

# Economic Development in Environmental Economies of the Northern Greater Yellowstone Region

Presented to the National Parks Conservation Association

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## Table of Contents

I.	Introduction .....	3
II.	Theory and Background.....	3
III.	Examining the Structure of Environmental Economies .....	6
IV.	Qualitative Analysis of Environmental Economies .....	7
V.	Study design and methodology .....	8
VI.	Categories and Economic Sectors .....	10
VII.	Interview Selection .....	10
VIII.	Interview Questions .....	11
XI.	Findings .....	13
	1. Environment and Economic Growth.....	14
	2. Migration Transforms Economies and Communities .....	15
	3. Economic Growth Affects Labor and Housing Markets.....	16
	4. Environment and Quality of Life.....	16
X.	Distinct Economic Sectors and Structures of Environmental Economies.....	18
	1. Housing .....	18
	2. Tourist and Non-Tourist Consumer Services Economies .....	20
	3. Commercial Services Economy.....	22
	4. Manufacturing.....	23
XI.	Economic Structure of Zone I and II Communities .....	24
XII.	Conclusions .....	25
	Works Cited .....	27
 <u>Tables and Figures</u>		
	Table 1. Businesses by Category -number and percentage .....	13
	Figure 2. Zone II Economies .....	24
	Figure 3. Zone I Economies .....	25

## **I. Introduction**

The Greater Yellowstone ecosystem encompasses approximately 27 million acres of land across three states: Montana, Idaho and Wyoming. Located within its boundaries are approximately 21 million acres of public land, including Yellowstone and Grand Teton National Parks, as well as six national forests. Also included within the region are approximately six million acres of private land and thousands of private businesses, landowners, and numerous communities of varying size (Wildlife Conservation Society, 2005). The northern Greater Yellowstone region has experienced significant population and economic growth over the last decade (United States Census Bureau). Researchers have attributed both the population and economic growth in the Greater Yellowstone region to migration by individuals attracted to the region's environment and quality of life (McGranahan, 2000, Nelson, 1999, Johnson and Rasker, 1995).

## **II. Theory and Background**

Theories of economic development in communities located in the northern Greater Yellowstone region over the last several decades have focused primarily on the decline of "extractive economies" and the emergence of "environmental economies." Extractive economies are associated with communities whose economic activity and growth are dependent upon extractive sector businesses such as agriculture, mining or logging, while environmental economies are dominated by "peoples and businesses whose preference for living environments becomes important in determining the location of economic activity (Power, 1995)." In *Thinking About Natural Resource-Dependent*

*Economies: Moving beyond the Folk Economics of the Rear View Mirror*, Thomas

Michael Power theorizes that environmental economies were potentially less destructive to the environment than extractive economies because they did not depend upon the extraction of natural resources as their primary source of economic activity. Instead, they relied on preservation of the environment as the source of their economic activity. Where extractive economies maintained a mutually exclusive relationship with the environment, in which destruction of the environment was necessary to create economic activity and employment, Power suggested that environmental economies would integrate with the environment in a sustainable manner, because they required preservation of the environment to ensure economic vitality.

Environmental economies emerge as people move to communities because of the quality of life afforded by the surrounding environment. Because migration has resulted in large increases in population of the Greater Yellowstone region over the last several decades, Power concludes that economic growth was being created in communities by the environment, which attracted people and resulted in economic activity. “The character and quality of the natural and social environments in the region attracted both permanent residents and temporary visitors. Both supported and stimulated the local economy. These characteristics of the emerging economy suggested that protection of the Greater Yellowstone landscape was consistent with protecting a dominant element in the local economic base that has been a source of stability and expansion (Power, 1991, 395).”

For Power, the environment functions as a basic sector of the economy in environmental economies. Power’s theory, which linked population growth to economic

growth, has become the primary theory used to explain economic growth and development in the Greater Yellowstone region over the last several decades.

In extractive economies, the natural environment serves as a warehouse of commercial resource activity waiting to be extracted (Power, 1995). In environmental economies, the environment attracts people who wish to live and work in a particular area because of the quality of life associated with the area's natural amenities and the community. Additionally, environmental economies attracted entrepreneurs that brought capital to a particular location, which resulted in economic activity. Power suggested that with environmental economies, "... people have preferences for living environments and act to satisfy those preferences by moving to preferred social and natural environments. This creates an available supply of labor at relatively low cost because of the relative excess supply of people trying to live in those particular areas. That labor supply, in turn attracts economic activity ... retirement incomes also follow the residential location (398)."

