

Counting Snowbirds: The Importance of and the Problems with Estimating Seasonal Populations

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Source: *Population Research and Policy Review*, Jun., 2002, Vol. 21, No. 3 (Jun., 2002), pp. 227-240

Published by: Springer in cooperation with the Southern Demographic Association

Stable URL: <https://www.jstor.org/stable/40230786>

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## Counting snowbirds: The importance of and the problems with estimating seasonal populations

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**Abstract.** Using the example of the seasonal population of “snowbirds” that spend the winter in Arizona and other Sunbelt states, this paper examines the issues involved with estimating temporary populations. Specifically using the experience of ASU’s ongoing research efforts on Arizona snowbirds, the paper discusses some of the problems associated with estimating a seasonal population – in particular: (1) defining the population under study and (2) developing effective procedures to collect information relating to the population. The concluding section emphasizes the growing national importance of temporary populations and the needs of both the public and private sector to have better information on both their size and characteristics.

**Keywords:** population estimates, seasonal migration, temporary populations

Seasonal populations remain an elusive topic for U.S. demographers. While temporary residents are widely recognized in extent, magnitude, and their social and economic impacts, relatively few efforts have been devoted to developing nationwide, statewide, or even local estimates of the phenomenon. Standard definitions are still to be established even though the aging baby boom, longer life expectancies, and rising household wealth all point to significant increases in seasonal flows over the next ten years.

The biggest impact of seasonal migration occurs in the Sunbelt states, particularly Arizona, Florida and Texas. For example, we now estimate that during the peak period Arizona is the temporary home of 273,000 long-term seasonal residents who come to escape the winters in their home states/provinces to the north. Conversely, beach and mountain states have a similar phenomenon of large numbers of seasonal residents during the summer months.

These movements of people from their “usual place of residence” for part of the year have significant impacts on both the sending and receiving communities. Discussions of seasonal migration typically emphasize the positive economic impacts to the receiving communities. But there are negative economic impacts in both sending and receiving communities to the extent that substantial variation in the size of the service population may cause communities to build facilities only needed for part of the year. In addition,

congestion and peak load problems associated with roads and other local facilities and services are often cited as examples of the negative impacts of large numbers of part-time residents on receiving communities.

This paper examines the issues associated with measuring seasonal populations through the lens of elderly seasonal residents, so-called “snowbirds”, by relying on research in Arizona over the past two decades. Section 1 provides various classification schemes that differentiate across seasonal population flows and also reviews studies on seasonal populations. Section 2 discusses the different approaches and major difficulties associated with estimating seasonal populations. Section 3 presents Arizona case studies of the two different approaches: the ASU Winter Resident Study conducted annually since 1984 and the ASU Monthly Household Study undertaken in 1990. Section 4 concludes with suggestions about how the U.S. Bureau of the Census might help to obtain a more accurate picture of such movements, with particular attention directed to the opportunity offered by the American Community Survey (ACS).

## 1. Defining Seasonal Population

After World War II, growing numbers of retired persons in the Snow Belt states began to adopt the migratory lifestyle of wintering in Sun Belt locales. Hoyt (1954) initially reported this behavior by looking at residents of a trailer park in Florida. Burgess et al. (1955) subsequently found that these snowbird households were in the area primarily because of climate and chose to reside in a trailer park because of the “sociability” of such a retirement community.

An investigation by Rush (1980) of snowbirds wintering in the Texas Lower Rio Grande Valley further stimulated interest in this behavior by Sun Belt demographers. Studies during the 1980s on Texas snowbird households included Pan American University (1985) and Martin et al. (1987). At the same time, studies on Florida snowbirds began in earnest, e.g., Smith (1984), Mullins and Tucker (1988), Smith (1988), and Tucker et al. (1988). Research in Arizona on the phenomenon arose as well. Monahan and Green (1982) did selected studies on Tucson; Sullivan and Stevens (1982) dealt with households in two small RV parks in the Phoenix area; Happel et al. (1983) reported on a number of broad economic variables and indexes showing the fluctuations of seasonal population flows in the Phoenix area; and the ASU Center for Business Research began its ongoing winter resident research program to be described in more detail in Section 3.

