

# The American Community Survey: Serious Implications for Indian Country

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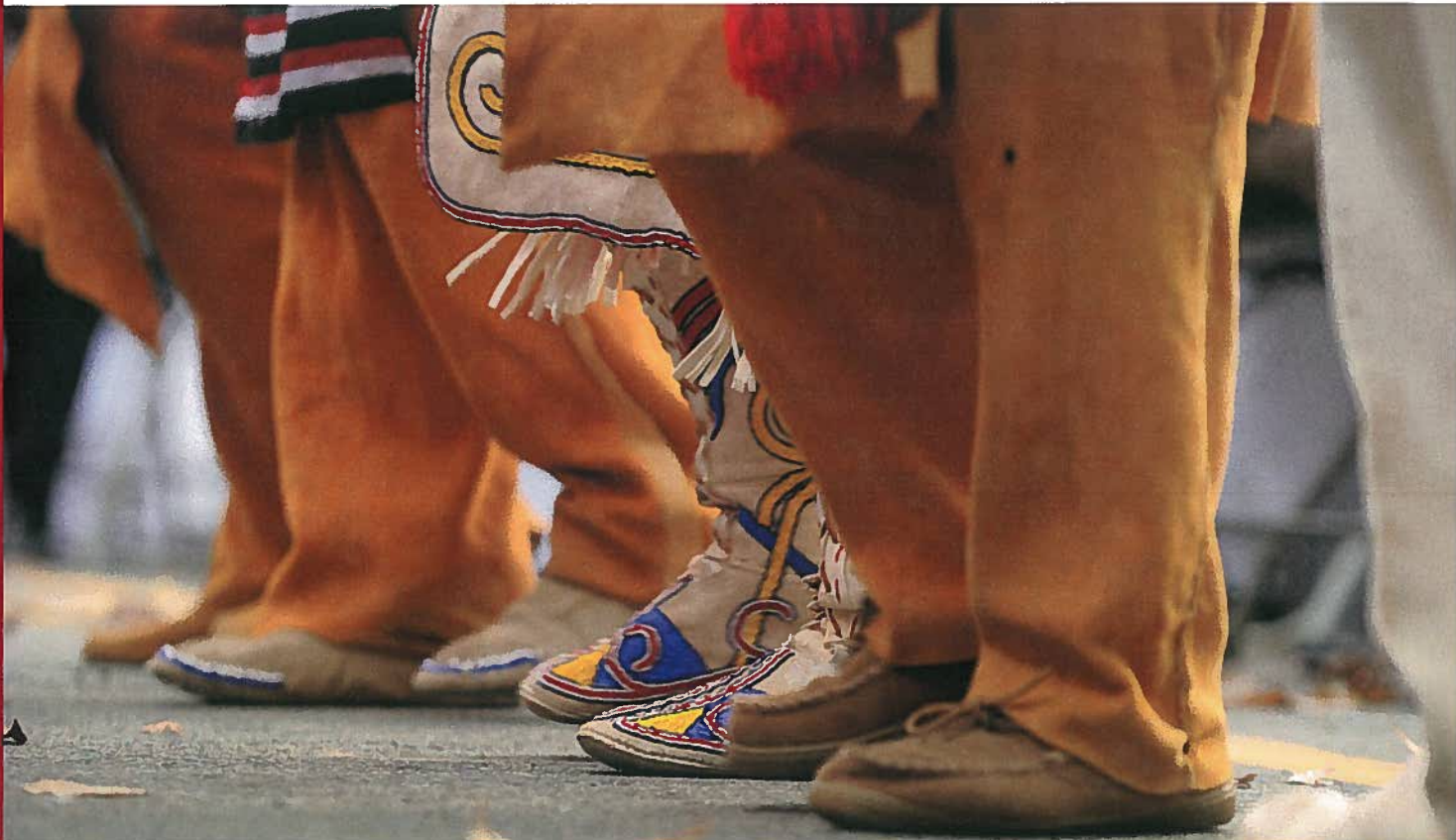
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**Tribally-Driven** Research



The US Census Bureau has discontinued the "long form" questionnaire used in past decennial censuses to collect comprehensive data on the socio-economic characteristics of the American population. Instead, the Bureau has replaced it with an ongoing survey called the American Community Survey, or ACS for short. This paper addresses what this change means for tribal leaders, tribal planners, federal agencies and other users of data on the American Indian and Alaska Native (AI/AN) population.

# **Executive Summary**

## **ACS – Serious Implications for Indian Country**

The US Census Bureau has discontinued the "long form" questionnaire used in past decennial censuses to collect comprehensive data on the socio-economic characteristics of the American population. Instead, the Bureau has replaced it with an ongoing survey called the American Community Survey, or ACS for short.

What does this change mean for tribal leaders, tribal planners, federal agencies and other users of data on the American Indian and Alaska Native (AI/AN) population?

Compared to the data that was previously available from the "long form," will the ACS data:

- Be available for all areas, down to the smallest reservations, tribal political subdivisions and Alaska Native villages?
- Be accurate, reflecting the actual on-the-ground conditions of AI/AN people?
- Be more timely, since it will be released annually, rather than once every ten years?

This analysis looks at all three questions, largely on the basis of the most recent set of data issued from the ACS, covering information collected in 2006, 2007 and 2008.

Data on the AI/AN population from the 2000 Census, the Census Bureau's Population Estimates program and the 3-year estimates from the ACS are compared at the national level and for selected local areas with significant AI/AN populations, including 17 reservations and other types of AI/AN areas, 11 counties and one city.

The analysis raises several serious issues.

- There appears to be a potentially serious undercount of the AI/AN Alone<sup>1</sup> population, especially AI/AN Alone youth, in the ACS numbers at both the national level and for many local areas.

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<sup>1</sup> The Census Bureau defines the AI/AN "Alone" population as persons who respond to the race question on a Census form by identifying American Indian or Alaska Native as their only race. The AI/AN "Alone or in Combination" (with one or more other races) population includes all those who identify with other races as well as American Indian or Alaska Native, together with all those who say that American Indian or Alaska Native is their only race.

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- The available ACS data for some reservations contains hard to explain changes in key socio-economic characteristics of the AI/ AN Alone population.
- An important measure of sampling error for key population characteristics raises questions about the reliability of the published ACS estimates.
- Although ACS estimates will be released annually, comparisons of data for nearly all reservations should be made only at five-year intervals.

At the very least, the analysis suggests a critical need for widespread discussion among tribal leaders, tribal planners, Indian data users in off-reservation areas, and federal agencies on whether the same credence should be given to the ACS data that has been accorded in past years to data from the decennial "long form" questionnaire.

Robust data on the size and characteristics of the AI/ AN population in every community is essential to charting a course for the progress of the Native people in that community. The Census Bureau's ACS may make some limited contribution to this, but it will take much more than just ACS to build the understanding of Native people in Native communities that Indian Country needs.

# The American Community Survey: Serious Implications for Indian Country

For years the only place to obtain comprehensive data on the status of the American Indian and Alaska Native population in all areas of the country has been the US Census Bureau. Once a decade, the Bureau collects data on the entire population, including the Native population. The data yields the most detailed set of statistics on Native people, from the national to the individual reservation level, and does so in the same way at the same point in time.

In the past, detailed socio-economic characteristics data on the American population has come from a special "long form" questionnaire distributed to a sample of the population as part of the decennial census.

Data on the characteristics of the American Indian and Alaska Native population has been widely used by tribal planners and grant writers to design programs and apply for funding. It has also been used by federal agencies to allocate money to tribes under several Indian programs. A prominent example is the set of two workforce development programs administered by the US Department of Labor under the Workforce Investment Act (WIA).

**The decennial census "long form" questionnaire that produced all this data has been discontinued.** The body of data based on the "long form," so important to tribal planners and grant writers is no more. There was no "long form" in the 2010 Census. This census used only a "short form," asking just ten basic questions. It collected no detailed information on a person's or a household's socio-economic characteristics or the characteristics of the housing in which the household lived.

Instead of the "long form," the Census Bureau now collects similar data on the population using a relatively new system, called the **American Community Survey**, or ACS for short.

ACS asks basically the same questions that were found on the old "long form" questionnaire. However, there are a number of significant differences.

**The timing is different.** "Long form" data was collected only every ten years, as part of the decennial census. ACS data is collected separately from the decennial census, through an ongoing survey that involves questionnaires mailed to a limited number of households every month of every year. Data from the ACS is released annually.

**Public awareness is different.** Each decennial census, including the one in 2010, involves a major promotional campaign, intended to make every household aware of the census and how important it is. In comparison, there is relatively little promotion or awareness of the ACS.

**The sample size for ACS is much smaller.** In 2000, "long form" data was collected from about 18 million households. Nationally, one in every six households received a "long form." In most reservation areas, one in every two households did.

In contrast, ACS samples just 3 million addresses each year, producing information on about 2 million households.

ACS data for the nation as a whole, all states and all areas with a total population (of all races) of 65,000 or greater is made available annually, the year after it is collected. This data set is called the ACS 1-year estimates.

