

A GEOGRAPHY OF SECONDARY HOMES IN WYOMING
1990-2000

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TABLE OF CONTENTS

PART ONE: AMENITY LED DEVELOPMENT AND SECOND HOMES.....01

SECTION ONE | INTRODUCTION AND DISCUSSION.....02

- Preface
- Introduction to ALD
- The Focus on Second Homes
- The Focus on Wyoming

SECTION TWO | PRINCIPAL FINDINGS07

- Second Homes
- Primary Homes

SECTION THREE | PREVIOUS RESEARCH.....08

- Discussion
- Beale & Johnson 1998
- John Carroll 2002
- Open Spaces Institute

SECTION FOUR | NOTES ON STRUCTURE AND METHODOLOGY.....11

- Notes on the Geographic Specificity
- Notes on the Methodology
- Notes on the Maps
- Notes on the Appendices

PART TWO: THE GEOGRAPHY OF SECOND HOMES.....16

SECTION ONE | THE DISTRIBUTION OF NUMBERS OF SECOND HOMES.....17

- Numbers in 1990 & 2000
- Change in Numbers 1990-2000
- Percent Change in Numbers 1990-2000
- Percent Change in Numbers 1990-2000 (Selected Areas)

SECTION TWO | THE DISTRIBUTION OF PERCENTAGES OF SECOND HOMES.....24

- Percentages in 1990 & 2000
- Percent Change in Percentages 1990-2000
- Percent Change in Percentages 1990-2000 (Selected Areas)
- Summary

PART THREE: THE DISTRIBUTION OF AMENITIES.....30

SECTION ONE | THE AMENITY OF SOLITUDE (PRIMARY RESIDENCES).....31

- Discussion
- The Geography of Numbers 1990 & 2000
- Change and Percent Change in Numbers 1990 & 2000
- Correlations | Second Home Distribution

SECTION TWO | THE AMENITY OF INVESTMENT (MEDIAN HOME VALUE).....38

Discussion	
Distribution	
Change in Median Home Value 1990-2000	
Correlations Second Home Distribution	
Correlations Primary Home Distribution	
SECTION THREE THE AMENITY OF MOUNTAINS.....	43
Discussion	
Methodology	
Distribution	
Correlations Second Home Distribution	
Correlations Primary Home Distribution	
Correlations Median Home Value	
SECTION FOUR THE AMENITY OF NATIONAL FORESTS.....	47
Discussion	
Methodology	
Distribution	
Correlations Second Home Distribution	
Correlations Primary Home Distribution	
Correlations Median Home Value	
Correlations Mountains	
SECTION FIVE THE AMENITY OF SKI RESORTS.....	51
Discussion	
Methodology	
Distribution	
Correlations Second Home Distribution	
Correlations Primary Home Distribution	
Correlations Median Home Value	
Correlations Mountains & National Forests	
SECTION SIX THE AMENITY OF NATIONAL PARKS.....	54
Discussion	
Methodology	
Distribution	
Correlations Second Home Distribution	
Correlations Primary Home Distribution	
Correlations Median Home Value	
Correlations Mountains, National Forests & Ski Resorts	
SECTION SEVEN THE AMENITY OF ACCESSIBILITY.....	68
Discussion	
Methodology	
Distribution	
Correlations Second Home Distribution	
Correlations Primary Home Distribution	
Correlations Median Home Value	
Correlations Mountains, National Forests & Parks, & Ski Resorts	

PART FOUR | SUMMARY, CONCLUSION & BIBLIOGRAPHY.....61

APPENDICES.....72

APPENDIX ONE | THE AMENITY OF RETIREMENT.....73

 Discussion

 Methodology

 Distribution

 Correlations | Second Home Distribution

 Correlations | Primary Home Distribution

 Correlations | Median Home Value

 Correlations | Other Amenities

APPENDIX TWO | MAPS FROM OTHER SOURCES.....80

DATA TABLES.....81

 Table 1.0 | Number of Secondary Residences

 Table 1.1 | Percent of Secondary Residences

 Table 1.2 | Number of Primary Residences

 Table 1.3 | Median Home Value

 Table 1.4 | Various Amenities

 Table 1.5 | Median Age

TABLE OF MAPS

MAP 1.00 KEY TO MAPS.....	15
MAP 2.00 NUMBER OF 2 ND HOMES 1990.....	18
MAP 2.01 NUMBER OF 2 ND HOMES 2000.....	18
MAP 2.02 CHANGE IN NUMBER OF 2 ND HOMES 1990-2000.....	20
MAP 2.03 PERCENT CHANGE IN NUMBER OF 2 ND HOMES 1990-2000.....	21
MAP 2.04 PERCENT CHANGE IN NUMBER OF 2 ND HOMES 1990-2000 (SELECTED AREAS).....	22
MAP 2.05 PERCENTAGE OF 2 ND HOMES 1990.....	25
MAP 2.06 PERCENTAGE OF 2 ND HOMES 2000.....	26
MAP 2.07 PERCENT CHANGE IN PERCENTAGE OF 2 ND HOMES 1990-2000.....	27
MAP 2.08 PERCENT CHANGE IN PERCENTAGE OF 2 ND HOMES 1990-2000 (SELECTED AREAS)	28
MAP 3.00 NUMBER OF PRIMARY HOMES 1990.....	32
MAP 3.01 NUMBER OF PRIMARY HOMES 2000.....	33
MAP 3.02 CHANGE IN NUMBER OF PRIMARY HOMES 1990-2000.....	34
MAP 3.03 PERCENT CHANGE IN NUMBER OF PRIMARY HOMES 1990-2000.....	34
MAP 3.04 MEDIAN HOME VALUE 1990.....	39
MAP 3.05 MEDIAN HOME VALUE 2000.....	39
MAP 3.06 PERCENT CHANGE IN MEDIAN HOME VALUE 1990-2000.....	41
MAP 3.07 TOPOGRAPHICAL RELIEF.....	45
MAP 3.08 NATIONAL FORESTS.....	48
MAP 3.09 DISTANCE TO SKI RESORT.....	52
MAP 3.10 DISTANCE TO NATIONAL PARK.....	55
MAP 3.11 DISTANCE TO MAJOR CITY.....	59
MAP 3.12 MEDIAN AGE 1990.....	74
MAP 3.13 MEDIAN AGE 2000.....	74
MAP 3.14 CHANGE IN MEDIAN AGE 1990-2000.....	75
MAP 2.09 JOHN CARROLL'S MAP OF NATIONAL 2 ND HOME DISTRIBUTION.....	80

PART ONE
AMENITY-LED DEVELOPMENT AND SECOND HOMES

PART ONE | SECTION ONE

INTRODUCTION AND DISCUSSION

PREFACE

This work analyzes the geographical distribution of secondary residences in Wyoming within the context of so-called amenity-led development (ALD) throughout the United States. In the course of its analysis, leading research and theories regarding ALD are statistically tested down to the subcounty level. Specifically, this work statistically tests the presumption held by many theorists that secondary residences are attracted to recreationally-based opportunities and other related amenities. The attractive-amenity theory, as it may be called, has emerged to underpin much of our understanding regarding second homes and ALD. Yet, previous research and discussion appears to have provided little evidence of a direct statistical correlation between the locations of amenities and second homes. There has been research done on the locations of amenities, as well as on the location of second homes, but little work on a geographical correlation between the two. In the course of these tests, this work finds that the attractive-amenity theory is indeed largely statistically accurate and applicable to secondary residence distribution in Wyoming down to the subcounty level – with a few exceptions. However, this work finds that the attractive-amenity theory largely cannot explain primary or overall residence migration within the state.

- 2 -

Inasmuch, this work builds off the contributions of many other theorists and researchers in the fields of rural and community development, demography, geography, sociology, agricultural economics, tourism, and many other inter-related fields. Although the works of many theorists in these inter-related fields will be discussed in the following pages, of special preface is work done by Calvin L. Beale, Kenneth Johnson, The Wyoming Open Spaces Initiative, John Carroll, William Riebsame and the Center of the American West.

In addition, this work does not discuss the community or state level policy implications of ALD, but does offer a body of evidence that can aid in further discussions. This type of development is, at the very least, interesting within the contexts of community sustainability, conservation, habitat fragmentation, economic diversity, among many others. This a short list of some of the most important topics found in the state of Wyoming.

INTRODUCTION TO ALD

Amenity-led development is in many respects an umbrella term that describes the relationship between a number of large and diverse types of development. They are types of development largely related only by geographic attraction to the recreationally-centered “amenities” present in a given area (Carroll 2002; Booth 1999, Beale and Johnson 1998: Johnson and Beale 1998, 2002; Beyers and Nelson 2000; Riebsame et. al. 1997; Marcouiller et. al. 2000, etc). A list of these recreations include hiking, hunting, fishing, boating, swimming, rock climbing, downhill skiing, rafting, snowboarding, snowmobiling, cross-country skiing, camping, off-roading, and etcetera. The amenity, in every case, takes the form of relatively easy access to the recreation. Other amenities oft discussed that are not specifically recreationally-based in nature but can often be found in the same geographic areas may include: solitude, scenic views, economic investment opportunities and cultural sign-value. In both regards, amenities are likely to be found near lakes, rivers, oceans, forests, mountains, parks, theme parks, and etcetera.

- 3 -

The upper-class resort industry, car rental agencies, surges in primary home building, camping expedition outfitters, vacation homes, Japanese tourists, theme parks, and the low cost motel industries (to name only a few) have all been considered types of ALD. The presence of both vacation homes and outfitters in a given area is likely unrelated except that each is drawn to the particular area by the same or similar amenities offered. Vacation homes are probably not drawn to

the presence of outfitters, or vice-versa, but if you find one you may be likely to find the other.

In this sense, each of these independent development phenomena can often conspire to form a very powerful and wide-spread industry dependent on the presence of amenities in a given area. The term “tourism” is often used as shorthand to describe this industry, but tourism can be more accurately described as just one component of ALD as a whole. For example, Hollywood, CA could be described as a “tourist Mecca,” but not likely to draw expedition outfitters or vacation homes. On the other hand, places that contain outfitters and vacation homes would be much more likely to draw tourists.

As will be discussed below, ideas about amenity-led types of development have never been statistically tested through correlating the location of the development to the location of the amenities within any great deal of geographic specificity.

- 4 -

THE FOCUS ON SECOND HOMES

This work focuses on one of the many components of ALD, that of secondary residences or second homes. Second homes sometimes called seasonal, vacation, or part-time residences. Regardless of the title, they are designated by the owner’s separate primary residence.

Within the literature and discussion on ALD, second homes are considered to largely adhere to the geographic pull towards recreational amenities that the other components of ALD display (Carroll 2002). In addition, the concentration of second homes in a particular area is often used as a barometer to measure overall levels of ALD (Beale and Johnson 1998). Second home dwellers are thought to be unconcerned with the employment, education, or economic considerations inherent in other migratory patterns (Carroll 2002). Second homes are seen to gravitate to areas due to the level of amenities offered and nothing more.

Second homes also offer a semi-permanent platform from which the given area's amenities can be consumed. Second home dwellers are not typically ephemeral tourists navigating vast swaths of area; instead, they often return several times a year to one specific place and take part in the economic infrastructures that make up that area's ALD. Second homes are expensive when compared to a motel room or rental car by any estimate.

Some ALD researchers and theorists have speculated that second homes undergo a "lifecycle" in which they become primary residences whence the owners retire, provided the original amenities remain applicable (Godbey and Bevins 1987; Francese 2001, 2003). While there seems to be plenty of anecdotal evidence that this lifecycle is indeed present, little available research seems to support this, and correlations offered later in this work using the variables available are largely inconclusive – although some correlations do seem to support a second home lifecycle. Demographers like John Carroll (2002) and Peter Francese (2001, 2003) seem to suggest further that the reason for little statistical evidence is due to the abnormally large baby boomer demographic who are presently buying second homes in masse but have largely yet to retire. The theorists seem to suggest that in the next decade or two baby boomers will retire in masse and if a lifecycle does exist, statistical research would begin to show it. Francese (2004) goes on to suggest that an additional stage of the cycle might then emerge where the secondary turned primary home is abandoned in favor of an amenity-led condominium where home upkeep is provided.

- 5 -

THE FOCUS ON WYOMING

To my knowledge, there is not a detailed statistical analysis of the geographical distribution or of either second homes or the amenities typical of ALD on the state-wide level or smaller. Wyoming is quality specimen for such an analysis for a number of reasons.

One reason is that Wyoming has experienced substantial second home development within its borders. Wyoming is far above the national average in numbers and percentages of second homes, and it ranked 2nd compared to neighboring states in both percentage of second homes in 2000 and percent growth in number of second homes from 1990-2000 (Taylor and Leskie 2002).

Wyoming is also in the center of the Rocky Mountain West region, which is considered to be one of the most recreation-orientated areas of the nation (Johnson and Beale 2002; Booth 1999). Likewise, Wyoming is extremely rural and the least populated state in the nation – both of which are demographic attributes associated with second home development (Beale and Johnson 1998).

Another reason Wyoming provides a good locale for study is that, on the other hand and despite the aforementioned attributes, there are also vast areas of Wyoming that have not experienced any type of ALD, including second home growth. These areas of Wyoming (like many rural areas of the United States) have battled the threat of community abandonment and weathered economic boom/bust cycles. Many theorists say they believe national changes in primary residences and migration patterns adhere to the attractive-amenity hypothesis as well (Booth, 1999). If true or not, a study of ALD components in Wyoming may still yield insights into community development policy.

Finally, Wyoming is blessed with a very large degree of topographical and biological diversity. Wyoming contains flat low desert, flat high desert, plains, high-altitude mountain peaks, low-altitude rolling hills, badlands, barren plateaus, and everything in between (with an exception of ocean shoreline). With these changes in topography come wide variations in weather, temperature, wildlife and vegetation. Wyoming contains dense forests and bare deserts, grassland prairie and high plains sage. All of these topographical, climatological, and biological considerations are thought to influence the geography of second homes and other types of ALD (McGranahan 1999).

PART ONE | SECTION TWO

PRINCIPAL FINDINGS

SECOND HOMES

DISTRIBUTION

Second homes are very unevenly distributed within the state of Wyoming, in both number and percentages. Furthermore, areas that had the largest numbers of second homes in 1990 saw the largest increases in the following decade.

NUMBERS AND PERCENTAGES

Down to the subcounty level within Wyoming, numbers and percentages of second homes have a positive geographic correlation to: ▪ mountains ▪ National Forests ▪ ski resorts ▪ rural areas ▪ median home value. They have no geographic correlation to: ▪ National Parks ▪ major cities. Also, numbers of second homes have no correlation to *increases* in median home value, while percentages of second homes do show such a correlation.

- 7 -

GROWTH

Down to the subcounty level within Wyoming, second home growth in number is positively geographically correlated to: ▪ mountains ▪ National Forests ▪ ski resorts ▪ primary homes. Growth in percentage of second homes is geographically correlated to: ▪ mountains (negative relationship) ▪ ski resorts (negative relationship).

PRIMARY HOMES

NUMBERS AND PERCENTAGES

Down to the subcounty level within Wyoming, numbers of primary homes have a geographic correlation to: median age (negative relationship). They have no geographic relationship to: ▪ mountains ▪ ski resorts ▪ National Forests ▪ distance to cities ▪ median home value.

Down to the subcounty level within Wyoming, growth in primary homes has a geographic correlation to: distance to cities (negative relationship) and median age (negative relationship). Growth in primary homes has no relation to: ▪ mountains ▪ National Forests ▪ ski resorts ▪ distance to National Parks.

PART ONE | SECTION THREE
REVIEW OF LITERATURE AND RESEARCH

DISCUSSION

Research on second homes specifically is somewhat unique in that it is a specialty that encompasses the work of scholars who study rural social change, community development, sociology, agricultural economics, housing market patterns, geography, tourism, and a number of other inter-related fields. Yet, in previous research and discussion there appears to have been little evidence of a direct statistical correlation between the locations of amenities and second homes. There has been research done on the locations of amenities, as well as the location of second homes, but little work on a geographical correlation between the two. This correlation seems to be, for the most part, not only taken for granted but also the premise of much of our understanding of ALD. While statistical correlations on the national scale would be difficult to find, this work will provide such for the state of Wyoming specifically.

- 8 -

Below, discussion of three important second home studies is offered as examples reflecting common usage of the attractive-amenity hypothesis in the academic press. It is not the really the intent to compare this work to theirs, although the juxtaposition does provide a sufficient and important context.

In what has become a landmark study within the field of ALD, Calvin Beale and Kenneth Johnson (1998) identified 285 counties within the United States, and seven within Wyoming, that contain “significant concentrations of recreational activities”, or about 15% of nonmetropolitan counties in the US. To be designated as having a significant concentration, a county had to score at least two-thirds of a standard deviation above the national mean in two of three categories: (1) percentage of employment in entertainment and recreation, (2) percentages of income from earnings derived from amusement, recreation, hotels and (3) other lodging places, and percentage of secondary residences.

While Beale and Johnson found that population growth in these counties consistently exceeded both metro and nonmetro national averages, they also found “significant concentrations in the Mountain West, the Upper Great Lakes, and the North East” (p41). Needless to say, they attributed these concentrations to forest and lake-related activities in the North East and Upper Great Lakes, and in the West to National Parks and related natural attractions along with the numerous ski resorts.

- 9 -

The authors briefly address the possibility that second homes and other recreation indicators (amenities) have a statistical correlation within county-specific location by noting that “the bivariate correlation between each pair of indicators is quite high suggesting significant overlap between the indicators” (p40). However, they do not further address the topic.

In their work, Beale and Johnson (1998) include a county specific-map of the United States showing which counties are recreational, which are not, and which are metropolitan. To be fair, Beale and Johnson are more concerned with patterns of migration and their effects on local governmental policy. However, there are at least two major limitations in their analysis:

One is that the recreation of each county lacks a scale. The definition of 'recreational' is largely bifurcated: either recreational or not. How recreational are they? Recreational in what ways?

Secondly, while the geography of the recreational counties is rather specific, the geography of amenities is largely lax. They assume a high number of recreational counties in the West due to mountains and ski resorts, but the West is a very large space. Are the recreational counties actually statistically correlated to the location of ski resorts and mountainous regions? Or are they randomly dispersed among the many non-mountainous areas of the west? This relationship is offered only by presumption.

JOHN CARROLL 2004

John Carroll looks at second home distribution within the entire United States. Like Beale and Johnson, Carroll finds that the vast majority of second home numbers are found in the American West, the Upper Great Lakes, the North East, the costal regions, and the nonmetro areas. As do Beale and Johnson, Carrol offers as an explanation for this disparity a correlation between these areas and "a haven away from urban centers and preferably close to a body of water, where they can live weeks or months at time" (p43). Carroll offers specific percentages of second homes in specific areas, median income of second home buyers, a gorgeous full-color county-specific national second home map (see appendix two p. 79), and other niceties. However, he offers no statistical correlations to support his assertions that buyers are "recreation minded" (p44) or that "retreats that are largely located an hour or two away from cities continue to be popular" (p44), or that buyers are "longing for the secluded towns and lonely country roads" (p45) and etc. Much of Carroll's other assertions regarding median age, income, and distribution of second homes and their owners are backed up by detailed statistics. One would assume if he had the numbers to back up the assertions of the

relationship between locations of amenities and second homes, they would be disclosed.

OPEN SPACES INSTITUTE 2002

A University of Wyoming Open Spaces Institute pamphlet (2002) discusses in detail the distribution of second homes within Wyoming. The pamphlet is admirable in that it offers detailed statistical data on the distribution of both numbers and percentages of second homes and second home growth in a number of different counties, subcounties, and communities in Wyoming. It also compares these statistics with the overall data from surrounding states, offers maps of the findings and a brief discussion of the importance of second homes in Wyoming. Their pamphlet is somewhat a model for this work. However, even though the authors predicate the distribution largely on “recreation or other occasional purposes” (p1), they do not give any indication where these purposes may be found and what geographical relationship they may have with the secondary homes in question.

- 11 -

CHAPTER ONE | SECTION FOUR NOTES ON STRUCTURE AND METHODOLOGY

NOTES ON THE GEOGRAPHIC SPECIFICITY

In terms of geographic specificity, this work uses census-defined “subcounty” designations that break Wyoming’s 23 counties into 71 total subcounties. These subcounty designations are advantageous when studying the dispersion of both second homes and amenities in Wyoming as many of Wyoming’s counties are very large and encompass a diverse area of land. As will become apparent, both second home and amenity distribution can vary greatly even within the county level.

Another advantage to using subcounties is that state-wide averages may reflect a more realistic representation of the phenomenon on the ground. Using state-wide means and medians where can become inaccurate as the 22,337 residences of Casper would likely counter act the 527 second homes located hundreds of miles away in Saratoga. Using subcounties, each specific area can reach an average on its own terms. The overall median of 71 subcounty averages can then be figured.

NOTES ON THE METHODOLOGY

In methodology, this work can easily be broken into two parts:

1) The first part (Chapter Two) is a straightforward quantitative analysis of the geography of second home distribution in Wyoming in terms of number, percentage, and change between 1990 and 2000.

2) The second part (Chapter Three) analyzes the geographic distribution of selected amenities and uses standard statistical bivariate correlation regression analysis (N = 71) to separately determine the relationship between each amenity and the geography of second home distribution (in both number and percentage). There is no attempt to run multiple correlations or combine amenities in order to compile an amenity scale. In a few cases, though, the data set is manipulated in order to select for or against certain types of cases. Particularly, areas with more than 9,000 total residences in 2000 are sometimes removed from the data set as these areas of relatively high population density are seen to occasionally have disproportionate effects on the correlations of certain variables. These seven areas are the Casper, Cheyenne, North Gillette, Laramie, Jackson Hole, North Rock Springs, and Wind River Reservation subcounties. In such cases of removal, it is always noted and also always compared to the same correlation with the seven areas included.