Since Power introduced the concept of the environmental economy, further research pertaining to growth in environmental economies focused primarily on the presence of wilderness areas and public lands and their correlation with income, employment, and population growth (Lorah, 2000). Additional research pertaining to migration and population studies focused on natural amenities as sources of population growth that attracted people in search of pleasant environments for recreation and residence (McGranahan, 1999) while analysis of economic growth has suggested that migration of individuals to the region included people with income from self employment or investments (Nelson, 1999, Snepenger et al, 1995).

Studies of social organization of communities in the region, such as Patrick Jobses' "The Greater Yellowstone Social System," (1991) suggested that local communities in the greater Yellowstone region vary in economic composition and diversity, depending upon their distance from Yellowstone National Park. Jobses created four categories for communities. Those communities that are immediately adjacent to the park were identified as zone I communities, while more distant communities were identified as zone III, III and IV communities. Zone I communities such as Gardiner and West Yellowstone have small populations, are not economically diverse, and depend upon Yellowstone National Park as their primary source of economic activity, while Zone II communities, such as Bozeman, Livingston, Red Lodge, and Cody, are more distant from the park, tend to be more diverse both economically and socially and are less economically dependent upon Yellowstone National Park.

More recent studies pertaining to the spatial dimensions of migration have pointed out that, while the principal driving force in the new economies of the west and the Greater Yellowstone region has been environmental quality, current patterns of in-migration suggest that the rural mountain west will find itself increasingly divided between high amenity and high income locations and less favored locations (Shumway and Otterstrom, 2001).

### **III. Examining the Structure of Environmental Economies**

The concept of the environmental economy introduced by Power suggested that economic growth was connected to the environment through unidentified entrepreneurial economic activity that "...lay not with the exploitation of natural resources, but with the exploitation of the natural environment as place (Shumway and Otterstrom, 2001). While

the environment may attract people who engage in economic activity, the environment itself cannot serve as an economic base in the same way that extractive businesses served as the economic base to “extractive economies.” As such it is important to examine the actual economic sectors within environmental economies to understand the nature of economic activity occurring in environmental economies and consider how they have each benefited from the region’s environment in different ways.

#### **IV. Qualitative Analysis of Environmental Economies**

While quality of life associated with the region’s environment and protected public lands has attracted migrants to the Greater Yellowstone region who relocated for non-economic reasons in the past (Williams and Jobes, 1990) resulting in economic growth, interviews with regional business owners suggest that quality of life is becoming affected by changes to economic conditions within communities of the northern Greater Yellowstone region due to continued population and economic growth. This study examines the perceptions of business owners and managers from six communities in the northern Greater Yellowstone region in order to better understand how the region’s environment and public lands have contributed to the growth of their businesses and how population and economic growth has transformed their local economies and communities.

The purpose of this study is to examine some of the types of economic activity occurring in environmental economies and determine 1) how non-extractive businesses have benefited from the region’s environment and public lands, 2) the nature of the economic activity of the actors in the region, and 3) how their economic activity interacts

with the structure of the local economy to determine the character and overall level of local economic activity in their communities.

## **V. Study design and methodology**

Ninety-two business owners and managers from six communities were interviewed between July and August 2005. The National Parks Conservation Association (NPCA), which selected the six communities in which interviews were conducted, provided funding for the research. All the communities were located in the northern Greater Yellowstone region and included the cities of Bozeman, Livingston, Gardiner, West Yellowstone and Red Lodge, Montana and Cody, Wyoming.