However, the smaller sample size of the ACS means that the Census Bureau has to add up the responses over several years before it can publish data it considers accurate for smaller geographic areas.

Data for areas with a total population (of all races) of 20,000 or more is aggregated over a three year period and released annually for the most recent three year period. This data set is called the ACS 3-year estimates. A very small number of reservations is included in the 3-year estimates since the total population of all races in most such areas is less than 20,000.

Data for all areas, including those with total populations of less than 20,000, is aggregated from responses to the ACS questionnaire over a 5-year period. The first of these 5-year estimates will become available late in 2010 and cover the 2005 to 2009 time frame. Each year after that there will be a new set of 5-year estimates available, covering the most recent 5-year period.

**The smaller sample size means that the potential for sampling error is greater;** that is, there may be a bigger difference between the true values and the published counts. This issue is especially significant when the counts are for small populations, like the Native population, and for small geographic areas, like most reservations and many smaller off-reservation counties.

The Census Bureau has published a guide to explain the ACS to users of data on the American Indian and Alaska Native population. It's entitled "A Compass for Understanding and Using American Community Survey Data; What Users of Data for American Indians and Alaska Natives Need to Know." It's available on the Web at: <http://www.census.gov/acs/www/Downloads/handbooks/ACSAIANHandbook.pdf>.

## **The ACS Raises Important Questions**

The impact on the information about the American Indian/ Alaska Native (AI/ AN) population resulting from the switch from decennial "long form" data to ACS data is largely unknown. What it will mean at the tribal planner level or for those federal agencies that, in the past, have used "long form" data to allocate Indian program funds is hard to judge.

The ACS has been in development for the last decade. It has been fully implemented since 2005. However, at this point there is very little ACS data available on the AI/ AN population in reservation or other Native land areas.

In 2008 and 2009 the Census Bureau issued "3-year estimates" with ACS data. The data published in 2008 covered geographic areas with total populations of at least 20,000, aggregated from questionnaires collected in 2005, 2006 and 2007. The ACS data issued in 2009 was for the same areas, with data aggregated from 2006, 2007 and 2008.

These 3-year estimates cover only ten federal reservations. They do not include any information for nine of the ten reservations with the largest AI/ AN Alone populations. Of the ten reservations for which there is some data, key figures on labor force status and poverty is only available for five.

Data on the AI/ AN population is also available for 11 of the 29 Oklahoma Tribal Statistical Areas (OTSAs), four of the 12 Alaska Native Regional Corporation (ANRC) areas and several of the State Designated Tribal Statistical Areas (SDTSAs).

The 3-year ACS data set also includes figures for about 60% of all counties in the US. However, the relatively small size of the Native population in most counties means that little AI/ AN data is available for these areas, as well.

This paper analyzes the data from the 3-year ACS data set covering the years 2006, 2007 and 2008. It looks only at the data for the American Indian/ Alaska Native population.

All ten of the reservations in the data set were included in the analysis. However, there was no relevant data for one reservation, the Agua Caliente reservation in California. All four of the ANRC areas in Alaska were included. Three OTSAs were selected, as was one SDTSA.

Data was analyzed for eleven primarily off-reservation counties and for the city of Albuquerque. Nine of the counties include large urban centers. Data for all of the factors in this analysis was not available for two of the counties.

A list of all the areas included in the analysis can be found in Appendix A.

Although the data on the AI/AN population in the 3-year estimates is limited, what there is raises questions about the suitability of this data set for use by planners, grant writers, federal agencies and others interested in the status of the AI/AN population. Specifically:

- **Will appropriate data be available from the ACS for all areas with Native populations, including the smaller reservations?**
- **If the appropriate data is available, will the ACS data be accurate?**
- **Will the data be timely? That is, can it be used to examine the status of the AI/AN population on an annual rather than a decennial basis?**

### **Data Availability**

**First, will the data useful to tribal planners, grant writers and others be available for all areas, including the smaller reservation areas?**

The ACS 3-year estimates published to date have major gaps in the figures that are available. Only ten reservations are included, and of these, complete data for key items such as the labor force status and poverty of the AI/AN population is available for only five of the ten. The notation for the other data items on the Census Bureau's Web site says simply that the missing data cannot be displayed "because the number of sample cases is too small."

The Census Bureau says that the upcoming 5-year estimates will present data for all geographic areas, including Indian reservations, just like it has in the past after each decennial census. The Census Bureau's position is based on two considerations. First, aggregating data from questionnaires over a five-year period will produce more reliable figures than aggregating responses over three years. Second, the Bureau is going to use different "disclosure avoidance" rules for the 5-year estimates than it uses for the 3-year estimates.

Disclosure avoidance involves the processes used to protect the confidentiality of data on individual households. The Bureau can do this by simply not publishing data for items and areas where there were so few respondents that the data may disclose information on individuals. Or it can do this by "swapping" data from a similar household in another geographic area for data on a household where confidentiality rules might be broken. As it did with the "long form" data in past decennial censuses, the Bureau intends to use this "swap" approach with the 5-year ACS estimates.

This points to the answer to the first question -- will the necessary data be available -- as probably yes.



## Data Accuracy: The National Picture

**The second question -- will the data be accurate -- raises a number of serious issues.**

The Census Bureau says yes, the ACS data is accurate. It maintains that "Census Bureau subject matter specialists . . . have determined that ACS estimates are similar to those obtained from past decennial census sample [long form] data **for most areas and characteristics.**"<sup>2</sup> (Emphasis added.)

However, an analysis of the ACS 3-year estimates published to date strongly suggests that there are problems with the ACS data on the AI/AN population, both nationally and in at least some individual AI/AN and other areas.

The most obvious problem concerns the size of the AI/AN population, particularly the AI/AN "Alone" population.<sup>3</sup> According to the most recent set of ACS 3-year estimates, covering the years 2006, 2007 and 2008, the total AI/AN Alone population in the US is 2,419,895. This number represents a 2.3% **drop** in this population since the 2000 Census. If true, this would mark the first time in decades that the AI/AN population has declined in the period between decennial censuses.

Not only is the ACS 2006-2008 figure for the AI/AN Alone population below the number for the 2000 Census, it is also 14.3% **below** the estimate of the size of the AI/AN Alone population in the 2006 to 2008 time frame according to the Census Bureau's own Population Estimates program.<sup>4</sup>

An examination of the ACS data for the population by age reveals that the overall decline in the total AI/AN Alone population is largely attributable to a precipitous drop in the youth population. From the 2000 Census to the 2006-2008 period, ACS claims that the number of AI/AN Alone persons from 0 to 17 years of age went down 17.2%. The ACS number is 19.6% below the Bureau's own estimate of the size of this population in the 2006 to 2008 period.

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<sup>2</sup> U.S. Department of Commerce. Bureau of the Census. *A Compass for Understanding and Using American Community Survey Data: What General Data Users Need to Know*. (Washington, DC, October 2008), 3.

<sup>3</sup> The Census Bureau defines the AI/AN "Alone" population as persons who respond to the race question on a Census form by identifying American Indian or Alaska Native as their only race. The AI/AN "Alone or in Combination" (with one or more other races) population includes all those who identify with other races as well as American Indian or Alaska Native, together with all those who say that American Indian or Alaska Native is their only race.

<sup>4</sup> The data from the Census Bureau's Population Estimates program used in this analysis was taken from the estimates data series released in June of 2010. The estimates for the years 2006, 2007 and 2008 were averaged and have been adjusted to make them comparable to the decennial census and ACS data.

In addition to comparisons of the ACS numbers with figures from the 2000 Census and the Bureau's Population Estimates series, the downward population trend in the ACS numbers for the AI/AN population contradicts the estimates of the Indian Health Service. The IHS estimates, which cover the IHS service population within tribal and adjoining areas, show a growth in this population of 12.8% from 2000 to 2007, the mid-point in the ACS data series. IHS has not detected any decline in Indian fertility that would point to a major drop in the AI/AN Alone youth population.

The pattern in the ACS data for the AI/AN Alone or in Combination population is somewhat different than the pattern for the AI/AN Alone population.

According to the 2006-2008 ACS figures, the AI/AN Alone or in Combination population increased by 10.7% from the 2000 Census to the 2006-2008 time frame. Even so, this is still 2.3% lower than the Bureau's population estimate for the size of this population during the same period. Unfortunately, the Bureau doesn't publish a breakdown of the Alone or in Combination data by age, so a comparison with the AI/AN Alone youth population is not possible.

The pattern of the AI/AN Alone or in Combination numbers raises the question of whether the ACS is missing substantial numbers of people who identify as only American Indian or Alaska Native, particularly youth. Or does the methodology used to develop the ACS estimates do a better job of calculating the size of the AI/AN multi-racial population?

