

**SEASONAL POPULATION FLUCTUATIONS
IN RURAL AND FRONTIER AREAS**

**PHASE ONE:
THE VIEW FROM STATE OFFICES OF RURAL HEALTH**

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SEASONAL POPULATION FLUCTUATIONS IN RURAL AND FRONTIER AREAS:

PHASE ONE - THE VIEW FROM STATE OFFICES OF RURAL HEALTH

INTRODUCTION

Over the past several years, numerous voices in rural and frontier health have raised the issue of seasonal population fluctuations and their impact on health services. Anecdotally, seasonal population fluctuations can overwhelm already limited health services during peak times; off-peak declines in utilization present different challenges. A number of specific cases have been identified and discussed in meetings. Yet to date, the scale of the problem is unknown, as few quantitative data have been available.

This project has two parts, reflected in the organization of this report. The first part compiled available data on seasonal population fluctuations; documented any known impacts of these fluctuations on health services, and how affected communities cope with these fluctuations. The second part is a resource guide for states and communities who would like to find additional information about seasonal population changes, how seasonal impacts are identified and what federal and state agencies collect and analyze this information.

One important lesson learned from this project is that there is no uniform system for collecting seasonality data. Some low impact states do not collect any data, in other states one or two agencies collect data, and in high impact states data is gathered by numerous agencies with differing degrees of collaboration and integration of data. Agencies collecting data include state tourism offices, transportation departments, university business schools, state and national parks, and other non-health entities. Further study is needed to identify which health agencies collect data. Several SORH's indicated that hospitals, EMS providers, and public health offices might have relevant data.

The ultimate goal of this project is to help states and communities learn from each other, by documenting effective strategies to cope with these fluctuations, as well as identifying barriers to the adequate provision of services to both the temporary and permanent populations.

The first step in this project was to identify the impact of seasonal populations in each state in cooperation with the State Offices of Rural Health (SORH). In December 2002, all State Offices of Rural Health were sent a letter, a project description, and a one-page form for their responses.

The report is organized into three main sections: an Introduction (description of the problem); Results, and Discussion and Recommendations. Appendix A, "Data and

Information Resources on Seasonal Population Fluctuations,” is intended as a partial guide for further research.

1. Description of the problem

There are different types of seasonal populations, and each type presents a different challenge to both host and home communities. These include:

- Tourists (short-term stays)
- Seasonal tourism workers
- “Snowbirds” (north-to-south winter migrants; long-term stays)
- Second home/recreational home communities
- Agricultural migrants
- Fishery workers
- Special events

Impact of tourism. The seasonal populations associated with tourism include both tourists and the seasonal staff employed to provide services to tourists. In 2001, there were 280 million visitors to the 385 units of the National Park Service. Some of the country’s most popular national parks are located in frontier areas, such as Yellowstone, located mostly in Wyoming, and the Grand Canyon in Arizona. Many other national and state parks, forests, and recreation areas in remote areas are increasing in popularity; indeed, it is often their very “remoteness” that attracts visitors. Most newspaper reporting about frontier areas is found in the travel sections, for example recent articles in the New York Times promoting destinations in remote areas of Utah (10/04/02) and South Dakota (8/23/02). The Utah article highlights Bryce Canyon National Park as well as other locations along Utah Highway 12, a very remote road.

Alaska contains about 30% of all the frontier land area of the United States. The year-round population in many Alaskan boroughs is very small, but these populations grow exponentially in the summer months due to a flood of tourists and seasonal workers. Alaska has a system in place for measuring visits to the state. The Alaska Visitors Statistics Program (AVSP) in 2001 documented 1,202,800 summer visitors, a number almost double the total population of the state in 2000.

Skagway, located in southeastern Alaska, just north of Juneau, provides a good example of these impacts. In the winter, the town has 800 residents. But in the summer, the town swells to accommodate 800,000 visitors and 3,000 seasonal workers. Due to the geography of the area, those in need of emergency hospital services must be airlifted to the nearest facility. In the summer, this averages one airlift per day.

Impact of agriculture and fisheries. Frontier counties are disproportionately agriculture-dependent counties, according to the USDA Economic Research Service (ERS). While frontier counties make up about one-third of all non-metro counties, they are 70% of all agriculture-dependent counties. Agricultural work tends to be more seasonal. As a result, frontier areas may experience significant population fluctuations due to the variable work cycles typical to the economic sector. Compounding the effect

on health and human services delivery in frontier areas is the fact that many of these workers are unauthorized workers. There are about 1.8 million crop workers in the US. The National Agricultural Workers Survey (NAWS) conducted by the U.S. Department of Labor estimated that 58% of these workers were unauthorized in 2002.

Several states experience a tremendous influx of fishery workers every year. Because most programs for migrant and seasonal workers apply only to agricultural workers, seasonal workers at fisheries are not included in many programs to provide health care to migrant workers. Alaska is especially impacted by the exclusionary rules of these programs because Alaska has the greatest number of seasonal fishery workers.

Data on seasonal migrants. Because there are different types of seasonal migrants, and because they are usually highly mobile, there is no single source of data that can easily be accessed to quantify their impact on communities. A variety of different formulas have been developed and used to calculate the economic impact of tourism on communities, based on hotel occupancy rates, for example. Another data source is needed to estimate populations who do not stay in hotels. Are the available data known by, useful to, and used by health programs and planning agencies? What other data sources exist?