In every bivariate correlation, second home distribution is the dependent variable, while the particular amenity being correlated is the independent variable. The independent variables discussed are: primary homes, topographical relief, National Forest, distance to ski resort, distance to National Park or recreation area, and distance to major cities. Somewhat separately, although certainly related, are the variables of median home value and median age. While they can both be thought of as amenities (investment and retirement, respectively), they can also be used to further and more deeply analyze the geography of second homes and its effects on Wyoming.

This work uses U.S. Census data from both 1990 and 2000 to analyze the geography of both primary and second homes in Wyoming in number, percentage, and change. Census data from 1990 and 2000 is also used to determine numbers and changes in both median home value and median age. Data sets that describe the other independent variables are original constructions using a variety of sources, varying from variable to variable. The specific sources are described as each particular data set is discussed below.

- 13 -

Growth, change, increase, decrease, or similar qualifiers are often employed during discussion or general analysis of pertinent shifts in data. However, “growth” is always used in discussing correlations, as changes in data between 1990-2000 are measured in a scale that ranges from negative to positive. Therefore, “losses” are actually reflected as “negative growth”, and any correlations with losses are expressed as negative correlations with “growth”.

A NOTE ON THE MAPS

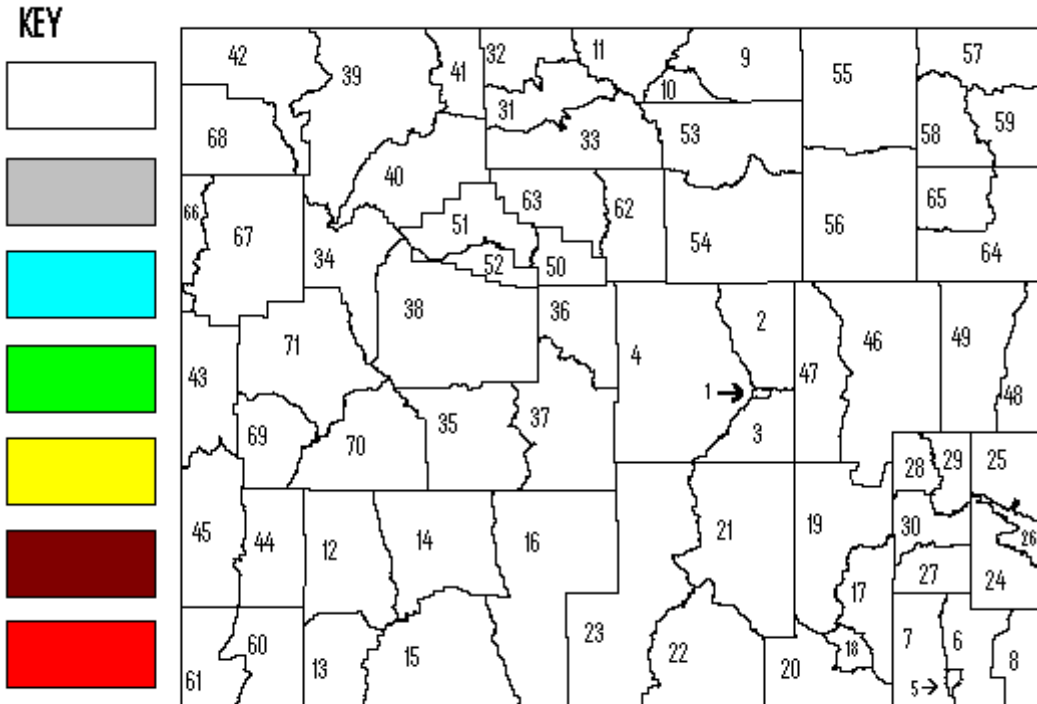
In order to easily calibrate the color coding scheme used in the maps throughout the work, an individual scale has been devised specific to the range of each variable. The scale is only used for the purpose of effective cartographical representation, and has no bearing on the statistical correlations in any way. In

many of the maps there may appear to be a technical overlap in the ranges of value each color represents, however in the actual compiling of the scales, sufficient decimal places were applied to insure no actual overlap occurred. Also, please keep in mind the color scheme can and often does change from variable to variable.

A NOTE ON THE APPENDICES

Besides data tables that comprise of almost all the data used in this work, and two maps derived from other sources, the appendices contain the complete section on median age 1990-2000. It was decided to move the section to the appendices for a number of reasons. Firstly, while the distribution and changes of median age is interesting and important, median age is not easily defined as an amenity and is thus not congruent with the other variables. Secondly, the purpose of the section is to look for data that would reflect the second home lifecycle. This data is largely inconsistent at best – and at worst, simply irrelevant.

KEY TO MAPS AND SUBCOUNTIES



MAP 1.0 | KEY TO MAPS

Natrona County

- 1 Casper
- 2 North Casper
- 3 South Casper
- 4 Hells Half Acre

Laramie County

- 5 Cheyenne
- 6 East Cheyenne
- 7 West Cheyenne
- 8 Pine Bluff

Sheridan County

- 9 Sheridan
- 10 South Sheridan
- 11 West Sheridan

Sweetwater County

- 12 N. Green River
- 13 S. Green River
- 14 N. Rock Springs
- 15 S. Rock Springs
- 16 Wamsutter

Albany County

- 17 E. Albany
- 18 Laramie
- 19 Rock River
- 20 S. Albany

Carbon County

- 21 Hanna
- 22 Rawlins
- 23 Saratoga

Goshen County

- 24 Goshen
- 25 Rawhide
- 26 Torrington

Platte County

- 27 Chugwater
- 28 Glendo
- 29 Guernsey
- 30 Wheatland

Big Horn County

- 31 Central Big Horn
- 32 North Big Horn
- 33 South Big Horn

Fremont County

- 34 Dubois
- 35 Lander
- 36 Shoshoni
- 37 Sweetwater Jct.
- 38 Wind River

Park County

- 39 Cody
- 40 Meetesee
- 41 Powell
- 42 Yellowstone NP

Lincoln County

- 43 Afton
- 44 East Kemmerer
- 45 West Kemmerer

Converse County

- 46 Douglas
- 47 Glenrock

Niobia County

- 48 East Niobia
- 49 West Niobia

Hot Springs County

- 50 E. Thermopolis
- 51 W. Thermopolis
- 52 Wind River

Johnson County

- 53 Buffalo
- 54 Kaycee

Campbell County

- 55 North Gillette
- 56 South Gillette

Crook County

- 57 Hulett
- 58 Moorcroft
- 59 Sundance

Uinta County

- 60 Bridger Valley
- 61 Evanston

Washakie County

- 62 Ten Sleep
- 63 Worland

Weston County

- 64 Newcastle
- 65 Upton

Teton County

- 66 Alta
- 67 Jackson Hole
- 68 Yellowstone NP

Sublette County

- 69 Big Piney
- 70 Boulder
- 71 Pinedale

PART TWO
THE GEOGRAPHY OF WYOMING'S SECOND HOMES

PART TWO | SECTION ONE
THE DISTRIBUTION OF NUMBER OF SECOND HOMES

NUMBERS IN 1990 AND 2000

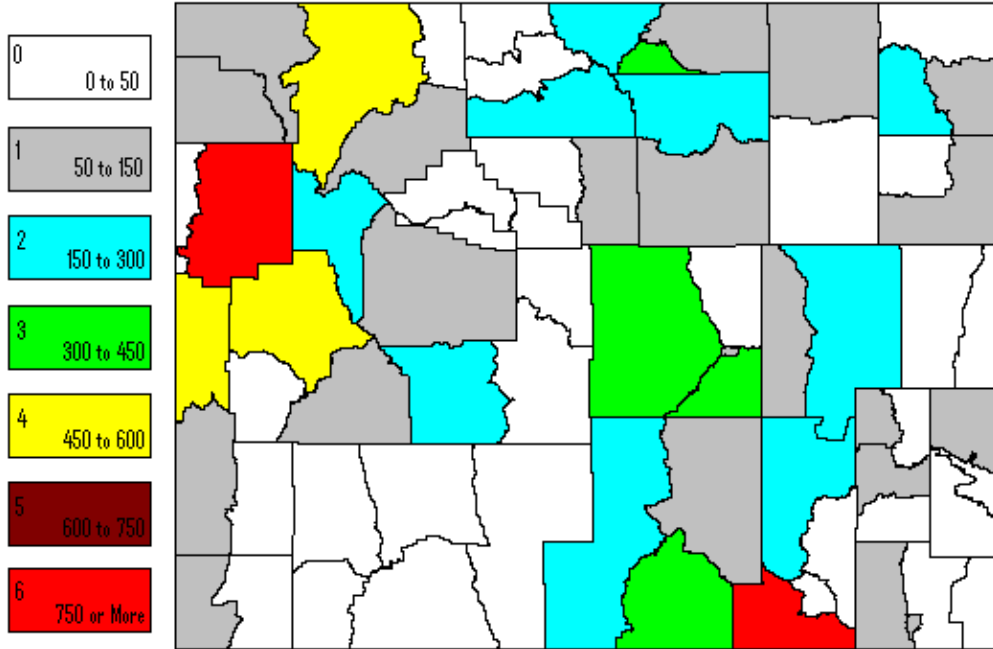
The median number of second homes in all 71 subcounties is 1,300 in 1990, and 1,605 in 2000. However, as maps 2.0 and 2.01 (below) indicate, the distribution of numbers of second homes in the state is highly disproportionate. High numbers of homes seem abound in the Yellowstone/Grand Teton and surrounding areas, along with the Bridger-Teton and Medicine Bow National Forest areas.

Meanwhile, much more of the state has few to no second homes. In addition, places with relatively high numbers of primary residences seem to repel secondary residences. For example, in the entire city of Casper in 2000, only 117 of Casper's 22,337 homes were secondary (.19%). With the exception of Jackson, all other areas with high numbers of second homes, such as the south Albany subcounty, the Pinedale area, etc, do not contain any relatively large towns or cities.

- 17 -

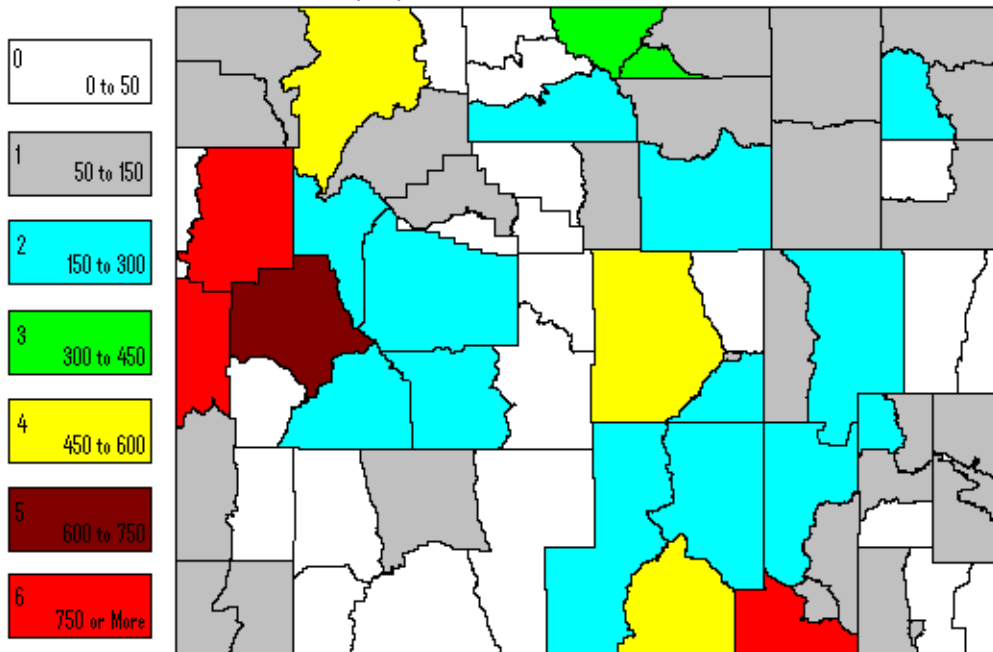
The disparity regarding the distribution of sheer numbers is striking as the distribution is extremely concentrated. Areas with the most homes second (bright and dark red) have extremely high numbers of them, and areas with the second-most numbers of second homes (yellow and green) often have less than half as many. For instance, the Jackson Hole subcounty leads the state with 1,968 secondary residences in 2000, with the next highest number being in the Afton subcounty with 799. The South Albany and Pinedale subcounties trail close behind with 780 and 721, respectively. The 5th highest subcounty, Cody, then drops to 569. The Saratoga subcounty follows closely with 527, but the number of second homes in Hanna, the next highest, drops again to 292.

Number of 2nd Homes in Wyoming in 1990



MAP: 2.0 | NUMBER OF 2ND HOMES 1990

Number of 2nd Homes in Wyoming in 2000



MAP: 2.01 | NUMBER OF 2ND HOMES 2000

It is important to keep in mind that the square mileage contained in these subcounties varies wildly. Still, many relatively small areas, such as South Albany or Afton subcounties contain vastly greater numbers of second homes than do rather huge areas of land – such as Cody, or the Wind River Reservation, for example. In addition, much of the land in both South Albany and Afton is federally owned and off-limits to development.

While it should be noted that vast swaths of land exist with very low numbers of second homes – such as all of Sweetwater County, and most of Wyoming's northeast – it may not be an accurate description of second home distribution as very few primary residences exist in many of these areas either. In some of these areas of Wyoming, infrastructure restraints limit how many homes could be realistically built in an area and still remain consistent with the greater area's average housing density.

The Hell's Half Acre area of Natrona County is interesting in that it contains a relatively high – and growing – number of second homes although it is adjacent to the state's second largest urban area and is not considerably scenic. It does however encompass a large swath of land and it is possible that many Casper residents have 2nd homes in the western part of the subcounty.

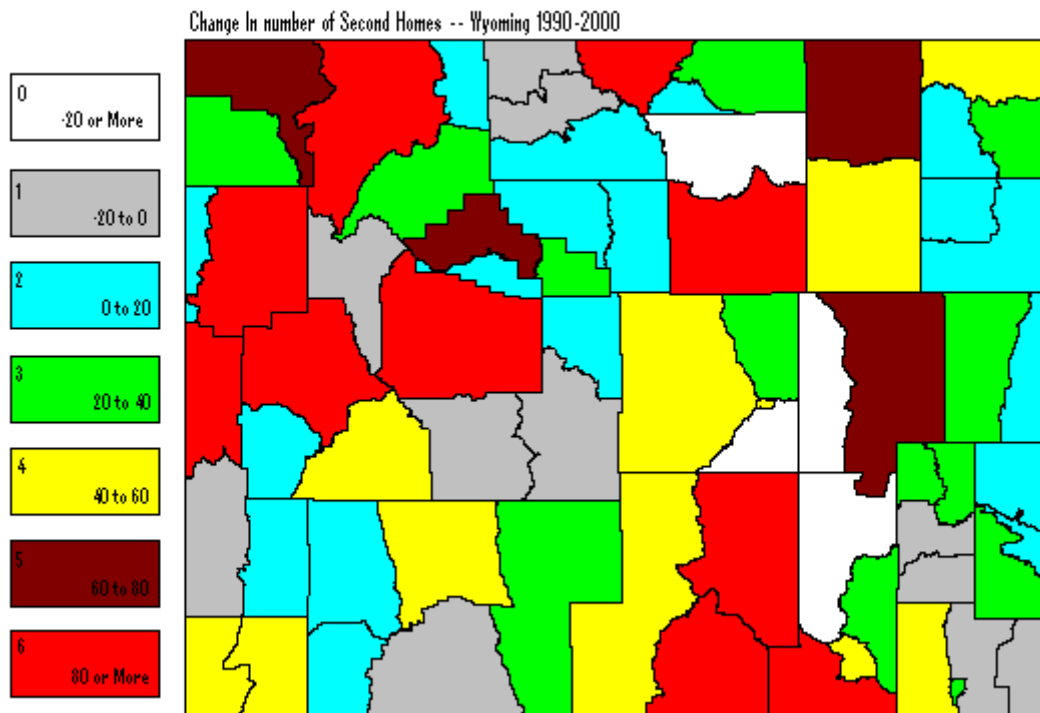
- 19 -

CHANGE IN NUMBER 1990-2000

As is apparent by comparing Map 2.01 with Map 2.00, areas that already had large numbers of second homes in 1990 added the most second homes in the next 10 years. In fact, there is a very strong positive statistical correlation between number of second homes in 1990 and growth in number of second homes 1990-2000: $r = .747$ with a statistical significance level (sig.) of $< .000$.

The median change in second homes for all 71 subcounties is a gain of 24 second homes, but many areas saw huge increases: the Jackson Hole subcounty saw an

increase of 631 second homes, Afton subcounty saw an increase of 279 homes, Saratoga subcounty gained 160 second homes. The Dubois subcounty saw a rare net loss of 10 second homes, while the surrounding areas saw gains of sometimes triple digits.



MAP: 2.02 | CHANGE IN NUMBER OF 2ND HOMES 1990-2000

- 20 -

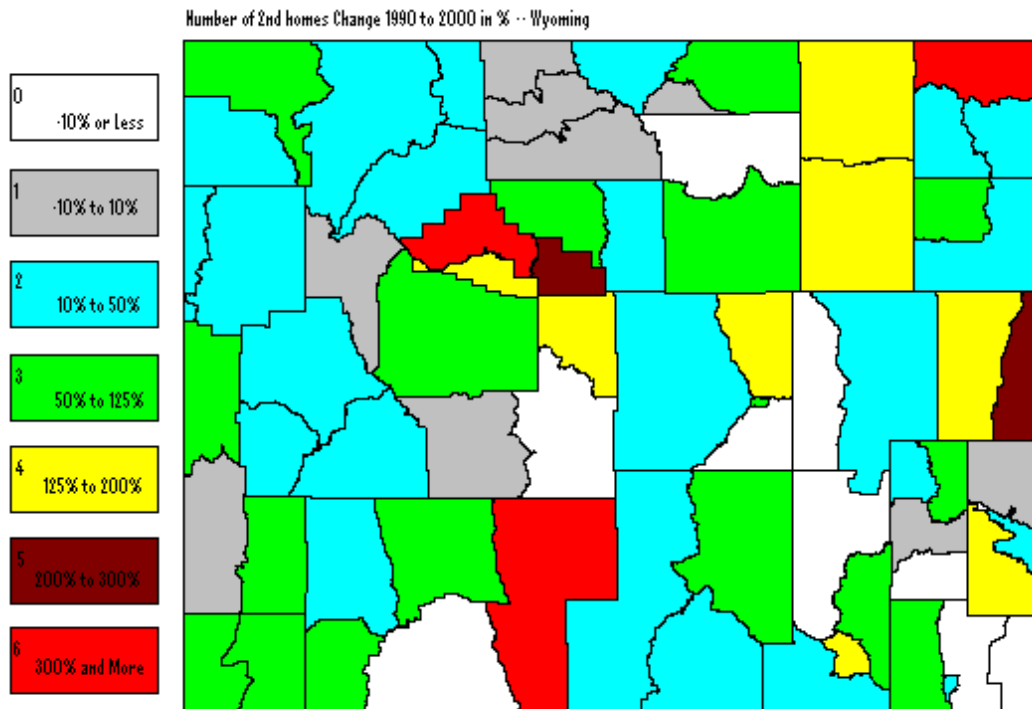
It may be advantageous to study the percent change in number (Map 2.03, bellow) as some subcounties either lack the space or infrastructure to support large numbers of second homes.

PERCENT CHANGE IN NUMBER 1990-2000

The median percentage growth in numbers of second homes for all 71 subcounties is 18.42%. As with growth in number, percent growth in number is positively correlated with the number of second homes in 1990: $r = .234$ and $\text{sig.} = .050$.

In regards to percentage growth in number of second homes, the state appears at first glance to be evenly distributed as areas with fantastic rates of second home

growth seem to be evenly dispersed with areas that saw little to no growth. This can be misleading though as some of these areas had little to no second homes in 1990 and an increase of just a few second homes by 2000 can have a very large impact on the percentage increase. For example, the entire Wamsutter subcounty had 7 second homes in 1990, and grew to 39 in 2000, which equates to more than a 457% rate of growth.

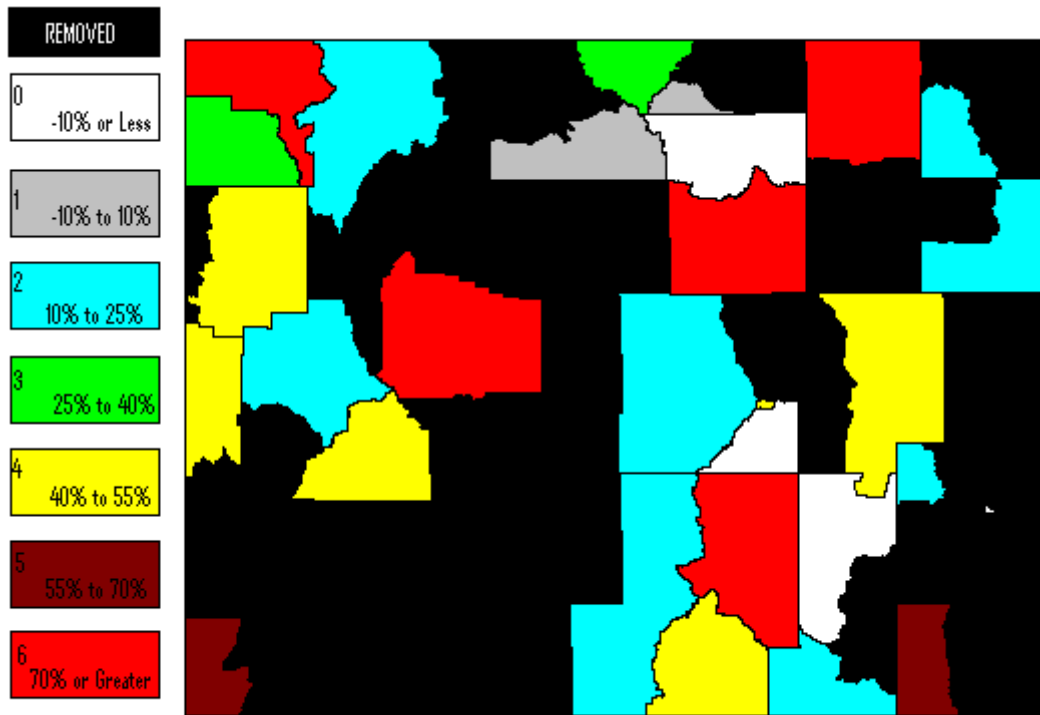


MAP 2.03 | PERCENT CHANGE IN NUMBER OF 2ND HOMES 1990-2000

By the same token, other areas of Wyoming with few to no second homes had registered substantial losses. The South Rock Springs subcounty went from 16 second homes in 1990 to 14 in 2000, a loss of over 12%. The Glenrock subcounty led the state with a 25.26% loss in numbers of second homes, going from 95 homes in 1990 to 71 in 2000. It could be possible that these losses reflect a stage in the second home lifecycle, where these homes become recorded as primary in 2000.