Business sectors in each community were identified through the United States Census Bureau's ZIP Code Business Patterns Directories, which listed the total number of businesses within each community by their two-digit North American Industry Classification System (NAICS) code. Businesses in each community were initially organized into three broad categories that attempted to define potential economic sectors or functional relationships between NAICS sectors that potentially existed in all six communities. The three economic sectors initially identified through NAICS codes before interviewing were "tourist/consumer services," "commercial services," and "manufacturing and extraction." The two-digit NAICS codes, when organized into these three basic sectors, represented over 80 percent of the total number of businesses in each community (Table 1). The three economic sectors are listed below and include NAICS code subcategories:

## **1. Tourist/Consumer Services**

- Entertainment
- Food and Lodging
- Fishing and Hunting Guides
- Retail,
- General Merchandise
- Sporting Goods
- Clothing

## **2. Commercial Services**

- Real Estate
- Rental
- Leasing
- Construction
- Information
- Finance and Insurance
- Business Services (Professional, Scientific and Technical Services, Management of Companies
- Administrative Support
- Waste Management and Remediation
- Educational Services) Health Care and Social Assistance
- Other services

## **3. Extractive and Manufacturing Businesses**

- Mining
- Utilities
- Forestry
- Agriculture
- Food
- Wood Products
- Printing
- Furniture
- Plastics
- Cement
- Fabricated Metals
- Machinery
- Equipment, Lumber
- Durable Goods
- Couriers
- Storage
- Trucking

## **VI. Categories and Economic Sectors**

The organization of the NAICS codes into three economic sectors attempted to create a baseline to identify some of the types of economies that might exist in the region. While extractive businesses were initially identified, (mining, natural gas extraction, agriculture, and logging) they were excluded from this study because they represent the smallest percentage of businesses in each of the communities' economies with a specific economic relationship with the region's environment and are not considered part of the expanding service sector economy.

Manufacturing businesses were included in the study to better understand how they benefit from the region's environment and to understand how their benefit might differ or conflict with service sector businesses. Since this study's intent was to better understand the types of service economies that exist within the region, the majority of businesses interviewed were from either the Consumer Services or Commercial Services categories. Service sector businesses for all six communities were initially placed into two categories: Consumer Services or Commercial Services. Once service businesses were interviewed, three types of service sector economies were actually identified.

## **VII. Interview Selection**

The National Parks Conservation Association (NPCA) set the initial number of businesses to be interviewed at 100. The NPCA felt that 100 interviews would provide a sufficient sample of opinions of business owners and managers and provide insight into how the environment and public lands have benefited the region's economy. Because there are over 4,200 businesses in the northern greater Yellowstone region, a statistically

valid sample would have required at least 420 surveys. The approximately 100 business owners and managers interviewed do not provide a statistically valid sample, but do provide sufficient information to introduce a general theory of the nature of economic activity in environmental economies of the region and gain insight into how protected public lands have contributed to economic activity in the region. The range for number of interviews in each community established by the NPCA required that no more than thirty interviews be conducted in the largest city and no fewer than eight be conducted in the smallest city. The number of interviews for each community was based upon a ratio determined by the range provided by the NPCA and the actual number of businesses in each community. Once the number of interviews for each community by category or economic sector was established, businesses were randomly selected from either Chambers of Commerce directories or the 2005 Montana Business Directory. Businesses were placed into the three categories found in Table 1 based upon the criterion that they appear in either the chambers' or the business directories. A mailing list with approximately 400 businesses across the three categories or economic sectors was created and letters requesting personal interviews were mailed to individual business owners. Business owners were then called and screened for interviews. A total of ninety-two interviews were conducted and interview times ranged from one-half hour to two hours.

### **VIII. Interview Questions**

Interviewees were asked the same series of questions pertaining to their businesses, the environment, and their community's economies. Notes were taken during each interview and the information from the interview questions was summarized and transcribed onto one-page profiles. Some interviews were recorded as well. The one-page

profiles contained three general categories, which correlated with questions. The three categories for each profile were: “Living in the Greater Yellowstone Region,” “Conducting Business in the Greater Yellowstone Region,” and “The Future of the Local Economy and Environment.”

The category “Living in the Greater Yellowstone Region” included answers to questions about why people choose to live in their particular community and some of the best aspects of living in the region.

The category “Conducting Business in the Greater Yellowstone Region” included responses to questions about descriptions and nature of their business, why they started their business in the Greater Yellowstone region, the composition of their client base, their relationship to other communities and economies in the region, and how the region’s environment has contributed to the success of their business.

The category “The Future of the Local Economy and the Environment” included questions about the effects of economic growth on the region’s environment and communities as well as responses to questions about the effects of migration to the region, and whether they believed regional population growth would affect the region’s environment, the future of their business, and the local economy.