Most studies of seasonal migration have focused on destination locations, but some research has examined the phenomenon from the point of view of the origin location of the migrants (Krout 1983 and Craig 1989).

Investigations simultaneously began into the conceptual issues relating to the phenomenon. Behr and Gober (1982) addressed residence-based migration definitions; Zelinsky (1983) dealt with the impasses in migration theory; Gober and Mings (1984) looked at the geography of nonpermanent residence in the U.S; and Long (1988) explored residential mobility in relation to migration. Then, at the end of the decade, Smith (1989) classified types of temporary residence according to length of and primary reason for the stay.

Roseman (1992) went a step further with a typology of cyclical migration also defined by time and purpose. In this typology, the time dimension specifies the frequency of movement, ranging from weekly mobility (weekend second homes) to seasonal movement (snowbirds) to infrequent circulation over the life course (periodic returns to home place). The second dimension specifies reasons for cyclical mobility, including production-oriented reasons (job and employment-related) and consumption-oriented reasons (family and amenity-related). Elderly seasonal residents are further distinguished between more conventional snowbirds and “homeless” snowbirds – those in RVs on the open road much of the year or those moving among the homes of children. Based on Roseman’s matrix, the defining characteristics of snowbirds are: *Reasons for travel* – amenity or consumption-based; *Time scale* – (a) seasonal – winter, and (b) length of stay – long term. [The operational definition in our studies has been a stay of at least one month but less than six months in order to distinguish the snowbirds from both (a) shorter-term winter visitors on winter vacations and (b) people who spend more than half of the year in Arizona.]

## 2. Counting Seasonal Populations

Two approaches, direct and indirect, exist for studying demographic processes. Both methods have been used to gather information relating to seasonal populations.

### 2.1. *The Direct Approach*

The direct approach uses either a census or a sample survey to get the information directly from the seasonal residents themselves.

#### 2.1.1. *Census Data*

The decennial census has collected housing data since 1970 that provide some information relating to the seasonal population. Housing units have been classified as “seasonal” if intended for use only during certain seasons, such as summer homes, etc. While these census data are available for small

geographic areas on a nationwide basis, they have several severe limitations as a source of information relating to total seasonal populations: (1) they do not cover seasonal residents staying in other kinds of accommodations; (2) they provide no information concerning the number or characteristics of the persons who may occupy the units; and (3) like all decennial census data, they are available only once every ten years.

In the 1980 census, the U.S. Bureau of the Census (1982) compiled more-detailed information relating to “nonpermanent households”. Some 547,100 persons were identified as nonpermanent residents of the localities in which they were living on April 1. Given that (1) this date is well past the prime period of winter migration, (2) *all* members of the household had to be counted as nonpermanent, and (3) persons staying at the home of a permanent resident or in hotels, motels, camp grounds, or trailer/RV parks were not enumerated as nonpermanent residents, the reported number of persons is clearly an undercount of overall seasonal migration. Rose and Kingma (1989) compared the number of census enumerated nonpermanent residents aged 65 and over in 21 Florida counties with estimates provided by local planning agencies. In each county, the local estimate of retired seasonal migrants was many times greater than the census number. For all 21 counties, the census total was 64,162 while local estimates totaled nearly 400,000.

Even with the limitations, the snowbird phenomenon is readily apparent in the 1980 census data. Two-thirds of the nonpermanent residents enumerated were in the four Sunbelt states of Florida, California, Arizona and Texas. For Arizona and Florida, the median age of the nonpermanent residents was listed as “65+”, the highest category. Based on the entire 51 origin state by 51 destination state matrix, virtually all eastern interstate flows were oriented toward Florida, while Arizona dominated the western interstate flow (Gober and Mings 1984).

As part of the Census Bureau’s preparations for the 1990 census, the 1986–1987 National Content Study of 50,000 households tested questions on multiple residency for possible inclusion. For example, respondents were asked to break down the twelve months of the year by the places stayed during the year. But because of a variety of problems – such questions took longer to fill out than just listing “usual place of residence”, total months listed often did not add to 12, and some individuals voiced concerns about invasion of privacy – questions on multiple residency were pushed aside for the 1990 census.