PERCENT CHANGE IN NUMBER OF SECONDARY RESIDENCES (SELECTED AREAS)

In the map below, all subcounties without at least 100 second homes in 2000 are removed (shaded black). The color-scheme can then be recalibrated with a much more realistic percentage scale. With these removed, relevant standouts become apparent, although the distribution of change is still rather even throughout the state. Areas of substantial negative growth (represented by white) and little to no growth (represented by grey) occur somewhat randomly in 6 areas across the state.



MAP 2.04 | PERCENT CHANGE IN NUMBER OF 2ND HOMES 1990-2000
(SELECTED AREAS)

The case of the Buffalo/South Sheridan/South Big Horn subcounty area is notable. Though the much of area is both mountainous and forested, and relatively unpopulated, growth of second homes was stagnant or negative. The Buffalo subcounty lost over 40% of its second homes from 1990-2000, falling from 244 in 1990 to 144 in 2000. Meanwhile, to the adjacent south, the Kaycee subcounty saw

a 75% increase in second homes in 1990-2000, rising from 121 second homes to 221. This is another area that suggests further analysis regarding the presence of a second home lifecycle.

The Wind River Indian Reservation saw one of the greatest increases in the state, within these selected cases, rising in number of second homes by over 80% between 1990-2000. Another large increase was in the northern portion of Yellowstone National Park, increasing in second homes from 77 in 1990 to 143 in 2000, an increase of more than 85%. The two biggest increases, however, came from the Hanna subcounty (114%, from 136 in 1990 to 292 in 2000) and, surprisingly, North Gillette subcounty (141%, from 56 in 1990 to 135 in 2000).

It is interesting to note that when cases with less than 100 second homes in 2000 are removed, the previous positive correlation between number of second homes and percent growth disappears.

- 23 -

Nevertheless, places with a lot of second homes in 1990 mostly saw stable, robust growth in terms of secondary residences. The Jackson Hole subcounty, with by far the most second homes in the state, still saw an increase of over 47%. Afton, with the second most second homes, grew by over 53%. Saratoga, with the fourth most, grew by over 43%. South Albany, with the third most number of second homes but a relatively modest 17% increase, seems to buck the trend, however, and may be said to have perhaps reached close to a saturation point, while Jackson and Afton obviously have not. Five of the 30 selected subcounties saw negative growth, with Buffalo, Rock River, and South Casper reaching negative double digits (-40.98%, -16.24%, and -25.53%) respectively.

A major factor in second home saturation may be the amount of land available versus the overall attractiveness of the area. While it would be extremely difficult (at least in this work) to measure the square mileage of available land in the subcounties, generalizations may be posited about the ratio of available lands

verses overall attractiveness. South Albany, for example, contains a very high number of second homes but is a relatively small area of land; smaller than Jackson, Afton, or Saratoga. In addition, and as is the case for the other three subcounties mentioned, much of South Albany is off-limits to second home development. Also, the Medicine Bow National Forest of South Albany (and Saratoga) has been historically less likely to allow development than has the Bridger-Teton National Forest of Afton and Jackson. In places like Jackson, high second home density might be tolerated by potential second home buyers/developers because of a very high number attractive amenities (discussed in later chapters), but South Albany may not have enough amenities to allow a high ratio of second home density.

Albeit needless to say, even with such large numbers of both primary and secondary residences, Jackson Hole and Afton subcounties have obviously not hit a saturation point in regards to attracting new second home dwellers.

- 24 -

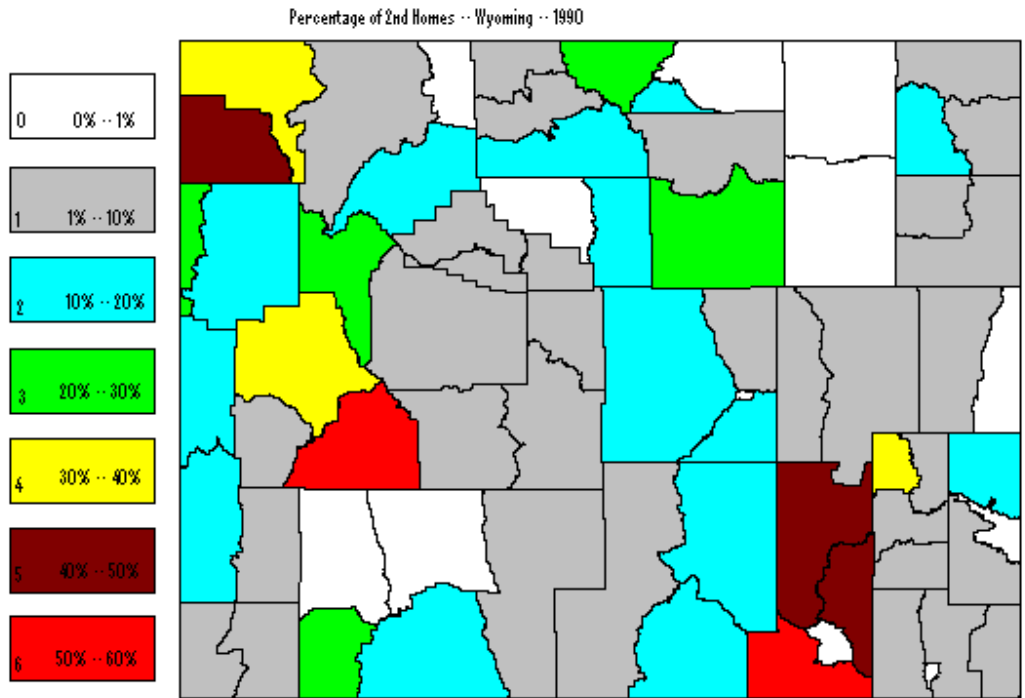
PART TWO | SECTION TWO DISTRIBUTION OF PERCENTAGE OF SECOND HOMES

PERCENTAGES IN 1990 AND 2000

The 71 subcounties as whole had a median of 4.06% second homes in 1990, and a median of 5.57% in 2000, a gain of more than 1.5%. Interestingly, if all subcounties with less than 5% second homes in 2000 are removed (a removal of the 34 lowest), the 1990 median jumps to 19.15% and the 2000 median jumps to 18.35%, or a loss of almost 1%. In other words, Wyoming's overall gain in percentage of second homes came from areas with relatively few second homes to begin with.

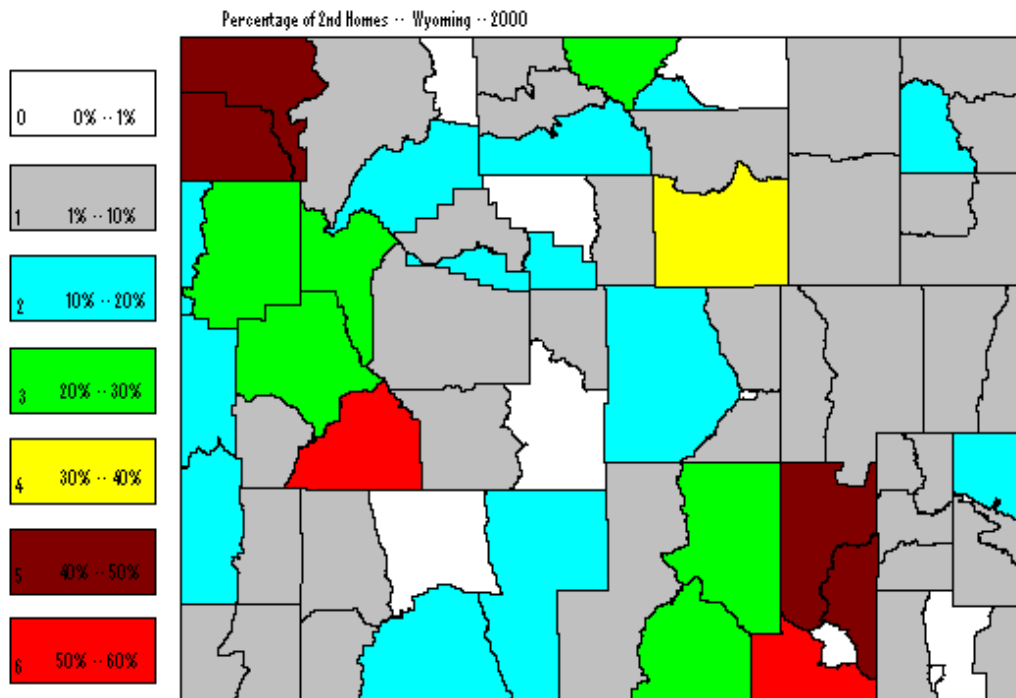
As with the numbers of both primary and secondary residences the percent of second homes is not evenly distributed across the state. The highest percentages of second homes are found in the Boulder subcounty of southwestern Sublette County and South Albany subcounty, both with over 50% of overall homes registered as secondary residences.

Similar to the dispersion of sheer numbers of second homes, the highest percents of second homes are found surrounding the Snowy Range in Southeastern Wyoming and surrounding the Yellowstone/Grand Teton area. As with the sheer numbers of second homes, there is also a notable relatively high percentage of them in the Kaycee area.



MAP: 2.05 | PERCENTAGE OF 2ND HOMES 1990

Also, as is similar to the number of second homes, areas with principal towns and cities see a much lower percentage of second homes then do rural areas – again, with the exception of Jackson and Afton. The areas of Casper, Cheyenne, Rock Springs, and Laramie have literally little to no second homes within and surrounding the city limits.



MAP 2.06 | PERCENTAGE OF 2ND HOMES 2000

Examining the percent of second homes as opposed to the sheer number of second homes offers an advantage in that it can still analyze areas that do not contain the infrastructure to hold great numbers of domiciles. However, in the state of Wyoming, there is largely no disparity between subcounties with high numbers of second homes and high percentages of second homes. Areas that are attractive to second homes have both high numbers of them and a high percentage of them. In fact, there is a positive correlation between numbers of second homes in 1990 and percentages of second homes in 1990: $r = .393$ and $\text{sig.} = .001$. Likewise there is a positive, slightly weaker correlation between numbers of second homes in 2000 and percentages of second homes in 2000^{#1.97}: $r = .339$ and $\text{sig.} = .004$.

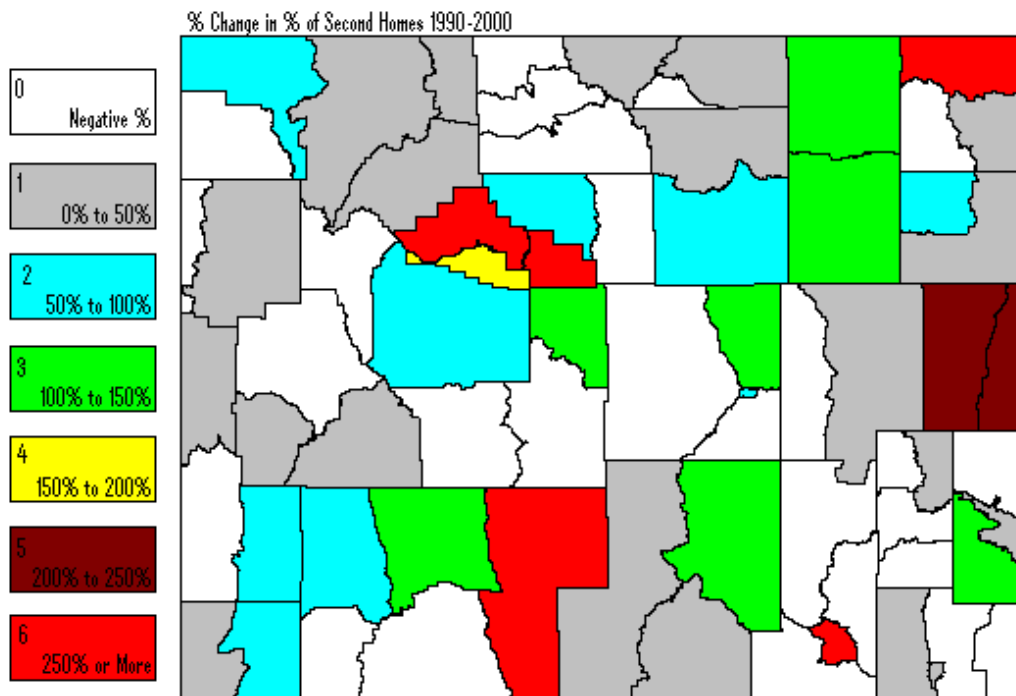
- 26 -

In addition, there is a positive correlation between growth in percent of second homes and growth in number of second homes, provided subcounties with more than 9,000 homes in 2000 are removed: $r = .248$ and $\text{sig.} = .052$. There is also a positive correlation in all cases between growth in percent of second homes and percent growth in number of second homes: $r = .248$ and $\text{sig.} = .037$. There is a

positive relationship between percent growth in percent of second homes and percent growth in number of second homes.

As is illustrated by the discrepancy in state median percentages by removing cases with fewer than 5% second homes, it appears that some areas are extremely attractive to secondary residences, and some areas simply are not. In areas where the number of homes is literally less than 50, it would only take 10 second homes to have an average of greater than 20%. Additionally, a sensible argument could be made that these areas could even be attractive to second home dwellers due to the solitude provided. Alas, we do not see this occurring.

PERCENT CHANGE IN PERCENTAGE OF SECOND HOMES 1990 TO 2000



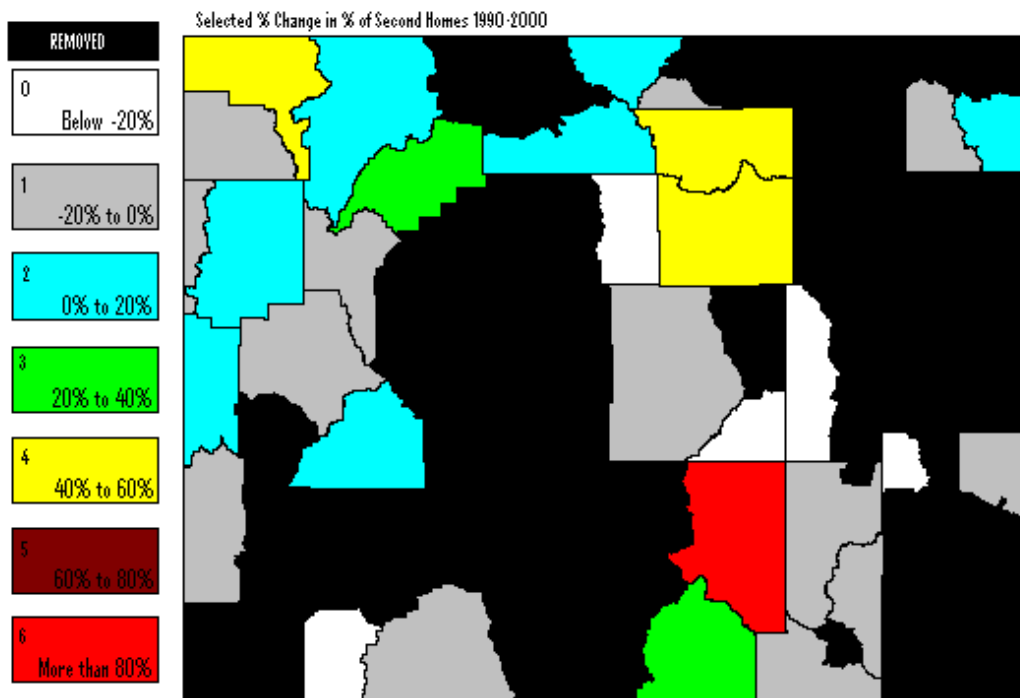
MAP 2.07 | PERCENT CHANGE IN PERCENTAGE OF 2ND HOMES 1990-2000

The median percent change in percentage of second homes 1990-2000 for all 71 subcounties is +18.42%. As with change in numbers, change in percentages of second homes occur most rapidly in areas with very little percent of second

homes to begin with. For instance, the city of Laramie went from just under three-tenths of one percent second homes to exactly one percent second homes – hardly a remarkable change, to be sure, but on paper it represents a growth of more than 257.14%.

PERCENT CHANGE IN PERCENT OF SECOND HOMES 1990-2000 (SELECTED AREAS)

To study the growth of percentage of second homes in areas where they are notable, it may be more relevant to remove all subcounties that had fewer than 5% second homes in 1990. Interestingly, the median percent change in percent of second homes of the 32 selected cases plummets to -3.307%.



MAP 2.08 | PERCENT CHANGE IN PERCENTAGE 2ND HOMES 1990-2000
(SELECTED AREAS)

Keeping in mind that White and Grey represent negative change, only a few areas with at least 5% of second homes in 1990 grew in percentage of second homes. Notable areas of growth include the Carbon County areas west of the Snowy

Range (Saratoga 36.16% and Hanna 108.52%), and the west Buffalo and Kaycee subcounties east of the Big Horn mountain range (47.61% and 56.89%, respectively), and parts of Park county (Yellowstone National Park subcounty 54.17% and Meeteetse subcounty 35.19%) These areas, with an already sizable second home percentage, grew in second homes in proportion of regular homes.

Most areas with an already large percentage of second homes decreased in that percentage between 1990 and 2000, however, with the Glendo subcounty leading the state with a -91.40% loss. This might be explained as due to a net primary home increase in these areas (discussed below) that grew faster than second homes were able to grow – most of these high percentage areas grew in numbers of both primary homes (as discussed below) as well as secondary homes (discussed above). Another explanation could include the hypothesis that those that were once secondary homes in 1990 completed a “lifecycle” and were turned into primary homes by their owners by 2000. If this were true, one would see losses in 2nd home percentages in areas where there was no substantial net gain in primary homes; however, as was previously mentioned, most of these areas of already high percentages of second homes had a net gain in numbers in both primary and secondary homes.

PART THREE
THE GEOGRAPHY OF AMENITIES

PART THREE | SECTION ONE
THE AMENITY OF SOLITUDE – GEOGRAPHY OF PRIMARY RESIDENCES

DISCUSSION

Primary homes in themselves are often considered a component of ALD, provided that the homes are indeed located near amenities. It has been well documented that rural areas have undergone a substantial net population loss throughout the past half-century or more, with the exception of the 1970's, and except largely (and almost exclusively) in areas that contain ALD (Beyers and Nelson 2000; Davidson 1991; McGranahan 1999; Johnson and Beale 2002).

Overall residences also play a large part in discussions of ALD, especially in regards to the specific component of second homes, in that most areas that experience second home abundance and growth are in nonmetro areas (Carroll 2002; Beale and Johnson 1998). In fact, it is usually theorized that rural areas provide the amenity of solitude for second home dwellers.

- 31 -

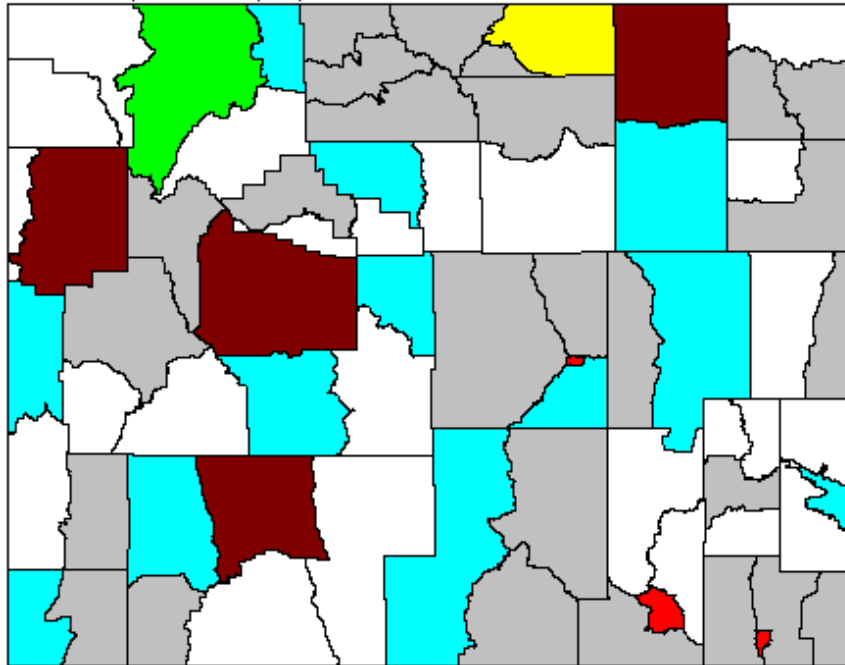
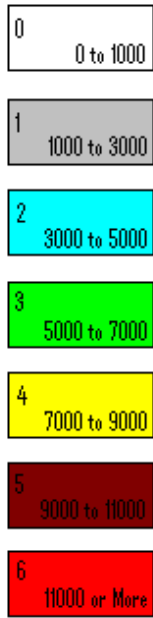
It is therefore important to study closely the geography and growth patterns of overall residences in Wyoming, as well the patterns of secondary ones.