2. Working with the State Offices of Rural Health

An information packet was sent to state offices to learn whether and how individual SORH's documented seasonal population fluctuations and their impact on rural health services. A one page, two-section form was included to help states organize their responses. Several states responded with letters, others sent state data and maps, and a number of responses were by telephone. The first section of the form focused on the impacts of seasonal population shifts. Respondents were first asked to qualitatively describe the impact of seasonal population shifts in their state, as "heavily," "moderately," or "not impacted." They were then asked how this impact is documented, and how it affects health services delivery.

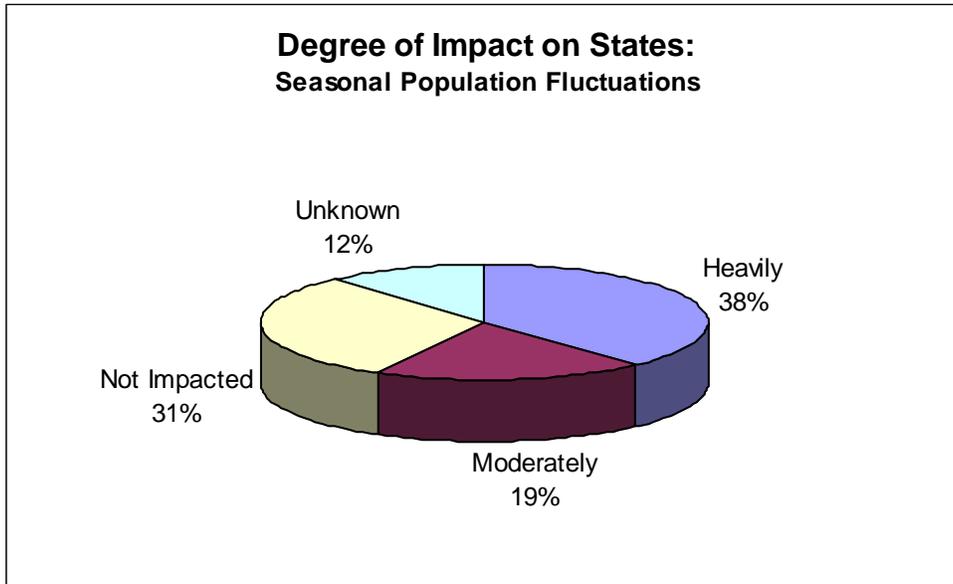
The second section focused on the issue of data collection. Respondents were asked if their agency collected data on seasonal population fluctuations for their state. If yes, they were asked to describe the data sources and whether or not the data was available online. If no, they were asked whether or not another state agency or agencies were responsible for collecting this data, and recommended contact persons. (See Appendix B for the information sent to the states).

The packet was mailed to all 50 SORH in December 2002. Follow up phone calls were made to a number of states. Twenty-seven responses were ultimately received; twenty-six provided quantifiable responses. Some responses were made on the questionnaire page itself; other more lengthy responses were provided in letter format.

STUDY RESULTS

a. Impact of Seasonal Population Fluctuations on States

Of the SORH's that responded, the largest category reported a heavy impact (10 of the 26 states, or 38% of respondents). Three did not provide a response to this question, indicating that they did not have enough data to be able to offer an assessment.



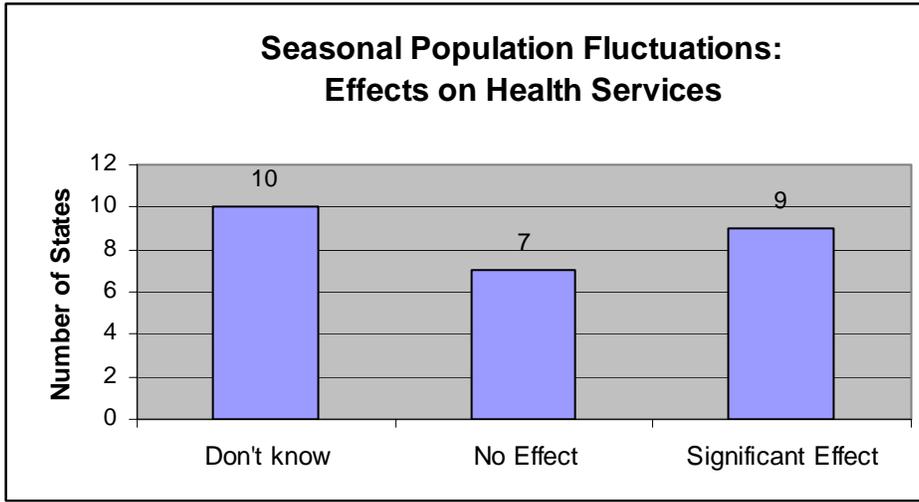
Most respondents classified seasonal populations as either tourists or migrant agricultural workers. The SORH of Colorado reports, for example, that tourism has a significant impact in the state, and to a lesser degree, migrant workers as well. One example cited was Hinsdale County, which sees its population increase five times or more during the summer and hunting season in the fall.

A few respondents indicated that it was difficult to describe the impact for the state overall, as seasonal population fluctuations tend to be localized phenomena and (in Arizona) “not uniform across the state.” For example in Vermont, the respondent stated that “in some areas the impact is moderate and in some it is heavy.” Colorado reported impact as heavy, “but only in some communities.” Alabama mentioned migrant agricultural workers in a single county.

b. Impact of seasonal population shifts on health services

Respondents were also asked, “how does this affect health services delivery?” Approximately equal number of respondents reported that the effects were unknown (10) as reported “significant effects.” Both groups indicated that the effects were not

quantifiable as there were no known studies of impact of seasonal populations on health services. Many estimated the effects based on anecdotal evidence.