The 1990 census began by stating “[It] must count every person, at his or her ‘usual place of residence’. This means the place where the person lives and sleeps most of the time”. It lists for inclusion: everyone who usually lives here (family members, house mates and roommates, foster children

roomers, boarders, and live-in employees); persons temporarily away; only those college students staying here while attending college; persons in the Armed Forces who live here; newborn babies still in the hospital; children in boarding schools below the college level; persons who stay here most of the week while working even if they have a home elsewhere; and persons with no other home who are staying here on April 1 (U.S. Bureau of the Census 1991).

If everyone staying in the housing unit was only there temporarily and usually lived elsewhere, the respondent was asked to print the names of each person and their usual address, then fill in a circle on the form. The Census Bureau subsequently coded all these temporary residents to their usual address so that data on such residents and households were not reported or analyzed with respect to the temporary residence.

For demographers interested in second homes, temporary residency and the snowbird phenomenon, the 2000 census form provides even less help. It asked for how many people were living or staying in the house, apartment, or mobile home on April 1, 2000, including foster children, roomers, or house mates; people staying here on April 1, 2000 who have no other permanent place to stay; and people living here most of the time while working, even if they another place to live (U.S. Bureau of the Census 2000b). There was absolutely nothing on the form (short or long) about temporary households.

#### 2.1.2. *Other Direct Surveys*

Most direct-approach data collection efforts relating to seasonal populations have been undertaken at the state or local level. In three of the primary snowbird destination states – Florida, Texas, Arizona – researchers have compiled survey information about their state's winter resident populations. Information relating to seasonal and other temporary residents of Florida has been collected periodically as part of a statewide household survey (Smith 1988). Researchers at Pan American University have conducted surveys of seasonal residents in the Rio Grande Valley of Texas (Martin et al. 1987). Detailed information about seasonal residents in Arizona has been gathered through questionnaires distributed at large snowbird events (Hogan and Happel 1993) and as part of a statewide household survey conducted by Arizona State University during 1990– 1991 (Hogan et al. 1995), described in more detail below.

The direct approach provides detailed microdata that are unlikely to be available from any secondary source. Unfortunately, census and survey methods are very labor intensive and quite expensive. In addition, it can be very difficult to develop statistically valid sampling procedures for a seasonal population.

## 2.2. *The Indirect Approach*

The indirect approach relies upon compiling information relating to seasonal populations from secondary sources. Sources include administrative databases, such as utility customer records, or surveys conducted for other purposes, such as those conducted by state tourism agencies. In addition, information about seasonal populations may be gathered by surveying knowledgeable informants, such as local public officials or businesspersons. For example, Rose and Kingma (1989) obtained information about retired seasonal migrants from the planning agencies of 29 Florida counties.

Smith (1989) has carefully noted many of the problems associated with the indirect approach. The most important limitation is that an accurate enumeration of the entire seasonal population is almost never available, so the empirical relationship between the symptomatic variables and seasonal population generally must be based upon information from a sample survey or an estimate derived from some other procedure. Unfortunately, this makes it impossible to know whether the resulting estimates are accurate. Moreover, even if the relationship between the symptomatic variables and the size of the seasonal population was correct for the base period, it may not be a stable relationship over time.

Information based upon data compiled from supposedly knowledgeable informants is subject to further problems. It relies upon the accuracy of the information provided and the statistical validity of the sample of informants responding to the survey.

Even with the shortcomings, researchers attempting to measure seasonal migration flows have usually relied upon an indirect approach given the cost and effort associated with direct survey methods.

## 3. *Arizona Case Studies*

### 3.1. *The Direct Approach: The ASU Monthly Household Survey*

The Center for Business Research and the Survey Research Lab at Arizona State University began a statewide monthly survey in February 1990 to collect up-to-date demographic, socioeconomic, and attitudinal data from Arizona households.

