, or contributions. *Montana code annotated 2009*. <http://data.opi.mt.gov/bills/mca/61/8/61-8-507.htm> [last accessed 27 October 2010].
- Montero, David. 2011. Poll: Utah Compact divides Mormons. *The Salt Lake Tribune*. 22 March. <http://www.sltrib.com/sltrib/home/51090116-76/utah-compact-poll-support.html.csp> [last accessed 27 June 2011].
- Mormon Pioneer National Heritage Area 2011[a]. *The Headwaters*. <http://mormonpioneerheritage.org/htm/the-headwaters> [last accessed 28 February 2011].
- Mormon Pioneer National Heritage Area. 2011[b]. *Little Denmark*. <http://mormonpioneerheritage.org/htm/little-denmark> [last accessed 28 February 2011].
- Moore, Steve. Buildings and Quarters Supervisor, Grand Teton National Park. 2010. Email Correspondence. 3 February.

- Moseley, Robert K. 2006. Historical landscape change in northwestern Yunnan, China: Using repeat photography to assess the perceptions and realities of biodiversity loss. *Mountain Research and Development* 26 (3): 214-219.
- Murray, Bruce. 2011. Latino religion in the U.S.: Demographic shifts and trends. *National Hispanic Christian Leadership Conference*. <http://www.nhclc.org/news/latino-religion-us-demographic-shifts-and-trend> [last accessed 27 June 2011].
- National Park Service. 2005. *Visitation counts by gate and mode of travel: 2000-present, Grand Canyon National Park*. <http://www.nps.gov/archive/grca/facts/mode-gate-stat.htm> [last accessed 28 August 2010].
- National Park Service. 2009. *Condor re-introduction program*. <http://www.nps.gov/grca/naturescience/condor-re-introduction.htm> [last accessed 5 October 2010].
- National Park Service. 2011. *National heritage areas: FAQ's*. <http://www.nps.gov/history/heritageareas/FAQ/> [last accessed 1 March 2011].
- National Park Service Public Use Statistics Office. 2011. *NPS Stats*. <http://www.nature.nps.gov/stats/> [last accessed 15 December 2011].
- National Park Service National Historic Landmarks Program. 2010. *Bingham Canyon open pit copper mine*. <http://tps.cr.nps.gov/nhl/detail.cfm?ResourceId=552&ResourceType=Site> [last accessed 30 November 2010].
- National Park Service. 2011. Frequently asked questions. *Timpanogos Cave National Monument*. <http://www.nps.gov/tica/faqs.htm> [last accessed 10 January 2011].
- National Register of Historic Places. 2011. *Frequently asked questions*. <http://www.nps.gov/nr/faq.htm#modify> [last accessed 21 July 2011].
- Natural Resources Canada. 2010. *Forward. moving beyond the pine beetle*. [http://mpb.cfs.nrcan.gc.ca/index\\_e.html](http://mpb.cfs.nrcan.gc.ca/index_e.html) [last accessed 29 November 2010].
- Neighbor, Megan. 2011. Westin quickly opens in Phoenix office space left empty after downturn. *The Arizona Republic*. 13 March. <http://www.azcentral.com/business/articles/2011/03/13/20110313westin-quickly-opens-phoenix-empty-office-space.html> [last accessed 25 July 2011].
- North Carolina Division of Forest Resources, Forest Management, and Development Section, Forestry NPS Unit. 2003. *Riparian buffers in forest management: establishment, effectiveness, and recommendations*. [http://www.dfr.state.nc.us/water\\_quality/pdf/Riparian%20Buffers%20Forest%20Mgmt\\_WP.pdf](http://www.dfr.state.nc.us/water_quality/pdf/Riparian%20Buffers%20Forest%20Mgmt_WP.pdf) [last accessed 28 November 2010].

- North Dakota Petroleum Council. 2011. *We keep North Dakota going strong!*.  
<http://www.ndoil.org/> [last accessed 29 August 2011].
- Nugent, Walter. 1992. Where is the American West? Report on a survey. *Montana: The Magazine of Western History*. 42 [3]: 2-23.
- Oberbeck, Steven, and Mike Gorrell. 2010. Kennecott seeks to extend life of Utah mine. *The Salt Lake Tribune*. 17 August. <http://www.sltrib.com/sltrib/money/50100694-79/kennecott-mine-copper-ore.html.csp> [last accessed 30 November 2010].
- The Ohio State University. 2011. *Statistical summary: Enrollments, largest U.S. universities*.  
[http://www.osu.edu/osutoday/stuinfo.php#enroll\\_large](http://www.osu.edu/osutoday/stuinfo.php#enroll_large) [last accessed 8 August 2011].
- Old Trail Museum. 2011. *Maiasaura exhibit*.  
[http://www.theoldtrailmuseum.com/maiasaura\\_exhibit.htm](http://www.theoldtrailmuseum.com/maiasaura_exhibit.htm) [last accessed 22 February 2011].
- Orlando Sentinel*. 2001. Avalanche kills father, son. 2 January.  
<http://articles.orlandosentinel.com/keyword/avalanche/featured/2> [last accessed 26 August 2010].
- Outdoor Industry Association. 2010. *Tent camping outpaces overall growth at national park service in 2009*.  
<http://oia.informz.net/admin31/content/template.asp?sid=18135&ptid=437&brandid=3041&uid=756712708&mi=683686> [last accessed 10 November 2010].
- Overseas Security Advisory Council. 2009. *Mexico 2009 crime & safety report: Nogales*.  
<https://www.osac.gov/Reports/report.cfm?contentID=102859> [last accessed 4 May 2010]
- Padgett, Tim. 2010. The 'dangerous' border: Actually one of America's safest places. *Time*. 30 July. <http://www.time.com/time/nation/article/0,8599,2007474,00.html> [last accessed 30 July 2010].
- Palacios, Patsy, Chris Luecke, and Justin Robinson. 2007. Recreation in Bear Lake Basin. *Natural Resources and Environmental Issues* 14 [7]: 16-27.
- Panguitch, Utah. 2008. *Panguitch city visitor info*. <http://www.panguitch.org/> [last accessed 10 February 2011].
- Park Partners. 2010. *NPHA testifies on Capitol Hill: Innovative partnerships can make national parks better, more relevant*. <http://www.parkpartners.org/Whats-New.html> [last accessed 11 November 2010].
- Park, Shara, Marc Giauque, and Randall Jeppesen. 2009. Authorities look for clues in two suspicious fires. *Ksl.com*. <http://www.ksl.com/?nid=148&sid=7591770&autostart=y> [last accessed 2 December 2009].