THE GEOGRAPHY OF NUMBERS

In general, subcounties with relatively many residences – represented on the maps 3.1 and 3.2 by bright colors – are swaths of land that contain a principal town or city. Areas that do not contain a principal town or city have much fewer homes, represented by white and grey.

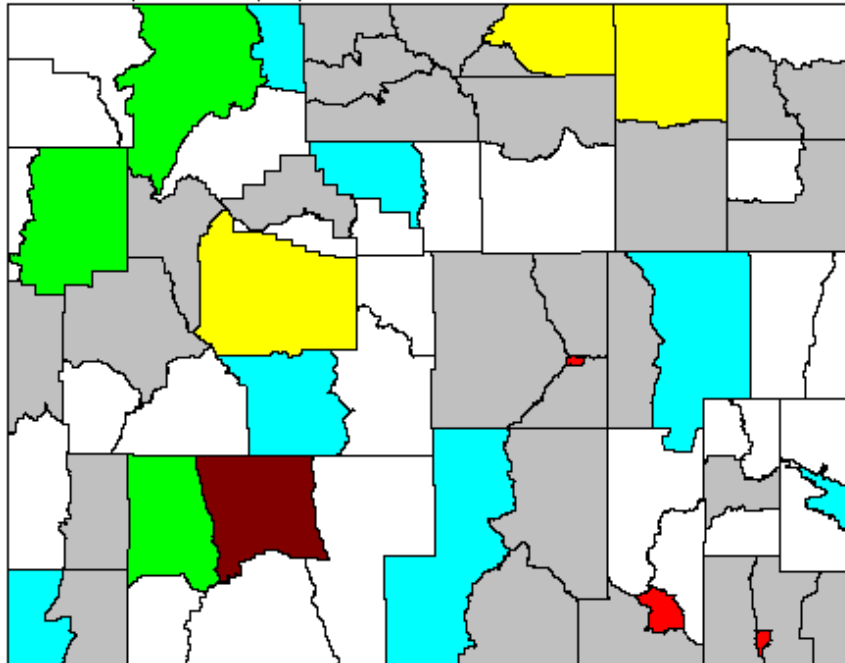
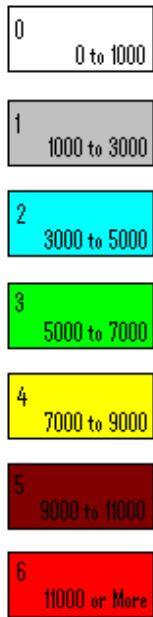
Some subcounties are notable in that they encompass very large swaths of land, such as the Wammsutter region of Sweetwater County, but still contain very few homes. The Wind River Indian Reservation appears to be relatively well populated, with just over 9,000 homes in 2000, although it should be noted that it is one of the biggest subcounties in the state of Wyoming.

Number of Primary Residences in Wyoming 2000



MAP 3.0 | NUMBER OF PRIMARY HOMES 1990

Number of Primary Residences in Wyoming 1990

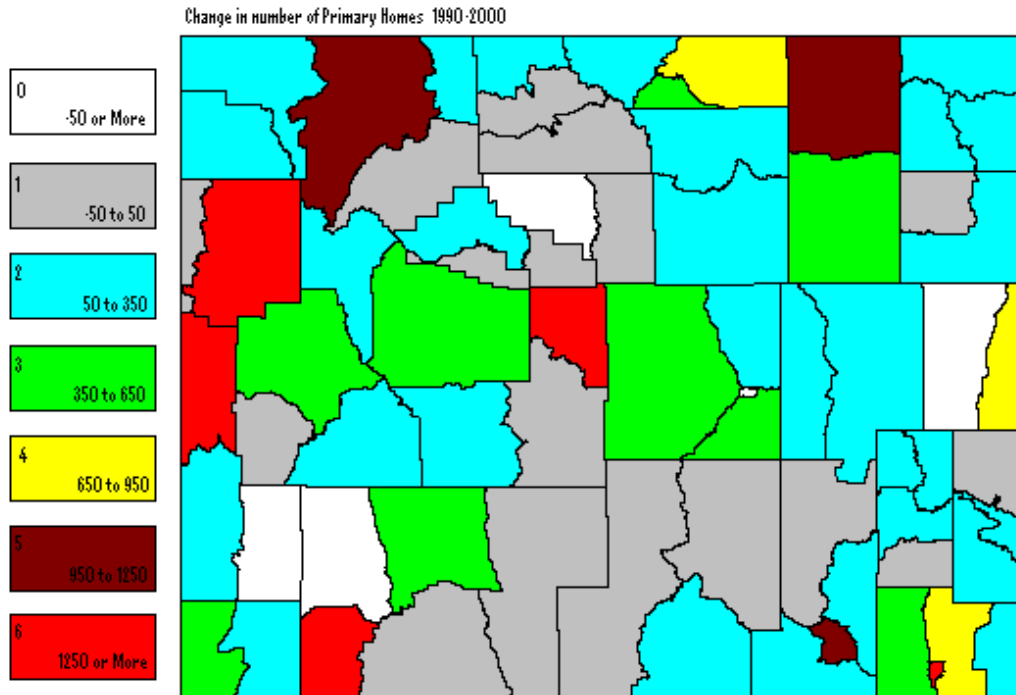


MAP 3.01 | NUMBER OF PRIMARY HOMES 2000

Perhaps contrary to popular belief, Yellowstone National Park does indeed contain about 300 homes in each of its 2 subcounties. To be sure, 600 homes is actually a far greater number than contained in other, much larger areas of the state. For example, it is nearly twice the number of homes than in all of the Wamsutter and southern Rock Springs subcounties combined.

CHANGE AND PERCENT CHANGE IN NUMBER OF OVERALL RESIDENCES |1990-2000

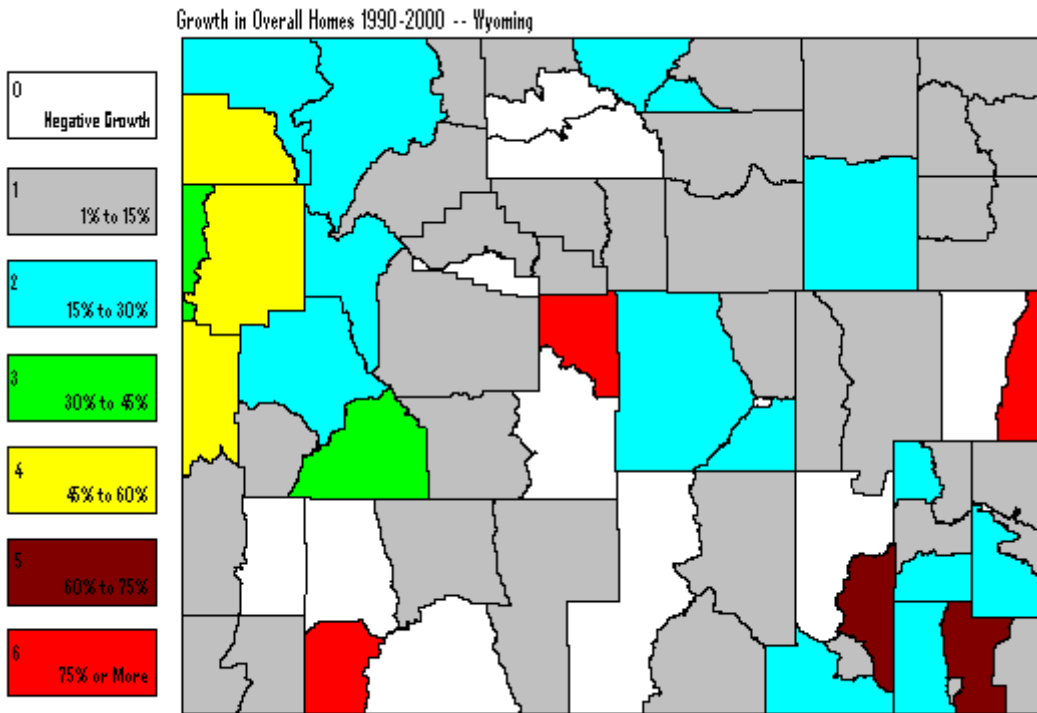
The 71 subcounties within state of Wyoming as a whole saw a median 11.7% increase in overall residences between 1990 and 2000, although the increase was not distributed evenly. The biggest increases in numbers of residences took place in the Jackson subcounty, which grew by 3,063 homes between 1990 and 2000 (a 45.47% increase), and the Shoshoni subcounty, which went from just over 400 homes in 1990 to over 3000 in 2000 (a whopping increase of over 647%). The city of Cheyenne grew from 26,467 in 1990 and 28,984 in 2000 (a 9.5% increase). Notably, South Green River subcounty grew dramatically from just 116 homes in 1990 to 1,410 in 2000 (a 1,115% increase, the state’s largest), meanwhile



MAP 3.02 | CHANGE IN NUMBER OF PRIMARY HOMES 1990-2000

North Green River subcounty shrunk dramatically from 5079 homes in 1990 to 3874 in 2000 (more than a 23% decrease, the highest in the state). In many of these areas of great percentage increase, an increase of just a few houses can make a large impact in growth percentages.

However, vast areas of Wyoming saw little to no increases in overall residences (represented on the map by much of the grey areas), with a number of subcounties experiencing negative growth (represented by white). The city of Casper (a tiny .35% decrease), the Rawlins area (a .67% decrease), southern Rocksprings subcounty (9.52% decrease), central and south Bighorn County (about a 1% decrease each) and Rock River area of northern Albany County (7.91% decrease) all experienced declines, to name a few. North Green River area of Sweetwater county, which includes the town of Green River, led the state in this area with a greater than 23% decline.



MAP 3.03 | PERCENT CHANGE IN NUMBER OF PRIMARY HOMES 1990-2000

One point of interest is the greater Jackson Hole area of the state, which seems to attract primary residents as well as secondary ones.

The places that experienced the most substantial percentage growth, represented on the map by bright red, were in relatively unpopulated areas such as South Green River, East Niobia, and Shoshoni subcounties.

Stable growth in areas with established populations, however, is largely confined to the northwest portion of the state, with the exception of suburban and exurban areas of Cheyenne and Casper. Places like Jackson, Afton, and Cody were already some of the most populated areas in the state in 1990, so increases in the ballpark of 50% for Jackson and Alta and 25% for Cody are quite impressive.

CORRELATIONS | SECOND HOME DISTRIBUTION

There are a number of strong correlations and no correlations between distribution of primary and secondary homes in Wyoming.

- 35 -

PRIMARY HOMES VS. SECONDARY HOMES

There is a positive relationship between number of overall homes in 1990 and number of second homes in 1990, provided subcounties with more than 9,000 homes are removed: $r = .221$ and $\text{sig.} = .080$. In 2000, there is a similarly positive relationship between the variables, also provided the seven subcounties with more than 9,000 homes in 2000 are removed: $r = .273$ and $\text{sig.} = .029$. Interestingly, there is no relationship between numbers of second homes and numbers of primary homes only, in either 1990 or 2000, regardless if areas with 9,000+ homes are included or removed. This means that the effect of the part-whole correlation present in using “overall homes” – which is usually slight – is enough to skew the relationship. There is likely little statistical relationship between primary and secondary homes in terms of numbers.

Areas of Wyoming that have few primary homes have few secondary homes as well, even if the percentages are high. In areas where there are more primary homes, there are relatively more secondary homes, even if the percentages are low. This relationship seems to strengthen slightly between the years of 1990 to 2000. Areas with high number of homes (9,000+) skew the data, as extremely high numbers of houses do not correspond to extremely high number of second homes.

There is a negative relationship between number of primary homes in 1990 and percentages of second homes in 1990: $r = -.326$ and $\text{sig.} = .006$. There is also a negative relationship between number of primary homes in 2000 and percentages of second homes in 2000: $r = -.323$ and $\text{sig.} = .006$. In addition, there are similar negative relationships the two variables between 1990 and 2000.

These relationships strongly collaborate previous nation-wide research and theoretical schemes that find and/or predict second home distribution tends to be repelled from cities and metro areas.

- 36 -

What is interesting, however, is that when subcounties with 9,000+ homes in 2000 are removed (a removal of seven), the negative relationships strengthen between percentages of second homes and primary homes in 1990: $r = -.416$ and $\text{sig.} = .001$ and in 2000: $r = -.417$ and $\text{sig.} = .001$. It is possible that extremely rural areas with a relatively small number of homes bring this correlation up as just a few second homes can have a powerful effect on percentages of second homes in these rural areas, and comparing this with correlations using primary homes only exacerbates this effect. Regardless, however, in exclusively rural settings (with areas containing 9,000 homes in 2000 removed) second home percentages tend to be more greatly repelled from high concentrations of primary residences than within areas that include a mixture of all types of concentrations.

There is a positive correlation between growth in number of second homes 1990-2000 and growth in primary homes 1990-2000: $r = .411$ and $\text{sig.} < .000$.

A strong positive correlation between changes in numbers collaborates theories that amenities tend to attract both secondary and primary homes. Some areas, such as the Carbon County subcounties, grew substantially in second homes but not primary homes. The Jackson Hole subcounty, the surroundings areas, and South Albany subcounty, however, all showed such growth of both kinds of homes.

There is no relationship between percent growth in number of primary homes and sheer growth or percent growth in percent of secondary homes.

NUMBER OF 2ND HOMES VS. GROWTH IN PRIMARY HOMES

Previous research and discussion on ALD suggests that areas that attract second homes are also likely to attract primary residences (McGranahan 1999). While not all areas rich in second homes attract primary homes, many contain the same types of amenities that both categories find attractive, although 2nd homes may be thought to colonize the area first. Within Wyoming, certain correlations do point to an occurrence of this trend.

There is a positive relationship between the number of second homes in 1990 and growth in number of primary homes between 1990-2000: $r = .377$ and $\text{sig.} < .001$. Interestingly, this relationship appears to be entirely hinged upon the subcounty of Jackson Hole, which held relatively vast numbers of second homes in 1990 and saw large increases in primary homes in the following ten years. When Jackson Hole is removed from the data set, the relationship evaporates: $r = .156$ and $\text{sig.} = .198$. In this regard, Jackson Hole is an incredible outlier. Strangely, however, when all subcounties with more than 9000 homes in 2000 are removed (which includes Jackson Hole) the relationship returns: $r = .238$ and $\text{sig.} = .058$.

On the other hand, there is no statistical relationship between number of second homes in 1990 and percent growth in number of primary homes, however. This lack of statistical relationship may be discounted somewhat as percent growth in over all homes can fluctuate widely. There is also no relationship between percent of second homes in 1990 and number change in primary homes.

PART THREE | SECTION TWO THE AMENITY OF INVESTMENT

DISCUSSION

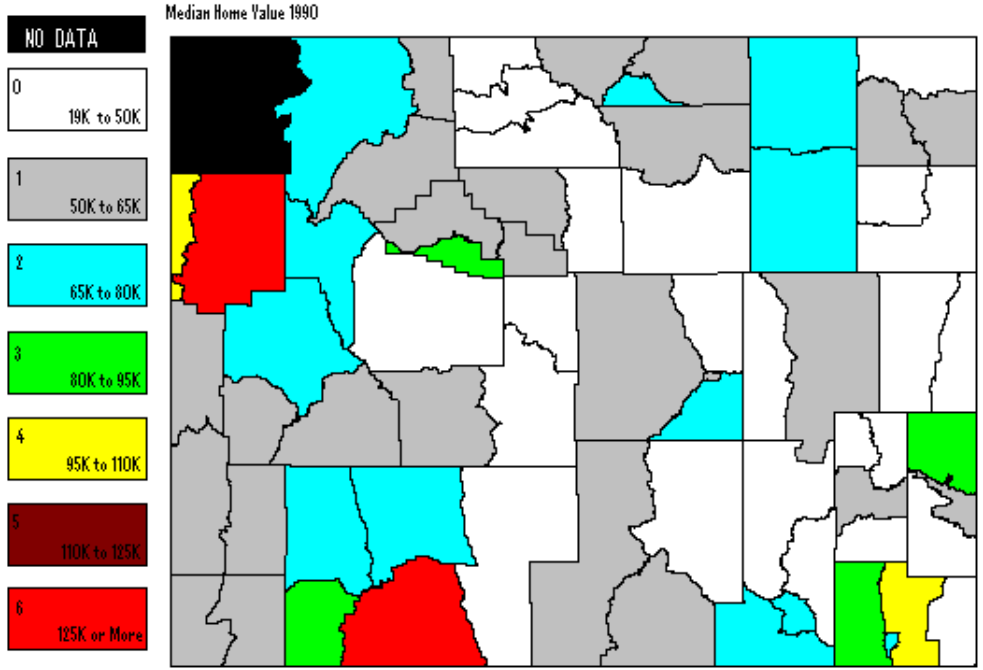
While it is impossible to differentiate median home values between primary or secondary homes, we can still correlate percentages and numbers of second homes and the median value. Do numbers or percentages of second homes predict specific overall median home value ranges or changes? Or is it specific median home ranges or changes that predict second homes? It is difficult to tell, although there are certain available correlations that may indicate one or the other.

- 38 -

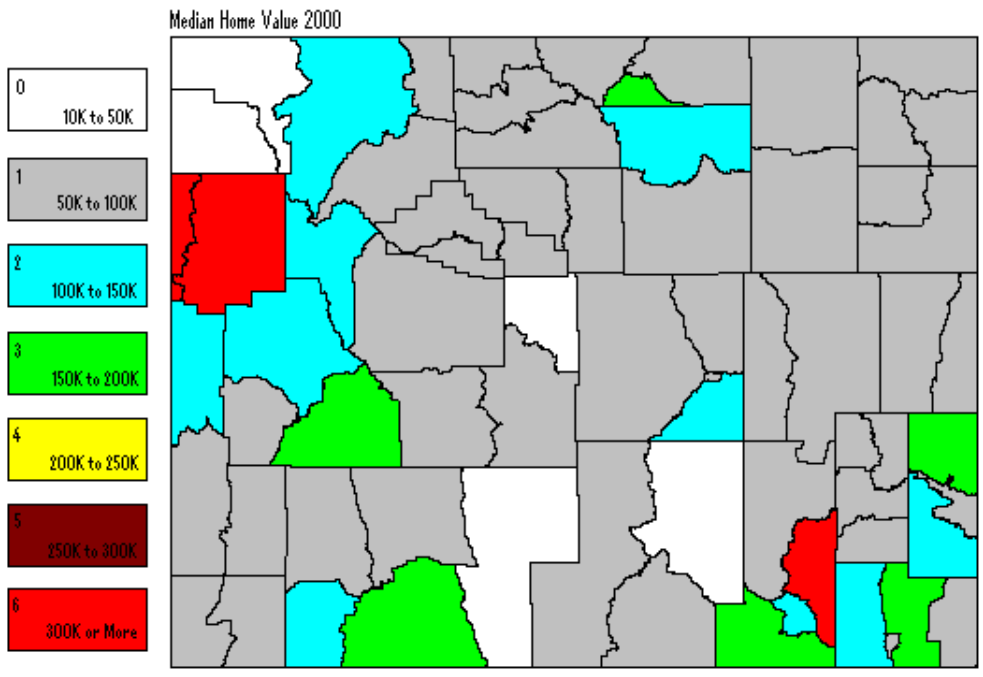
DISTRIBUTION

The average median home value of the 71 subcounties as a whole was \$55,100 in 1990 and \$87,100 in 2000, a change of \$32,000 or an increase of 58%. This may appear as a big increase, but nationwide the median home value in 1990 was \$79,100 and in 2000 it was \$119,600 – a change of \$40,500 or an increase of 51%.

However, as maps 3.04 and 3.05 (Below) indicate, distribution of median home values within the state of Wyoming was highly disproportionate in both 1990 and



MAP 3.04 | MEDIAN HOME VALUE 1990



MAP 3.05 | MEDIAN HOME VALUE 2000

2000. Please note the discrepancy in color schemes on the maps between 1990 and 2000.

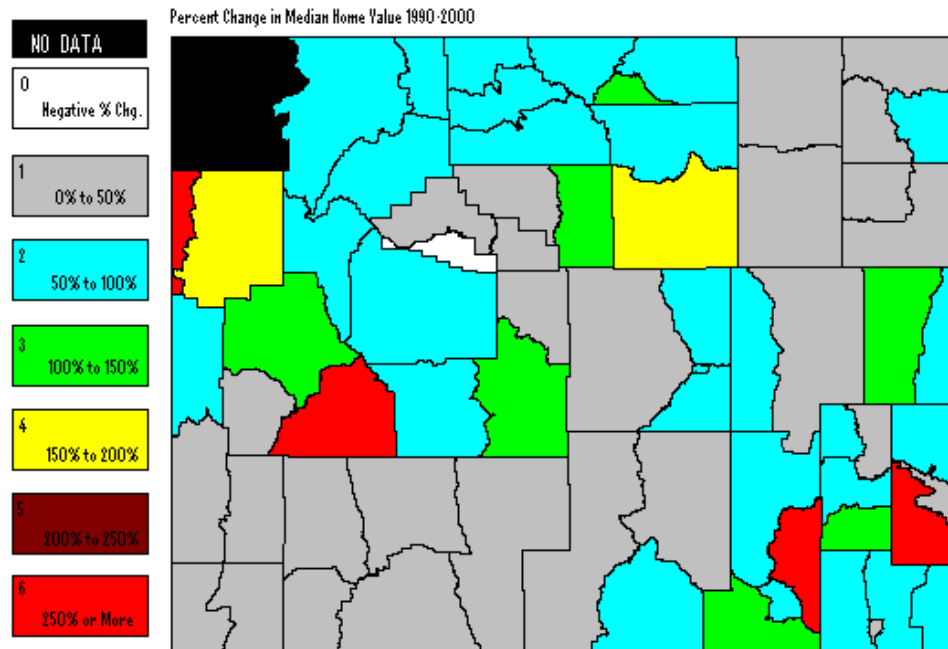
At the start of both decades, the leaders in home value were in the upper northwest of the state (i.e.: Alta: \$100,000 in 1990 and \$376,000 in 2000; Jackson Hole: \$134,300 in 1990 and \$373,400 in 2000; Dubois: \$68,600 in 1990 and \$120,500 in 2000; Pinedale: \$65,800 in 1990 and in \$133,200 in 2000; and Cody: \$71,100 in 1990 and \$115,200 in 2000 subcounties, etc), the southeastern part of the state (i.e. South Albany: \$73,600 in 1990 and \$167,100 in 2000; East Albany \$47,500 in 1990 and \$429,200 in 2000; and East Cheyenne: \$99,000 in 1990 and \$152,200 in 2000; and West Cheyenne: \$84,400 in 1990 and \$143,300 in 2000), and the southern part of Sweetwater county (i.e.: South Green River: \$81,300 in 1990 and \$119,100 in 2000, and South Rock Springs: \$137,500 in 1990 and \$165,600 in 2000). Meanwhile, the rest of the state remained largely evenly distributed in value – values that were largely far below the abovementioned areas.