Once profiles were compiled for each interviewee, each profile was reviewed and grouped with other profiles that expressed similar themes. Several themes emerged pertaining the region’s environment and public lands to businesses as well as to quality of life. Descriptions about a business’ clients and the nature of an owner’s business helped identify types of economic sectors that exist in communities in the region and how those sectors benefit from the environment.

<b>Table 1 – Businesses by Category -number and percentage</b>						
	<b>Bozeman</b>	<b>Livingston</b>	<b>Red Lodge</b>	<b>Gardiner</b>	<b>W. Yellowstone</b>	<b>Cody</b>
<b>Tourist /Consumer Services</b>						
Retail	378	89	43	16	38	116
Accommodation and Food Services	172	56	31	25	69	84
Arts, Entertainment, Recreation	64	23	5	3	8	33
<b>Total Number of Businesses</b>	<b>614</b>	<b>168</b>	<b>79</b>	<b>44</b>	<b>115</b>	<b>233</b>
<b>Percent of City's Total Businesses</b>	<b>24.51%</b>	<b>31.40%</b>	<b>36.57%</b>	<b>57.89%</b>	<b>61.83%</b>	<b>31.57%</b>
<b>Commercial</b>						
Professional, Technical Services	366	50	22	3	3	53
Health Care Services	205	48	14	1	5	52
Construction	398	64	28	8	14	111
Real Estate	161	22	16	1	11	37
Finance and Insurance	124	28	7	2	1	27
Information	52	13	5	2	4	16
<b>Total Number of Businesses</b>	<b>1306</b>	<b>225</b>	<b>92</b>	<b>17</b>	<b>38</b>	<b>296</b>
<b>Percent of City's Total Businesses</b>	<b>52.14%</b>	<b>42.06%</b>	<b>42.59%</b>	<b>22.37%</b>	<b>20.43%</b>	<b>40.11%</b>
<b>Manufacturing /Extraction</b>						
Extractive	11	7	1		1	18
Manufacturing	97	27	5		3	37
Wholesale	102	18	5	2	4	26
<b>Total Number of Businesses</b>	<b>210</b>	<b>52</b>	<b>11</b>	<b>2</b>	<b>8</b>	<b>81</b>
<b>Percent of City's Total Businesses</b>	<b>8.38%</b>	<b>9.72%</b>	<b>5.09%</b>	<b>2.63%</b>	<b>4.30%</b>	<b>10.98%</b>
Percentage of City's Total Businesses	85.03%	83.18%	84.26%	82.89%	86.56%	82.66%

## **XI. Findings**

The major themes that emerged from the study were: 1) The environment attracts people which has resulted in a specific type of economic activity; 2) economic growth is transforming communities, 3) labor and housing markets are being affected, and 4) quality of life is possibly being transformed and redefined.

## **1. Environment and Economic Growth**

Overwhelmingly, business owners and managers agreed that the region's quality of life, which they associated with the region's environment, natural amenities, such as mountains and rivers, abundant public lands, outdoor recreation such as skiing, hunting, and fishing, were important factors that contributed to their decision to move or stay in their particular community, work, or establish a business. Many cited that there was otherwise little economic incentive to start or maintain a business in the region because of isolation and distance to markets.

Many people in the commercial and consumer services businesses believed that migration to the area had contributed to their communities' economic growth and had benefited their business. Many believed that migrants who moved to the region for the quality of life afforded by the region's environment had created a demand for commercial or professional services such as engineering and architectural services, financial and insurance services, and legal services. Direct demand for consumer or professional services by migrants has led to the creation of additional, broader commercial service businesses that provide services to these commercial services, such as Internet service providers, and advertising and marketing firms. Migrants attracted to the region's environment have also created a demand for higher end retail shops and restaurants. These newly created services have benefited business owners in the tourist sector because more of these services have become available to their clients. Some business owners felt that increases in high-end consumer services had attracted even more migrants who demanded even greater services.