- Peterson, Eric. 2010. *Frommer's Yellowstone & Grand Teton National Parks*. Hoboken: Wiley Publishing, Inc.
- Pima Association of Governments. 2011a. First phase of Sahuarita Road completed. *Regional Objective*. March Issue.  
<http://www.pagnet.org/MediaNews/Newsletters/RegionalObjectiveMarch2011/Onlineversion/tabid/829/Default.aspx> [last accessed 11 July 2011].
- Pima Association of Governments. 2011b. New frontage road carries Green Valley traffic. *Regional Objective*. March issue.  
<http://www.pagnet.org/MediaNews/Newsletters/RegionalObjectiveMarch2011/Onlineversion/tabid/829/Default.aspx> [last accessed 11 July 2011].
- Pima County Assessor's Office. 2011. Parcel detail: 601 South Stone Ave.  
[http://www.asr.pima.gov/links/frm\\_Parcel.aspx?parcel=117142360&taxyear=2012](http://www.asr.pima.gov/links/frm_Parcel.aspx?parcel=117142360&taxyear=2012) [last accessed 7 July 2011].
- Pimeria Alta Museum. 2008. *Nogales history*.  
[http://www.nogaleshistory.com/nogales\\_history.html](http://www.nogaleshistory.com/nogales_history.html) [last accessed 4 May 2010].
- Pondera County. 2010. *About Pondera County*.  
<http://www.ponderacountymontana.org/about-pondera/> [last accessed 17 November 2010].
- Popper, Deborah E., and Frank J. Popper. 1987. The Great Plains: From dust to dust: a daring proposal for dealing with an inevitable disaster. *Planning Magazine*. December: 12-18.
- Popper, Deborah E., and Frank J. Popper. 2006. The onset of the buffalo commons. *Journal of the West* 45: 2: 29-34.
- Powell, Alan Kent. 2003. *The Utah guide: Third edition*. Golden: Fulcrum Publishing.
- Prater, Connie. 2008. *Poll: Nearly 3 in 4 feel need for more credit card regulation*.  
<http://www.creditcards.com/credit-card-news/taking-charge-survey-regulation-1276.php> [last accessed 28 July 2010].
- Pratt, Beth. 2009. President Obama visits Yellowstone: An inside view from a park employee. *The Examiner*. 15 August.
- Puckett, Karl. 2008. Pine beetle threat grows in the West. *USA Today*. 16 July.  
[http://www.usatoday.com/news/nation/environment/2008-07-15-beetle-threat\\_N.htm](http://www.usatoday.com/news/nation/environment/2008-07-15-beetle-threat_N.htm) [last accessed 29 November 2010].

- Quinlan, Paul. 2010. Lake Mead's water level plunges as 11-year drought lingers. *The New York Times*. 13 August. <http://www.nytimes.com/gwire/2010/08/12/12greenwire-lake-meads-water-level-plunges-as-11-year-drou-29594.html?pagewanted=1> [last accessed 8 November 2010].
- Raber, Michael. 2009. Status report – City of Sedona land use and population. *Department of Community Development: Long Range Planning*. <http://www.sedonaaz.gov/sedonacms/Modules/ShowDocument.aspx?documentid=1834> [last accessed 24 March 2011].
- Raento, Paulina. 2003. The return of the one-armed bandit: Gambling and the West. *Western places, American myths: How we think about the West*. Gary Hausladen, ed. Reno: University of Nevada Press, 225-252.
- Reagor, Catherine. 2006. When Phoenix, Tucson merge. *The Arizona Republic*. <http://www.azcentral.com/arizonarepublic/news/articles/0409merge0409.html> [last accessed 6 July 2011].
- Reagor, Catherine. 2010. Job losses push back housing recovery in Phoenix. *The Arizona Republic*. 22 January. <http://www.azcentral.com/community/phoenix/articles/2010/01/21/20100121urbanlandonline0122.html> [last accessed 3 August 2011].
- Repanshek, Kurt. 1996. Marysville stakes claim on tourism, former mining town finds new life as travel destination. *The Salt Lake Tribune*. 12 May. H3.
- Reavy, Pat. 2009. Fire rips through Copperton bar. *Deseret News*. 19 August. <http://www.deseretnews.com/article/705324501/Fire-rips-through-Copperton-bar.html> [last accessed 2 December 2010].
- Red Feather Development Group. 2010. *Half the top 20 poorest counties in America are included in Indian Reservations*. <http://www.aaanativearts.com/modules.php?name=News&file=article&sid=1459> [last accessed 24 June 2010].
- Reinhardt, Akim D. 2003. Native America: The indigenous West. *Western places, American myths: How we think about the West*. Gary Hausladen, ed. Reno: University of Nevada Press, 184-203.
- Resnik, Jessica, G. Wallace, M. Brunson, and J. Mitchell. 2006. Open spaces, working places: Local government programs can slow loss of rangelands – but only if urban and ranching interests find ways to work together. *Rangelands*: October, 2006.

- Richard, Michael Graham. 2009. Video: Phoenix brand new light rail has 60% more users than expected. *Tree Hugger*. 18 June. <http://www.treehugger.com/files/2009/06/phoenix-light-rail-metro-tempe-mesa-map-video.php> [last accessed 28 July 2011].
- Richey, E. Duke. 2010. The Aspenization of Telluride: Coming of age and mythologizing change in ski country, 1945-1985. *Pacific Historical Review*. 79 [2]: 231-264.
- Ridder, Knight. 1994. Florence, Ariz., remembers its own silent cowboy, Tom Mix. *Arizona Republic*. 19 February. [http://www.accessmylibrary.com/coms2/summary\\_0286-5508778\\_ITM](http://www.accessmylibrary.com/coms2/summary_0286-5508778_ITM) [last accessed 29 August 2010].
- Riebsame, William E., Hannah Gosnell, and David Theobald. 1997. *Atlas of the New West: Portrait of a changing region*. New York: W.W. Norton & Company.
- Riebsame, William E. 1997. Preface. *Atlas of the New West: Portrait of a changing region*. William Riebsame, Hannah Gosnell, and David Theobald, eds. New York: W.W. Norton & Company.
- Rio Tinto. 2009. *Kennecott Utah Copper's Bingham Canyon mine: Teacher guide*. <http://www.kennecott.com/library/media/TeacherGuide.pdf> [last accessed 30 November 2010].
- Robb, Holly. Senior adviser of local government and community relations, and communications and external relations-Kennecott Utah Companies. 2010. Email Correspondence. 11 February.
- Ronnow, Karin. 2009. Yellowstone Association celebrates preservation of old building beside Roosevelt Arch. *Bozeman Daily Chronicle*. 13 June. [http://www.bozemandailychronicle.com/news/article\\_2f178f9b-e9ad-5025-9aea-d7a42b630e31.html](http://www.bozemandailychronicle.com/news/article_2f178f9b-e9ad-5025-9aea-d7a42b630e31.html) [last accessed 22 October 2010].
- Rooney, Ben. 2011. Your monthly gasoline bill: \$368. *CNN Money*. 6 May. [http://money.cnn.com/2011/05/05/news/economy/gas\\_prices\\_income\\_spending/index.htm](http://money.cnn.com/2011/05/05/news/economy/gas_prices_income_spending/index.htm) [last accessed 5 August 2011].
- Rusnack, Eric C. 2003. The straw that broke the camel's back? Grand Staircase-Escalante antiquates the Antiquities Act. *Ohio State Law Journal* 64: 669-730.
- Russell Country. 2010. *Welcome to Neihart, Montana*. <http://russell.visitmt.com/communities/neihart.htm> [last accessed 16 February 2011].
- Salick, Jan, Yang Yongpin, and Anthony Amend. 2005. Tibetan land use and change near Khawa Karpo, Eastern Himalayas. *Economic Botany* 59 (4):312-325.