- 40 -

CHANGE IN MEDIAN HOME VALUE | 1990-2000

Of the 71 subcounties in Wyoming, the median change in value between 1990 and 2000 was 59.93%. When one studies distribution of percent change in value 1990-2000, the disparity becomes striking. Very strong growth is nearly evenly bifurcated between the north by northwest areas of the state and the southwest areas of the state, with a few standouts. The biggest area of growth was by far in East Albany subcounty, which grew an incredible 803.58%, from \$47,500 in 1990 to \$429,200 in 2000. Many of the big gains were in already rich areas, such as Alta (276%, \$100,000 to \$376,000), Pinedale (102.43%, \$65,800 to \$133,200) and Jackson Hole (178%, \$134,300 to \$373,400). The Wind River portion of Hot Springs County was the only area of the state that saw a loss (a small -5.97%), while Wamsutter subcounty saw a small gain of 13%, surprisingly Hanna subcounty – which has seen substantial second home growth – saw only a 11.79% increase in value. It would appear, on the whole, that areas with second homes are

both a) much more valuable than those without second homes, and b) increasing in value faster than those without second homes. The correlations below show this to be true.



MAP 3.06 | PERCENT CHANGE IN MEDIAN HOME VALUE 1990-2000

CORRELATIONS | SECOND HOMES

NUMBER AND PERCENT OF SECOND HOMES VS. VALUE

Number of second homes in 1990 had a positive relationship with value in both 1990: $r = .366$ and $\text{sig.} = .002$; and 2000: $r = .412$ and $\text{sig.} < .000$. The relationship strengthens slightly in 2000, and this would reflect the disproportionate increase in value in areas with a lot of second homes. Interestingly, percentage of second homes in 1990 showed no relationship with value in 1990, while the same variables showed a significant positive relationship in 2000: $r = .312$ and the $\text{sig.} = .008$. This discrepancy can be explained by high percentages of second homes in relatively unpopulated and low-value areas in 1990, such as the Glendo and S. Green River subcounties. Although somewhat speculative, these relationships may suggest that increases in both percentages and numbers of second homes

occurred in areas with higher values, while a decrease in percentages of second homes in areas of value stagnation could perhaps then be reflected by this relationship.

NUMBER AND PERCENT OF SECOND HOMES VS. VALUE CHANGE 1990-2000

There is a positive relationship between percent of second homes in 1990 and change in value from 1990-2000: $r = .484$ and $\text{sig.} = .006$; and also a slightly stronger positive relationship between percent of second homes in 2000 and change in value from 1990-2000: $r = .497$ and $\text{sig.} < .000$. The increase in strength suggests that the biggest increases in value were in areas with the highest percentages of second homes in 2000. In any case, in Wyoming, the percentage of second homes in either 1990 or 2000 can predict the number increase of value between 1990-2000 in that area. In terms of investment, one could use the data to speculate that second home owners were actually attracted to the area by a relative undervalue of an area, but such a speculation would be difficult to prove. There was no relationship between percentages of second homes and percent change in value, however.

- 42 -

On the other hand, there was no relationship between numbers of second homes in either 1990 or 2000 and the change in value or percent change in value between 1990 and 2000. This may be surprising in that areas with high numbers of second homes may be thought to increase in value the most – statistically, however, this is far from true in Wyoming.

CHANGE IN NUMBER AND PERCENT OF SECOND HOMES 1990-2000 VS. VALUE CHANGE 1990-2000

Similarly, there is no relationship between change in number of second homes or percent change in number of second homes and the change in value.

CORRELATIONS | PRIMARY HOMES

NUMBER OF PRIMARY HOMES VS. VALUE

Unlike second homes, the number of primary homes in 1990 or 2000 showed no relationship with the median home value in the respective years. Even when the part-whole effect of including all residences is correlated, there is still no relationship.

NUMBER OF PRIMARY HOMES VS. VALUE CHANGE

The number of primary homes in 1990 had a negative relationship with percent change in value between 1990 and 2000: $r = -.242$ and $\text{sig.} = .058$ – only provided areas with 9,000 or more homes in 2000 were removed. This means that in nonmetro areas, the more overall or primary homes, the less growth in value.

CHANGE IN NUMBER OF PRIMARY OR OVERALL HOMES AND VALUE CHANGE 1990-2000

There was no relationship between changes in number or percent change in number of either overall homes or primary homes and the change in value in 1990-2000.

- 43 -

NOTE

Removing either the relatively low or relatively high valued subcounties from the data set did not substantially effect any of the statistical correlations.

PART THREE | SECTION THREE

THE AMENITY OF MOUNTAINS

DISCUSSION

Mountains, defined and applied here as topographical relief, provide a number of amenities, both recreationally-based and otherwise. Recreationally, relief most importantly provides the structure needed for ski resorts, but in Wyoming especially it is often the main source for forests and lakes, which in themselves

provide many recreational activities. Mountains also provide the important amenity of scenic locale, which second home dwellers are thought to equate with a “pleasant atmosphere” (McGranahan 1999). As such, and as will be demonstrated later, mountains have significant statistical relationships with other amenities.

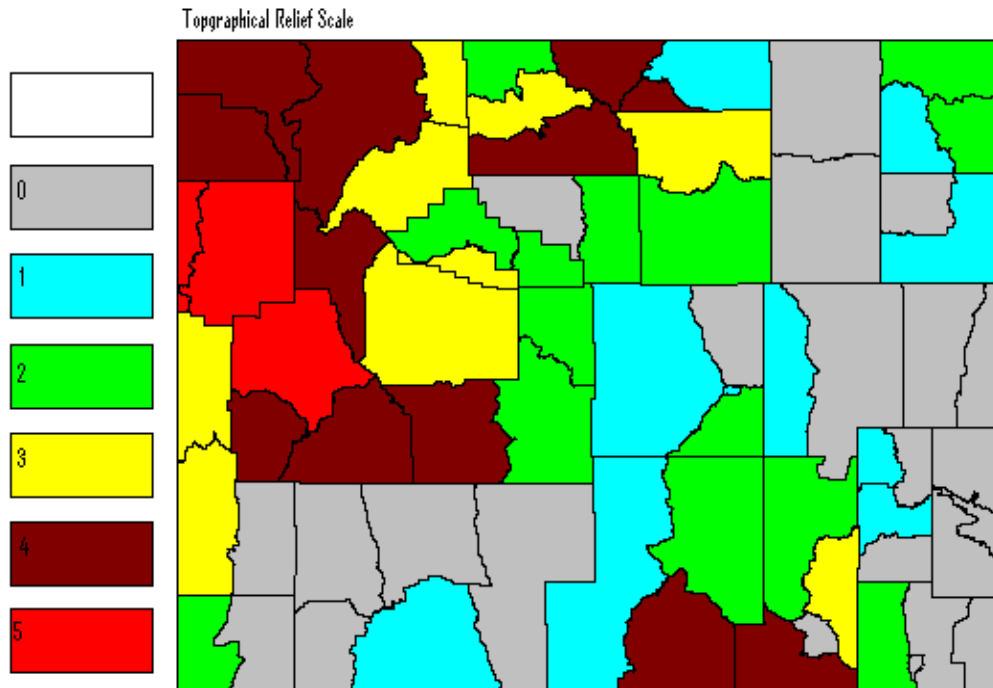
METHODOLOGY

The data set for this amenity consists of a scale representing the level of topographical relief present within or directly adjacent to each subcounty. The scale was compiled from multiple sources, including a number of topographically cartographic sources and some additional information from the United States Geological Survey, and has a range from 0 to 5. A score of 0 represents very little or no topographical relief. A score of 1 represents low to medium levels of relief in isolated areas. A score of 2 represents either isolated medium to high levels of relief or consistent medium levels of relief throughout the subcounty. A score of 3 usually represents consistently high levels of relief throughout the subcounty, or consistently medium levels adjacent to a principal mountain range. A score of 4 represents constant high levels of relief, principal mountain ranges, and/or peaks within the area. A designation of 5 represents especially dramatic relief with wide variations. The designations are somewhat difficult in that some subcounties may be relatively small, but have high relief concentrated in that small area, or vice versa.

- 44 -

DISTRIBUTION

In Wyoming, the distribution of topographical relief varies wildly. The northwest by west portions of the state contain dramatic relief while the central portions contain medium levels relief, and the rest of the state contains relative very little relief at all.



MAP 3.07 | TOPOGRAPHICAL RELIEF

CORRELATIONS | SECOND HOMES

NUMBERS AND PERCENTS OF SECOND HOMES VS. MOUNTAINS

There is a strong positive relationship between number of second homes and topographical relief in 1990: $r = .511$ and $\text{sig.} < .000$; there is a slightly weaker positive relationship in 2000: $.476$ and $\text{sig.} < .000$. There is also a strong positive relationship between percentage of second homes and topographical relief in 1990: $r = .528$ and $\text{sig.} < .000$; there is a slightly stronger positive relationship between the variables in 2000: $.565$ and $\text{sig.} < .000$. This would suggest growths in percentages of second homes took place near mountainous regions – but below, this proves false.

CHANGE IN NUMBERS AND PERCENTS OF SECOND HOMES VS MOUNTAINS

There is a positive relationship between change in numbers of second homes 1990-2000 and topographical relief: $r = .308$ and $\text{sig.} = .009$. Likewise, there is a weaker positive relationship between percent change in numbers of second homes 1990-2000 and topographical relief: $r = .237$ and $\text{sig.} = .047$.

There is a negative statistical relationship, however, between percent change in percent of second homes and topographical relief: $r = .264$ and $\text{sig.} = .026$. This is due to the large percentage increases in areas with small initial numbers of second homes, mainly found in areas with little topographic relief. In regards to sheer changes in percentages of second homes and topographical relief, there is no relationship.

CORRELATIONS | PRIMARY HOMES

NUMBERS OF PRIMARY HOMES VS. MOUNTAINS

There is a weak, positive statistical relationship between number of primary homes in 1990 and topographical relief: $r = .214$ and $\text{sig.} = .074$. In 2000, there is no relationship. One may suspect this is due to the large cities in areas with little to no topographical relief. Interestingly, however, if subcounties with more than 9,000 homes in 2000 are removed, the correlation weakens even further. It appears that primary homes dwellers are not statistically attracted to topographical relief in Wyoming.

- 46 -

CHANGES IN PRIMARY HOMES VS. MOUNTAINS.

There is no relationship between changes in number or percent of changes in number in primary or overall homes between 1990-2000 and topographical relief. The non-relationship does not change if subcounties with more than 9000 homes in 2000 are removed. If percent change in number of primary home outliers – such as S. Green River which grew at a rate of almost 1500%, are removed – the relationship still remains highly statistically irrelevant. This directly contradicts literature and research done nationally (and especially in the west) that theorizes in-migration patterns are correlated directly to amenities such as topographical relief, while out-migrations are correlated directly to areas without topographical relief.

VALUE AND VALUE CHANGE VS. MOUNTAINS

There is no relationship between median home value in 1990 and topographical relief. However, there is a strong relationship between median home value in 2000 and topographic relief: $r = .350$ and $\text{sig.} = .003$. This would suggest a change in median home values between 1990 and 2000 that is directly correlated with topographical relief. Indeed, this correlation between change in value 1990-2000 and topography does exist: $r = .264$ and $\text{sig.} = .028$.

PART THREE | SECTION FOUR

THE AMENITY OF NATIONAL FORESTS

DISCUSSION

Forests offer a number of recreational opportunities, especially those related to hunting, hiking, camping, backpacking, snowmobiling, horse riding, off-roading, wildlife viewing, and the sort. National Forests, as compared to privately owned forests, exacerbate this effect as all of the forest is potentially accessible to the user and not just areas on or adjacent to the user's property. In Wyoming, most of the forested areas (as will be shown below) are highly correlated with topographical relief and thus correlated with a number of other amenities. In existing literature, the "north woods" of the Upper Great Lakes region and the American Northeast are thought to be a particular draw to second homes and ALD generally.

- 47 -

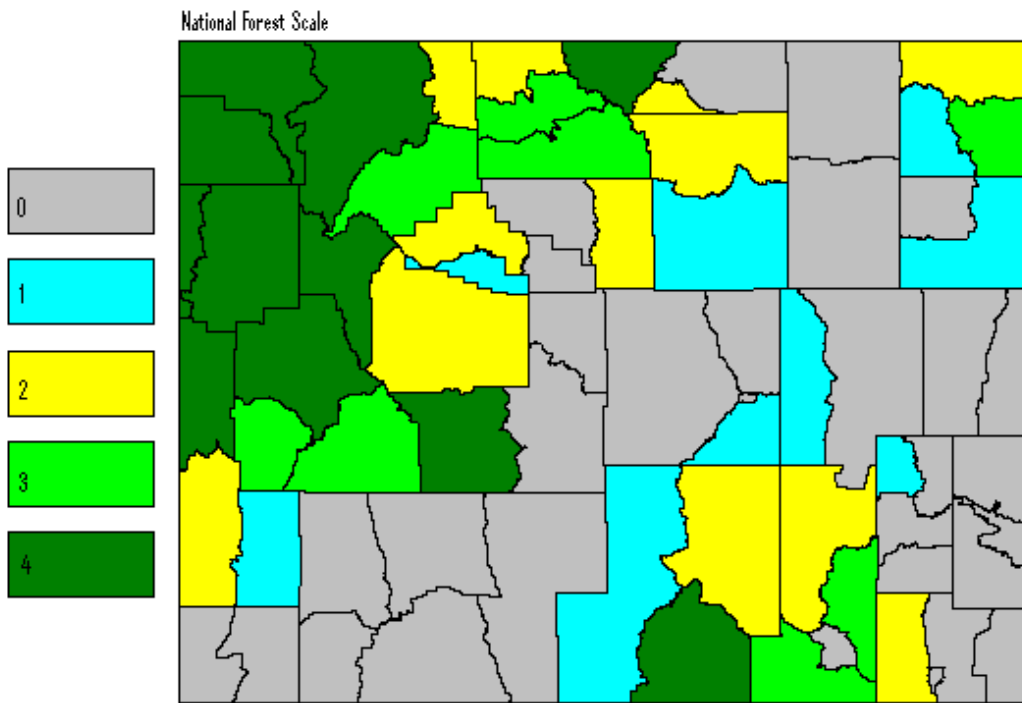
METHODOLOGY

Like the topographical relief, a scale was created that represents how much of a given subcounty contains or is adjacent to National Forest lands. The scale ranges from zero to four, and was compiled using various cartographical sources. A score of zero represents no National Forests. A score of one represents that roughly

20% of the subcounty or less contains National Forests. A score of two represents roughly 20.1%-40%, a score of three represents 40.1%-60%, and a score of four represents 60.1% or more. National Forest land that is directly adjacent to a given subcounty is also taken into consideration.

DISTRIBUTION

Mirroring much of distribution of the topographical relief, Wyoming's National Forests are primarily found radiating outward from the northwest corner, with additional forests in the south by southwest portion of the state, and a small area in the north east portion.



MAP 3.09 | NATIONAL FOREST

CORRELATIONS | SECOND HOMES

NUMBER AND PERCENTAGES OF SECOND HOMES VS NATIONAL FOREST

There is a positive relationship between number of second homes in 1990 and National Forests: $r = .433$ and $\text{sig.} < .000$; likewise in 2000, there was a similar but slightly weaker positive relationship: $r = .421$ and $\text{sig.} < .000$. There is a positive relationship between percent of second homes in 1990 and National Forests: $r = .531$ and $\text{sig.} < .000$; likewise in 2000, there was a similar but slightly stronger positive relationship: $r = .568$ and $\text{sig.} < .000$. This discrepancy in the above correlations between percents and numbers, and 1990 and 2000, is largely identical to number and percentages of second homes vs. topographical relief.

CHANGES IN NUMBER AND PERCENTAGES OF SECOND HOMES VS. NATIONAL FOREST.

There is a positive correlation between change in number of second homes 1990-2000 and National Forest: $r = .316$ and $\text{sig.} < .000$. There is no relationship between percentage change in number of second homes and National Forests, however. There is a negative relationship between change in percent change in percent of second homes 1990-2000 and National Forest $r = -.239$ $\text{sig.} = .045$. There is no relationship between sheer change in percentage of second homes and National Forests. These relationships mimic the relationships between second homes and topographical relief, with the exception in lack of correlation with percent change in number of second homes.

- 49 -

CORRELATIONS | PRIMARY AND OVERALL HOMES

NUMBER OF PRIMARY HOMES VS. NATIONAL FORESTS

There is a positive correlation between number of primary homes in 1990 and National Forest: $r = .235$ and $\text{sig.} < .000$; in 2000, there was a slightly weaker relationship between number of primary homes in 1990 and National Forest: $r = .227$ and $\text{sig.} = .057$. When compared to mountainous regions, it appears that primary home dwellers are statistically more attracted to forested regions than

mountainous ones, although that relationship appears to have weakened during the 1990's.

CHANGE IN PRIMARY HOMES VS. NATIONAL FORESTS

There is no correlation between any type of change in primary homes and National Forests. Removing areas with more than 9,000 homes in 2000 does not change this relationship. This is similar to the correlations between primary homes and mountains.

CORRELATIONS | VALUE

VALUE AND CHANGE IN VALUE 1990-2000 VS. NATIONAL FOREST

Much like the mountainous regions, there is no relationship between median home value in 1990 and National Forest, but there is a positive relationship between median home value 2000 and National Forest: $r = .304$ and $\text{sig.} = .010$. As with the mountainous regions, this suggests that there is a statistically significant relationship between change in median home value 1990-2000 and National Forest – and indeed, this turns out to be true: $r = .276$ and $\text{sig.} = .001$.

- 50 -

CORRELATIONS | MOUNTAINS

As expected, there is a very strong positive correlation between mountainous areas and National Forests: $r = .876$ and $\text{sig.} < .000$.

PART THREE | SECTION FIVE
THE AMENITY OF SKI RESORTS

DISCUSSION

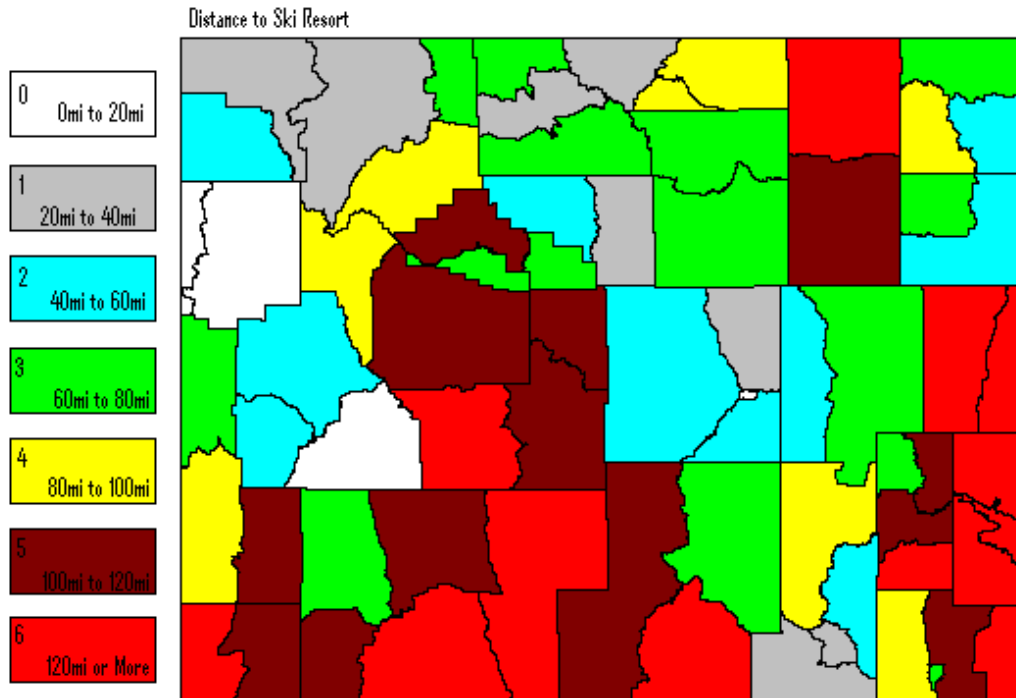
Ski resorts are often considered a prime component of ALD and even the main reason for ALD in a given area. In special regard to the west, ski resorts are thought of as one of the main recreationally-based attractions

METHODOLOGY

The amenity of ski resorts is represented by how close a subcounty is from the nearest ski resort. This was done by finding the approximate center of the subcounty and the address of the nearest ski resort, and entering the coordinates into the driving directions service provided by yahoo.com. It is true that the yahoo.com service is not always the most accurate or that it considers the absolute fastest routes and shortcuts available. However, it is also true that when yahoo.com is inaccurate, it seems to equally as often understate the mileage as it does overstate it, and in general seems to be inaccurate in a completely random fashion. Secondly, the service is apparently very popular, and probably, for good or for ill, accurately represents the actual driving patterns and styles of the average American better than any other service.