## **2. Migration Transforms Economies and Communities**

While migration has resulted in economic growth and led to the creation of greater services it has also transformed communities. Many business owners were concerned that migration by baby boomers and retirees with disposable income would continue to inflate housing costs and that those increases would eventually affect the labor market. They were concerned that it would become difficult for low to middle wage employees to find affordable housing, thereby affecting the labor pool necessary to support certain sectors of the service economy such as lodging and retail.

Several business owners speculated that there were two types of migrants moving to the region: those who moved to the area for quality of life and started businesses and those who moved to the area for quality of life and retired or bought a second home. The former functioned as producers who invested labor and capital into the region and created jobs by starting businesses. The latter did not invest capital or experience directly into local economies, but created economic growth indirectly by creating demand for services. Some business owners believed that, while some “job creating migrants” were starting businesses that provided jobs that paid well, not enough high paying jobs were being created to keep pace with increases in the housing market, created by the demand from retirees or second home owners. As such, they believed that the growing disparity between wages and cost of living would eventually begin to affect their business’ labor supply.

Some people interviewed believed that migration was having a negative effect upon communities’ character and values. Some native Montanans believed that as more people migrated to the region from out of state, more private land owners would be less

willing to let people access their lands to hunt and fish. Where hunting and fishing were traditional activities that often connected members of communities to one another, migration had created a looser social fabric in which people didn't know each other as well as in the past or simply didn't hunt or fish. As such, some business owners believed that people were becoming less willing to openly allow hunting and fishing on their properties. Some business owners felt that migrants were having a positive effect upon communities because they brought values and interests that had not previously existed in many communities and created a greater sense of diversity within communities. Some believed that migrants were making significant contributions by expanding the arts such as theatre and entertainment.

### **3. Economic Growth Affects Labor and Housing Markets**

Businesses that employed large numbers of lower wage labors such as lodging expressed concern that their labor market would continue to shrink because lower wage employees could not afford to live in their communities. Employers of higher salary professionals that recruited employees from out of state were afraid that their businesses would not be able to attract employees in the future from other markets such as Denver and Seattle, because their perception was that housing was now as expensive or more expensive than those markets, while wages were still lower.

### **4. Environment and Quality of Life**

Most people interviewed associated quality of life with the region's environment and the many recreational opportunities afforded by the region. Many people believed that there was still adequate room for physical growth and development in the region and that it would be some time before the effects of such growth would degrade the region's

environment. Some believed that the region's environment was already becoming degraded and that steps needed to be taken to preserve the environment, which they attributed to economic vitality. While most people interviewed associated quality of life initially with the environment, and the primary reason they lived in the region, they believed that quality of life in the future would be affected primarily by politics or economics and not by a decline in the environment's quality. Many people interviewed believed that the region's environment and wildlife would remain "intact" because so much of the region's land was public. Some were very concerned about how public lands were managed and felt that they needed to be managed better to ensure that wildlife populations remained intact.

Many interviewees were concerned that increases to the region's population would result in the creation of more rules and regulations that would limit or prohibit their access to public lands and therefore limit or affect the quality of their recreational experiences. Additionally, interviewees were concerned that the cost of living in their communities would become prohibitive and affect their quality of life through increased housing costs or increases in taxes. Many believed that in the past, people were willing to work for "less or lower" wages because of the quality of life offered by the region's environment. However, where the region once attracted people for quality of life associated with its environment, the environment would serve as less of an attractor to low- and middle-income people in the future as the cost of living increased.

## **X. Distinct Economic Sectors and Structures of Environmental Economies**

Most interviewees agreed that their businesses benefited either directly or indirectly from the region's public lands. How a business benefited from the region's environment and public lands depended upon the particular business, their business sector, and the community in which their business was located. While three general economic sectors were initially identified in Table 1 through the NAICS codes prior to interviewing, two distinct forms of economic activity emerged between Zone I and Zone II communities and four distinct service sector economies were identified Zone II communities as the result of interviewing: 1) Housing, 2) Tourist Consumer Services, 3) Non-tourist Consumer services, and 4) Commercial Services, in addition to manufacturing.