- Salt Lake City Weekly. 2010. *Ore House Saloon*.  
<http://www.cityweekly.net/utah/view-place-5000-ore-house-saloon.html> [last accessed 2 December 2010].
- Sanderson, Dale. 2009. *End of U.S. Highway 89*. <http://usends.com/80-89/089/089.html> [last accessed 30 April 2010].
- Sanpete County. 2008. *Sanpete County general plan update*.  
[http://sanpete.com/downloads/Input\\_Report.pdf](http://sanpete.com/downloads/Input_Report.pdf) [last accessed 27 February 2011].
- Scharbach, Paul, and John Akers. 2005. *Phoenix then and now*. Thunder Bay Press.
- Scholar, Curt. 2004. Glacier National Park and the Blackfoot Nation's reserved rights: Does a valid tribal co-management authority exist? *American Indian Law Review* 29: 151-172.
- Schultz, James Willard. 1919. *Rising Wolf: The White Blackfoot. Hugh Monroe's story of his first year on the Plains*. Boston and New York: Houghton Mifflin Company.
- Sedona.biz*. 2010. Best Arizona psychics converge in Sedona on July 11, 2010. 28 June.  
<http://www.sedona.biz/sedona-psychic-fair071110.php> [last accessed 25 March 2011].
- Sedona Chamber of Commerce. 2011. *Sedona visitor survey executive summary*. 29 April.  
[http://visitsedona.com/uploads/document/Visitor\\_Survey\\_-\\_Exec\\_Summary.pdf](http://visitsedona.com/uploads/document/Visitor_Survey_-_Exec_Summary.pdf) [last accessed 31 May 2011].
- Seftel, Howard. 2011. 3/10: Province opens at Westin Phoenix Downtown. *The Arizona Republic*. 9 March.  
<http://www.azcentral.com/things/todo/dining/articles/2011/01/27/20110127province-opens-westin-phoenix-downtown.html> [last accessed 25 July 2011].
- Shantz, H.L., and B.L. Turner. 1958. *Vegetational changes in Africa over a third of a century*. Tucson and Arlington: University of Arizona College of Agriculture and the Department of the Navy Office of Naval Research.
- Shea, Neil. 2008. Under fire. *National Geographic Magazine*. July.
- Shooting Star. 2009. Old West meets the New West. *Jackson Hole Daily*. 8-9 August. 27.
- Shooting Star. 2011. *Location/history*. <http://www.shootingstarjh.com/shooting-star.html> [last accessed 23 March 2011].
- Shortridge, Peter. 2000. *Our town on the Plains: J.J. Pennell's photographs of Junction City, Kansas*. Lawrence: University Press of Kansas.

- Sizemore, Cliff. No date. *Update of the history of Paris written by Edith P. Haddock*. Paris, Idaho: Paris City Historical Museum.
- Skidmore, Rex A. 1941. *Mormon recreation in theory and practice: A study of social change*. Philadelphia: University of Pennsylvania Press.
- Smeath, Doug. 2007. Salt Lake's former Key Bank tower will be imploded this summer. *Deseret News*. 3 May. <http://www.deseretnews.com/article/660217250/Salt-Lakes-former-Key-Bank-tower-will-be-imploded-this-summer.html?pg=1> [last accessed 6 June 2011].
- Smith, Christopher. 1995. A piece of rock? Big Rock Candy Resort prices at \$535,000: Big Rock Candy finally is put on selling block. *The Salt Lake Tribune*. 12 May. B12.
- Smith, Duane A. 2008. *Rocky Mountain heartland: Colorado, Montana, and Wyoming in the twentieth century*. Tucson: The University of Arizona Press.
- Smith, Henry Nash. 1978. *Virgin land: The American West as symbol and myth*. United States: Henry Nash Smith.
- Smith, Karen E. 2010. The United States-Canada border dispute. *ICE case studies*. <http://www1.american.edu/iced/alaska.htm> [last accessed 22 June 2010].
- St. Petersburg Independent*. 1940. Real cowboys mourn Tom Mix: Famous hero of movies killed in auto wreck. 14 October. 13.
- Stanley, John. 2007. Scenic drive: Pinal Pioneer Parkway. *The Arizona Republic*. <http://www.azcentral.com/travel/features/articles/2007/08/24/20070824road0823.html> [last accessed 29 August 2010].
- Star Valley Chocolate Factory. 2011. *Star Valley chocolates and nougat*. <http://www.starvalleychocolates.com/svc/default.htm> [last accessed 16 March 2011].
- Star Valley Wyoming Online. 2011. *A brief history of Star Valley, Wyoming*. [http://www.starvalleywy.com/Star-Valley\\_Wyoming\\_history.htm](http://www.starvalleywy.com/Star-Valley_Wyoming_history.htm) [last accessed 12 March 2011].
- Starrs, Paul F. 2003. An inescapable range, or the ranch as everywhere. *Western places, American myths: How we think about the West*. Gary Hausladen, ed. Reno: University of Nevada Press, 57-84.
- Stegner, Wallace. 1943. *Big Rock Candy Mountain*. New York: Duell, Sloan, and Pearce.
- Stephen, Ed. 2010. Biography for Tom Mix. *The internet movie database*. <http://www.imdb.com/name/nm0594291/bio> [last accessed 29 August 2010].