An examination of the data indicates that part of the increase in the AI/AN Alone or in Combination population simultaneously with the decline in the Alone population might, in some areas, be partially a result of persons who formerly identified as AI/AN Alone now identifying as AI/AN multi-racial. In the absence of Census Bureau research, this explanation cannot be either confirmed or discounted. Even if this is a factor, it would still not account for all of the decline in the AI/AN Alone numbers in many areas.

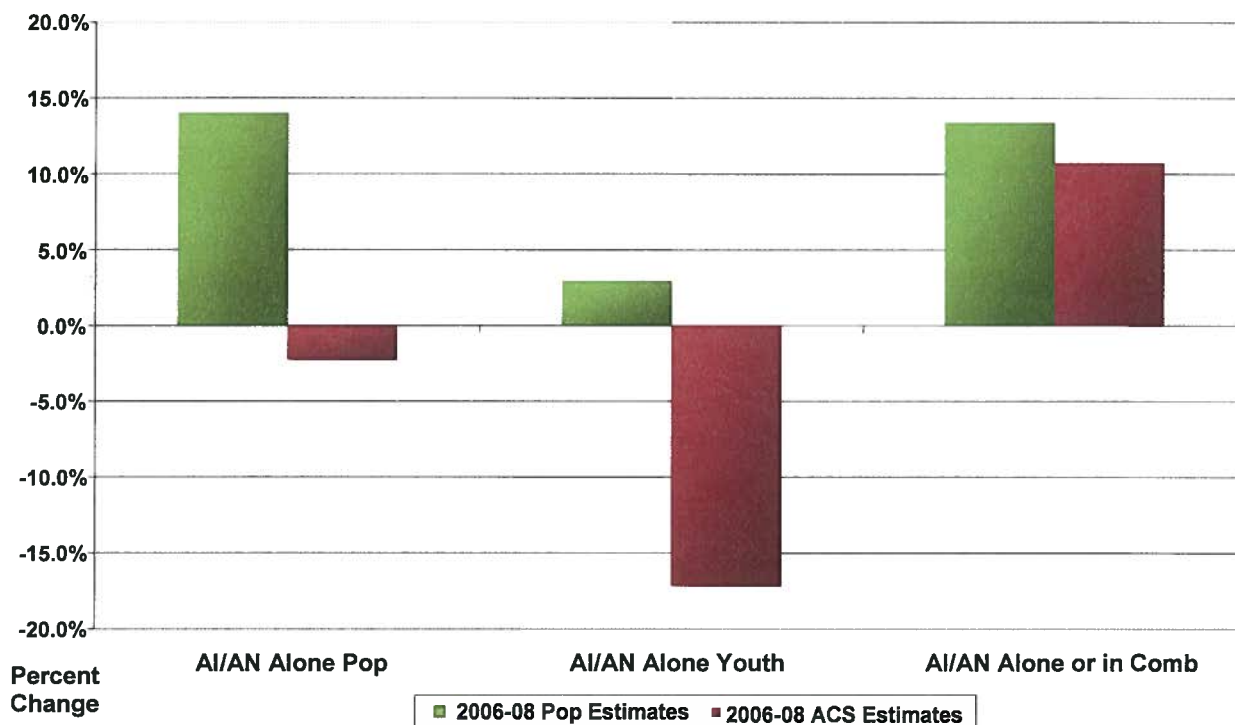
The Census Bureau points out that the ACS is not about counting the total size of the population. It's about quantifying their socio-economic characteristics -- what percentage have less than a high school diploma, are unemployed or in poverty, along with many other characteristics. To underscore this point, the Bureau "controls" the ACS total population numbers at the national, state and county level. It shows the ACS figures for the population of all races at each of these levels of geography as exactly the same as the numbers in the Population Estimates series.

But the Bureau doesn't do this for the AI/AN numbers. As noted above, the AI/AN Alone and Alone or in Combination numbers differ, sometimes substantially, from the Population Estimates data.

The fact that the ACS numbers for the total AI/AN Alone population are different than the population estimates figures gives rise to another important question. If there is a significant undercount in the figures for the total AI/AN Alone population, does this undercount result from missing specific segments of this population? For example, is an ACS undercount a result of missing AI/AN Alone people who are undereducated, unemployed or in poverty? If there is a "differential undercount" in such hard-to-count segments of this population, that would skew the percentages of AI/AN Alone persons who are undereducated, unemployed or in poverty in the published data from the ACS.

The chart below illustrates the relative increase or decrease in the size of the AI/AN population in the Bureau's Population Estimates data set and the ACS estimates, using the 2000 Census counts as the zero baseline.

**Percent Change in AI/AN Population from 2000 Census:  
2006-08 Population Estimates and 2006-08 ACS Estimates**



**All these issues leave the accuracy of the ACS data on the size of the AI/AN Alone population open to serious question.** A key test of the accuracy of the ACS data will come when ACS figures on the size of the AI/AN population in 2010 can be directly compared with similar data from the 2010 Census.

## **Data Accuracy: Local Area Data**

Seventeen individual AI/AN areas were analyzed for this study. They included nine federal reservations, three OTSAs, four Alaska Native Regions and one state-recognized tribe with a State Designated Tribal Statistical Area (SDTSA). Twelve non-AI/AN areas were selected, 11 counties and one city. A list of all the selected areas is attached as Appendix A.

Ten of the seventeen AI/AN areas showed the same pattern as in the national figures -- declines in the AI/AN Alone population from the levels recorded in the 2000 Census, with particularly steep declines in the AI/AN Alone youth population. Six of the others showed only slight increases (less than 5%) in the AI/AN Alone ACS numbers as compared to the 2000 Census figures. Four of these also showed steep declines in the AI/AN Alone youth population. The only area where the ACS data showed an increase, albeit a small one, in the size of both the AI/AN Alone and AI/AN Alone youth population was the Wind River reservation in Wyoming.

Some of the ACS figures are striking. At Navajo, ACS reported that the total AI/AN Alone population declined by 8.6% from the number in the 2000 Census, with the AI/AN Alone youth population dropping by 27.0%. In the Creek OTSA, the drops are 13.2% for the total AI/AN Alone population, and 23.6% for the AI/AN Alone youth population. In the Cook Inlet Region area in Alaska (which includes the city of Anchorage), the drops are 13.7% for the total AI/AN Alone population, and a whopping 42.4% drop for the AI/AN Alone youth population.

It is impossible to compare the ACS counts with Census Bureau population estimates for AI/AN areas; the Census Bureau does not make population estimates for AI/AN areas.

However, there is data from the Census Bureau's Population Estimates program for the size of the AI/AN population by race in county areas. The figures generally display the same pattern as do those for the AI/AN Alone population nationally.

With the exception of Bannock County, all the counties show ACS figures for the AI/AN Alone population in the 2006-08 time frame that are below the Bureau's population estimates for the same period. In most cases, the differences are substantial. The most extreme case involves Bronx County, NY, one of the five boroughs of New York City. The average population estimate for 2006-08 is 4.2% above the 2000 AI/AN Alone population count; the ACS estimate is 44.6% below that baseline.

For six of the 11 counties, the ACS figures for the AI/AN Alone or in Combination population are below the comparable counts in the 2000 Census.

## **Data Accuracy: Data on Labor Force and Poverty**

Information on the socio-economic characteristics of the population in AI/AN and other areas has been available in the past only from the decennial "long form" data. Now it is only available from the ACS.

This analysis looked at two key indicators of the socio-economic status of the AI/AN Alone population: labor force and poverty.

The ACS 2006-2008 data on the labor force status of the AI/AN Alone population at the national level follows a depressingly familiar pattern. It is not significantly affected by the large decline in the total AI/AN Alone population, because a major portion of that decline was in the 0 to 17 age population. The labor force numbers include only persons who are 16 and over.

The national count of the AI/AN Alone persons who were employed was up 4.2% and the number considered unemployed was up slightly, .7%. This produced an unemployment rate of 12.0%, only marginally different from the 12.4% recorded in the 2000 Census.

This preliminary analysis examined the labor force data for the AI/AN Alone population in fifteen AI/AN areas. No labor force data was available for the other two.

In two of the reservation areas, the numbers from the ACS do not look plausible.

According to the ACS, the number of AI/AN Alone persons on the Navajo reservation who were employed jumped 20.2% over the figure from the 2000 Census, while the number of unemployed went down by a hard-to-believe 48.6%. This had the effect of cutting the AI/AN Alone unemployment rate at Navajo roughly in half. The rate at Navajo in the 2000 Census was 26.4%. According to ACS, the rate in the 2006 to 2008 time frame was 13.3%.

A similar picture emerges for the Wind River reservation in Wyoming. The ACS data shows the number of AI/AN Alone persons counted as employed increasing 25.8% above that in 2000, with the number unemployed dropping by 55.8%. This has the effect of cutting the AI/AN Alone unemployment rate at Wind River from 27.4% in the 2000 Census to 11.7% in the 2006-2008 ACS numbers.

Is there reason to believe that such unexpected results in the ACS labor force data for the AI/AN Alone population on these two reservations represent real changes in the employment picture?

Like the unemployment rate figures for the AI/AN Alone population in AI/AN areas, the data for the selected counties shows considerable variability.