- 51 -

Another concern of this method is that not all ski resorts are created equally, and some have much more visitors per year than others. Usage patterns and figures of the different ski resorts were not considered in this work.



MAP 3.10 | DISTANCE TO SKI RESORT

If one considers all of Wyoming’s 7 ski resorts to be equal, then they appear rather evenly distributed across the state, although area in the southwest and far eastern parts of the state lack a convenient way to the slopes.

CORRELATIONS | SECOND HOMES

NUMBERS AND PERCENTAGES OF SECOND HOMES VS. SKI RESORTS.

There is a negative correlation between number of second homes in 1990 and distance to a ski resort: $r = -.408$ and $\text{sig.} < .000$; and there is a slightly weaker negative correlation between number of second homes in 2000 and distance to a ski resort: $r = -.376$ and $\text{sig.} = .001$. There is a negative correlation between percentage of second homes in 1990 and distance to a ski resort: $r = -.328$ and $\text{sig.} = .005$; and there is a slightly weaker negative correlation between percentage of second homes in 2000 and distance to a ski resort in: $r = -.318$ and $\text{sig.} = .007$.

Second homes are indeed attracted to ski resorts in both number and percentage. However, the discrepancy between 1990 and 2000 in these relationships would suggest that attraction waned after 1990.

CHANGES IN NUMBERS AND PERCENTAGES OF SECOND HOMES 1990-2000 VS. SKI RESORTS

There is a negative correlation between change in number of second homes 1990-2000 and distance to ski resorts: $r = -.235$ and $\text{sig.} = .049$. However, there is a weak, positive relationship between percent change in number of second homes 1990-2000 and distance to ski resorts: $r = .201$ $\text{sig.} = .093$. This means that the highest gains in percent change in second homes came in areas that were farther from ski resorts. There is a similar weak, positive relationship between distance to ski resorts and percent change in percentage of second homes. Both of these relationships are likely due to relatively unpopulated areas where small increases in number can correspond with big percentage gains.

CORRELATIONS | PRIMARY AND OVERALL HOMES

- 53 -

NUMBERS OF PRIMARY HOMES VS. SKI RESORTS

There is no relationship between number of primary homes in 1990 or 2000 and distance to ski resorts. The location of primary homes is not statistically related to location of ski resorts in Wyoming.

CHANGES IN PRIMARY AND OVERALL HOMES VS. SKI RESORTS

There is no relationship between changes in number or percent changes in number of either primary in either 1990 or 2000 and distance to ski resorts. Changes in location of primary homes are not statistically related to location of ski resorts in Wyoming.

VALUE AND CHANGE IN VALUE 1990-2000 VS. SKI RESORTS

There is no relationship between median home value in 1990 and distance to ski resorts. However, as is the case with National Forests and Mountains, there is a negative correlation between median home value in 2000 and distance to ski resorts: $r = -.288$ and $\text{sig.} = .015$. This would predict that change in median home value would be skewed towards areas closer to ski resorts. This is true, although statistical significance is very low: $r = .202$ and $\text{sig.} = .097$. In pure dollar amounts, however, there is a positive relationship between change in value 1990-2000 and distance to ski resorts: $r = .326$ and $\text{sig.} = .006$

CORRELATIONS | MOUNTAINS AND NATIONAL FORESTS.

As expected, there is a negative correlation between Mountains and distance to ski resorts: $r = -.476$ and $\text{sig.} < .000$. There is also a negative correlation between National Forests and distance to ski resorts: $r = -.457$ and $\text{sig.} < .000$.

- 54 -

PART THREE | SECTION SIX

THE AMENITY OF NATIONAL PARKS

DISCUSSION

National Parks often contain a number of amenities, both recreationally-based and otherwise. Recreationally, the parks often provide space for a plethora of activities including camping, fishing, hiking, sightseeing, boating, and snowmobiling, only to name a few. They also provide cultural-sign value, in that many of them are well-known areas that many people are attracted to on the basis of notoriety alone. Owning a second home near the Grand Teton National Park, for instance, can offer great value in terms of social capital.

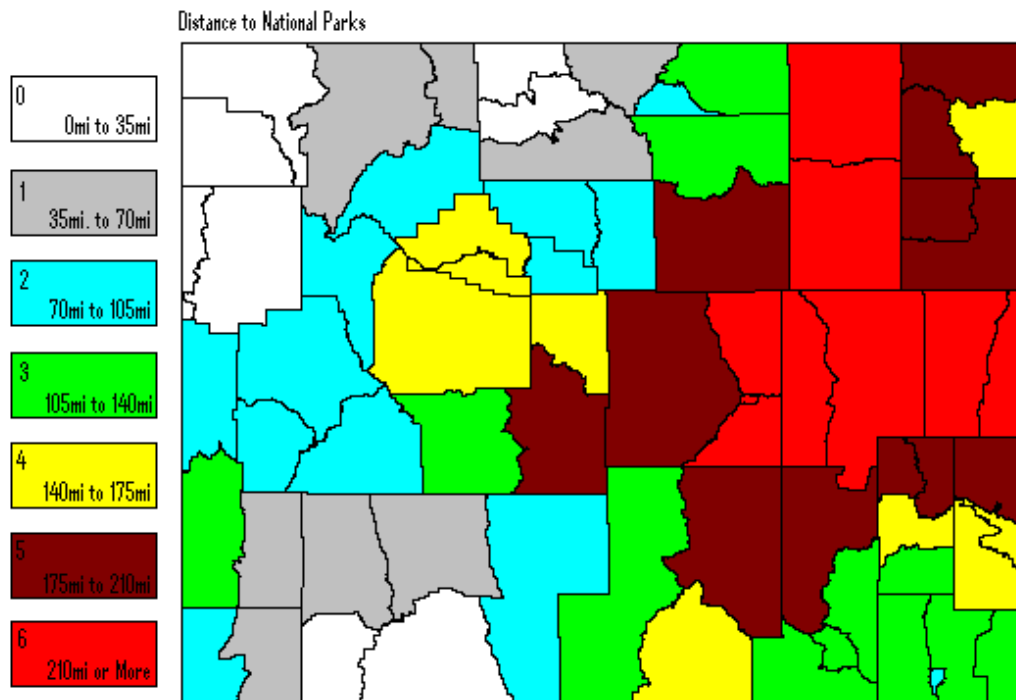
METHODOLOGY

Five National Park areas were located in and around Wyoming: Yellowstone National Park, Grand Teton National Park, Big Horn National Recreation Area, Flaming Gorge National Recreation Area, Badlands National Park in neighboring South Dakota, and Rocky Mountain National Park in neighboring Colorado.

The amenity of National Parks was measured by driving distance from the approximate center of a subcounty to the nearest National Park, using the driving directions service at yahoo.com for the exact distance. Please see the discussion of the pros and cons of using this service within the ‘methodology’ of the Ski Resort section above. It is true that not all National Parks are created equally. It would be advantageous to factor in visitation numbers and other indicators of usage and weight each park accordingly. This work does not factor in such indicators, however.

- 55 -

DISTRIBUTION



MAP 3.11 | DISTANCE TO NATIONAL PARK

Distances to National Parks in Wyoming are relatively well distributed, with the exception of the west-central portion of the state, which is consistently in excess of a 200 mile drive to the nearest park.

The Flaming Gorge National Recreation (in Southern Sweetwater county) area is unique in that it is located in a area that is not rich in abundance of second homes, while the rest of the National Parks are located in areas with a relatively large number.

CORRELATIONS | SECOND HOMES

NUMBERS AND PERCENTS OF SECOND HOMES VS. NATIONAL PARKS

There is no relationship between numbers of second homes in 1990 or 2000 and distance to National Parks. There is a negative correlation between percent of second homes in 1990 and distance to National Parks: $r = -.219$ and $\text{sig.} = .066$. There is no relationship between percent of second homes in 2000 and distance to National Parks. When subcounties with 9000 homes in 2000 are removed, the relationships weaken further. Second homes do not appear to be statistically attracted to distance to National Park. The lack of relationship would appear to contradict contemporary predications and theories regarding the nationwide distribution of second homes. The Flaming Gorge national recreation area, as mentioned above, stands out in that it is located in an area with very few numbers or percentages to second homes.

- 56 -

CHANGES IN NUMBER AND PERCENTS OF SECOND HOMES 1990-2000 VS. NATIONAL PARKS.

There is no relationship between changes (or percent changes) in numbers or percentages of second homes and distance to National Parks. Second homes do not appear to be changing in number or percentage in any way statistically associated to location of National Parks.

CORRELATIONS | PRIMARY HOMES

NUMBERS OF PRIMARY HOMES VS NATIONAL PARKS

There is no relationship between numbers of primary homes in either 1990 or 2000 and distance to National Parks. The locations of primary homes are not statistically dependent on the location of National Parks.

CHANGES IN NUMBERS OF PRIMARY HOMES 1990-2000 VS. NATIONAL PARKS

There is no relationship between changes in numbers, or percent changes in numbers, of either primary 1990-2000 and distance to National Parks. The location and distribution of primary home growth or change is not statistically related to the location of National Parks in Wyoming.

CORRELATIONS | VALUE

VALUE AND VALUE CHANGE VS. NATIONAL PARKS

There is a negative correlation between median home value in 1990 and distance to National Parks: $r = -.236$ and $\text{sig.} = .048$. There is also a slightly stronger negative relationship between median home value in 2000 and distance to National Parks: $r = -.256$ and $\text{sig.} = .032$. This slight discrepancy suggests that value had a greater increase in areas closer to National Parks than those farther away from National Parks. However, there is no relationship between percent median home value change 1990-2000 and distance to National Parks. There is, however, a slight negative correlation between sheer number change in median home value in 1990-2000 and distance to National Parks: $r = -.209$ and $\text{sig.} = .080$. This may reflect the discrepancy in correlations in value above.

- 57 -

CORRELATIONS | MOUNTAINS, NATIONAL FORESTS AND SKI RESORTS

There is a negative correlation between mountains and distance to National Parks: $r = -.437$ and $\text{sig.} < .000$. There is also a similar negative correlation between National Forests and distance to National Parks: $r = -.435$ and $\text{sig.} < .000$. There is no relationship between distance to ski resorts and distance to National Parks.

PART THREE | SECTION SEVEN
THE AMENITY OF ACCESSIBILITY

DISCUSSION

It is all but agreed upon, and as is statistically shown above, that second home dwellers prefer to avoid metropolitan and other well populated areas. But speculation abounds as to how far away from these areas that dwellers are willing to commute, as many of the second home owners find primary residence in larger cities – hence their supposed need for a second home. Some consider Wyoming blessed in that it contains no major metropolitan cities within its borders, but there are a number of such cities located nearby.

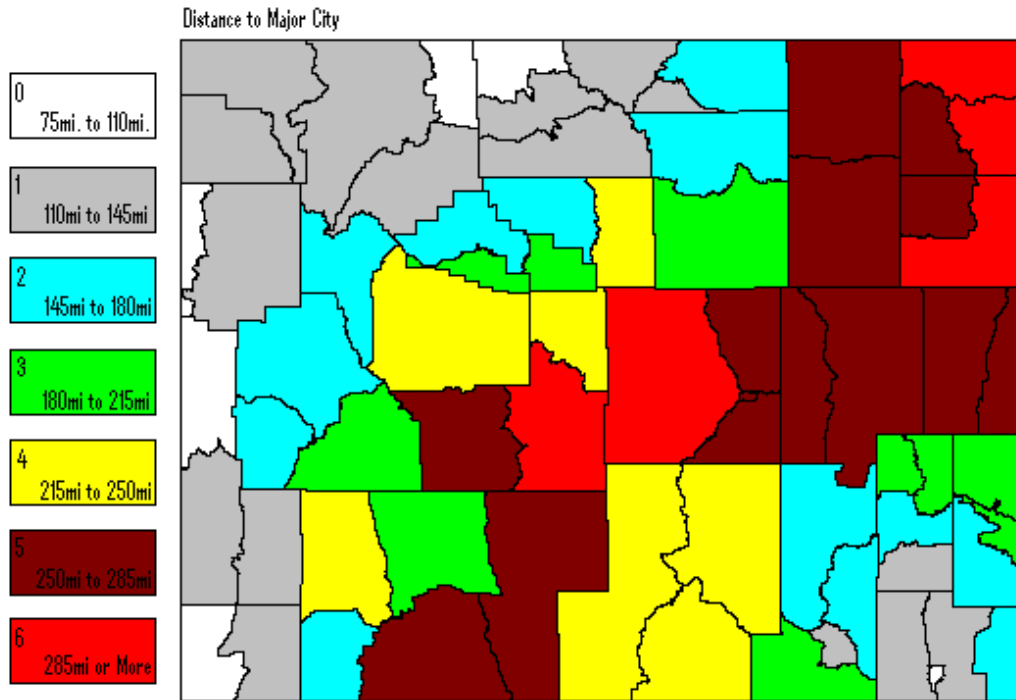
METHODOLOGY

There were four major cities designated around Wyoming, with none inside the state. They were Boise ID, Salt Lake City UT, Denver CO, and Billings MT. Driving distances to the city were calculated by the finding the approximate center of each subcounty and then using the driving directions service at yahoo.com for the exact distance to the nearest major city. Please see the discussion of the pros and cons of using this service within the ‘methodology’ of the Ski Resort section above. Differences in populations between the major cities were not considered.

- 58 -

DISTRIBUTION

The largest distances to major cities in the state appear in the central by northeast portions, while the northwestern corner and western edge of the state contain relatively short distances. There appears to be a similarity in patterns of distribution as to topographical relief.



MAP 3.12 | DISTANCE TO MAJOR CITY

- 59 -

CORRELATIONS | SECOND HOMES

NUMBER AND PERCENTAGE OF SECOND HOMES VS. MAJOR CITIES

Despite the distribution of distances on the above map, there is no relationship between numbers or percentages of second homes in either 1990 or 2000 and distance to major cities.

CHANGES IN NUMBER AND PERCENTS OF SECOND HOMES 1990-2000 VS. MAJOR CITIES

There is a positive relationship between percent change in number of second homes 1990-2000 and distance to major cities: $r = .224$ and $\text{sig.} = .061$. There is also a positive relationship between percent change in percent of second homes 1990-200 and distance to major cities, albeit weak in statistical significance ^{#9.02}: $r = .215$ and $\text{sig.} = .072$. These would suggest the greater increases in second homes are taking place away from larger cities. There is no relationship between changes in percentages of second homes 1990-2000 and distances to major cities.

CORRELATIONS | PRIMARY HOMES

NUMBERS OF PRIMARY AND VS DISTANCE TO MAJOR CITIES

There is no relationship between numbers of primary homes in either 1990 or 2000 and distance to a major city.

CHANGES IN NUMBERS OF PRIMARY HOMES VS. MAJOR CITIES

The distribution of primary homes was a weak, positive relationship between change in numbers 1990-2000 and distance to major cities: $r = .204$ and $\text{sig.} = .088$.

CORRELATIONS | VALUE

VALUE AND VALUE CHANGE VS. MAJOR CITIES

While there was no relationship between median home value in 1990 and distance to major cities, there was a negative correlation between the value in 2000 and distance to major cities: $r = -.238$ and $\text{sig.} = .046$. This would suggest that value increased disproportionately among areas with shorter distances to major cities. While percentage change in median home value 1990-2000 showed no relationship with distance to major city, the sheer number increase in median home value did have a negative correlation with distance to major city: $r = -.222$ and $\text{sig.} = .062$.

- 60 -

CORRELATIONS | MOUNTAINS, NATIONAL FORESTS AND SKI RESORTS

There is a negative correlation between mountainous regions and distance to major cities: $r = -.349$ and $\text{sig.} = .003$. Likewise there is a negative relationship between National Forests and distance to major cities: $r = -.313$ and $\text{sig.} = .008$. There is no relationship between distance to ski resorts and distance to major cities. There is, however, a strong positive correlation between distance to National Park and distance to major cities: $r = .681$ and $\text{sig.} < .000$.

PART FOUR
SUMMARY, CONCLUSION & BIBLIOGRAPHY

PART FOUR | SECTION ONE

SUMMARY

DISTRIBUTION OF SECOND HOME NUMBERS | SUMMARY

An uneven distribution of secondary residences in Wyoming corresponds with an uneven distribution of second homes on the greater nationwide or international scales. Many scholars who study rural social change, community development, housing market patterns, and related fields believe that certain areas rich in attractive “amenities” will attract the majority of second home development (Carroll 2002; Beyins and Nelson 2000; Johnson and Beale, 2002). Most ALD theorists and researchers, however, lump the entire state of Wyoming into a uniformed, “rich in attractive amenities” category that is largely predicated on Wyoming’s location within the Rocky Mountain West. However, Wyoming’s distribution is far from uniform, and thus the distribution clashes somewhat with previous analysis.

- 62 -

Places with relatively many second homes in 1990 saw mostly stable, robust growth in terms of secondary residences. The state’s 71 subcounties as a whole saw a net percentage increase in numbers of second homes. There is a very strong positive statistical correlation between number of second homes in 1990 and change in number of second homes 1990-2000. In regards to percentage change in numbers of second homes, the state saw both losses and gains evenly distributed across the states as areas with high rates of second home growth seem to be evenly dispersed with areas that saw little to no growth. However, losses tended to be mild, while gains ranged from mild to extremely high.

It is unclear where previous literature and research stands on whether areas with high numbers of second homes would continue to see robust growth or could be expected to taper off. In terms of primary homes, net in-migration, and ALD generally, however, areas with lots of amenities continue to experience gains, regardless of the population density (Booth 1999).

DISTRIBUTION OF SECOND HOME PERCENTAGE | SUMMARY

In the state of Wyoming, there is largely no disparity between subcounties with high numbers of second homes and high percentages of second homes. Areas that are attractive to second homes have both high numbers of them and a high percentage of them. In fact, there is positive, statistically significant correlations between numbers and percentages of homes in both 1990 and 2000.

As with sheer numbers of second homes, an uneven distribution of percentages of secondary residences in Wyoming corresponds with a similar uneven distribution on the greater nationwide or international scales (See Carroll's 2002 map in Appendix p.). Many scholars who study rural social change, community development, housing market patterns, and related fields believe that only certain areas rich in attractive "amenities" will attract the largest percentages of second home development (Carroll 2002; Beyers and Nelson 2000; Johnson and Beale, 2002, etc.).

- 63 -

Changes in percentages of second homes, on the other hand, were much more evenly distributed within the state. Areas with few percentages of second homes increased those percentages slightly between 1990-2000, while areas with big percentages of second homes stayed stagnant or decreased those percentages between 1990-2002.

AMENITY OF SOLITUDE | SUMMARY

While primary homes are distributed more evenly across the state than are second homes, primary homes are still highly concentrated in towns or cities, leaving many rural areas with very few or virtually no homes. As is predicted by previous research and literature, second homes in Wyoming have a negative statistical correlation with concentrations of primary homes. In the larger metro areas, such as Casper and Cheyenne, the percentages of second homes nearly plummet to

zero. Still, when these larger metro areas are removed from the data set, the negative relationship yet strengthens further, meaning that percentage-wise, second homes are attracted to the most rural of settings.

Interestingly, there is a positive relationship between number of second homes in 1990 and the following growth in primary homes for the next 10 years. This correlation is strong supporting evidence for the theory that areas that draw lots of second homes may be able to predict future increases in primary residences. As explained above, this correlation is highly dependent on the inclusion of the Jackson Hole subcounty, however, and the following correlations between other amenities and primary residences largely do support the theory that primary home growth is attracted to the same areas as second homes.

AMENITY OF INVESTMENT | SUMMARY

Median home values increased just slightly ahead of the national average, while both home values and home value increases were disproportionately distributed around Wyoming. High numbers of second homes were directly correlated to high median home values, while high percentages of second homes had no correlation. There was a direct correlation, however, between high percentages of second homes and the change in median home value between 1990 and 2000. There was no statistical relationship between numbers of second homes and change in value.

- 64 -

There were no statistical correlations between values and numbers or percentages of primary homes. However there was a strong negative correlation between number of homes and median value change, provided areas with more than 9,000 homes are removed. This means that in nonmetro areas, the more overall or primary homes, the less growth in value.

AMENITY OF MOUNTAINS | SUMMARY

Clearly supporting the vast majority of literature on second homes, topographical relief had a very strong correlation with the geographic distribution of both the number and percentage of secondary residences in Wyoming.

As one may expect, there is no statistical relationship between topography and primary homes. However, there is no relationship to growth or change in primary homes and topography either, which clearly does not support nationwide presumptions on rural migration patterns. Removing areas with more than 9,000 homes does not change this relationship.

Topographical relief was positively correlated with value in 2000 and change in value of 1990-2000, supporting the claims of housing market economists.

NATIONAL FORESTS | SUMMARY

As one may expect, there is a very strong positive correlation between forests and topographical relief, so many of the correlations between variables are similar. Second homes are strongly statistically attracted to forests, albeit in a slightly weaker relationship than that to topographical relief. As with topographical relief, all of these correlations conform to leading literature on the subject. Second home change is attracted to National Forests in numbers only however, as percent change in numbers, and changes in percentages of second homes had no statistical correlation to the location of National Forests. Median home value in 2000 and the change between 1990-2000 were also directly correlated to location of National Forests.

- 65 -

DISTANCE TO SKI RESORTS | SUMMARY

As would correspond to existing literature, there are negative statistical correlations between distance to ski resorts and number, percentage, and change

of secondary residences. It may be true, however, that these relationships are weakening slightly over time.

There was no statistical relationship between primary homes and distance to ski resorts, and as would contradict the positions of many rural demographers, there was likewise no statistical relationship between change in primary homes and distance to ski resorts.