- Stewart, George. 1953. *U.S. 40: Cross section of the United States of America*. Santa Barbara: Greenwood Press.
- Stewart, George. 1957. *N.A. 1: Looking north: From the Canadian border to Circle, Alaska*. Boston: Houghton Mifflin Company.
- Stewart, George. 1957. *N.A. 1: Looking south: From the Mexican border to Costa Rica*. Boston: Houghton Mifflin Company.
- Struck, Doug. 2006. 'Rapid warming' spreads havoc in Canada's forests. *The Washington Post*. 1 March. <http://www.washingtonpost.com/wp-dyn/content/article/2006/02/28/AR2006022801772.html> [last accessed 29 November 2010].
- Sumsion, Oneita Burnside. 1984. *Thistle...focus on disaster*. Springville, Utah: Art City Publishing Company.
- Sun City Grand. 2011. *Buyer related questions*. <http://www.grandinfo.com/spage.php?shw=100018&m=gog> [last accessed 11 July 2011].
- Sun City West. 2011. *History: From lizard acres to lush oasis*. <http://suncitywest.org/history.htm> [last accessed 11 July 2011].
- Sunset Crater Volcano National Monument. 2002. *General management plan: Final environmental impact statement, November 2002*. [http://www.nps.gov/sucr/parkmgmt/upload/GMP\\_finalSUCR.pdf](http://www.nps.gov/sucr/parkmgmt/upload/GMP_finalSUCR.pdf) [last accessed 5 November 2010].
- Sunset Crater Volcano National Monument. 2010. *Frequently asked questions*. <http://www.nps.gov/sucr/faqs.htm> [last accessed 5 November 2010].
- Tanguay, Georges A., and Ian Gingras. 2011. Gas prices variations and urban sprawl: an empirical analysis of the 12 largest Canadian metropolitan areas. *Cirano Science Series*. 2011s-37.
- Temple Square World. 2011. History of Temple Square Mission. <http://sites.google.com/site/temple-square-world/Home/history-of-temple-square-mission> [last accessed 3 June 2011].
- Tessier, D. 2008. Juarez tourism pronounced dead. *The New Mexico Independent*. 17 October. <http://newmexicoindependent.com/5531/juarez-tourism-pronounced-dead> [last accessed 22 June 2010].
- Teton County. 2010. *August 17, 2010 primary election official results summary report*. [http://www.tetonwyo.org/cc/docs/2010Aug17\\_OfficialPrimarySummary.pdf](http://www.tetonwyo.org/cc/docs/2010Aug17_OfficialPrimarySummary.pdf) [last accessed 2 November 2010].

- Teton County Montana. 2011. *The history of our county*.  
<http://www.tetoncomt.org/history.aspx> [last accessed 17 February 2011].
- Teton Pass Ski Resort. 2011. *Restaurant and bar*. <http://tetonpassresort.com/mountaininfo/dining> [last accessed 22 February 2011].
- Tetra Tech. 2008. *Phase I environmental assessment: Shields River branch line inactive railroad mission to Wilsall, Park County, Montana*.  
[http://issuu.com/renowalsh/docs/wilsall\\_to\\_mission\\_phase\\_i\\_esa.1\\_200](http://issuu.com/renowalsh/docs/wilsall_to_mission_phase_i_esa.1_200) [last accessed 12 February 2011].
- Thornton, Nancy. 2009. Federal stimulus dollars trickling into county for various projects. *Choteau Acantha*. 19 August. 1.
- Tom Mix Museum. 2010. *About the museum*.  
[http://www.tommixmuseum.com/About\\_the\\_Museum.html](http://www.tommixmuseum.com/About_the_Museum.html) [last accessed 29 August 2010].
- Torrens, Michael. Utah State University director of analysis, assessment & accreditation. 2011. Email Correspondence. 6 July.
- Tours of Jerome. 2011. *Jerome & Verde Valley haunted tour*.  
<http://www.toursofjerome.com/tours.html> [last accessed 6 March 2011].
- Travis, William R. 2007. *New geographies of the American West*. Washington, DC: Island Press.
- Trujillo, Heather. 2009. Nearly completed border fence will almost block Cochise. *The Tombstone Epitaph* 27 February. <http://theepitaph.com/border/140-nearly-completed-border-fence-will-almost-block-cochise> [last accessed 4 May 2010].
- Tubac State Historic Park. 2010. *Tubac State Historic Park*.  
<http://www.pr.state.az.us/parks/TUPR/index.html> [last accessed 14 October 2010].
- Tumacacori National Historical Park. 2010a. General management plan/environmental impact assessment. *Newsletter 2: September*.
- Tumacacori National Historical Park. 2010b. *Missions*.  
<http://www.nps.gov/tuma/historyculture/missions.htm> [last accessed 12 October 2010].
- Turner Enterprises, inc. 2010. *Flying D Ranch*.  
[http://www.tedturner.com/enterprises/ranches\\_Template.asp?page=ranches\\_flyingd.html](http://www.tedturner.com/enterprises/ranches_Template.asp?page=ranches_flyingd.html) [last accessed 24 August 2010].



- Turner, Robert, R., Webb, J. Bowers, and J. Hastings. 2003. *The changing mile revisited: An ecological study of vegetation change with time in the lower mile of an arid and semiarid region*. Tucson: University of Arizona Press.
- Two Medicine Dinosaur Center. 2011. *Seismosaurus!*.  
<http://www.tmdinosaur.org/exhibitions.html> [last accessed 22 February 2011].
- University of New Hampshire Cooperative Extension. 2004. *Guide to New Hampshire timber harvesting laws*. <http://www.nhdfl.org/library/pdf/TimberHarvestLaws.pdf> [last accessed 28 November 2010].
- U.S. National Campground Guide. 2007. *Cache National Forest, Utah*.  
<http://www.forestcamping.com/dow/intermtn/cachcmp.htm> [last accessed 6 October 2010].
- U.S. Census Bureau. 1980. *Census of population and housing: 1980 census*.  
<http://www.census.gov/prod/www/abs/decennial/1980cenpopv1.html> [last accessed 21 June 2011].
- U.S. Census Bureau. 1981. *1980 census of population*. Suitland, MD: U.S. Dept. of Commerce, Bureau of the Census.
- \_\_\_\_\_. 2000. *GCT-PH1. Population, housing units, area, and density: 2000*.  
[http://factfinder.census.gov/servlet/GCTTable?\\_bm=y&ds\\_name=DEC\\_2000\\_SF1\\_U&CONTEXT=gct&mt\\_name=DEC\\_2000\\_SF1\\_U\\_GCTPH1\\_US9&-redoLog=false&-\\_caller=geoselect&-geo\\_id=&-format=US-9|US-9S&-\\_lang=en](http://factfinder.census.gov/servlet/GCTTable?_bm=y&ds_name=DEC_2000_SF1_U&CONTEXT=gct&mt_name=DEC_2000_SF1_U_GCTPH1_US9&-redoLog=false&-_caller=geoselect&-geo_id=&-format=US-9|US-9S&-_lang=en) [last accessed 16 August 2010].
- \_\_\_\_\_. 2009. Annual estimates of the population of metropolitan and micropolitan statistical areas: April 1, 2000 to July 1, 2009.  
<http://www.census.gov/popest/metro/tables/2009/CBSA-EST2009-01.csv> [last accessed 23 August 2010].
- \_\_\_\_\_. 2011. *American Fact Finder*.  
[http://factfinder.census.gov/home/saff/main.html?\\_lang=en](http://factfinder.census.gov/home/saff/main.html?_lang=en) [last accessed 15 November 2011]
- United States Department of Agriculture. 2010. *Montana rangeland quiz*.  
<http://www.mt.nrcs.usda.gov/technical/glci/quiz.html> [last accessed 20 August 2010].
- United States Department of Agriculture Economic Research Service. 2011. *State fact sheets*.  
<http://www.ers.usda.gov/statefacts/> [last accessed 4 June 2011].