In Caddo County, ACS indicates that the AI/AN Alone unemployment rate has dropped from the 20% level recorded in the 2000 Census to just 12%. Drops of at least 3% in the rate are also shown for Los Angeles and Denver Counties, as well as for the city of Albuquerque.

On the other hand, according to the ACS, the unemployment rate for the AI/AN Alone population doubled in Providence County from what it was in the 2000 Census.

The poverty data on the AI/AN Alone population in the 2006-2008 ACS data follows a pattern similar to that of the labor force data. The national figures appear plausible, but the figures for the Navajo and Wind River reservations do not.

Nationally there are small declines in the numbers counted as above poverty and below poverty, with the drop in those below poverty slightly greater. The net effect is to change the poverty rate for the total AI/AN Alone population at the national level from 25.7% as measured in the 2000 Census to 25.3% in the ACS figures.

At Navajo, however, the ACS data shows a sharp drop of 23.3% in the size of the AI/AN Alone population below poverty and a small increase in the number above the poverty line. This shifted the poverty rate for that reservation from 43.8% in the 2000 Census to 36.9% in the 2006-2008 ACS numbers.

The figures for Wind River show an even more dramatic shift. According to the ACS, the number of AI/AN Alone persons counted as in poverty went down by 35.4%, while the number above poverty went up 35.4%. The result was to change the poverty rate from 42.3% in the 2000 Census to 25.9% in the ACS data.

According to the ACS data for the selected counties, there were sharp declines in AI/AN Alone poverty rates for Los Angeles, Bronx and Providence Counties. The declines were from 22.5% in 2000 to 13.1% in 2006-08 in Los Angeles County, from 40.6% to 18.4% for Bronx County and from 45.5% to 24.9% in Providence County. The rate also dropped in Sacramento County.

The other counties and the city of Albuquerque registered increases in the AI/AN Alone poverty rate when the ACS figures are compared to those in the 2000 Census.

Data for a limited number of AI/AN and county areas doesn't establish a general pattern in the ACS figures for labor force or poverty status throughout the country, particularly when only a small number of AI/AN areas is included in the 3-year ACS estimates. However, the substantial deviations from the 2000 Census results for two of the reservations and

several of the county areas included in the analysis does raise questions about whether the ACS results for at least some local communities are plausible.

### **Data Accuracy: Statistical Reliability**

There is another way to look at the accuracy of the ACS estimates. This involves measures of sampling error used in judging the reliability of an estimate drawn from a sample of any given population universe.

The Census Bureau acknowledges that the smaller sample size in the ACS, in comparison to the decennial "long form" sample, produces a wider range of statistical uncertainty. The agency has underscored this issue of statistical reliability by publishing a Margin of Error (MOE) for every ACS estimate it issues.

Statistical variability was also present in the "long form" data from the 2000 decennial census. However, the Bureau did not draw attention to this issue in the way it has with the ACS data. The methods for calculating statistical variability in the 2000 "long form" data were relegated to a chapter in the detailed technical documentation accompanying the sample data, not published by the Bureau with the data.

The MOE in the ACS estimates, calculated by the Bureau at the 90% confidence level, indicates the range of values within which -- from a sampling perspective -- the true value of the item lies. For instance, the estimate for the number of AI/AN Alone persons living on the Yakama reservation in Washington state in the ACS 2006-08 data series is 7,233. The MOE is 1,215. This means that there is a 90% chance that the true value of the number of AI/AN Alone persons on that reservation is 7,233 plus or minus 1,215, or between 6,018 and 8,448.

The Bureau publishes a formula for calculating the Coefficient of Variation (CV), using the estimates and the MOEs. The CVs enable the user to compare the relative reliability of estimates across areas. At Yakama, the CV for the AI/AN Alone population is 10.2%.

There is no standard level at which a CV makes an estimate drawn from a sample statistically reliable. The Bureau simply states that a CV of 5% or less should be considered "very reliable."<sup>5</sup> The higher the CV, the less reliable the estimate. The Bureau's guide on this issue also says: "If the CV [is] noticeably larger [than 5%], the usability of the estimate [can] be greatly diminished."<sup>6</sup>

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<sup>5</sup> U.S. Department of Commerce. Bureau of the Census. *A Compass for Understanding and Using American Community Survey Data: What General Data Users Need to Know. Appendix 3. Measures of Sampling Error.* (Washington, DC, October 2008). A-13.

<sup>6</sup> Ibid.

In the case of the Yakama estimate, its CV indicates that the estimate is less reliable than this "very reliable" standard by a factor of 2.

Data on relatively small populations drawn from a survey of a much larger universe is intrinsically less reliable. Data on individual characteristics of a relatively small population is even less reliable.

The point is significant with respect to the data on the socio-economic characteristics of the AI/AN population that may be used for such purposes as the allocation of federal funds. For example, Indian workforce development program money is distributed by the US Department of Labor to tribes and off-reservation Native organizations on the basis of a formula that uses the number of AI/AN persons in poverty as a major factor.

Looking at the CVs for the number of AI/AN Alone persons in poverty for the AI/AN areas in this analysis illustrates the reliability issues involved. Of the 13 selected AI/AN areas for which there is poverty data, eight have CVs for this factor higher than 10% -- well beyond the 0% to 5% level considered to be "very reliable." Six of those eight areas have CVs above 15%, leaving the reliability of the ACS estimates of poverty of the AI/AN Alone population in those areas open to question.

With respect to the statistical reliability of the poverty counts for the selected counties and one city, all of the 12 have CVs of over 5%. Nine of the 12 have CVs of over 15%, with one having a CV in excess of 35%. That one area is Providence County, where the ACS reports that the AI/AN Alone poverty rate dropped by over 20 percentage points from the time of the 2000 Census to the 2006-08 period.

These statistical tests deal only with sampling error. In addition to sampling error, survey results are also affected by nonsampling error. There are a variety of sources of nonsampling error that can affect the reliability of results from any survey, including ACS. One type of such error occurs when there is no response from a household which is within the sample. If, for example, lower income AI/AN households are less inclined to provide information to the ACS than are higher income households, the ACS results will be skewed.

### **Timeliness of the ACS Data for AI/AN Areas**

**The third question raised about the implications of the ACS for AI/AN data users is whether making the data on AI/AN communities available annually rather than decennially will be a major benefit.**

Perhaps the most highly touted reason for discontinuing the "long form" sample in the decennial census and replacing it with the ACS is that the ACS can produce a profile of the population every year, not just once every ten years. Starting late in 2010 the Census



Bureau will publish 1-year, 3-year and 5-year ACS estimates of the characteristics of the US population on an annual basis. The 5-year estimates are expected to cover every local area in the US, including every reservation.

Timeliness is a very important factor to data users. Data that's ten years old for areas where conditions have changed significantly is perhaps worse than no data at all.

Will the timeliness of the ACS benefit users of AI/AN data, particularly for reservation and other AI/AN areas?

Unfortunately, the answer is not much.

The only set of ACS estimates that will cover all reservations, including the larger ones, will be the 5-year estimates. Although these will be issued annually, the data published in two consecutive years will overlap. In 2010 figures will become available from responses to ACS questionnaires aggregated from 2005, 2006, 2007, 2008 and 2009. The 2011 5-year estimates will be based on data collected in 2006, 2007, 2008, 2009 and 2010. Four of the five years overlap, making comparisons between these data sets problematic.

The Census Bureau itself advises users to only compare ACS data sets that do not involve overlapping years.<sup>7</sup> This means that comparisons of data on the AI/AN population in nearly all AI/AN areas should be made only with data sets that are five years apart.

### **The Bottom Line**

Although limited by the paucity of ACS data currently available for the AI/AN population in AI/AN areas, this analysis points to several cautions regarding the use of such data.

- **There appears to be a potentially serious undercount of the AI/AN Alone population, especially AI/AN Alone youth, in the ACS numbers at both the national level and for many local areas.**
- **The available ACS data for some reservations contains hard to explain changes in key socio-economic characteristics of the AI/AN Alone population.**
- **An important measure of sampling error for key population characteristics raises questions about the reliability of the published ACS estimates.**

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<sup>7</sup> U.S. Department of Commerce. Bureau of the Census. *A Compass for Understanding and Using American Community Survey Data: What General Data Users Need to Know. Appendix 3. Measures of Sampling Error.* (Washington, DC, October 2008). 10.

- **Although ACS estimates will be published annually, comparisons of data for nearly all reservations should be made only at five-year intervals.**

At the very least, this analysis suggests a critical need for widespread discussion among tribal leaders, tribal planners, Indian data users in off-reservation areas, and federal agencies of the desirability of giving the same credence to the ACS data that has been accorded to data from the decennial "long form" questionnaire used in past years.

The analysis also should give increased urgency to strengthening the capability of tribes and other Native organizations to build their own data systems, relying on their direct contact with AI/AN populations, for use in planning, grant writing and explaining conditions in their communities to non-Native audiences.