“The clinic in Hinsdale County tells me that in the summer, their population swells by 5x, 6x and more.”

Colorado

Impact is related to the host community characteristics. For example,

“Overall approximately 16% of housing in VT is seasonal, whereas in our only frontier county it is somewhere between 35 and 40%. Obviously, this creates a problem in being able to develop care systems, including workforce as part of those systems that are financially sustainable and reasonably responsive to urgent and primary care.”

Vermont

One respondent noted that services designed to meet the demands of seasonal visitors were a source of social stress in the community, in that the tourists were relatively better off financially compared with local residents. This created a “clash of uninsured and Medicaid eligible locals vs. travelers and the type of industry created to meet the needs of the latter.”

National parks, national forests, national recreation areas, state parks, BLM-managed lands, and other natural attractions are what draw tourists to rural and frontier counties. The estimated 3 million visitors each year to Yellowstone National Park create a “severe strain on physician demand” in a state of only 493,000 residents and where “physician shortages are significant.”

In Arizona, the Quartzite Gem Show & Flea Market (also referred to as the RV community's annual "Senior Citizen Pow-Wow"), draws upwards of 1 million people every winter to a community of approximately 3,354 (2000 Census) permanent residents. At its peak, an estimated 250,000 winter residents are present, mostly in the area's 70+ mobile home and RV parks. How do practitioners cope? As Arizona put it,

"Practitioners brace themselves because they are used to it."

Arizona

Health care needs among seasonal populations. Some respondents mentioned specific health services. Although "tourists tend to be healthy," (Hawaii) tourist activities do generate a need for a wide range of medical care. In Colorado, tourists required treatment for altitude-related conditions as well as high-risk activities (hunting, mountain climbing, skiing). In Utah, eight tourism-dependent counties are classified as frontier counties; yet five of these have no hospital.

Emergency services. Of those who reported a moderate or heavy impact on health services, most mentioned the impact on emergency services. In Minnesota, because "ambulance crews are staffed largely by volunteers," peak tourism season creates an "unusual burden." Similarly, in New Mexico, "emergency services are overburdened." In Maine,

"Rural winter sports such as back country skiing and snowmobiling have increased awareness of the need for a strong ER/EMS system, including airborne response."

Maine

"Big impact." In an example of a seasonal population fluctuation associated with a special event, Sturgis, SD experiences the 10-day Black Hills Motorcycle Rally in August each year.¹ Sturgis, with a resident 2000 population of 6,442, hosts 500,000-750,000 motorcyclists for this rally. There are reportedly "around 10 deaths per rally

¹ Why Sturgis? As the "cross roads to the Black Hills," one of the rally websites (<http://www.rallyinfo.com/>) emphasizes the natural attractions of the Black Hills, including Devil's Tower, Pactola Lake, and Custer State Park, "a short ride from Sturgis to these attractions and more." And, "...it's considered to be a great place to ride...The roads twisting through the Black Hills are ideal biking roads." Another site (<http://www.sturgis-rally.com>) also emphasizes the natural attractions and the quality of the roads: "Few places on earth offer the scenery and attractions that are available here in the ancient Black Hills. No smog, incredible views, Mt Rushmore, Crazy Horse, great roads, great curves, wide open spaces and friendly people everywhere! The "Rally Wildlife" and concert venues are incredible too!" The 63rd rally in 2003 is expected to be the biggest ever, coinciding with the 100th Anniversary of Harley Davidson Motorcycles.

period, plus a heavy impact on hospital ERs.” For the Sturgis Motorcycle Rally, “many EMT’s volunteer to work at the rally.”

Sources of care for seasonal populations. A variety of sources of care for seasonal populations were reported: migrant health clinics for migrant agricultural workers; public and private facilities; private practitioners and hotel physicians. Some private health services are established to expressly meet the needs of tourists.

Migrant farm workers. Respondents noted that migrant farm workers had health services targeted for them. For example, in Alabama, “It is known that a number of migrant workers temporarily reside in Baldwin county during agricultural harvest. There is a migrant health clinic operating in Robertsedale, in Baldwin County.” In Indiana, migrant workers’ health needs are reportedly served through religious charities and faith-based organizations.

Tourists and tourism workers. One state (Hawaii) indicated that hotels provided medical care to tourists and that they were quick to respond to health issues. Utah noted a case of one private practitioner who established two seasonal clinics dedicated to serving tourist populations:

“Utah has one unique clinic that addresses seasonal shifts in population... a PA ... moves his clinic between two towns in southwestern Utah based on the tourism season. In the winter and spring his clinic is located in Brian Head to serve the ski industry in that town. During the summer and fall his clinic is located in Springdale, just outside of Zion National Park to serve the tourists and seasonal workers there.”

Utah

3. Data Sources on seasonal populations and their impacts

Only one of the SORH's that responded collected data on seasonal population fluctuations. The Wyoming Department of Health utilizes "tourism data as compiled by the Travel and Tourism Division of the Wyoming Business Council." A common problem among SORH's was the limited availability of resources to study the issue. One respondent noted that the news media were the main source of data.

The response from California perhaps sums up the situation:

"As with many other states, California experiences seasonal population fluctuations due to tourism and the requirements of the agricultural industry. While it is logical to assume that these population shifts may impact on the ability of frontier regions to provide health care services, we are not aware of any research investigations or systematic data collection being conducted at this time."