### **1. Housing**

Growth in the housing market or housing sector has been fueled by amenity migrants who move to the region for the quality of life associated with the region's natural amenities and outdoor recreation. Many business owners in the real estate and construction sectors believe that many of the migrants moving to the area were people at or near retirement age (baby boomers), who first visited the region and then decided to buy or build a retirement home or second home. While businesses in real estate and construction sectors are the primary businesses involved in the economy of housing, professional or commercial service businesses such as architects, engineers, insurance services, financial services, accounting, title companies and legal services have all benefited from growth in the housing market. These businesses provide services necessary to support the entire process of building a home, and include land acquisition,

sub-division, financing, and legal documentation of property. Many commercial service businesses provide services directly to new homeowners or to contactors involved in home development. Other commercial service providers such as ad agencies and Internet providers have also benefited from growth in the housing economy by providing services to commercial businesses directly involved in this sector, such as real estate agents.

Additionally, once homes have been built, migrants with disposable income occupying new homes have created demand for consumer services in the non-tourist consumer services sector of the economy through demand for specialized retail such as home appliances and furnishings to furnish their new homes, as well as mid- to high-end restaurants. Additionally, it appears that new migrants have created demand for professional services in the health care sector.

This type of economic activity associated with growth in the housing economy spans around the northern half of the greater Yellowstone region as a “horseshoe,” and extends north from Big Sky, Montana to the Gallatin Valley and Bozeman and south through Livingston, Montana and through the Paradise Valley to the Tom Miner Basin. Retirees and second homeowners in this area access either Livingston or Bozeman as their primary markets for goods and services. Similar economic growth associated with housing is emerging between Red Lodge, Montana and Cody, Wyoming, but not to the extent found between Big Sky and the Paradise Valley. This type of economic activity appears to occur primarily in Zone II communities (Bozeman, Livingston, Red Lodge and Cody), which have abundant supplies of private land available for development, while this type of economic activity is extremely limited in Zone I communities immediately adjacent to the park such as Gardiner and West Yellowstone. Business owners

interviewed in these communities believe this was because the amount of private land available for development in these communities was extremely limited. Several business owners in West Yellowstone mentioned that their community would always be a “tourist town” dependent upon the park, and would not be able to diversify economically because it did not have enough private land available for development. Many commercial and consumer service sector business owners in both types of communities believe that housing was the primary force driving local economies.

## **2. Tourist and Non-Tourist Consumer Services Economies**

Tourist and non-tourist consumer service businesses include sectors such as entertainment, food service and lodging, fishing and hunting outfitters, retail, general merchandise, sporting goods, and clothing stores. In the Zone II communities such as Bozeman, Livingston, Red Lodge and Cody, which are more distant from Yellowstone National Park than Zone I communities such as West Yellowstone and Gardiner, business owners in the food, entertainment, retail, clothing and sporting goods sectors said that they were generally more dependent upon “locals” than tourists, while business owners in the same business sectors in Zone I communities said that their businesses were entirely dependent upon tourists visiting Yellowstone National Park. Fishing and hunting outfitters from all communities were completely dependent upon people either visiting the region or Yellowstone National Park. Lodging businesses in Zone I communities were completely dependent upon summer tourists, while lodging businesses in Zone II communities said that they had a more diverse client base, which included construction workers, migrants looking to relocate or buy a second home, and students, in addition to tourists.

Since Zone I communities' economies are completely dependent upon tourism, they are more affected by changes made to the rules or regulations used to manage public lands. Outfitters in all the communities believed that as the region's population grew, greater restrictions or rules would be imposed on public lands. Such rules they believed would limit or restrict access and might affect their businesses. Zone I communities would be most affected economically by such restrictions or changes since their economies are built primarily around tourism. One outfitter suggested that as hunting outfitters' businesses declined due to changes in regulations, so would lodging, restaurant, and entertainment businesses, which also depend upon hunters who use the outfitters. Other outfitters involved in fishing believed that greater regulations were indeed necessary to sustain fish populations and the quality of the fisheries. Without proper protection, the fisheries would become degraded and consequently affect their businesses.

Businesses in the tourist consumer economies in the communities of West Yellowstone and Gardiner were directly dependent upon the region's protected public lands, because their clients were primarily tourists visiting the region. Some consumer service business owners in Zone II communities said they still depended upon tourism during the summer months, while others said their clients were primarily locals. As such, two types of consumer service economies appear to exist in Zone II communities and therefore a distinction may be made between tourist consumer services and non-tourist consumer services. Non-tourist consumer services are indirectly dependent upon the region's environment but are directly dependent upon the housing economy and commercial services economy, which they associate with resident or local populations

with disposable income, while tourist consumer service businesses are directly dependent upon the environment and region's public lands through tourism. Business owners in both the tourist and non-tourist consumer economies employ significant numbers of low- to middle-wage employees and are concerned that it will become difficult to find qualified employees in the future as the cost of housing increases.