As many housing market analysts would predict, there is a negative relationship between distance to a ski resort and change in value, both in sheer numbers and percentage increases. While there is a negative relationship between value in 2000 and distance to ski resort, there is no such statistical relationship to value in 1990.

DISTANCE TO NATIONAL PARKS | SUMMARY

Despite having strong correlations to mountains and National Forests, the lack of relationships between distance to National Parks and numbers of second homes and in 1990 or 2000, and between percentages of second homes in 2000, contradict much of the previous literature. There is a weak relationship between percentage of second homes in 1990 and distance to National Parks, which compared to 2000, would suggest there is a slight decrease in the pull of the amenity of National Parks. However, there is no statistical relationship between any changes in second homes and distance to National Parks.

- 66 -

There is no statistical relationship to numbers or changes of primary homes and distances to National Parks. Higher median home values in both 1990 and 2000 are statistically located nearer National Parks, although the change in median home value had no relationship to the distance to second homes

AMENITY OF ACCESS | SUMMARY

There is no relationship to numbers or percentages of second homes and distance to major cities, but there is a relationship between percent increases in number and greater distances away. This would suggest that no distance away from major cities is certainly considered to be too far. Likewise, the same relationships hold true for primary homes as well.

Median home value increased more in areas with shorter distances to a major city, and major cities tend to be farther away from mountainous regions and forests in the state of Wyoming.

PART FOUR | SECTION TWO CONCLUSION

The geographic distribution of Wyoming's second homes varies wildly within the state, contrary to many ALD theorists' largely blanket-type statements regarding such distribution in the west. If research done on both second homes and ALD overall is to be taken seriously and transformed into community development policy implications, more detailed and geographically-specific studies like this one will be needed. A subcounty by subcounty tally and map of second home distribution covering the entire American west would provide a important body of evidence for real policy decisions at countless county and community levels.

In terms of determining the extent of a second home life-cycle, large census-heavy studies like this one will not likely ever provide a substantial answer to the question of whether the life-cycle exits. Community-wide, door-to-door surveys will much more likely get at the root of the question. Questions that directly ask if a primary home was once a secondary home (or vice versa) are highly more relevant than speculation regarding census data changes.

On the other hand, the geographic specificity offered here largely supports the attractive-amenity theory offered by ALD theorists thus far. Both primary homes and amenities in general are also distributed very disproportionately and are indeed largely geographically correlated with these distributions.

What is directly contradictory with the overall body of research on rural social change, rural migration, and related fields is that Wyoming's primary homes, rural primary homes, and, most importantly, change in these primary homes have no direct correlation with the distribution of amenities. It is true that Wyoming is peculiar in regards to its population patterns – with special regard to (1) Wyoming's designation as the least populated state in the nation, and (2) Wyoming's disproportionate dependence on the boom/bust-prone mineral extraction industries, which often give rise to violent changes in population size (Gruver 2003; Moen 2004). However, if a few of the outliers that reflect extraction-based population changes (such as South Green River) are removed, there still remains no relationship between change in primary homes and amenities.

- 68 -

Patterns and correlations in median home value and median age variables both correspond to and contradict postulates provided by the body of ALD literature. Much of the correlations regarding the two variables are awash in speculation and ambiguity, and with special regard to second homes, there is not the “clean” relationships or non-relationships present when correlating the other variables.

While distances to mountains, National Forests, and distances to ski resorts are all strongly correlated to second home distribution, distances to major cities and National Parks are not. While the former three relationships correspond very well with abounding literature on ALD, the latter two relationships largely contradict the literature.

PART FOUR | SECTION THREE

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APPENDIX ONE | MEDIAN AGE 1990-2000

DISCUSSION

If second homes do indeed undergo a “lifecycle” when the owners of a second home retire and thus turn the second home into a primary one, certain patterns of age-related demographics may reflect this cycle. Within census data, however, age demographics are only recorded for permanent residents of an area and the age of second home dwellers are not recorded. However, the second home dwellers in 1990 who became primary residents by 2000 would be reflected in the population change within that decade.

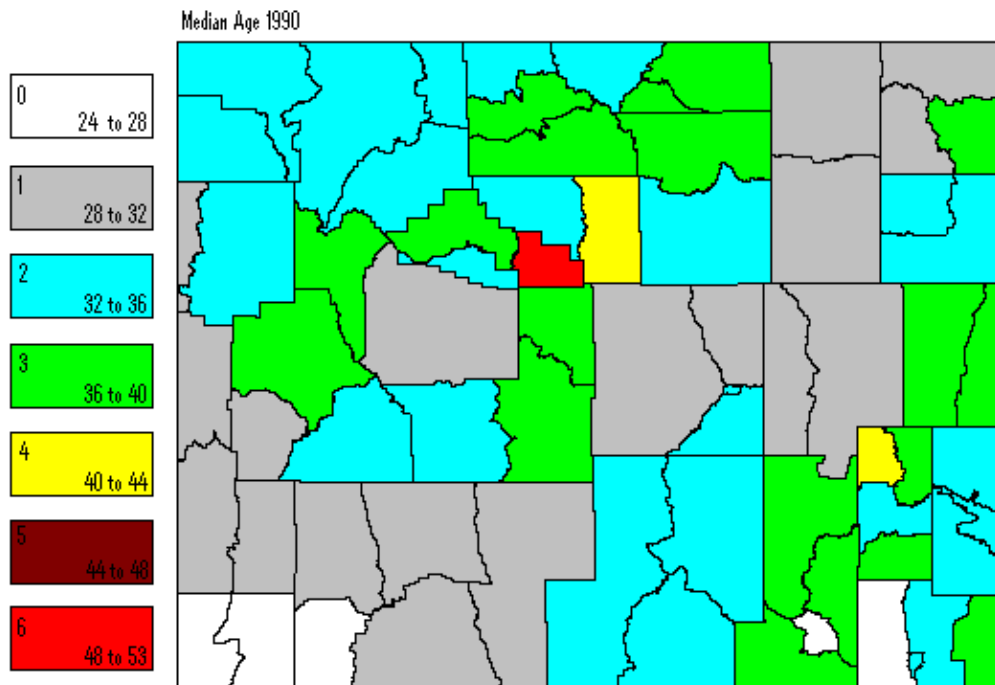
One way this lifecycle could be reflected as correlation between number or percentage of second homes in 1990 and growth in median age 1990-2000, or an abnormal increase in median age by 2000. Since second home owners are not included in the median age, it is possible that areas with high percentages of them may have a lower median age than those that do not.

- 73 -

DISTRIBUTION

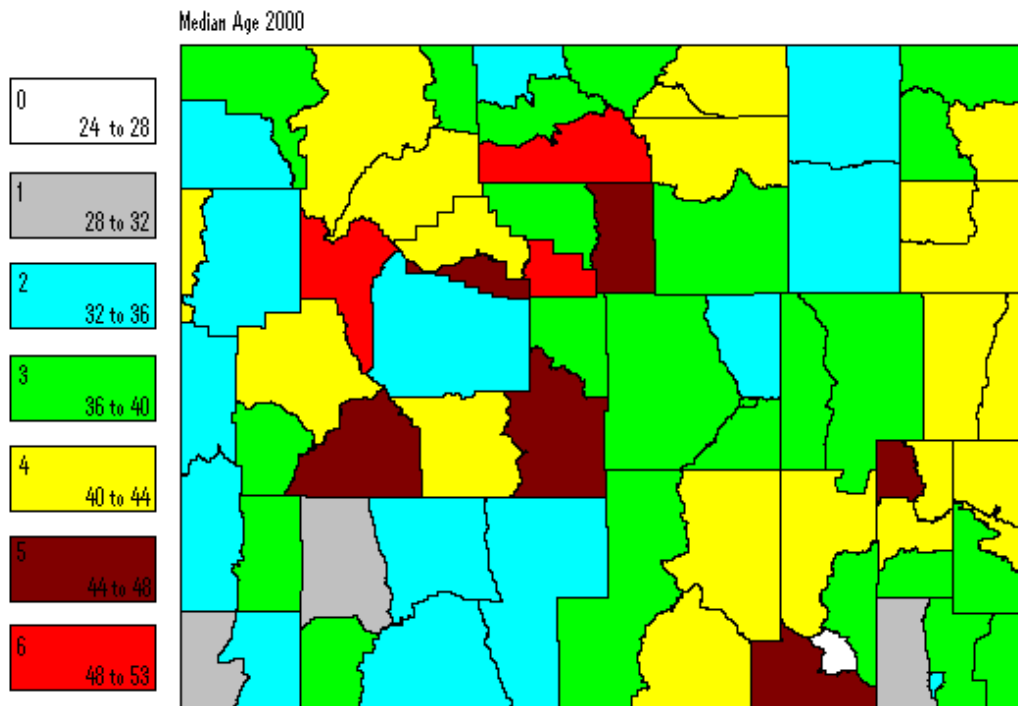
For all 71 subcounties in Wyoming, The median 1990 median age was 34.3 while the median median age in 2000 was 38.7, a change of 4.4, or 12.8%. Nationally, the median 1990 age was 32.9 while the 2000 age was 35.3, a change of 2.4, or 7.2%. Thus Wyoming is both older and has aged faster than the nation as a whole.

Although the state of Wyoming as a whole grew older, the above maps indicate that the parts of the state with either the youngest or oldest populations kept that designation between the years of 1990 and 2000. For example, much of Sweetwater county, Campbell County, Jackson Hole, Laramie subcounty, and western Cheyenne subcounties – while largely growing older – were still the



MAP 3.13 | MEDIAN AGE 1990

- 74 -

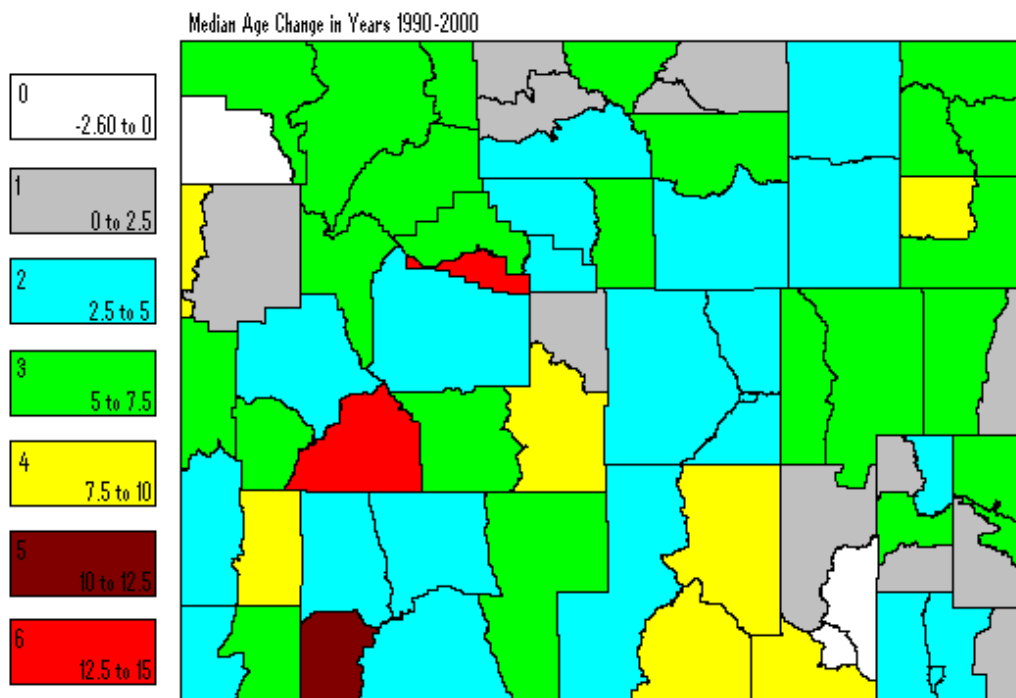


MAP 3.14 | MEDIAN AGE 2000

youngest areas in the state. To more fully understand the changes in median age, the maps below show the change in median age.

Areas that are white actually grew younger – Teton County’s Yellowstone National Park subcounty lost 2.6 years in its median age from 1990 to 2000, while the Laramie subcounty lost .2 years. While the grey areas did grow older, they did so at a rate much below the state average. Notable is The Jackson Hole Subcounty, which added 1.5 years to the median age, and Chugwater and Goshen, which both virtually did not age at all.

On the other hand, the median age of Hot Spring County’s Wind River subcounty grew by 13.2 years in the 10 years between 1990 and 2000, meanwhile Boulder grew by over 11 years. South Albany, Hanna, and Saratoga subcounties’ median ages grew by almost 10 years.



MAP 3.15 | CHANGE IN MEDIAN AGE IN YEARS 1990-2000

SECOND HOME DISTRIBUTION AND MEDIAN AGE

Median age has no statistical relationship with numbers of second homes in either 1990 or 2000. It does, however, have positive statistical relationships between percentages of second homes in both 1990 ($r = .240$ and the sig. = .044) and 2000 ($r = .240$ and the sig. = .044). It is somewhat strange that the relationships are statistically identical even though both variables – especially percentage of second homes – have a wide range of flux between 1990 and 2000 (please see corresponding scatter plots in appendix). Removing subcounties with more than 9000 homes in 2000 does not change these relationships.

There is a related positive relationship between percentage of second homes in 1990 and median age in 2000: $r = .251$ and sig. = .034. While this could point to a reflection of the area undergoing a second home lifecycle, it may also merely reflect the above correlation that areas with high percentages of second homes have a higher median age. However, there is no statistical correlation between percentages of second homes in 2000 and age in 1990. This non-relationship would tend to discount the latter reflection, while supporting the former one. When The West Thermopolis subcounty, the median age outlier, or is removed, the positive relationship between percentage of second homes in 1990 and median age in 2000 is slightly strengthened, while the vice versa is not affected.

- 76 -

SECOND HOME CHANGE VS. CHANGE IN MEDIAN AGE

There is no relationship between any type of change in second homes and any type of change in median age. Removing subcounties with more than 9000 homes in 2000 does not change this relationship, neither does removing only the Jackson Hole subcounty. Removing median age outliers, such as West Thermopolis, does not affect the relationship. There is also no relationship between median age in 1990 and change in second homes 1990-2000, or second homes in 1990 and change in median age in 1990-2000.

CORRELATIONS | PRIMARY AND OVERALL HOMES

PRIMARY HOME DISTRIBUTION VERSES MEDIAN AGE

There is a negative relationship between numbers of primary homes in 1990 and the median age in 1990: $r = -.246$ and $\text{sig.} = .038$. There is also a stronger negative relationship between numbers of primary homes in 2000 and median age in 2000: $r = -.354$ and $\text{sig.} = .002$. The relationship between overall homes and median age, which would include the part-whole correlation, decreases the negative relationship only slightly. The less number of homes in an area statistically relates to a median age decrease in that area. This may correspond with a positive relationship between percentage of second homes and median age, as second homes are correlated with rural areas.

CHANGE IN PRIMARY HOMES VERSES CHANGE IN MEDIAN AGE

There is a weak positive relationship between percent change in primary homes and percent change median age: $r = .241$ and $\text{sig.} = .043$. However, if the South Green River subcounty outlier (with an increase primary home increase of over 1500%), is removed, the relationship switches to negative and becomes more statistically significant: $r = .276$ and $\text{sig.} = .021$. If the other outlier, the Shoshoni subcounty (with an increase in primary homes by over 660%) is removed as well, the relationship remains negative but becomes stronger: $r = -.320$ and $\text{sig.} = .007$. Most likely, a greater percent growth in primary homes has a negative relationship with the growth in median age of the area. This is also strange in terms of conventional wisdom in that one may assume that changes in population size would likely change the median age. There is no relationship between change in sheer numbers of primary homes and growth in median age.

While the median age in 1990 had no effect on growth in percentage or sheer numbers of primary homes, the number of homes in 1990 had a negative relationship with the growth in median age from 1990-2000: $r = -.218$ and $\text{sig.} = .073$.

CORRELATIONS | VALUE

VALUE DISTRIBUTION VERSES AGE DISTRIBUTION

Median home value in 1990 and median age in 1990 had a negative correlation # 4.80: $r = -.263$ and $\text{sig.} = .027$. Interestingly, in 2000 there is absolutely no statistical relationship between the variables. There is no relationship between any combination of 1990 and 2000 variables.

CHANGE IN VALUE VERSES CHANGE IN AGE

There are no statistical relationships between change or percent change in median home value 1990-2000 and change or percent change in median age 1990-2000. If one or two of the value change outliers (such as Alta or South Albany subcounties) or age change outliers (such as south Green River subcounty) are removed, there is no effect on the relationship.

CORRELATIONS | AMENITIES

AGE DISTRIBUTION AND MOUNTAINS

There is a weak positive relationship between median age in 1990 and topographical relief: $r = .211$ and $\text{sig.} = .078$. The relationship grows stronger, however, in 2000: $r = .279$ and $\text{sig.} = .019$. Higher median ages were attracted to areas with more topographical relief, and the discrepancy between 1990 and 2000 suggests that the median age grew older between in that decade in areas with more topographical relief. However, there is no statistical relationship between topographical relief and either change in median age or percent change in median age. If the median age change outlier, Teton County's Yellowstone National Park subcounty with a -2.5 year change, is removed, a weak positive relationship between topographical relief and change in median age does emerge: $r = .211$ and $\text{sig.} = .080$.

AGE DISTRIBUTION AND CHANGE VERSES NATIONAL FORESTS

AS expected, the relationships to National Forests are somewhat similar to those of mountains. While there is no statistical relationship between National Forests

and median age in 1990, there is a positive relationship between National Forests and median age in 2000: $r = .248$ and $\text{sig.} = .037$. This discrepancy would suggest a greater change in median age in areas near National Forests, and a weak relationship between change in median age 1990-2000 and National Forests does exist: $r = .216$ and $\text{sig.} = .070$.

AGE DISTRIBUTION AND CHANGE VERSES OTHER AMENITIES

There is no relationship between median age distribution or change and distance to ski resorts, distance to major cities, and distance to National Parks.

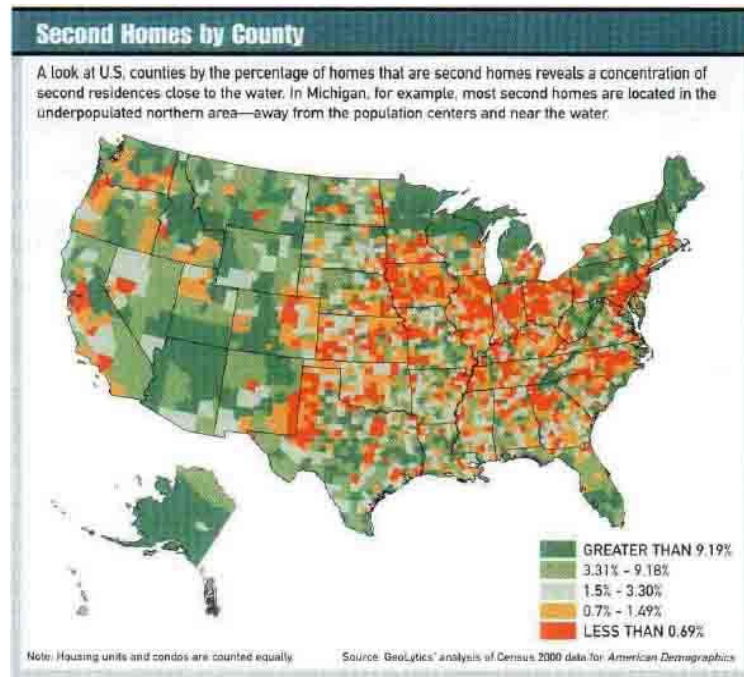
MEDIAN AGE | SUMMARY

The relationship between percentage of second homes in 1990 and median age in 2000 does perhaps suggest a second home “lifecycle”, although high percentages of second homes otherwise tend to statistically heighten the median age. However, there is no relationship between percentage of second homes in 2000, and the median age in 1990. It is possible this relationship could reflect a number of second homes becoming primary homes by 2000, whereby the owner would be presumably around the age of 65.

- 79 -

Otherwise, large amounts of primary homes tend to lower the median age and increases in primary homes has a negative relationship with growth in the median age. Median home value and median age were negatively correlated in 1990 and not correlated at all in 2000, while topographical relief was positively correlated with median age in 1990 and increased in correlation in 2000. There was no relationship between median age change and topographical relief, however. The same is true with National Forests, except there was a weak positive relationship between median age change 1990-2000 and National Forest.