Tribal enrollment offices must be a central component of tribal data systems. However, there are many other data collection systems under direct tribal control. These include ones for a myriad of service programs, each with data collection systems required for reporting purposes.

Robust data on the size and characteristics of the AI/AN population in every community is essential to charting a course for the progress of the Native people in that community. The Census Bureau's ACS may make some limited contribution to this, but it will take much more than just ACS to build the understanding of Native people in Native communities that Indian Country needs.

*This analysis was prepared by Norm DeWeaver. An Indian data user from the time of the 1980 Census, Norm analyzed information on the labor force-related characteristics of the AI/AN population and AI/AN communities in conjunction with his advocacy work with the Indian and Native American Employment and Training Coalition. Norm can be reached at: [norm\\_deweaver@rocketmail.com](mailto:norm_deweaver@rocketmail.com). Questions, comments and suggestions on this paper are welcome.*

*The NCAI Policy Research commissioned this paper as part of its ongoing work as a Census Information Center. More information on the American Community Survey and other federal data sets as they relate to Indian Country can be found at [www.ncaiprc.org](http://www.ncaiprc.org). For more information about NCAI and the Census broadly, email Amber Ebarb at [aebarb@ncai.org](mailto:aebarb@ncai.org).*

October 11, 2010

## **Appendix A**

### **Areas Selected for Analysis**

#### **Federal Reservations**

Flathead Reservation, MT  
Isabella Reservation, MI  
Navajo Nation Reservation and Off-Reservation Trust Land, AZ--NM--UT  
Oneida (WI) Reservation and Off-Reservation Trust Land, WI  
Osage Reservation, OK  
Puyallup Reservation and Off-Reservation Trust Land, WA  
Uintah and Ouray Reservation and Off-Reservation Trust Land, UT  
Wind River Reservation and Off-Reservation Trust Land, WY  
Yakama Nation Reservation and Off-Reservation Trust Land, WA

#### **Oklahoma Tribal Statistical Areas**

Cherokee OTSA  
Cheyenne-Arapaho OTSA  
Creek OTSA

#### **Alaska Native Regions**

Calista Region  
Cook Inlet Region  
Doyon Region  
Sealaska Region

#### **State Designated Tribal Statistical Area**

Lumbee SDTSA, NC

#### **Selected Non-AI/AN Areas**

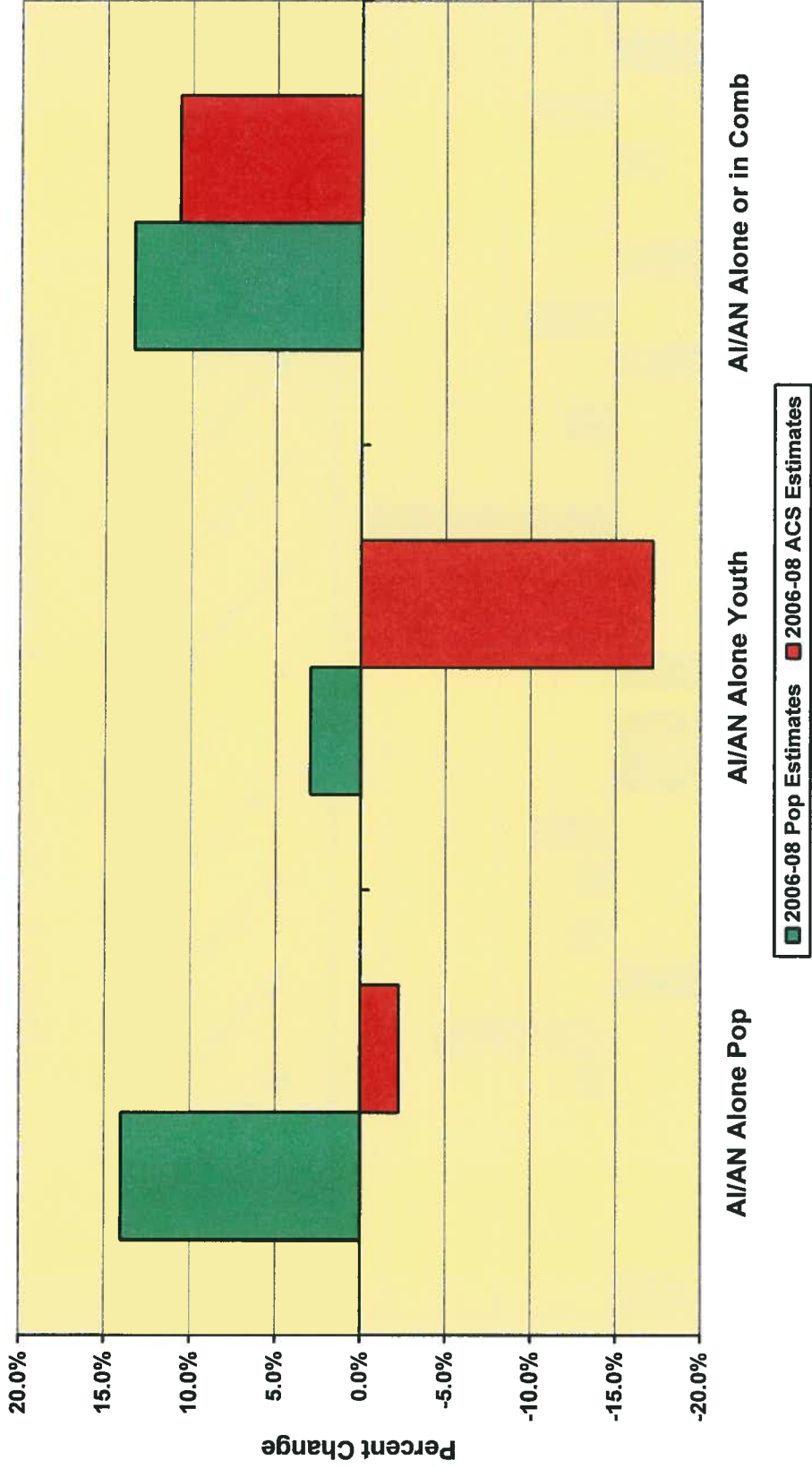
Los Angeles County, CA  
Sacramento County, CA  
Denver City and County, CO  
Bannock County, ID  
Hennepin County, MN  
Bronx County, NY  
Caddo County, OK  
Providence County, RI  
Harris County, TX  
King County, WA  
Milwaukee County, WI  
Albuquerque City, NM

# **Chartbook**

**Analysis of 2006-08 ACS Data for  
American Indian/Alaska Native (AI/AN) Areas  
and Selected Non-AI/AN Areas**

# Chart A

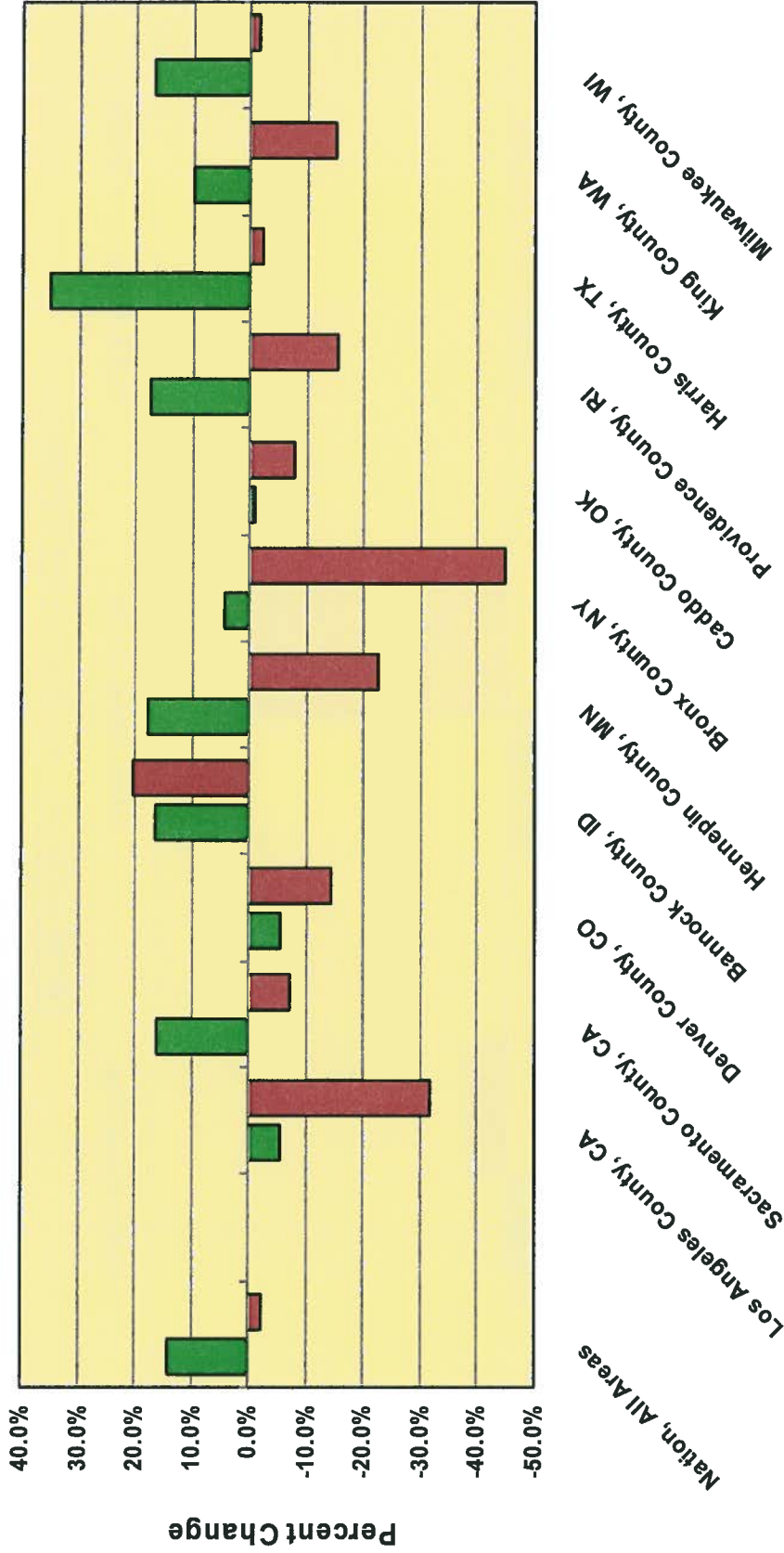
## Percent Change in AI/AN Population from 2000 Census: 2006-08 Population Estimates and 2006-08 ACS Estimates