California

Some respondents could identify sources of data. Two main types of data existed, health services data and visitor data. Local health services organizations collect utilization data. In Minnesota, local ambulance services report the number of seasonal visitors every two years, so the seasonal shifts are documented in their Emergency Medical Services database.

Sources of visitor data reported included statistics from state and national parks derived from visitor fees. In Vermont, the state applies a formula of 2.5 times the number of seasonal housing units to estimate seasonal population fluctuations.

"We depend on local tourism councils, the Utah Division of Travel Development, and the Governor's Office of Planning and Budget-Demographic and Economic Analysis to provide statewide and county-based tourism data."

Utah

Level of data collection and availability. A number of respondents indicated that data on seasonal population fluctuations would likely be available at a more local level, rather than at the state level. As population fluctuations are localized in occurrence – for example, a specific tourist destination, or a particular region that makes use of migrant labor – it is possible that state-wide agencies may not be the best source of data. One respondent indicated that he would "have to contact hospital administrations in rural tourist destinations" to obtain such data. Another responded that community level agencies were responsible for collecting that data (AZ).

4. Barriers to Serving Seasonal Populations

For rural and frontier health programs, respondents identified two key barriers to providing adequate care to seasonal populations and the resident populations whose services are overwhelmed by seasonal visitors.

Shortage Area Designations. One problem is in demonstrating insufficient health care capacity to serve a non-resident population. The Federal definition of health professional shortage areas is partly based on population criteria; these may include transient populations, seasonal residents, and tourists, and migratory workers.² These criteria are very data intensive, however, and given the lack of resources available to SORH's to collect and process data on seasonal populations, these definitions may represent a barrier to federal resources. As one respondent put it,

“Unfortunately, it is very difficult to document this in a way that the [federal] Shortage Designation Branch will accept . . . The best resources we have are the Division of Travel Development and the Governor’s Office of Planning and Budget-Demographic and Economic Analysis. However, neither of them collects the occupancy data that Shortage Designation Branch is requiring. ”

Utah

² Criteria for Designation of Areas Having Shortages of Primary Medical Care Professionals. Part 1-- Geographic Areas, 2. Population Count.

“The population count used will be the total permanent resident civilian population of the area, excluding inmates of institutions with the following adjustments, where appropriate:

(a) The effect of transient populations on the need of an area for primary care professional(s) will be taken into account as follows:

(i) Seasonal residents, i.e., those who maintain a residence in the area but inhabit it for only 2 to 8 months per year, may be included but must be weighted in proportion to the fraction of the year they are present in the area.

(ii) Other tourists (non-resident) may be included in an area's population but only with a weight of 0.25, using the following formula: Effective tourist contribution to population = 0.25 x (fraction of year tourists are present in area) x (average daily number of tourists during portion of year that tourists are present).

(iii) Migratory workers and their families may be included in an area's population, using the following formula: Effective migrant contribution to population = (fraction of year migrants are present in area) x (average daily number of migrants during portion of year that migrants are present).”

<http://bhpr.hrsa.gov/shortage/hpsacritpcm.htm>

Critical Access Hospitals. A second problem refers to the eligibility criteria for Critical Access Hospitals (CAHs). One respondent (OR) noted that eligibility criteria constrained the number of beds that a rural hospital could provide and remain eligible for federal funding. But seasonal fluctuations resulted in a hospital periodically exceeding the 15-bed limit. The respondent also reported that the congressman for this district was “seeking a possible waiver for rural hospitals up to a 25 bed limit.” Other respondents also reported this problem. For example, in Minnesota,

“Seasonal population shifts also affect small rural hospitals. Many hospitals in frontier counties in Minnesota are Critical Access Hospitals, with a bed size limit. Peaks in seasonal populations can strain this bed limit.”

Minnesota

CONCLUSION

During the course of this project, it became apparent that many rural and frontier areas are heavily impacted by seasonal population fluctuations and that these fluctuations create stress on health systems. Many of these impacts are local or regional in nature and sometimes go unrecognized by national and statewide policy-makers. This problem is compounded by the fact that data collection on population fluctuations, if it is done at all, is scattered among a variety of agencies, each with different missions

State Offices of Rural Health can help to promote awareness of these impacts and provide leadership to the development of coordinated data collection within each state and among the states. Coordinated regional data collection is especially important as many of the most impacted areas cross state lines. Better data collection will improve the development and maintenance of health services in the heavily impacted communities.

The goal of further study and better coordination of data is to assure that needed health services are available both to permanent year-round residents as well as seasonal visitors.

APPENDIX A:

DATA AND INFORMATION RESOURCES ON SEASONAL POPULATION FLUCTUATIONS

Summary

Studies of the impact of seasonal population fluctuations on communities are relatively new, and for the most part have been conducted for metropolitan areas. One reason is that demographic data on non-resident populations are difficult to collect and are not widely available. The majority of data found have been derived from special studies, rather than through routine data collection procedures. Moreover, these special studies typically are designed to demonstrate the economic benefits of tourism on communities, in terms of job creation, income generation for residents, generation of tax revenues, and the spillover effects of generating services and recreation opportunities for tourists, which residents may also enjoy. And, where the increased demands on public services (security and police, traffic and transportation) are considered, health care is typically not included.