Each month 400-500 households across Arizona were interviewed, with households selected on a stratified basis using random-digit dialing, and sampling was done without replacement. All households in Arizona with telephones had an equal chance of being selected. Unfortunately, some temporary residents may be less likely to have telephones than the rest of the households in Arizona. We cannot estimate the extent of the bias for all groups of



residents, but we do know that the vast majority of winter residents in the Phoenix metropolitan area had telephones at the time of the survey (Happel et al. 1988). Since the most likely group of households without telephones would be temporary in-migrants who spent only a few months of the year in Arizona, the probable result would be an underestimate of the size of the temporary in-migrant population.

For the purposes of studying seasonal residency, questions included: whether Arizona was their permanent residence; if not, what was their permanent residence; whether the respondent spent more than 30 days in a row outside Arizona; and whether anyone from outside the state came to stay with the household in Arizona for more than 30 days or more in a row over the past year. Also included were questions concerning specific housing arrangements; work arrangements; marital status; and demographic backgrounds (age, education, schooling, race, and household income) for both respondent and spouse.

The percent of nonpermanent households in the monthly samples ranged from 0.7 percent in September to nearly 6 percent in February and March. Based upon the 1990 census count of 1.4 million households, these results imply a peak snowbird population of nearly 90,000 households statewide during the 1989–1990 winter season.

In addition, each month, 8 to 12 percent of the permanent households reported they had one or more visitors in the past stay with them at least 30 consecutive days. The percent of permanent households stating that they left the state for 30+ days was between 5 to 7 percent each month, with over 50 percent of these respondents indicating that they were gone in July and August. The average time gone was 2.5 months.

Expanding on the classification schemes of Smith and Roseman, four types of households spending a minimum of one month in Arizona were distinguished in the analysis (McHugh et al. 1995):

1. *Single Year-Round Residence in Arizona* (SRA's)-respondents with permanent residence in Arizona who do not have a second residence in Arizona;
2. *Dual Residence in Arizona* (DRA's)-respondents with permanent residence in Arizona with another residence for their own use in Arizona;
3. *Temporary Out-Movers* (TOM's)-respondents with permanent residence in Arizona who leave 30+ days;
4. *Temporary In-Movers* (TIM's)-respondents with permanent residence outside Arizona who visit 30+ days.

In total, 14 percent of total respondents and nearly one-fourth of the respondents over 60 years of age fell into one of the three multiple residence categories. While it is well known that Arizona attracts thousands of tempor-



ary in-movers (TIM's) each winter season, our survey also revealed a large group of Arizona residents who leave the state on a recurrent basis. In fact, the prevalence of temporary out-movers (TOM's) in our survey exceeded in-movers. Clearly, in both winter and summer Arizona is a state where people are engaged in significant monthly movements. Funding cutbacks ended the ASU Monthly Household Survey in early 1991.

### 3.2. *The Indirect Approach: The ASU Winter Resident Study*

To respond to continuing requests for information about seasonal migration flows to the Phoenix area, the ASU Center for Business Research began an ongoing research effort in early 1984 to estimate the number of snowbirds in the Phoenix area at the height of the winter season. Since the vast majority appeared to stay in the mobile home or RV parks concentrated in the East Valley locales of Mesa and Apache Junction, the first survey was limited to those two communities. All parks in these communities were contacted by mail, telephone, or on-site visits. The owners/managers were asked for the number of both RV and mobile home spaces, the percent of both occupied in early February 1984, and the percent of all occupied places having snowbird households.

The initial survey counted 39,300 park spaces in the East Valley locales and found that 72 percent were occupied by snowbirds (Table 1). These results implied a winter resident population of 28,300 snowbird households, or some 56,600 individuals assuming two persons per residence, as indicated from household surveys conducted by the authors in Phoenix area parks. This seasonal flow took place on a permanent population base of approximately 300,000 in the study area. The results from this park census and household surveys, were reported in Happel et al. (1988).