AI/AN Population Change from 2000 Census: 2006-08 Population Estimates and 2006-08 ACS Estimates  
AI/AN Alone Population, AI/AN Alone Youth Population, AI/AN Alone or in Combination Population at the National Level

**Chart B**

**Percent Change in AI/AN Alone Population from 2000 Census:  
2006-08 Population Estimates and 2006-08 ACS Estimates**

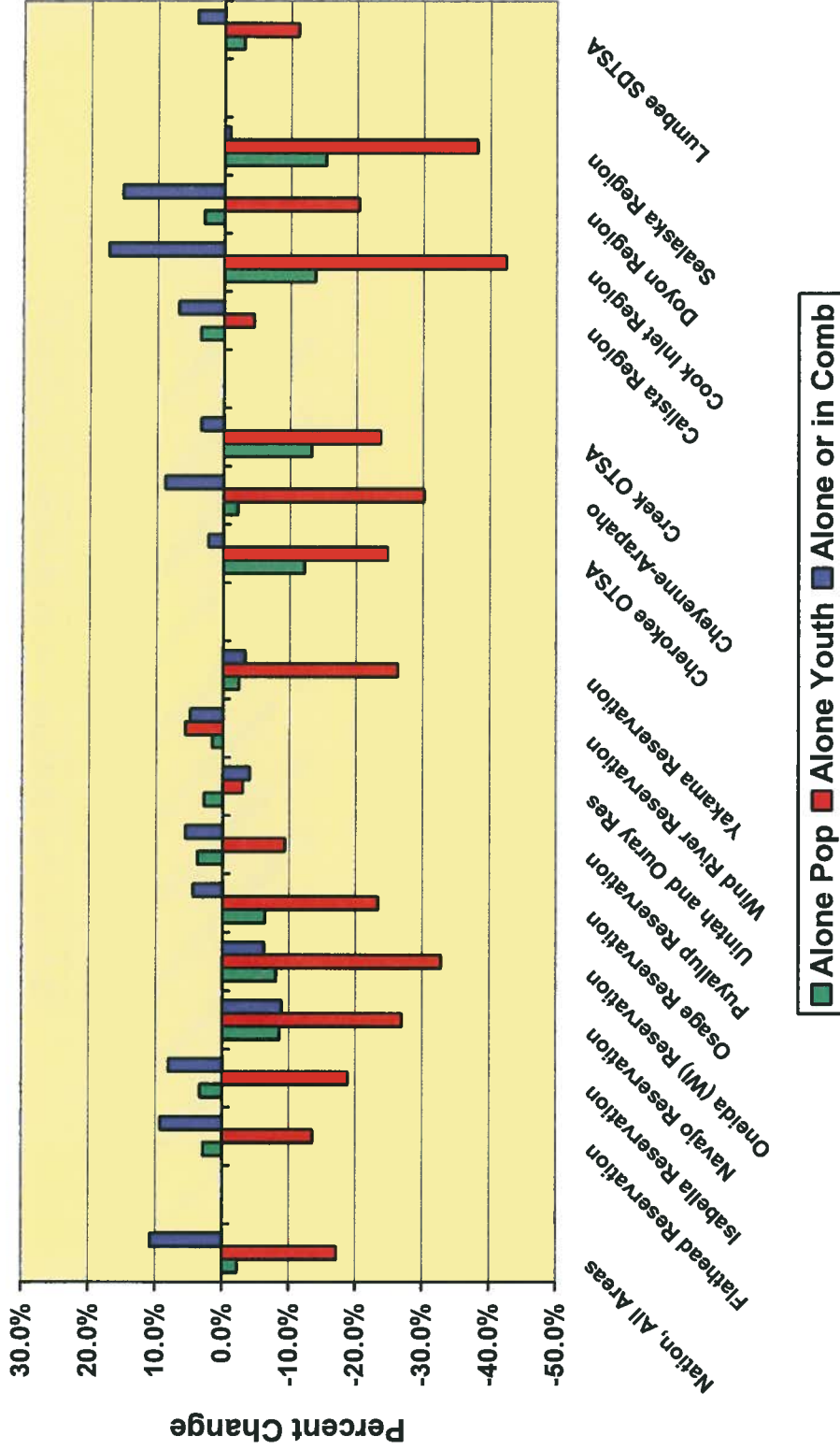


■ 2006-08 Pop Estimates    ■ 2006-08 ACS Estimates

AI/AN Alone Population Change from 2000 Census: 2006-08 Population Estimates and 2006-08 ACS Estimates  
AI/AN Alone Population at the National and Selected Non-AI/AN Area Level

**Chart C**

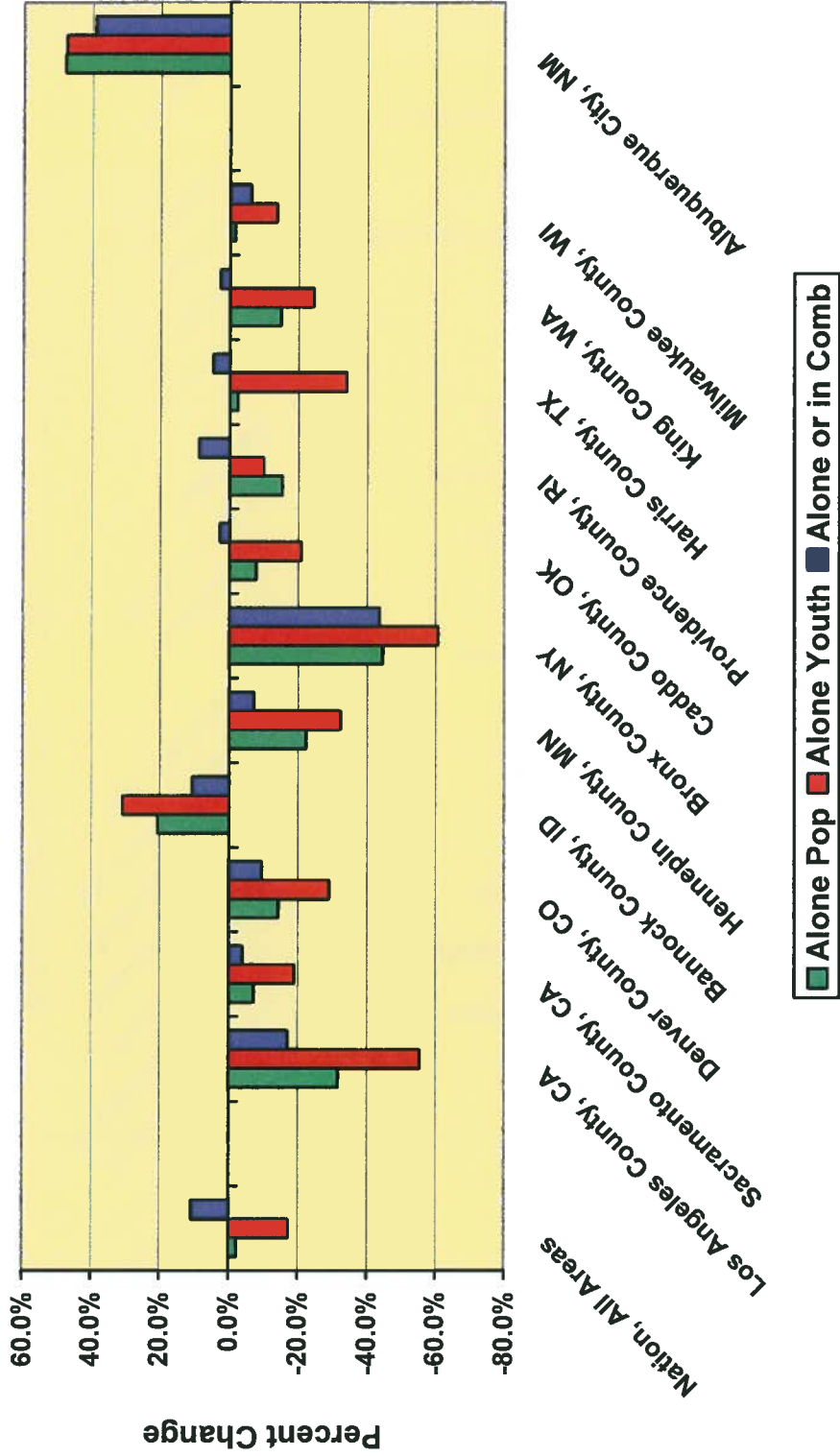
**Percent Change in AI/AN Population from 2000 Census:  
2006-08 ACS Estimates**