One measurement issue involves the difficulty of defining seasonal populations. Commonly subsumed under a single “tourist” category, these populations may also include part-year residents and second-home owners, as well as individuals who staff seasonal tourist attractions. Among tourists, “day-trippers” have a different impact from those who stay for a period of time in the community. To estimate each population and its seasonal patterns requires synthesizing data from multiple sources; these sources will be different for tourists and part-year residents. Population-based surveys can cover all of these categories, but as a slice in time, miss the temporal dynamics; this characterizes the majority of tourism impact studies.

Data are collected by a variety of agencies at different levels, from the U.S. Bureau of the Census to local travel and tourism bureaus, as well as a number of research centers. Other groups that use data on seasonal populations include land use planning agencies, natural resource management agencies (particularly those which manage tourist and recreation attractions), and transportation agencies.

Studying seasonal migration is inherently cross-sectoral and interdisciplinary. Academic departments with research programs on tourism and seasonal migration include aging studies and gerontology; business; community development; demography and population; geography; natural resources management (including environmental studies, environmental engineering, forestry, agricultural economics), planning; rural development; transportation studies; as well as tourism, recreation and leisure studies.

This appendix identifies a number of agencies, organizations, and researchers who look at seasonal populations and their local impacts. Many of these links were provided by survey respondents. This is not an exhaustive catalog, but rather is intended to give the reader a sample of the range of resources available to address this topic. The main

shortcoming is that existing research does not, for the most part, address the issue in frontier or rural areas, suggesting an important unmet research need for frontier communities.

This document is divided into five segments: Federal Resources, State & Local Resources, Research Centers, Organizations for Seasonal Migrants, and Bibliography. Given the multidisciplinary, multiscale, and transboundary nature of seasonal migration, these distinctions are artificial, and most research draws on multiple sources.

I. FEDERAL RESOURCES

a. U.S. Bureau of the Census

Census Data

<http://www.census.gov/>

Census 2000 Data

<http://www.census.gov/main/www/cen2000.html>

State and Local Sources for Census 2000

<http://www.census.gov/dmd/www/groupcnr.html>

The Census has some useful data for estimating seasonal populations. Type of dwelling or housing unit is recorded on the Census, with a “seasonal dwelling” classification indicating temporary residence. The proportion of seasonal units to permanent units, for example, is one indicator of the importance of seasonal populations to a region. Maine, Vermont, New Hampshire, Alaska, Delaware, Florida, Arizona, Wisconsin, Montana, and Hawaii were the 10 states with the highest percentage of seasonal, recreational, or occasional use homes.

Woodward, J. & Damon, B. (2001). Housing Characteristics: 2000. Census 2000 Briefs C2KBR/01-13. Washington, DC: U.S. Census Bureau.

<http://www.census.gov/prod/2001pubs/c2kbr01-13.pdf>

b. American Community Survey Data for Economic Analysis

<http://www.census.gov/acs/www/index.html>

The annual American Community Survey (ACS) is designed to provide an annual update to the decennial Census, and to provide community planners with a time series of demographic and socioeconomic data. A main difference between the content of the ACS and the Census is that it includes non-residents who are present at the time of the interview, if they are staying at a unit for more than 2 months. According to Alexander (2001), “There is a need for some information about seasonal patterns within the annual average, for areas where there is a

substantial variation in the resident population across the year, for example areas with many seasonal workers or college students. There is a question on the ACS form that identifies households containing part-year residents” and data products will provide some information about seasonal populations. However, because of need to preserve confidentiality, data are released at about the 100,000 population level, which may limit the usefulness of this survey data for small, remote frontier communities. The new survey, being implemented in stages, is not yet nation wide. According to the website,

“For rural areas and city neighborhoods or population groups of less than 20,000 people, it will take five years to accumulate a sample that is similar to that of the decennial census. These averages can be updated every year, so that eventually, we will be able to measure changes over time for small areas and population groups.”

National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (FHWAR) <http://www.census.gov/prod/www/abs/fishing.html>

This survey, conducted by the Census Bureau for the Fish and Wildlife Service, provides data on individuals involved in recreational activities associated with wildlife. “Data include state in which these activities occurred; number of trips taken; duration of trips; and expenditures for food, lodging, transportation and equipment.” Activities are broken down by residents and non-residents. Reports are available at the national level for 1991, and at both national and state levels for 1996 and 2001.

2. Bureau of Transportation Statistics, U.S. Department of Transportation
<http://www.bts.gov/>

a. National Household Transportation Survey
<http://www.bts.gov/nhts/>

Mallett, W.J. & McGuckin, N. (no date). Driving to distractions: Recreational trips in private vehicles. Washington, D.C.: Office of Highway Information Management, Federal Highway Administration, Paper Number 00-1372.
<http://www.bts.gov/nhts/docs/RECTRIPSPV.pdf>

McGuckin, N. (1998). Personal travel: the long and the short of it. Issues involved in analyzing the NPTS and the ATS. Washington, D.C.: Office of Highway Information Management, Federal Highway Administration.
<http://www.bts.gov/nhts/docs/issues.pdf>

3. Office of Travel and Tourism Industries, International Trade Administration, Department of Commerce
<http://www.tinet.ita.doc.gov/>

The OTTI's research program collects data on international arrivals and departures to the U.S., as well as visitor's destinations.

4. USDA Forest Service
<http://www.fs.fed.us/>

Resource Valuation and Use Research, Research & Development Programs, USDA Forest Service

<http://www.fs.fed.us/research/rvur.html>

The research conducted by the Forest Service includes a significant social science component, carried out at the six regional research stations.