A similar park survey has been conducted each winter season since then. The study area was expanded to include the entire Phoenix area for the 1985–1986 season. The 1986 survey enumerated 99,500 total spaces, of which snowbird households occupied 43 percent. Information from a survey of snowbird households conducted at a large snowbird event indicated that only 47 percent of the respondents stayed in parks, with the remainder staying in apartments (23 percent), single homes/condominiums (15 percent), hotels/motels (8 percent), or with friends or relatives (7 percent) (Happel et al. 1988). Based on these percentages, the total snowbird population in the Phoenix area at the peak of the 1985–1986 season was 190,000 – nearly 10 percent of the permanent population at the time. Yet even with this magnitude, these numbers are clearly conservative. Missing were snowbird households who only came for a month (or less) and had already passed through by the census in February. There were also sizable numbers staying on public land.

Table 1. Summary of results from the ASU winter resident study, selected years, 1984–2000: Total number of RV and mobile home spaces and estimated number of snowbird households in the parks and the estimated total snowbird population based upon results of the park survey

Season	Phoenix-Apache junction area				Balance of Southern Arizona			
	Number of			Estimated	Number of			Estimated
	Total	snowbird	households		Total	snowbird	households	
	spaces	in parks	in parks	snowbird	spaces	in parks	in parks	snowbird
				population				population
								total
								total
<i>Initial survey included only the East Valley portion of the Phoenix Metropolitan area</i>								
1983–1984	39,300	28,300						
<i>Survey expanded to include the entire Phoenix Metropolitan area</i>								
1985–1986	99,500	44,800		190,000				
<i>Survey expanded to include 11 counties</i>								
1990–1991	98,500	50,300		200,000	61,500	39,900		106,000
<i>Survey methodology modified (including redefinition of Phoenix Metropolitan area to include all of Maricopa Co.)</i>								
1999–2000	102,600	41,700		167,000	89,400	36,600		106,000
								273,000

Source: Center for Business Research, Winter Resident Study. 1984, 1986, 1991, 2000, Arizona State University, Tempe, AZ.

For the 1990–1991 season, the study was expanded statewide through funding from a grant from the Arizona Office of Tourism. To the parks in the Phoenix area were added another 600 in the other counties in the state. The total number of spaces statewide was 168,000, of which park-snowbird households occupied 90,000. In total there were over 300,000 snowbirds in Arizona at peak season (Hogan & Happel 1992). [The 1990–1991 survey indicated few winter residents in four northern/eastern rural counties of the state. Since the 1991–1992 season, the study has surveyed parks in an 11-county study area.]

A number of changes were made in the methodology used for the winter resident survey conducted in February 2000. For the past several years, the results have shown a downward trend in the size of the park winter resident population after increases for most of the 1990s. The data showed the declines to be occurring in the state's two major metropolitan areas while the numbers of park snowbirds wintering in many smaller communities continued to increase. Closer examination indicated that the number of people residing in the parks at the time of the survey had not declined substantially. Instead the park owners/managers reported that winter residents made up a smaller share of the total park population than in previous years. To obtain more insight about this phenomenon, the survey asked the park owners/managers to categorize all households into one of the following four groups: (1) year-round; (2) winter residents (snowbirds) – retired persons residing at least one month in the park during the winter season; (3) other long-term temporary residents (staying at least one month); and (4) short-term temporary – with a stay of less than one month. This more precise definition of a winter resident allowed a more accurate count of the snowbird population and provided information about the other park residents. The 2000 survey also redefined the Phoenix/Apache Junction market area to include all parks in Maricopa County. In previous surveys, parks in some of the rural communities in Maricopa County had been included in the statewide figures. The new definition of the Phoenix/Apache Junction area is more consistent with the formal definition of the greater Phoenix area (the Phoenix-Mesa MSA is defined as the combination of Maricopa and Pinal Counties).

Based on the revised methodology for the survey, just 78,300 snowbird households were living in mobile home/RV parks in February 2000, even with 32,000 more park spaces compared with the 1990–1991 season. Based upon methodological assumptions used in previous years, the 1999–2000 park survey results imply a total winter resident population of approximately 270,000 in Arizona at the height of the 1999–2000 season (Hogan and Happel 2000).