AI/AN Population Change from 2000 Census: 2006-08 ACS Estimates  
AI/AN Alone Population, AI/AN Alone Youth Population, AI/AN Alone or in Combination Population,  
at the National and AI/AN Area Level

**Chart D**

**Percent Change in AI/AN Population from 2000 Census:  
2006-08 ACS Estimates**

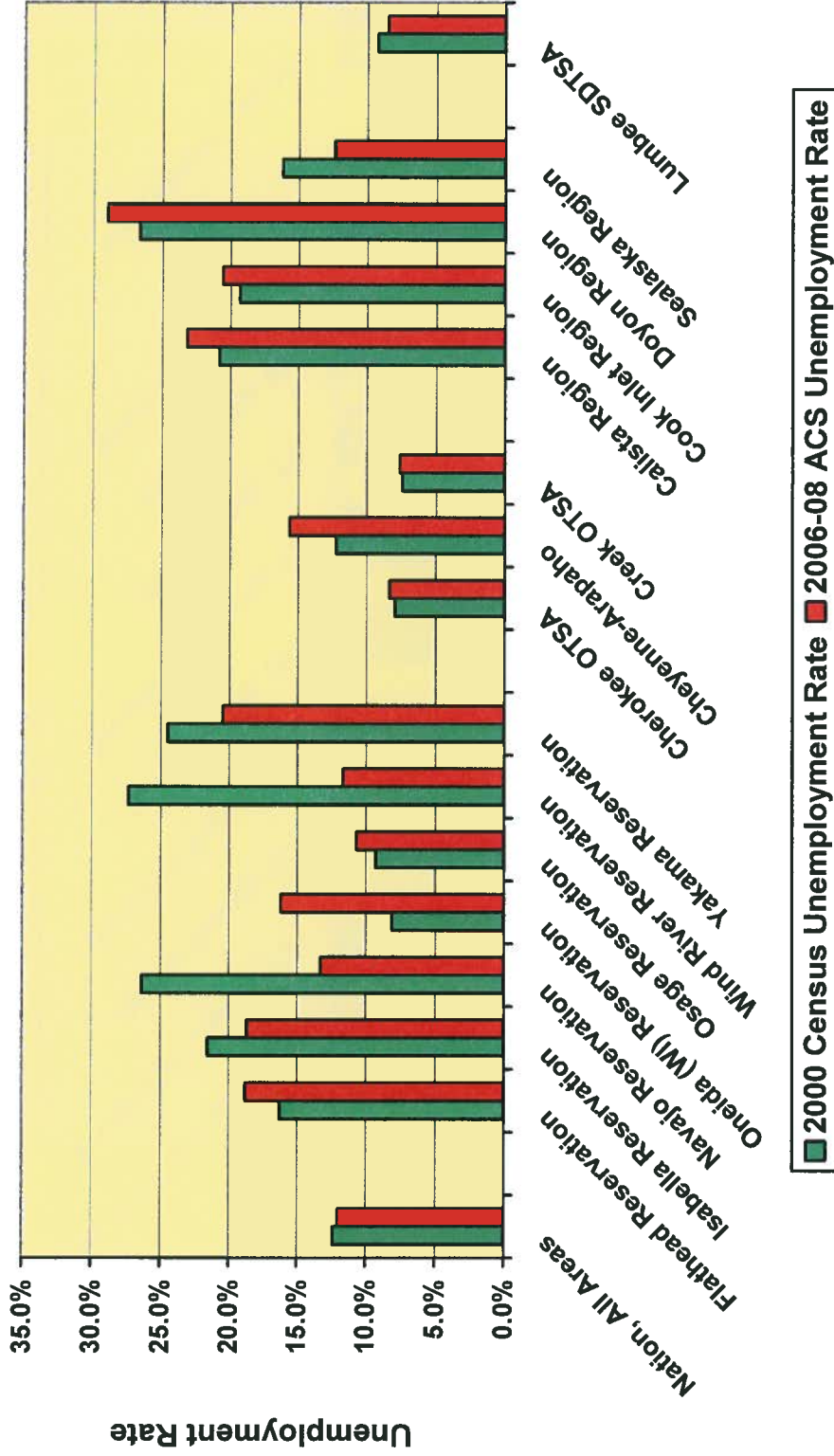


AI/AN Population Change from 2000 Census: 2006-08 ACS Estimates  
AI/AN Alone Population, AI/AN Alone Youth Population, AI/AN Alone or in Combination Population  
at the National and Selected Non-AI/AN Area Level



**Chart E**

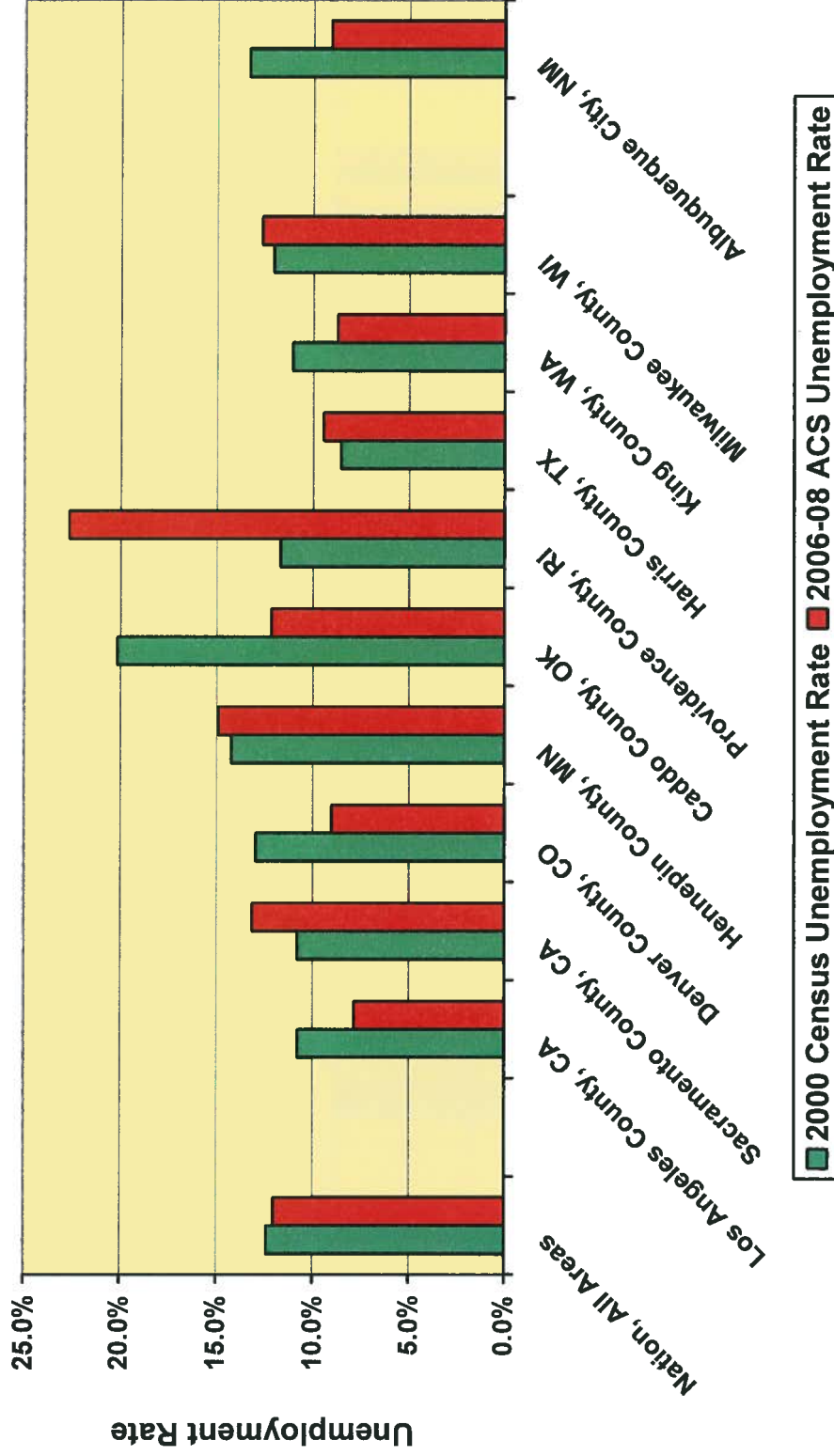
**2000 Census v 2006-08 ACS AI/AN Alone  
Unemployment Rate**