- United States Department of Agriculture Forest Service Region 1. 2011. *Montana forest insect and disease conditions and program highlights – 2010*. [http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5275798.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5275798.pdf) [last accessed 29 August 2011].
- United States Department of Agriculture National Agricultural Statistics Service. 2011. *Quick stats*. <http://quickstats.nass.usda.gov> [last accessed 17 February 2011].
- United States Department of Commerce Technology Opportunities Program. 2001. Sevier River Water Users Association. *Networking the land: Rural America in the information age*. Christopher Conte, Judith Sparrow, and Donald Druker, ed. [http://www.ntia.doc.gov/top/publicationmedia/rural2001/networking\\_the\\_land.pdf](http://www.ntia.doc.gov/top/publicationmedia/rural2001/networking_the_land.pdf) [last accessed 10 December 2010].
- United States Energy Information Administration. 2011a. *Petroleum & other liquids: Supply and disposition*. [http://www.eia.gov/dnav/pet/pet\\_sum\\_snd\\_d\\_nus\\_mbb1\\_a\\_cur.htm](http://www.eia.gov/dnav/pet/pet_sum_snd_d_nus_mbb1_a_cur.htm) [last accessed 28 August 2011].
- United States Energy Information Administration. 2011b. *Short-term energy outlook*. [http://www.eia.gov/steo/#Global\\_Crude\\_Oil\\_And\\_Liquid\\_Fuels](http://www.eia.gov/steo/#Global_Crude_Oil_And_Liquid_Fuels) [last accessed 28 August 2011].
- United States Environmental Protection Agency. 2009. *Waste and wastewater projects in Nogales, Sonora*. [http://www.epa.gov/ocem/gneb/pdf/2009\\_gneb\\_lopez.pdf](http://www.epa.gov/ocem/gneb/pdf/2009_gneb_lopez.pdf) [last accessed 21 June 2010]
- United States Forest Service Lands and Realty Management. 2007. *The Land and Water Conservation Fund success stories*. <http://www.fs.fed.us/land/staff/LWCF/accomplishments.shtml> [last accessed 31 May 2011].
- United States General Accounting Office. 1998. *Customs service drug interdiction: Internal control weaknesses and other concerns with low-risk cargo entry programs*. Washington, DC: United States General Accounting Office.
- United States Geological Survey. 2008. *3 to 4.3 billion barrels of technically recoverable oil assessed in North Dakota's and Montana's Bakken Formation – 25 times more than 1995 estimate*. 10 April. [http://www.usgs.gov/newsroom/article.asp?ID=1911&from=rss\\_home](http://www.usgs.gov/newsroom/article.asp?ID=1911&from=rss_home) [Last Accessed 17 November 2010].
- United States Geological Survey and Utah Geological Survey. 2003. *The mineral industry of Utah*. <http://minerals.usgs.gov/minerals/pubs/state/2003/utstmyb03.pdf> [last accessed 5 December 2010].

- United States Securities and Exchange Commission. 2010. *Arizona public service co – Form 10-K 9 February 19, 2010*. [http://www.faqs.org/sec-filings/100219/ARIZONA-PUBLIC-SERVICE-CO\\_10-K/#104](http://www.faqs.org/sec-filings/100219/ARIZONA-PUBLIC-SERVICE-CO_10-K/#104) [last accessed 26 September 2010].
- University of Arizona. 2004. *Water management issues surface as Virgin River winds its way to the Colorado*. <http://ag.arizona.edu/azwater/awr/marapr04/feature2a.html> [last accessed 9 December 2010].
- University of Arizona Libraries. 2011. *Southwestern wonderland*. <http://www.library.arizona.edu/exhibits/pams/health.html> [last accessed 11 July 2011].
- UDOT. 2011. *Legacy Parkway & Preserve*. <http://www.udot.utah.gov/main/f?p=100:pg:0:::1:T,V:2182> [last accessed 6 June 2011].
- USA Today. 2005. Dinosaur Trail helping attract more tourists. 1 August. [http://www.usatoday.com/travel/destinations/2005-08-01-montana-dinosaurs\\_x.htm](http://www.usatoday.com/travel/destinations/2005-08-01-montana-dinosaurs_x.htm) [last accessed 22 February 2010].
- UTA. 2011. *About UTA Trax*. <http://www.rideuta.com/mc/?page=UTA-Home-TRAX-AboutUTATRAX> [last accessed 6 June 2011].
- UtahATVTrails.com. 2002. Paiute Trail – Richfield to Aurora loop. <http://www.utahatvtrails.com/PaiuteTR-richf-aurora.html> [last accessed 2 March 2011].
- Utah Board of Water Resources. 1999. *State water plan: Sevier River Basin*. [http://www.water.utah.gov/planning/swp/sevier/swp\\_sr.pdf](http://www.water.utah.gov/planning/swp/sevier/swp_sr.pdf) [last accessed 10 December 2010].
- Utah Department of Environmental Quality. 2010. *Kennecott Bingham Canyon Mine expansion*. 23 August. <http://www.deq.utah.gov/Issues/hottopics/inghamcanyonexpansion.htm> [last accessed 3 December 2010].
- Utah Department of Public Safety. 2010. 1980 – 1989 / Thistle mudslide. *History of the Utah State Highway Patrol*. [http://publicsafety.utah.gov/highwaypatrol/history\\_1989/thistle.html](http://publicsafety.utah.gov/highwaypatrol/history_1989/thistle.html) [last accessed 17 August 2010].
- Utah Office of Planning and Budget, Demographic and Economic Analysis. 1989. *Utah data guide: A newsletter for data users*. 8: 2. <http://www.governor.state.ut.us/dea/publications/02UtahDataGuideNewsletter/1989udg06.pdf> [last accessed 23 February 2011].
- Utah Office of Tourism. 2008. *Newsletter of the Utah Office of Tourism: End-year 2008*. [http://travel.utah.gov/publications/documents/newsletters/2008\\_year-end\\_newsletter.pdf](http://travel.utah.gov/publications/documents/newsletters/2008_year-end_newsletter.pdf) [last accessed 1 October 2010].