North Central Research Station, St. Paul, MN

<http://www.ncrs.fs.fed.us/>

The NCRS has a human demographics unit, which assesses change in population, housing density, seasonal housing, income from recreation, and income from wood production.

Changing Midwest Assessment

<http://www.ncrs.fs.fed.us/4153/deltawest/humandemo/seasonal001.asp>

The NCRS details the change in recreational housing units between 1980-2000. "Nearly 20 percent of these counties had an increase in the density of seasonal housing units that exceeded 500 percent. The majority of these counties were in northern Minnesota, northern Wisconsin, and the Upper Peninsula of Michigan."

Social and Economic Dimensions of Ecosystem Management

<http://www.ncrs.fs.fed.us/4803/>

As part of its research program, this unit seeks to answer the question, "How does public forest management affect the quality-of-life in rural communities?"

Northeastern Research Station, Newton Square, PA

<http://www.fs.fed.us/ne/>

Rocky Mountain Research Station, Ft. Collins, CO

<http://www.fs.fed.us/rm/>

Pacific Northwest Research Station, Portland, OR

<http://www.fs.fed.us/pnw/>

Pacific Southwest Research Station, Berkeley, CA

<http://www.fs.fed.us/psw/>

Southern Research Station, Asheville, NC

<http://www.srs.fs.usda.gov/>

5. **USDA Economic Research Service, Rural America**
<http://www.ers.usda.gov/Topics/View.asp?T=104000>

ERS developed a county-based classification of natural amenities, and also identified non-metro “recreation counties.” Recreation counties were identified based on four measures (from Johnson & Beale):

- 1) wage and salary employment in entertainment and recreation, accommodations, eating and drinking places, and real estate as a percentage of all employment;
- 2) percentage of total personal income reported for these same categories
- 3) percentage of housing units intended for seasonal or occasional use
- 4) per capita receipts from motels and hotels

Recreational subgroups were created based on geographical settings and primary recreational activity:

- Midwest lake & second home
- Northeast mountain, lake and 2nd home
- Coastal ocean resort
- Reservoir lake
- Ski resort
- Other mountain (with ski)
- West Mountain (excluding Ski and National Park)
- South Appalachian mountain resort
- Casino
- National Park
- Miscellaneous

Natural amenities scale

<http://www.ers.usda.gov/emphases/rural/data/amenities/>

Johnson, K.M. & Beale, C. (2002). Nonmetro recreation counties: Their identification and rapid growth. *Rural America*, 17(4):12-19.

<http://www.ers.usda.gov/publications/ruralamerica/ra174/ra174b.pdf>

McGranahan, D. (1999). Natural amenities drive rural population change. USDA Economic Research Service, Agricultural Economic Report No.

781, 32 pp. <http://www.ers.usda.gov/Publications/AER781/>

6. **Statistics Canada**
<http://www.statcan.ca/start.html>

Collects travel data of Canadian citizens to the US and Mexico.

II. STATE AND LOCAL RESOURCES

1. State Data Centers, U.S. Census Bureau

<http://www.census.gov/sdc/www/>

2. State Planning Offices

CA - Demographic Research Unit, Department of Finance, State of California

www.dof.ca.gov

UT - Governor's Office of Planning and Budget, Demographic and Economic Analysis, State of Utah

<http://governor.utah.gov/dea/>

3. Offices of Economic Development

AZ - Department of Commerce, State of Arizona

<http://www.commerce.state.az.us/default.html>

The site offers a number of useful resources, including the Communities and Counties profiles, and Economic Information and Research. The Department of Commerce co-sponsored a study on the economic impact of state parks in Arizona:

Arizona Hospitality Research and Resource Center (2002). The economic impact of Arizona State Parks. Arizona Hospitality Research and Resource Center (AHRRC), School of Hotel and Restaurant Management, Northern Arizona University.

<http://www.commerce.state.az.us/pdf/prop/stateparksEIA.pdf>

Quartzite, AZ Chamber of Commerce

<http://www.quartzsitechamber.com>

Scottsdale, AZ Office of Economic Development

The Scottsdale Office of Economic Development sponsors an annual Tourism Study, stating that "The economy of Scottsdale/Paradise Valley area has traditionally been highly dependent upon tourism and the hospitality industry. Yet little information exists on the impact of tourism on our economy." The tourism study consists of two parts: lodging statistics, and visitor statistics.

http://www.scottsdaleaz.gov/economics/_documents/2002lodging.pdf

http://www.scottsdaleaz.gov/economics/_documents/2002visitors.pdf

The visitors are classified as hotel visitor, seasonal visitor, houseguest, and day visitor. The report also assesses costs related to visitors, and the overall economic impact of tourism through a cost/benefit analysis. The report includes a description of data sources and data collection methods.

City of Tucson, AZ website compares data from the Census and the ACS.
<http://www.cityoftucson.org/planning/acs2000.htm>

HI - Department of Business Economic Development and Tourism
<http://www.state.hi.us/dbedt/>

NM - Economic Development Department
<http://www.edd.state.nm.us/>

This State of New Mexico site includes “New Mexico Communities,” an online searchable database providing access to customizable community profiles, county statistics, and the building & sites inventory.

Ontario, Canada
Huntsville, Ontario
<http://huntsville.ca/business-comprof/>

With tourism its main industry, the town of Huntsville, Ontario also has, as part of its community profile, a description of the impact of tourism.