### **3. Commercial Services Economy**

Included in this type of economic sector are businesses involved in financial services, legal services, insurance services, marketing and advertising services, engineering services, architectural services, accounting services, and technical services. This type of economy exists primarily in Zone II communities and is extremely limited in Zone I communities. These businesses have benefited from the general population and economic growth that has occurred in the Zone II communities and their clients are primarily within their communities or the region. These businesses provide services to other consumer or commercial service companies as well as tourist-dependent businesses and many have benefited significantly from growth in the housing market. They are indirectly dependent upon the region's environment. The region's environment serves as a recruiting tool that helps them attract qualified, professional employees. Like the consumer service businesses, businesses in the commercial services sector have depended upon the region to attract qualified employees, but are now concerned that increases in the cost of housing associated with the housing economy will impact their ability to attract and recruit qualified employees in the future. Where professional employees were willing to work for "lower wages" in exchange for quality of life in the past, they are

concerned that employees may be less willing to make such a tradeoff if housing prices continue to increase if wages remain low.

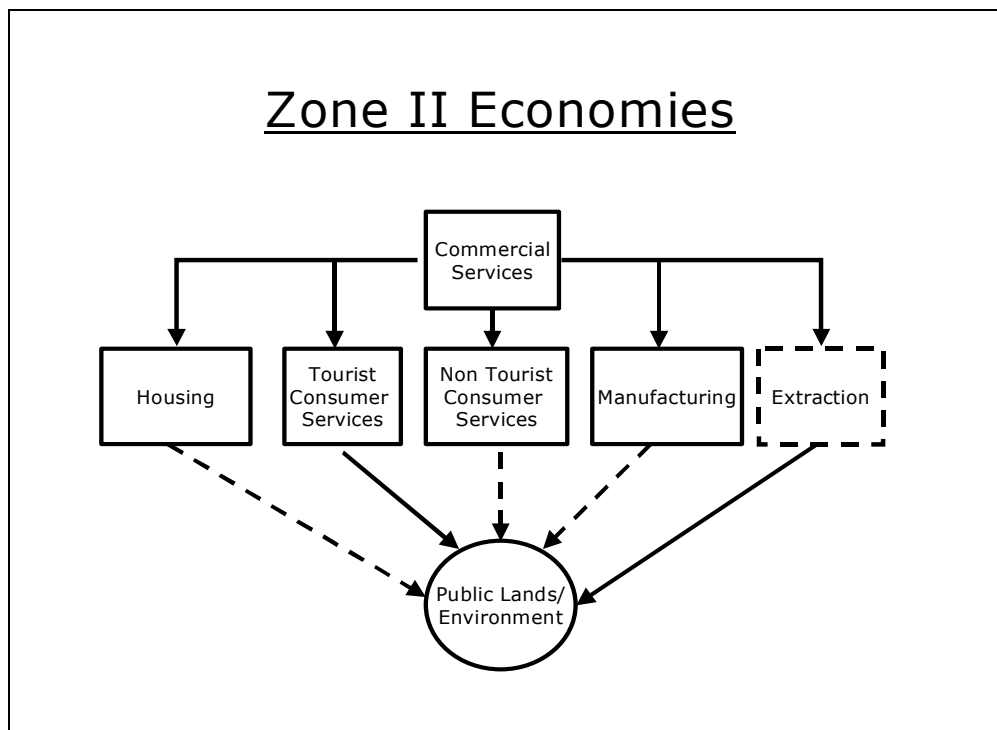
#### **4. Manufacturing**

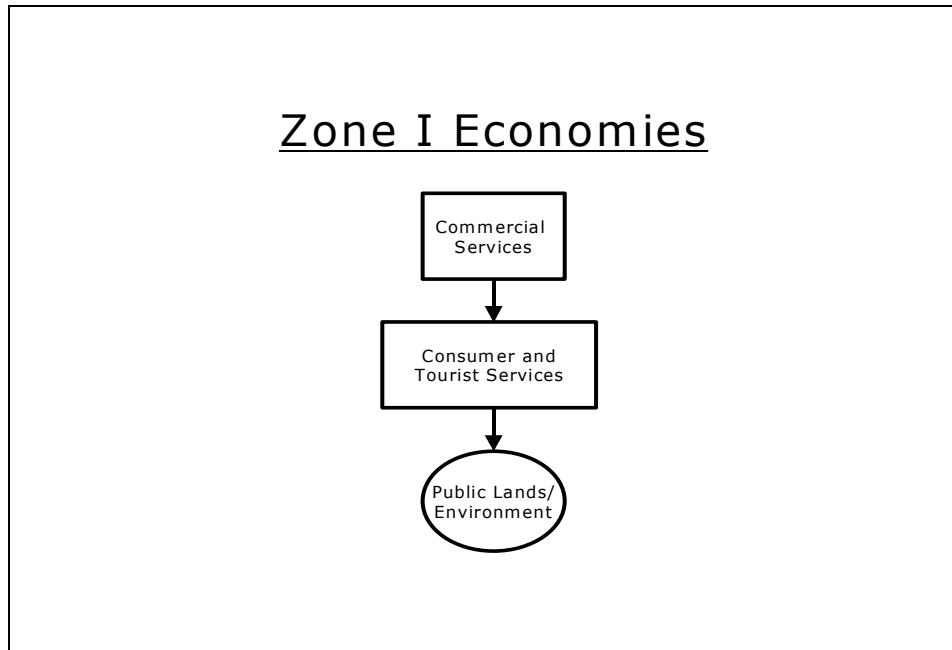
This type of economic sector includes businesses involved in software manufacturing, printing, and product manufacturing. Like the businesses in the Commercial and Consumer Services sectors, manufacturing business owners and managers depend upon the region's natural amenities to attract qualified employees. Likewise, they are concerned that as housing prices increase, the area will become less attractive to potential employees. Businesses in this type of economy typically do not have clients in their communities or within the region and depend primarily on national or international clients and markets. They are affected by changes in the national economy and not the local economy. Most of the owners in this category could have established their businesses anywhere in the United States, but chose the region because they liked the regions' natural amenities, recreational opportunities and quality of life. Several business owners in this sector said that one of the difficulties in running a technology company in the region was the problem of "circulating core competencies." They felt that high tech employees in the region don't have the circulating core competencies acquired through employment at other high tech companies, because there are not enough other high tech companies in the region to develop employees' skills. As such, they still have to recruit outside the region for qualified employees.