- Utah State Fire Marshall. 2011. *Fireworks in Utah: 2011*.  
[http://publicsafety.utah.gov/firemarshal/documents/FireworksinUtah\\_2011.pdf](http://publicsafety.utah.gov/firemarshal/documents/FireworksinUtah_2011.pdf) [last accessed 29 June 2011].
- Utah State History. 2010. Settlement of Hatch. *Markers and monuments database*.  
[http://history.utah.gov/apps/markers/detailed\\_results.php?markerid=1325](http://history.utah.gov/apps/markers/detailed_results.php?markerid=1325) [last accessed 8 February 2010].
- Utah State University. 2010. Where are rangelands? *Utah rangelands*.  
<http://extension.usu.edu/rangelands/introtorangelands/wherearerangelands3.htm> [last accessed 22 August 2010].
- Utah Travel Council. 2001. *Top 25 Tourist attractions by visitor volume*.  
[http://travel.utah.gov/research\\_and\\_planning/archives/documents/MostPopular.pdf](http://travel.utah.gov/research_and_planning/archives/documents/MostPopular.pdf) [last accessed 3 October 2010].
- Vale, Thomas. 1987. Vegetation change and park purposes in the high elevations of Yosemite National Park, California. *Annals of the Association of American Geographers* 77 [1]: 1-18.
- Vale, Thomas, and Geraldine Vale. 1983. *U.S. 40 today: Thirty years of landscape change in America*. Madison: University of Wisconsin Press.
- Vale, Thomas, and Geraldine Vale. 1989. *Western images, western landscapes: Travels along U.S. 89*. Tucson: University of Arizona Press.
- Vale, Thomas, and Geraldine Vale. 1994. *Time and the Tuolumne landscape: Continuity and change in the Yosemite high country*. Salt Lake City: University of Utah Press.
- Valley Metro. 2011. *Annual transit ridership released*.  
[http://www.valleymetro.org/pressreleases/detail/annual\\_transit\\_ridership\\_released/](http://www.valleymetro.org/pressreleases/detail/annual_transit_ridership_released/) [last accessed 28 July 2011].
- VanDevender, Frank. Assistant Manager, Slide Rock State Park. 2010. Email Correspondence. 10 February.
- Verde Independent*. 2010. Verde Valley population estimates. 24 June.  
<http://www.verdenews.com/main.asp?SectionID=292&SubSectionID=1508&ArticleID=37064> [last accessed 3 March 2011].
- Vess, Deborah. 2000. *The Anasazi*.  
<http://www.faculty.de.gcsu.edu/~dvess/ids/amtours/anawciv.htm> [last accessed 5 August 2010].
- Vestal, Christine. 2006. Retirees boosting states' rural economies. *Stateline*. 4 March.  
<http://www.stateline.org/live/details/story?contentId=93345> [last accessed 11 July 2011].

- Vidal, John. 2008. Canadians ponder cost of rush for dirty oil. *The Guardian*. 11 July. <http://www.guardian.co.uk/environment/2008/jul/11/fossilfuels.pollution> [last accessed 11 December 2010].
- Virtual Montana. 2011. *Bob's Bar, Motel & Restaurant – Neihart*. <http://www.virtualmontana.com/montanadirectory/montanalistings/RC/montana6462.htm#> [last accessed 13 February 2011].
- Visit Idaho. 2011. *Paris Tabernacle*. <http://www.visitidaho.org/thingstodo/view-attraction.aspx?id=30881> [last accessed 23 February 2011].
- Vitu, Teya. 2008a. Downtown Parade of Lights illuminates Tucson on Saturday. *Tucson Citizen Morgue*. <http://tucsoncitizen.com/morgue/2008/12/08/104553-downtown-parade-of-lights-illuminates-tucson-on-saturday/> [last accessed 7 July 2011].
- Vitu, Teya. 2008b. Second Unisource Tower still possible. *Tucson Citizen Morgue*. 10 November. <http://tucsoncitizen.com/morgue/2008/11/10/102147-second-unisource-tower-still-possible/> [last accessed 9 July 2011].
- Vitu, Teya. 2010. Unisource reveals new HQ design; summer start planned. *Downtown Tucson*. <http://www.downtowntucson.org/news/?p=1836> [last accessed 9 July 2011].
- Wagner, Dennis. 2010. Violence is not up on Arizona border despite Mexican drug war. *The Arizona Republic* 2 May. <http://www.azcentral.com/news/articles/2010/05/02/20100502arizona-border-violence-mexico.html> [last accessed 4 May 2010].
- Walenga, Karen. 2011. Frontage Rd. to get safety upgrades. *Green Valley News & Sun*. 18 April. [http://www.gvnews.com/news/article\\_61f99f92-69e0-11e0-b48d-001cc4c03286.html](http://www.gvnews.com/news/article_61f99f92-69e0-11e0-b48d-001cc4c03286.html) [last accessed 11 July 2011].
- Walker, Jonathan, and Jonathan Leib. 2002. Revisiting the Topia Road: Walking in the footsteps of West and Parsons. *Geographical Review* 92 [4]: 555-581.
- Wargenau, Astrid, and Deborah Che. 2006. Wine tourism development and marketing strategies in Southwest Michigan. *International Journal of Wine Marketing* 18[1]: 45-60.
- Wasatch-Cache-Uinta National Forest Salt Lake Ranger District. 2010a. *Annual operating instructions: Deep Creek and Arthur's Fork sheep allotments*. [http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5177454.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5177454.pdf) [last accessed 7 June 2011].
- Wasatch-Cache-Uinta National Forest Salt Lake Ranger District. 2010b. *Annual operating instructions: Morgan County cattle allotment*. [http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5177453.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5177453.pdf) [last accessed 7 June 2011].