4. Tourism Offices

- a. **Utah Division of Travel Development, State of Utah**
<http://travel.utah.gov/index.html>
- b. **Division of Travel and Tourism, Wyoming Business Council**
<http://wyomingbusiness.org/tourism/index.cfm>

5. Health Services Delivery Organizations

- a. **Human Resources, Yuma Regional Medical Center**
<http://www.yumaregional.org/seasonaljobs.html>

To meet the needs of the 85,000 winter residents of Yuma, AZ, the YRMC recruits seasonal medical staff, offering 3-9 month commitments, travel allowances, furnished housing allowance, and also provides seasonal housing units.

“The influx of seasonal citizens increases the need for medical services. During those six months, Yuma Regional Medical Center supplements

your health care team with experienced, high quality seasonal employees. This seasonal program provides a sunny winter getaway destination for health care specialists who wish to develop their professional skills and career.”

- b. EMS Data Collection Project, Emergency Medical Services
Regulatory Board, Minnesota**
<http://www.emsrb.state.mn.us/emsdata.asp>

III. RESEARCH CENTERS

1. Regional Rural Development Centers

<http://www.ag.iastate.edu/centers/rdev/about/rrdc.html>

There are four Regional Rural Development Centers, operated in partnership with the US Department of Agriculture, covering the Northeast, North Central, Southern, and Western regions.

Northeast Regional Center for Rural Development, Penn State University

<http://www.cas.nercrd.psu.edu/>

The NRCRD region covers Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and West Virginia.

Rural Development Links

<http://www.cas.nercrd.psu.edu/Links/links.htm#Centers>

Northcentral Regional Center for Rural Development, Iowa State University

<http://www.ag.iastate.edu/centers/rdev/RuralDev.html>

The NRCRD region covers Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

Southern Rural Development Center, Mississippi State University

<http://srdc.msstate.edu/>

The SRDC region covers Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.

Western Regional Rural Development Center, Utah Sate University

<http://extension.usu.edu/wrdc/>

The WRRDC region covers Alaska, Arizona, California, Colorado, Hawaii, Montana, New Mexico, Oregon, Utah, and Washington.

2. USDA Cooperative State Research, Education, & Extension Services

<http://www.reeusda.gov/1700/statepartners/usa.htm>

Many of the state university extension services include research activities as well as community and tourism-development guidance.

Alaska - Cooperative Extension Service, University of Alaska-Fairbanks

<http://www.uaf.edu/coop-ext/>

Estimating Community Visitor Days, Cooperative Extension Service,
University of Alaska-Fairbanks.

<http://www.uaf.edu/coop-ext/publications/freepubs/WREP-146.html>

Michigan - Travel, Tourism & Recreation Resource Center, Michigan State
University Extension <http://www.tourismcenter.msu.edu>

Michigan Travel Indicators

[http://www.tourismcenter.msu.edu/ttrc/html-ttrc/frames
ttrc/Indicators.htm](http://www.tourismcenter.msu.edu/ttrc/html-ttrc/frames
ttrc/Indicators.htm)

Links to State Tourism Organizations and Research Websites

http://www.prr.msu.edu/mgm2/state_tourism.htm

National Tourism Database

<http://www.msue.msu.edu/msue/imp/modtd/mastertd.html>

Bibliography of economic impacts of parks, recreation and tourism

<http://www.msu.edu/user/changwe4/bibli.htm>

Minnesota – Tourism Center, University of Minnesota Extension Service
<http://www.tourism.umn.edu/>

New Mexico - Rural Economic Development Through Tourism Project, New
Mexico Cooperative Extension Service, New Mexico State University
<http://www.nmsu.edu/~redtt/Resources/html/index.html>

Vermont – Vermont Tourism Data Center, University of Vermont Extension
<http://www.uvm.edu/~snrvtdc/>

Wisconsin - Center for Community Economic Development, University of
Wisconsin-Extension <http://www.uwex.edu/ces/cced/>

**3. University Departments of Natural Resources Management (Natural
Resources, Environmental Sciences, Agricultural Sciences)**

**a. Institute for Tourism and Recreation Management, School of Forestry,
the University of Montana-Missoula**

<http://www.forestry.umt.edu/research/MFCES/programs/itrr/about.htm>

The institute has ongoing research projects in the areas of

- Resident Attitudes Monitoring
- Community Tourism Assessments

- Nonresident Travel and Visitor Characteristic Monitoring

In one of the few studies to address health services, Christensen (1994) uses a per capita tourism index and reports a minor correlation between tourism and health services, where tourism areas support more physicians per resident than non-tourism areas. However, “it is not known from the available data if emergency service responses suffer seasonally during periods of high tourism.”

Christensen, N. 1994. A study of the relationships of tourism and potential impacts on Montana counties. Phase One. Institute for Tourism and Recreation Research (ITRR), School of Forestry, University of Montana-Missoula, September 1994.

<http://www.forestry.umt.edu/research/MFCES/programs/itrr/research/coal.PDF>

Cheek, KA, & Black, R. 1998. Nonresident travel in Montana: Putting the numbers into context. Institute for Tourism and Recreation Research (ITRR), School of Forestry, University of Montana-Missoula, Technical Completion Report 98-2, June 1998.