APPENDIX TWO | MAPS FROM OTHER SOURCES



MAP 2.09 | JOHN CARROL'S (2002) MAP OF NATIONAL
2ND HOME DISTRIBUTION

APPENDIX THREE | DATA TABLES

TABLE 1.1 | NUMBER OF SECONDARY RESIDENCES

Place	# of 2nd Homes 1990	# of 2nd Homes 2000	Change in # 1990-2000	Percent Change 1990-2000
1 Casper	76	117	41	53.95
1 N-Casp	16	40	24	150.00
1 S-Casp	380	283	-97	-25.53
1 H.H.A	436	483	47	10.78
2 Cheyen	77	99	22	28.57
2 E-Chey	14	11	-3	-21.43
2 W-Chey	69	111	42	60.87
2 P.Bluf	19	17	-2	-10.53
3 Sherid	55	87	32	58.18
3 S-Sher	368	377	9	2.45
3 W-Sher	237	326	89	37.55
4 N-G.R	39	46	7	17.95
4 S-G.R	29	45	16	55.17
4 N-R.S	46	99	53	115.22
4 S-R.S	16	14	-2	-12.50
4 Wamsut	7	39	32	457.14
5 E-alby	47	75	28	59.57
5 Laramé	34	77	43	126.47
5 R.Rivr	197	165	-32	-16.24
5 S-alby	662	780	118	17.82
6 Hanna	136	292	156	114.71
6 Rawlin	190	231	41	21.58
6 Saratg	367	527	160	43.60
7 Goshen	23	55	32	139.13
7 Rawhid	23	25	2	8.70
7 Torrig	37	51	14	37.84
8 Chugwr	11	9	-2	-18.18
8 Glendo	140	164	24	17.14
8 Guerny	39	63	24	61.54
8 Wheatl	64	62	-2	-3.13
9 C-B.H.	41	38	-3	-7.32
9 N-B.H.	49	49	0	.00
9 S-B.H.	174	178	4	2.30
10 Dubis	280	270	-10	-3.57
10 Landr	167	165	-2	-1.20
10 Shosh	12	28	16	133.33
10 Sweet	3	1	-2	-66.67
10 W.Riv	107	193	86	80.37

11 Cody	460	569	109	23.70
11 Meets	53	78	25	47.17
11 Powel	14	19	5	35.71
11 Y.N.P	77	143	66	85.71
12 Afton	520	799	279	53.65
12 E-Kem	25	41	16	64.00
12 W-Kem	76	72	-4	-5.26
13 Dougs	174	248	74	42.53
13 Glenr	95	71	-24	-25.26
14 E-Nir	6	20	14	233.33
14 W-Nir	15	43	28	186.67
15 E-Thm	9	36	27	300.00
W-Thm	22	93	71	322.73
15 W.Riv	3	7	4	133.33
16 Buffa	244	144	-100	-40.98
16 Kayce	121	212	91	75.21
17 N-Gil	56	135	79	141.07
17 S-Gil	27	80	53	196.30
18 Hulet	13	64	51	392.31
18 Moore	169	189	20	11.83
18 Sundc	70	91	21	30.00
19 B.Val	46	96	50	108.70
19 Evans	92	146	54	58.70
20 T.Slp	67	81	14	20.90
20 Worla	15	28	13	86.67
21 Newca	94	114	20	21.28
21 Upton	14	27	13	92.86
22 Alta	29	36	7	24.14
22 J.Hol	1337	1968	631	47.20
22 Y.N.P	91	117	26	28.57
23 B.Pin	43	48	5	11.63
23 Bould	109	161	52	47.71
23 Pined	595	721	126	21.18

TABLE 1.2 | PERCENT OF SECONDARY RESIDENCES

Place	% of 2nd Homes 1990	% of 2nd Homes 2000	Change in % 1990-2000	% Change of % 1990-2000
1 Casper	.34	.53	.19	55.00
1 N-Casp	1.07	2.58	1.51	141.12
1 S-Casp	13.04	8.39	-4.65	-35.66
1 H.H.A	19.25	18.39	-.86	-4.47
2 Cheyen	.29	.34	.05	17.59
2 E-Chey	1.27	.60	-.67	-52.76
2 W-Chey	4.06	5.36	1.30	32.02
2 P.Bluf	1.54	1.26	-.28	-18.18
3 Sherid	.67	.97	.30	44.78
3 S-Sher	19.91	16.52	-3.39	-17.03
3 W-Sher	20.84	24.52	3.68	17.66
4 N-G.R	.77	1.19	.42	54.55
4 S-G.R	25.00	3.20	-21.80	-87.20
4 N-R.S	.47	.97	.50	106.38
4 S-R.S	19.05	18.42	-.63	-3.31
4 Wamsut	2.12	11.04	8.92	420.75
5 E-alby	46.53	46.30	-.23	-.49
5 Larame	.28	1.00	.72	257.14
5 R.Rivr	45.81	41.70	-4.11	-8.97
5 S-alby	57.36	55.40	-1.96	-3.42
6 Hanna	11.27	23.50	12.23	108.52
6 Rawlin	3.85	4.70	.85	22.08
6 Saratg	17.92	24.40	6.48	36.16
7 Goshen	3.91	8.25	4.34	111.00
7 Rawhid	11.27	10.68	-.59	-5.24
7 Torrig	.78	1.02	.24	30.77
8 Chugwr	4.40	3.00	-1.40	-31.82
8 Glendo	33.82	2.91	-30.91	-91.40
8 Guerny	4.99	7.31	2.32	46.49
8 Wheatl	2.48	2.14	-.34	-13.71
9 C-B.H.	2.54	2.37	-.17	-6.69
9 N-B.H.	2.29	2.21	-.08	-3.49
9 S-B.H.	13.38	13.88	.50	3.74
10 Dubis	27.59	23.02	-4.57	-16.56
10 Landr	4.04	3.71	-.33	-8.17
10 Shosh	2.96	6.38	3.42	115.54
10 Sweet	1.47	.60	-.87	-59.18
10 W.Riv	1.23	2.07	.84	68.29
11 Cody	8.00	8.27	.27	3.38
11 Meets	10.43	14.10	3.67	35.19

11 Powel	.37	.46	.09	24.32
11 Y.N.P	30.92	47.67	16.75	54.17
12 Afton	18.00	18.32	.32	1.78
12 E-Kem	1.18	2.04	.86	72.88
12 W-Kem	19.00	15.80	-3.20	-16.84
13 Dougs	4.96	6.45	1.49	30.04
13 Glenr	5.51	3.90	-1.61	-29.22
14 E-Nir	1.00	3.40	2.40	240.00
14 W-Nir	1.75	5.69	3.94	225.14
15 E-Thm	3.08	11.28	8.20	266.23
15 W-Thm	1.07	4.31	3.24	302.80
15 W.Riv	3.90	11.47	7.57	194.10
16 Buffa	9.41	4.93	4.48	47.61
16 Kayce	23.22	36.43	13.21	56.89
17 N-Gil	.65	1.38	.73	112.31
17 S-Gil	.92	2.27	1.35	146.74
18 Hulet	2.30	9.95	7.65	332.61
18 Moore	16.25	15.83	-.42	-2.58
18 Sundc	7.00	8.29	1.29	18.43
19 B.Val	2.11	3.99	1.88	89.10
19 Evans	1.82	2.60	.78	42.86
20 T.Slp	16.92	2.98	-13.94	-82.39
20 Worla	.45	.87	.42	93.33
21 Newca	3.82	4.44	.62	16.23
21 Upton	2.23	4.06	1.83	82.06
22 Alta	21.17	19.57	-1.60	-7.56
22 J.Hol	19.85	20.08	.23	1.16
22 Y.N.P	48.67	41.20	-7.47	-15.35
23 B.Pin	5.09	5.57	.48	9.43
23 Bould	54.77	58.97	4.20	7.67
23 Pined	31.87	29.82	-2.05	-6.43

TABLE 1.2 | NUMBER OF PRIMARY RESIDENCES

Place	# of 1st Homes 1990	# of 1st Homes 2000	Change in # 1990-2000	Percent Change 1990-2000
1 Casper	22416	22337	-79	-.35
1 N-Casp	1488	1549	61	4.10
1 S-Casp	2913	3370	457	15.69
1 H.H.A	2265	2626	361	15.94
2 Cheyen	26467	28984	2517	9.51
2 E-Chey	1104	1809	705	63.86
2 W-Chey	1699	2071	372	21.90
2 P.Bluf	1237	1349	112	9.05
3 Sherid	8169	8967	798	9.77
3 S-Sher	1848	2281	433	23.43
3 W-Sher	1137	1329	192	16.89
4 N-G.R	5079	3874	-1205	-23.73
4 S-G.R	116	1410	1294	1115.52
4 N-R.S	9835	10208	373	3.79
4 S-R.S	84	76	-8	-9.52
4 Wamsut	330	353	23	6.97
5 E-alby	101	162	61	60.40
5 Laramie	12159	13250	1091	8.97
5 R.Rivr	430	396	-34	-7.91
5 S-alby	1154	1407	253	21.92
6 Hanna	1207	1242	35	2.90
6 Rawlin	4935	4902	-33	-.67
6 Saratg	2048	2163	115	5.62
7 Goshen	558	666	108	19.35
7 Rawhid	204	234	30	14.71
7 Torrig	4759	4981	222	4.66
8 Chugwr	250	300	50	20.00
8 Glendo	414	481	67	16.18
8 Guerny	782	861	79	10.10
8 Wheatl	2580	2886	306	11.86
9 C-B.H.	1612	1605	-7	-.43
9 N-B.H.	2136	2218	82	3.84
9 S-B.H.	1300	1282	-18	-1.38
10 Dubis	1015	1173	158	15.57
10 Landr	4134	4449	315	7.62
10 Shosh	406	3036	2630	647.78
10 Sweet	204	167	-37	-18.14
10 W.Riv	8678	9313	635	7.32
11 Cody	5754	6882	1128	19.60

11 Meets	508	553	45	8.86
11 Powel	3795	4134	339	8.93
11 Y.N.P	249	300	51	20.48
12 Afton	2889	4362	1473	50.99
12 E-Kem	2120	2014	-106	-5.00
12 W-Kem	400	455	55	13.75
13 Dougs	3511	3844	333	9.48
13 Glenr	1723	1825	102	5.92
14 E-Nir	599	1338	739	123.37
14 W-Nir	857	756	-101	-11.79
15 E-Thm	292	319	27	9.25
15 W-Thm	2060	2156	96	4.66
15 W.Riv	77	61	-16	-20.78
16 Buffa	2591	2921	330	12.74
16 Kayce	521	582	61	11.71
17 N-Gil	8600	9770	1170	13.60
17 S-Gil	2938	3518	580	19.74
18 Hulet	565	643	78	13.81
18 Moorc	1040	1194	154	14.81
18 Sundc	1000	1098	98	9.80
19 B.Val	2184	2409	225	10.30
19 Evans	5062	5602	540	10.67
20 T.Slp	396	445	49	12.37
20 Worla	3336	3209	-127	-3.81
21 Newca	2462	2567	105	4.26
21 Upton	628	664	36	5.73
22 Alta	137	184	47	34.31
22 J.Hol	6736	9799	3063	45.47
22 Y.N.P	187	284	97	51.87
23 B.Pin	845	861	16	1.89
23 Bould	199	273	74	37.19
23 Pined	1867	2418	551	29.51

TABLE 1.3 | MEDIAN HOME VALUE

Place	Median Home Value 1990	Median Home Value 2000	\$ Change 1990-2000	% \$ Change 1990-2000
1 Casper	50500	78300	27800	55.05
1 N-Casp	36500	60800	24300	66.58
1 S-Casp	75800	125600	49800	65.70
1 H.H.A	61800	89800	28000	45.31
2 Cheyen	69400	98100	28700	41.35
2 E-Chey	99000	152200	53700	54.52
2 W-Chey	84400	143300	58900	69.79
2 P.Bluf	49900	81400	31500	63.13
3 Sherid	55400	90900	35500	64.08
3 S-Sher	76700	155800	79100	103.13
3 W-Sher	56100	97600	41500	73.98
4 N-G.R	70500	90400	19900	28.23
4 S-G.R	81300	119100	37800	46.49
4 N-R.S	71500	90200	18700	26.15
4 S-R.S	137500	165600	28100	20.44
4 Wamsut	32300	36800	4500	13.93
5 E-alby	47500	429200	381700	803.58
5 Laramé	67500	109800	42300	62.67
5 R.Rivr	29800	51600	21800	73.15
5 S-alby	73600	167100	93500	127.03
6 Hanna	40700	45500	4800	11.79
6 Rawlin	54500	66900	12400	22.75
6 Saratg	54900	87800	32900	59.93
7 Goshen	30600	108100	77500	253.27
7 Rawhid	83300	151400	68100	81.75
7 Torrig	52800	74700	21900	41.48
8 Chugwr	32900	78000	45100	137.08
8 Glendo	39200	61400	22200	56.63
8 Guerny	45100	62500	17400	38.58
8 Wheatl	55400	87100	31700	57.22
9 C-B.H.	44600	72000	27400	61.43
9 N-B.H.	43400	68700	25300	58.29
9 S-B.H.	46100	73500	27400	59.44
10 Dubis	68600	120500	51900	75.66
10 Landr	53300	97500	44200	82.93
10 Shosh	33800	49800	16000	47.34
10 Sweet	35000	86900	51900	148.29
10 W.Riv	49000	81200	32700	67.42
11 Cody	71100	115200	44100	62.03

11 Meets	50500	88300	37800	74.85
11 Powel	58400	94400	36000	61.64
11 Y.N.P	0	17500	17500	.
12 Afton	57400	113100	55700	97.04
12 E-Kem	64100	72000	7900	12.32
12 W-Kem	57100	82400	25300	44.31
13 Dougs	57200	85500	28300	49.48
13 Glenr	40400	77800	37400	92.57
14 E-Nir	35000	66500	31500	90.00
14 W-Nir	32200	67000	34800	108.07
15 E-Thm	60000	82500	22500	37.50
15 W-Thm	53100	78200	25100	47.27
15 W.Riv	93800	88200	-5600	-5.97
16 Buffa	58000	111800	53800	92.76
16 Kayce	33000	89400	56400	170.91
17 N-Gil	68300	89500	21200	31.04
17 S-Gil	68900	97200	28300	41.07
18 Hulet	45400	67000	21600	47.58
18 Moorc	57900	84700	26800	46.29
18 Sundc	53800	92400	38600	71.75
19 B.Val	60000	84100	24100	40.17
19 Evans	59100	83500	24400	41.29
20 T.Slp	41800	99200	57400	137.32
20 Worla	55100	80600	25500	46.28
21 Newca	43000	63700	20700	48.13
21 Upton	45000	64300	19300	42.89
22 Alta	100000	376100	276100	276.10
22 J.Hol	134300	373400	239100	178.03
22 Y.N.P	0	10000	10000	.
23 B.Pin	61900	80800	18900	30.53
23 Bould	53300	191700	138400	259.66
23 Pined	65800	133200	67400	102.43

TABLE 1.4 | VARIOUS AMENITIES

Place	Miles To Ski Resort	Topographical Relief	National Forest	Miles to National Park	Miles to Large City
1 Casper	14.10	1	0	242.30	279.10
1 N-Casp	30.00	0	0	268.20	265.00
1 S-Casp	50.10	2	1	212.20	265.00
1 H.H.A	51.40	1	0	185.50	327.00
2 Cheyen	79.30	0	0	87.30	102.50
2 E-Chey	109.70	0	0	110.70	132.90
2 W-Chey	115.70	2	2	107.10	122.50
2 P.Bluf	122.20	0	0	130.90	146.20
3 Sherid	92.10	1	0	120.20	173.10
3 S-Sher	83.10	4	2	102.60	139.10
3 W-Sher	37.00	4	4	74.40	142.10
4 N-G.R	70.50	0	0	35.00	222.30
4 S-G.R	133.00	0	0	10.00	163.10
4 N-R.S	143.00	0	0	55.00	210.00
4 S-R.S	168.00	1	0	40.00	255.00
4 Wamsut	147.00	0	0	83.00	251.00
5 E-alby	60.00	3	3	108.30	175.10
5 Larame	40.00	0	0	140.00	112.10
5 R.Rivr	100.00	2	2	185.00	146.40
5 S-alby	30.00	4	3	140.00	184.90
6 Hanna	80.00	2	2	180.00	215.10
6 Rawlin	120.00	1	1	122.20	244.10
6 Saratg	126.00	4	4	164.40	243.10
7 Goshen	142.50	0	0	148.70	163.40
7 Rawhid	126.60	0	0	202.70	215.00
7 Torrig	144.40	0	0	168.90	184.00
8 Chugwr	121.40	0	0	129.90	144.00
8 Glendo	77.30	1	1	187.00	201.00
8 Guerny	111.50	0	0	182.70	197.50
8 Wheatl	109.60	1	0	153.30	169.50
9 C-B.H.	40.00	3	3	32.60	91.90
9 N-B.H.	71.10	2	2	10.00	124.30
9 S-B.H.	65.00	4	3	60.00	143.50
10 Dubis	82.20	4	4	73.90	175.40
10 Landr	135.80	4	4	130.30	268.40
10 Shosh	106.80	2	0	156.40	221.40
10 Sweet	106.80	2	0	209.90	310.30
10 W.Riv	135.50	3	2	142.20	248.20
11 Cody	28.60	4	4	52.20	136.40
11 Meets	80.60	4	3	100.00	137.40

11 Powel	74.90	3	2	72.00	95.50
11 Y.N.P	40.00	4	4	.00	142.50
12 Afton	69.50	3	4	82.00	106.20
12 E-Kem	97.80	0	1	55.30	144.00
12 W-Kem	125.50	3	2	112.80	132.60
13 Dougs	65.30	0	0	252.20	272.50
13 Glenr	56.30	1	1	244.70	255.50
14 E-Nir	121.50	0	0	225.50	267.50
14 W-Nir	176.30	0	0	189.90	258.70
15 E-Thm	62.20	2	0	104.20	190.60
15 W-Thm	110.00	2	2	125.50	175.60
15 W.Riv	72.20	3	3	120.20	195.60
16 Buffa	63.20	3	2	138.80	166.50
16 Kayce	77.00	2	1	182.20	210.60
17 N-Gil	161.00	0	0	250.00	260.70
17 S-Gil	118.80	0	0	250.00	271.20
18 Hulet	74.40	2	2	182.70	303.70
18 Moore	82.70	1	1	192.70	262.50
18 Sundc	32.20	2	3	162.20	294.60
19 B.Val	83.10	1	0	51.60	123.40
19 Evans	123.50	3	0	86.00	83.10
20 T.Slp	35.10	2	2	96.80	229.90
20 Worla	46.10	0	0	70.50	162.50
21 Newca	80.80	1	1	191.10	281.30
21 Upton	70.00	0	0	191.80	319.30
22 Alta	.00	5	4	.00	78.40
22 J.Hol	.00	5	4	5.00	134.40
22 Y.N.P	50.00	4	4	.00	142.20
23 B.Pin	50.00	3	3	101.30	173.50
23 Bould	45.00	4	4	102.20	189.90
23 Pined	10.00	5	2	88.10	157.00

TABLE 1.5 | MEDIAN AGE

Place	Median Age 1990	Median Age 2000	Age Change 1990-2000	% Age Change 1990-2000
1 Casper	33.20	36.40	3.20	9.64
1 N-Casp	30.70	35.60	4.90	15.96
1 S-Casp	32.70	37.00	4.30	13.15
1 H.H.A	31.90	36.10	4.20	13.17
2 Cheyen	32.60	36.00	3.40	10.43
2 E-Chey	35.10	38.30	3.20	9.12
2 W-Chey	24.20	28.20	4.00	16.53
2 P.Bluf	36.90	38.20	1.30	3.52
3 Sherid	36.20	40.10	3.90	10.77
3 S-Sher	37.80	42.70	4.90	12.96
3 W-Sher	34.30	39.80	5.50	16.03
4 N-G.R	29.30	31.90	2.60	8.87
4 S-G.R	27.60	39.80	12.20	44.20
4 N-R.S	30.90	34.40	3.50	11.33
4 S-R.S	31.20	34.50	3.30	10.58
4 Wamsut	28.80	36.00	7.20	25.00
5 E-alby	37.70	37.20	-.50	-1.33
5 Larame	26.10	25.90	-.20	-.77
5 R.Rivr	38.40	40.50	2.10	5.47
5 S-alby	37.00	46.60	9.60	25.95
6 Hanna	33.60	42.00	8.40	25.00
6 Rawlin	32.10	37.10	5.00	15.58
6 Saratg	34.60	43.40	8.80	25.43
7 Goshen	35.70	36.10	.40	1.12
7 Rawhid	34.50	41.70	7.20	20.87
7 Torrig	34.50	40.40	5.90	17.10
8 Chugwr	36.70	36.80	.10	.27
8 Glendo	42.90	44.50	1.60	3.73
8 Guerny	37.50	41.20	3.70	9.87
8 Wheatl	35.60	41.10	5.50	15.45
9 C-B.H.	36.20	37.80	1.60	4.42
9 N-B.H.	34.00	36.00	2.00	5.88
9 S-B.H.	39.90	44.90	5.00	12.53
10 Dubis	39.00	45.10	6.10	15.64
10 Landr	35.00	41.00	6.00	17.14
10 Shosh	39.40	39.60	.20	.51
10 Sweet	37.10	45.00	7.90	21.29
10 W.Riv	31.20	35.00	3.80	12.18
11 Cody	35.00	41.30	6.30	18.00
11 Meets	34.30	40.70	6.40	18.66
11 Powel	32.30	37.40	5.10	15.79

11 Y.N.P	34.40	39.50	5.10	14.83
12 Afton	28.50	35.90	7.40	25.96
12 E-Kem	30.90	38.70	7.80	25.24
12 W-Kem	30.00	34.50	4.50	15.00
13 Dougs	32.00	37.10	5.10	15.94
13 Glenr	31.70	38.30	6.60	20.82
14 E-Nir	39.70	41.90	2.20	5.54
14 W-Nir	37.80	43.50	5.70	15.08
15 E-Thm	48.80	52.70	3.90	7.99
15 W-Thm	37.80	43.50	5.70	15.08
15 W.Riv	34.80	48.00	13.20	37.93
16 Buffa	37.60	43.50	5.90	15.69
16 Kayce	33.80	38.70	4.90	14.50
17 N-Gil	29.40	32.20	2.80	9.52
17 S-Gil	28.70	32.40	3.70	12.89
18 Hulet	31.80	38.10	6.30	19.81
18 Moore	31.50	38.80	7.30	23.17
18 Sundc	36.60	43.10	6.50	17.76
19 B.Val	25.40	32.50	7.10	27.95
19 Evans	27.70	30.90	3.20	11.55
20 T.Slp	40.50	46.20	5.70	14.07
20 Worla	34.10	38.60	4.50	13.20
21 Newca	34.90	40.40	5.50	15.76
21 Upton	32.30	41.90	9.60	29.72
22 Alta	31.50	40.60	9.10	28.89
22 J.Hol	33.50	35.00	1.50	4.48
22 Y.N.P	34.80	32.20	-2.60	-7.47
23 B.Pin	30.40	36.20	5.80	19.08
23 Bould	35.50	47.00	11.50	32.39
23 Pined	38.60	41.90	3.30	8.55