- Watson, Edward B., and Edmund Gillon Jr. 1976. *New York then and now: 83 Manhattan Sites Photographed in the Past and in the Present*. New York: Dover Publications.
- Webb, Robert, D. Boyer, R. Turner, and S. Bullock. 2007. *The Desert Laboratory Repeat Photography Collection – An invaluable archive documenting landscape change*. <http://pubs.usgs.gov/fs/2007/3046/fs2007-3046.pdf>
- Weingroff, Richard. 2009. *U.S. 93: Reaching for the border*. <http://www.fhwa.dot.gov/infrastructure/us93.cfm> [last accessed 24 January 2012]
- Weingroff, Richard. 2012. Employee, U.S. Department of Transportation Office of Infrastructure. Email Correspondence. 24 January.
- Weiss, Amber. 2010. Ghost economy. *The dirt of public archaeology*. 13 July. <http://www.flpublicarchaeology.org/blog/nerc/category/historic-resources/> [last accessed 29 May 2011].
- Western Organization of Research Councils. 2002. *United States wheat production*. <http://worc.org/userfiles/WORCproductionfactsheet.pdf> [last accessed 18 November 2010].
- Whitaker Construction. 2010. *Our projects*. <http://www.whitcon.com/index.asp?ID=experience.html> [last accessed 8 October 2010].
- White, Gregory, and Kamelia Angelova. 2011. The 19 cities where home prices just won't stop falling. *Business Insider*. 1 June. <http://www.businessinsider.com/home-prices-case-shiller-2011-6?op=1> [last accessed 3 August 2011].
- The White House Office of the Press Secretary. 1996. *Establishment of the Grand Staircase-Escalante National Monument by the president of the United States of America: A proclamation*. 18 September. <http://geology.utah.gov/online/c/c-93/gseprocl.htm> [last accessed 3 October].
- Whitehead, Julie. 2003. No more: dinosaurs, the dodo...and Western Auto stores? *Mississippi Business Journal*. 17 November. <http://msbusiness.com/blog/2003/11/no-more-dinosaurs-the-dodoand-western-auto-stores/> [last accessed 16 March 2011].
- Whittlesey, Lee [a]. Historian, Yellowstone National Park. 2010. Email Correspondence. 25 January.
- Whittlesey, Lee [b]. Historian, Yellowstone National Park. 2010. Telephone Interview. 27 January.
- The Wilderness Society. No Date. *Red Desert Wyoming: Too wild to drill*. <http://wilderness.org/files/TWTD-WY-Red-Desert.pdf> [last accessed 1 February 2011].

- Wildfire Today*. 2009. Yellowstone fires, big blowup, August 20, 1988. 20 August.  
<http://wildfiretoday.com/2009/08/20/yellowstone-fires-big-blowup-august-20-1988/> [last accessed 19 October 2010].
- Williams, John; Sigrid Khera and Pamela Williams. 2011. *The Yavapai-Apache creation story*.  
<http://www.redrockreview.com/yavapcreation.html> [last accessed 25 March 2011].
- Winters, Michael, and Michael Johnson. 2006. *Water resources of the Virgin River Basin*.  
<http://www.leg.state.nv.us/73rd/Interim/Studies/Water/exhibits/19134D.pdf> [last accessed 9 December 2010].
- Wolf, Shayne. 2010. Obama administration denies American pika Endangered Species Act protection. *Center for Biological Diversity*. 4 February.  
[http://www.biologicaldiversity.org/news/press\\_releases/2010/pika-02-04-2010.html](http://www.biologicaldiversity.org/news/press_releases/2010/pika-02-04-2010.html) [last accessed 3 November 2010].
- Wolford, Daniel. Facilities Manager, Diocesan Pastoral Center. 2010. Email Correspondence. 21 January.
- Wood, Dennis. 1988. Unnatural illusions: Some words about visual resource management. *Landscape Journal* 7 [2]: 192-205.
- Woods, Michael. 2006. *Rural Geography*. London: Sage Publications.
- Wupatki National Monument. 2011. *Park map*.  
[http://www.nps.gov/wupa/planyourvisit/images/WUPAmap\\_small.jpg](http://www.nps.gov/wupa/planyourvisit/images/WUPAmap_small.jpg) [last accessed 27 January 2011].
- Wyckoff, William. 1992. Denver's aging commercial strip. *Geographical Review*. 82 [3]: 282-294.
- Wyckoff, William. 2006. *On the road again: Montana's changing landscape*. Seattle: University of Washington Press.
- Wyckoff, William, and Lary Dilsaver. 2005. The political geography of national parks. *Pacific Historical Review* 74 [2]: 237-266.
- Wyoming Department of Administration & Information, Economic Analysis Division. 2011. *Historical decennial census population for Wyoming counties, cities, and towns*.  
[http://eadiv.state.wy.us/demog\\_data/cntycity\\_hist.htm](http://eadiv.state.wy.us/demog_data/cntycity_hist.htm) [last accessed 22 March 2011].



- Wyoming Water Development Commission. 1991. *Star Valley level II study: Report of the Osmond water supply system*.  
[http://library.wrds.uwyo.edu/wwdcrept/Star\\_Valley/Star\\_Valley-Municipal\\_Water\\_Supply\\_Level\\_II\\_Study\\_Osmond\\_Water\\_Supply\\_System-Final\\_Rpt-1991.pdf](http://library.wrds.uwyo.edu/wwdcrept/Star_Valley/Star_Valley-Municipal_Water_Supply_Level_II_Study_Osmond_Water_Supply_System-Final_Rpt-1991.pdf) [last accessed 12 March 2011].
- Yavapai-Prescott Indian Tribe. 2010. *Greetings from the Yavapai-Prescott Indian Tribe*.  
[http://www.ypit.com/about\\_ypit.htm](http://www.ypit.com/about_ypit.htm) [last accessed 23 June 2010].
- Ybarra, William. Chief, Nogales, Arizona Police Department. 2009. Email Correspondence. 18 November.
- Yellowstone Gateway Museum. 2009. *The Bill and Doris Whithorn Collection online database*.  
<http://yellowstone.pastperfectonline.com/00052cgi/mweb.exe?request=jump;dtype=d;startat=10> [last accessed 12 February 2011].
- Yellowstone National Park. 2008. *The Yellowstone fires of 1988*.  
<http://www.nps.gov/yell/planyourvisit/upload/firesupplement.pdf> [last accessed 19 October 2010].
- Yellowstone Park Foundation. 2010[a]. *Past funded projects: Interpret the Old Faithful historic district*. <http://www.ypf.org/projects/publicInfo/interpretOFDistrict.asp> [last accessed 20 October 2010].
- Yellowstone Park Foundation. 2010[b]. *Old Faithful visitor education center*.  
<http://www.nps.gov/yell/planyourvisit/upload/ofvec4-29-10.pdf> [last accessed 11 March 2012]
- Yochim, Michael J. 2007. A water wilderness: Battles over values and motorboats on Yellowstone Lake. *Historical Geography* 35: 185-213.
- Yochim, Michael J. 2009. *Yellowstone and the snowmobile: Locking horns over national park use*. Lawrence: University Press of Kansas

## Appendix - GPS Recorded Coordinates of Photograph Locations

Note: Coordinates are provided in DD MM' SS.SS" format. Those entries marked with a "\*" indicate stand-alone images that are not part of a repeated photographic pair.