Full report:

<http://www.forestry.umt.edu/research/MFCES/programs/itrr/research/econrprt.pdf>

Impact summary:

<http://www.forestry.umt.edu/research/MFCES/programs/itrr/research/econsumm.htm>

Preliminary 2002 Non-resident Travel Estimates for Montana

<http://www.forestry.umt.edu/research/MFCES/programs/itrr/econest.pdf>

b. Tourism Data Center, School of Natural Resources, University of Vermont

<http://www.uvm.edu/~snrvtdc/>

Tourism indicators

<http://www.uvm.edu/~snrvtdc/annual/index.html>

c. Department of Agricultural Economics, Texas A&M University

<http://agecon.tamu.edu>

Espinoza, M-C and Stallmann, JI. 1996. Seasonal migration of retirees: A review of the literature. Faculty Paper Series FP 97-2, October 1996, Department of Agricultural Economics, Texas A&M University, College Station, TX. <http://agecon.tamu.edu/publications/fp97-2.pdf>

d. Cooperative Park Studies Program, Department of Forest Resources, University of Minnesota

<http://www.cnr.umn.edu/CPSP/>

Types of studies currently conducted by the program include estimating visitor use and benefits based management.

Flitsch, K.M., M.A. Davenport, J.L. Thompson and D.H. Anderson. 2003. Visitor Use Trends on the Niobrara National Scenic River: 1993-2001. CPSP Research Summary No. 34. St. Paul, MN: University of Minnesota, Department of Forest Resources, Cooperative Park Studies Program. 7p. <http://www.cnr.umn.edu/CPSP/Research/ResSum34-NIOB-50503.pdf>

CPSP Summary Research Titles
http://www.cnr.umn.edu/CPSP/research_summary_titles.htm

4. Schools of Business and Management

- a. **Center of Sustainable Tourism, Leeds School of Business, University of Colorado-Boulder** <http://leeds.colorado.edu/tourism/>
- b. **Arizona Hospitality Research and Resource Center, School of Hotel and Restaurant Management, Northern Arizona University**
<http://www.nau.edu/hrm/ahrcc/>
- c. **Economic and Business Research Program, Karl Eller College of Business and Public Administration, The University of Arizona**
<http://ebr.eller.arizona.edu/>

The department publishes demographic profiles, statistical abstracts and special reports, and the periodical, *Arizona's Economy*.

Charney, A.H., Pavlakovich-Kochi, V.K. (2002). *The economic impacts of Mexican Visitors to Arizona, 2001*. Tucson: Economic and Business Research Program, Karl Eller College of Business and Public Administration, The University of Arizona.
<http://ebr.eller.arizona.edu/ImpactStudies/MexicanVisitors/MexicanVisitors.pdf>

5. Transportation Research

- a. **Lehman Center for Transportation Research, Florida International University** <http://www.eng.fiu.edu/LCTR/projects.htm>

The LCT has an ongoing research project, "Alternatives for estimating seasonal factors on rural and urban roads in Florida." The researchers report that seasonal residents have different travel characteristics than permanent residents, with important implications for road use and transportation planning.

Li, M-T, Gan, AC, and Zhao, F. 2001. Travel characteristics of retired, non-retired, and seasonal population groups. Paper prepared for the Fourteenth Annual Meeting of the International Chinese Transportation Professionals, Miami, FL, April 2001.

<http://www.eng.fiu.edu/ce/ictpa/html/proceedings/Travel%20Characteristics.pdf>

b. Kansas University Transportation Center

<http://www.ku.edu/~kutc/index.html>

Rural Transit Assistance Program

<http://www.ku.edu/~kutc/rtap/index.html>

Transportation Links

<http://www.ku.edu/~kutc/links/RTAP%20Links.html>

6. Departments of Gerontology and Aging / Retirement Research

a. Reynolds Gerontology Program, Wake Forest University

<http://www.wfu.edu/Academic-departments/Gerontology/>

Retirement migration bibliography

<http://www.wfu.edu/Academic-departments/Gerontology/retirement-migration-biblio-info.htm>

7. Non-Profit Research Institutes

a. Canadian Tourist Research Institute

<http://www.conferenceboard.ca/ctri/>

b. American Association of Retired Persons (AARP) Research Center

<http://research.aarp.org/>

AgeLine (online bibliographic database)

<http://research.aarp.org/ageline/home.html>

8. Commercial Databases

a. leisuretourism.com

<http://www.leisuretourism.com/ReviewsReports/index.asp>

“leisuretourism.com from CABI *Publishing* allows you to seek out and use information from the fields of leisure, recreation, sport, hospitality, tourism and culture. leisuretourism.com allows you to find the latest published research in a database containing over 50,000 articles taken from over 400 publications. leisuretourism.com also gives you access to new academic research, a forum for the publication of conference proceedings and news from the leisure, recreation,

sport, hospitality, tourism and culture sectors. leisure**tourism**.com written by subject experts and has an editorial board containing leading figures from the academic world.”

IV. ORGANIZATIONS FOR SEASONAL MIGRANTS

- 1. Snowbird Network**
<http://snowbird.net/>

Snowbird Newspapers & Magazines
http://snowbird.net/Snowbird-News/Publications/NEWSPAPERS_MAGAZINES.htm

- 2. Canadian Snowbird Association**
<http://www.snowbirds.org/>

- 3. Arizona Winter Visitors Association**
<http://www.arizona-wintervisitors.com/>

- 4. Road People Magazine** <http://www.geocities.com/jdwolfskill/index.html>

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Espinoza, M-C., & Stallmann, J.I. (1996). Seasonal migration of retirees: A review of the literature. Faculty Paper Series, FP-97-2, October 1996. Department of Agricultural Economics, Texas A&M University, College Station, TX.
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