## XI. Economic Structure of Zone I and II Communities

The economic structure of Zone I and II communities is depicted in Figures 2 and 3. Solid lines depict direct relationships or dependencies upon the region's environment and public lands while dashed lines depict indirect relationships.

**Figure 2. Zone II Economies**



**Figure 3. Zone I Economies**

## **XII. Conclusions**

The growth in population from migration in the Greater Yellowstone region has resulted in economic activity that has led to the creation of distinct sectors within the broader service economies of the Greater Yellowstone region and defined the economic structure of environmental economies. Previous research regarding the region's environment and economies maintained a simple correlation between the region's environment and economic growth, and described economic activity in homogenous terms that focused on how the region's environment and protected public lands were responsible for population and economic growth. This study reveals that different sectors of the economy benefit from the region's environment in different ways. Those differences have resulted in the creation of diverse service sector economies in Zone II communities.

As economies have transformed and diversified, so has the meaning of the region's public lands and quality of life. New economic sectors such as manufacturing, housing, and commercial services, which all have an indirect relationship to the region's public lands, have effectively appropriated and transformed the meaning of the environment and public lands to benefit their businesses and reflect the changing nature of economic activity in the region. While such businesses do not rely on the extraction of resources from the region, they rely on the region's environment and public lands to attract clients and employees. Additionally, while the environment and public lands continue to serve as an economic asset for all of the communities in the Greater Yellowstone region, this study suggests that quality of life associated with the region's environment and protected public lands may no longer serve to attract people from low to middle socio-economic brackets as the cost of housing and living increases in certain communities.

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