Figure Number	Description	State	X Coordinate	Y Coordinate
3.1	McDonalds Patio, Nogales	Arizona	31 20' 05.75"	-110 56' 33.45"
3.2	International Border, Nogales	Arizona	31 19' 58.00"	-110 56' 50.50"
3.3	International Border, Port of Piegan	Montana	48 59' 33.40"	-113 22' 50.65"
3.4	Port of Piegan Border Inspection Station	Montana	48 59' 53.40"	-113 22' 50.90"
4.1	Blackfeet Indian Reservation	Montana	48 32' 40.50"	-113 12' 27.45"
4.2	Faught's Blackfeet Trading Post, Browning	Montana	48 33' 21.05"	-113 00' 55.70"
4.3	Navajo Trading Post	Arizona	35 55' 09.75"	-111 33' 50.10"
4.4	Antelope Hills Hay Company	Arizona	35 32' 29.15"	-111 32' 19.45"
5.1	View of Vermilion Cliffs National Monument	Arizona	36 43' 33.50"	-112 03' 53.60"
5.2	North of the town of Birdseye	Utah	39 55' 30.35"	-111 32' 38.05"
5.3	North of the town of Wilsall	Montana	46 03' 01.60"	-110 41' 29.90"
5.4	Old Stage House	Montana	46 21' 55.10"	-110 49' 42.50"
5.5	Northwest of Great Falls	Montana	47 34' 31.00"	-111 48' 34.70"
5.6	Emigrant Peak	Montana	45 20' 06.75"	-110 46' 12.25"
5.7	Tom Mix Memorial	Arizona	32 49' 18.90"	-111 12' 12.65"
6.1	The Arizona/Utah Border	AZ & UT	37 00' 06.95"	-111 34' 24.85"
6.2	Logan Canyon	Utah	41 45' 13.55"	-111 42' 59.90"
6.3	Desert View, Grand Canyon National Park	Arizona	36 02' 38.15"	-111 49' 32.25"
6.5	Firehole River, Yellowstone National Park	Wyoming	44 31' 08.92"	-110.49' 36.45"
6.7	Old Faithful, Yellowstone National Park	Wyoming	44 27' 34.35"	-110 49' 40.65"
6.8	North Entrance to Yellowstone National Park	Montana	45 01' 32.25"	-110 42' 05.92"
6.9	South Entrance to Grand Teton National Park	Wyoming	43 32' 46.95"	-110 43' 57.65"
6.10	Wupatki National Monuent	Arizona	35 31' 15.30"	-111 22' 20.05"
6.12	Tumacacori National Historical Park	Arizona	31 34' 06.25"	-111 03' 02.10"
6.13	Oak Creek Canyon, near Slide Rock State Park	Arizona	34 57' 03.70"	-111 45' 12.90"
6.14	Sunset Crater N.M. (original parking lot)	Arizona	35 21' 51.75"	-111 30' 45.00"
6.14*	Sunset Crater N.M. (new parking lot)	Arizona	35 21' 47.50"	-111 31' 06.85"
6.15	View of Glen Canyon Dam	Arizona	36 55' 27.70"	-111 28' 42.30"
7.1	Oil and Wheat Field, South of Dupuyer	Montana	48 08' 45.00"	-112 24' 53.75"
7.2*	Active Oil Drilling, South of Dupuyer	Montana	48 08' 40.60"	-112 24' 44.40"
7.4	Little Belt Mountains	Montana	46 49' 24.25"	-110 41' 55.30"
7.5*	Interpretive Display, King's Hill Pass	Montana	46 49' 41.10"	-110 41' 47.15"
7.6	Mine Tailings, Copperton, Utah	Utah	40 33' 43.15"	-112 06' 51.35"
7.7*	Bingham Canyon Copper Mine	Utah	40 32' 07.30"	-112 08' 53.60"
7.8	Elkhart Cliffs, South of the Town of Orderville	Utah	37 16' 26.80"	-112 38' 39.15"
7.9	Town of Glendale	Utah	37 18' 39.90"	-112 35' 51.20"

7.10*	New Southern Border of Glendale	Utah	37 17' 33.44"	-112 37' 02.15"
7.11*	Sevier River, North of the City of Delta	Utah	39 24' 02.25"	-112 29' 55.75"
7.12*	Black Hills Well, Dry Sevier Lakeshore	Utah	38 50' 08.40"	-113 14' 56.10"
8.1	Town of Wilsall	Montana	45 59' 36.90"	-110 39' 41.60"
8.2	Town of Neihart	Montana	46 55' 32.15"	-110 43' 32.40"
8.3	City of Choteau	Montana	47 48' 36.10"	-112 10' 54.65"
8.4	City of Paris	Idaho	42 13' 35.90"	-111 24' 13.70"
8.5	Home in the City of Manti	Utah	39 15' 34.40"	-111 38' 12.75"
8.6*	LDS Chapel, City of Manti	Utah	39 15' 51.15"	-111 38' 12.75"
8.7	Town of Hatch	Utah	37 38' 53.30"	-112 26' 00.78"
8.8	Downtown Panguitch	Utah	37 49' 24.60"	-112 26' 07.90"
8.9	Big Rock Candy Mountain Resort	Utah	38 30' 58.00"	-112 15' 57.90"
8.10	Town of Jerome	Arizona	34 44' 45.70"	-112 06' 50.15"
8.11	City of Page	Arizona	36 55' 12.90"	-111 27' 47.70"
8.12	Downtown Afton	Wyoming	42 43' 27.15"	-110 56 01.15"
8.13	Downtown Jackson	Wyoming	43 28' 49.50"	-110 45' 44.40"
8.15	The West Sedona Commercial Strip	Arizona	34 51' 49.15"	-111 47' 44.50"
9.1	Downtown Salt Lake City	Utah	40 46' 21.15"	-111 53' 18.00"
9.2	The Cities of Farmington and Centerville	Utah	40 57' 21.85"	-111 53' 25.85"
9.3	1700 North State Street, City of Provo	Utah	40 15' 19.45"	-111 40' 18.20"
9.5	Cape Cod Styled Home in the City of Logan	Utah	41 44' 19.00"	-111 49' 11.05"
9.6	East 17th Street & Stone Avenue, Tucson	Arizona	32 12' 47.90"	-110 58' 09.35"
9.7	East Santa Belia Road, City of Green Valley	Arizona	31 50' 59.50"	-110 59' 31.00"
9.8	Interstate 19 Frontage Road, Green Valley	Arizona	31 50' 58.45"	-110 59' 35.85"
9.9	Downtown Phoenix	Arizona	33 27' 00.90"	-112 04' 06.75"
9.10	The Mesa/Tempe City Line	Arizona	33 24' 52.40"	-111 53' 06.45"