#### 4. What Can be Done to Get Better Data?

Increasing wealth and the freedom to move and travel relatively cheaply and easily in the U.S. have created an incredible array of short-run migration flows among households. Demographers have developed conceptual frameworks and definitions based on consumption versus production, daily versus weekly versus monthly moves, or on time periods within the life cycle. However, reliable population estimates, particularly at the national level, are essentially non-existent.

The ASU research on snowbird migration points to the difficulties involved when looking at households moving monthly or seasonally. When is the most accurate time to estimate numbers? What are the most accurate and/or most efficient methods to compile information about temporary residents? And the most fundamental question of all is what does “usual place of residence” mean in highly mobile settings where people stay large parts of the year in more than one location?

Without Census Bureau involvement, “usual place of residence” will remain essentially self-definitional, and national patterns of short-run migration flows will be felt economically and socially but not carefully delineated. What does “usual place of residence” mean to couples moving around the country in their RV, or staying a month here and there, or settling down in Arizona for 6+ months while continuing to define their “permanent” residence back in the Midwest?

At a minimum, more care ought to be given to explaining what “usual place of residence” means on the census questionnaire. Does it mean where you actually eat and sleep the majority of the days of the year, or does it mean where you are registered to vote? What about those situations where equal amounts of time during the year are spent at two or more locations/residences? The listing of a series of common multi-residency examples would go a long way in clearing up public confusion when filling out the question. As discussed in Section 2, the 2000 census provided no such guidance.

In 1996 the Census Bureau introduced the American Community Survey (ACS). Because the complete census is done only once every 10 years so that long-form information becomes increasingly out of date for federal planners and other data users, the ACS “is a way to provide the data communities need every year”. It is an ongoing survey that the Census Bureau expects to replace the long form in 2010.

Full implementation would begin in every U.S. county in 2003. The survey includes three million households, contacted by mail with staff follow up for non-responders, and provides estimates of demographic, housing, social, and economic characteristics every year for all cities, counties, metropol-

itan areas, and population groups of 65,000 people or more. Unfortunately, like the decennial census, the ACS does not provide useful information concerning temporary migration/multiple residency.

The ACS questionnaire instructs the respondent to list everyone who is living or staying at the dwelling for more than 2 months and anyone else staying there who does not have another usual place to stay, but not to list anyone who is living somewhere else for more than 2 months such as a college student living away. It then adds that if this place is a **vacation home** or a **temporary residence** where no one in this household stays for more than 2 months, do not list any names in the List of Residents. **Complete only pages 4, 5, and 6 and return the form** (U.S. Bureau of the Census 2000a). Pages 4, 5, and 6 ask for extensive information about the housing unit, so while the ACS can generate data on a subset of temporary residences (those where no one in the household stays more than two months), not a thing will be known about the people there.

Moreover, the two-month period itself is quite arbitrary. Why not one month as in many local studies? And while the respondent is asked if the address on the front label is your primary residence, vacation home, school residence, work residence, or other (to specify), no other listed person is asked for this information. Therefore, the ACS seems to assume that the residence category indicated by the respondent applies to all other listed individuals.

While we recognize that it is difficult to develop survey methods to properly address temporary migration/multiple residency, the growing prevalence and societal importance of these phenomena make it crucial that the Census Bureau modify current decennial census/ACS approaches. We therefore offer two suggestions:

(1) When a housing unit is identified as a vacation home or temporary residence, the demographic information relating to that housing should be retained so that the number and characteristics of the temporary population residing in such housing units can be analyzed.

(2) An additional query similar to the following could be added: "Besides your usual place of residence, have you spent 30 days or more during the past year at another locale? If so, at which location(s) did you stay and for how long (in each location)?"

A hands-off approach regarding seasonal migration/multiple residences by the Census Bureau means that state and local demographers will generate the only (and incomplete) estimates of snowbirds and other economically significant seasonal/temporary households. The numbers will be reported at conferences and through professional journals in hopes that someday much more of the dynamic migration puzzle can be put together. Or it can step forward in this new century, gather together interested parties, and come up with

residency questions that are both informative and protect privacy. Migration demographers are anxiously awaiting the decision.

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