AI/AN Alone Unemployment Rate: 2000 Census v 2006-08 ACS Estimates  
AI/AN Alone Population at the National and AI/AN Area Level

**Chart F**

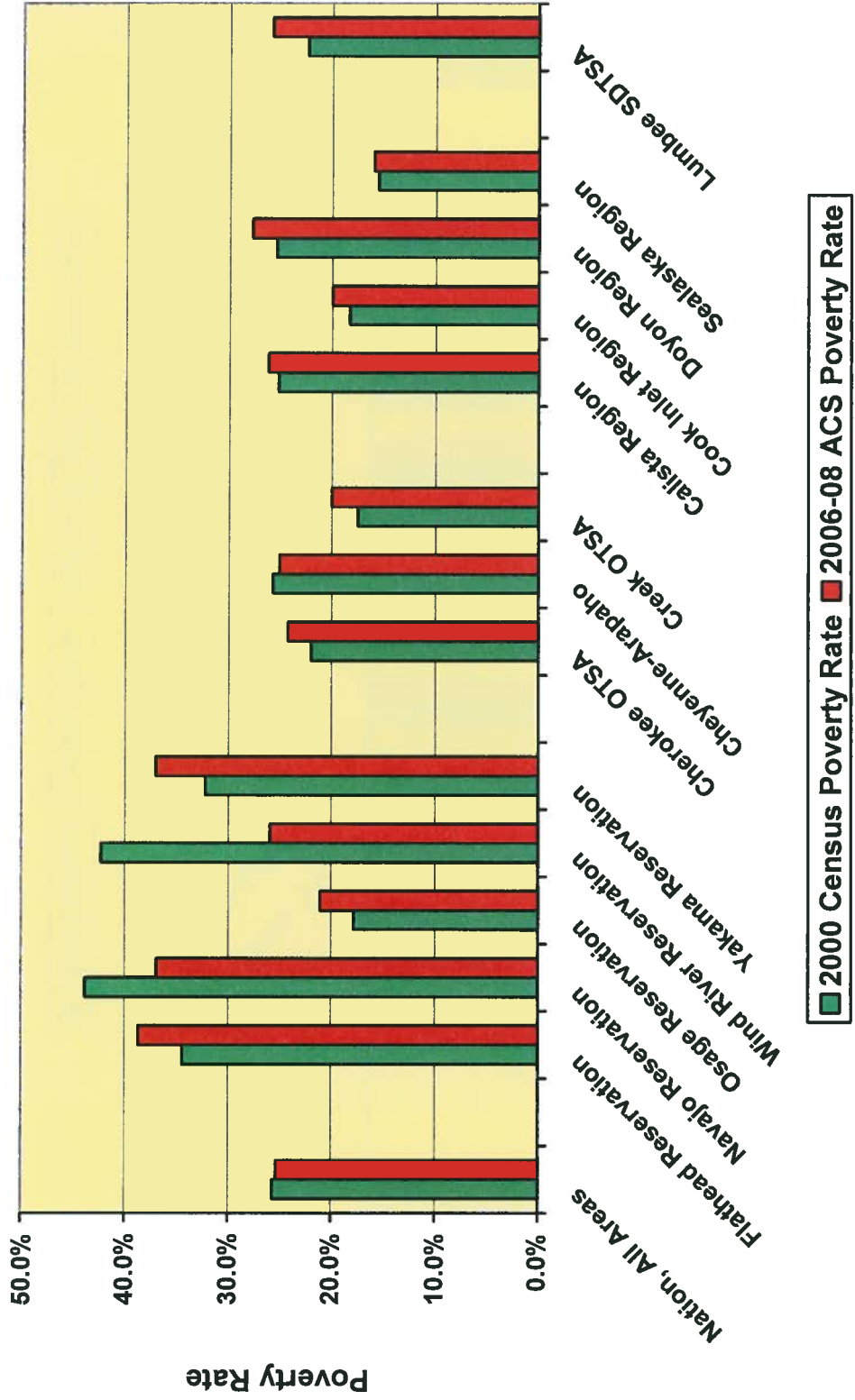
**2000 Census v 2006-08 ACS AI/AN Alone  
Unemployment Rate**



AI/AN Alone Unemployment Rate: 2000 Census v 2006-08 ACS Estimates  
AI/AN Alone Population at the National and Selected Non-AI/AN Area Level

**Chart G**

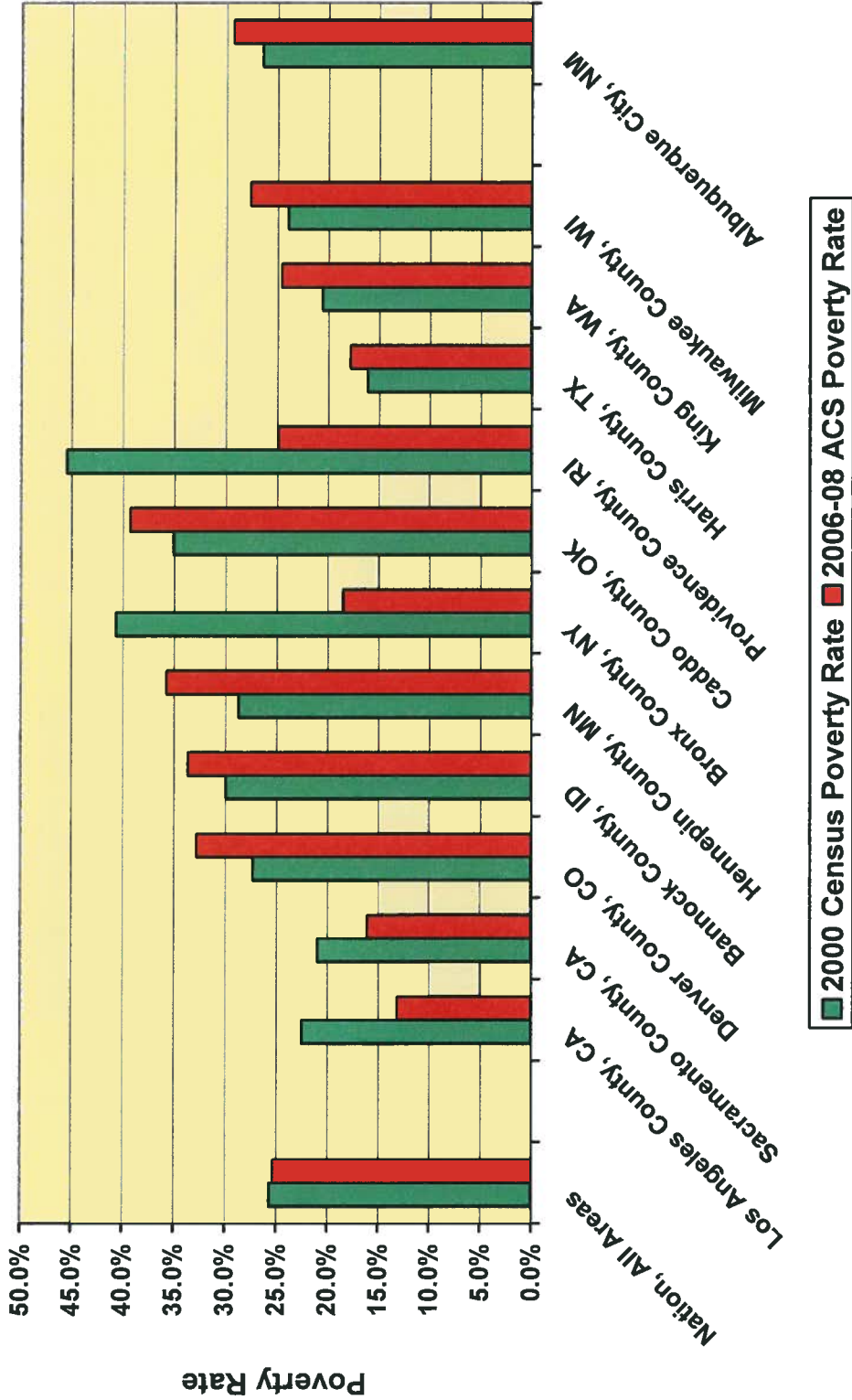
**2000 Census v 2006-08 ACS AI/AN Alone Poverty Rate**



AI/AN Alone Poverty Rate: 2000 Census v 2006-08 ACS Estimates  
AI/AN Alone Population at the National and AI/AN Area Level

Chart H

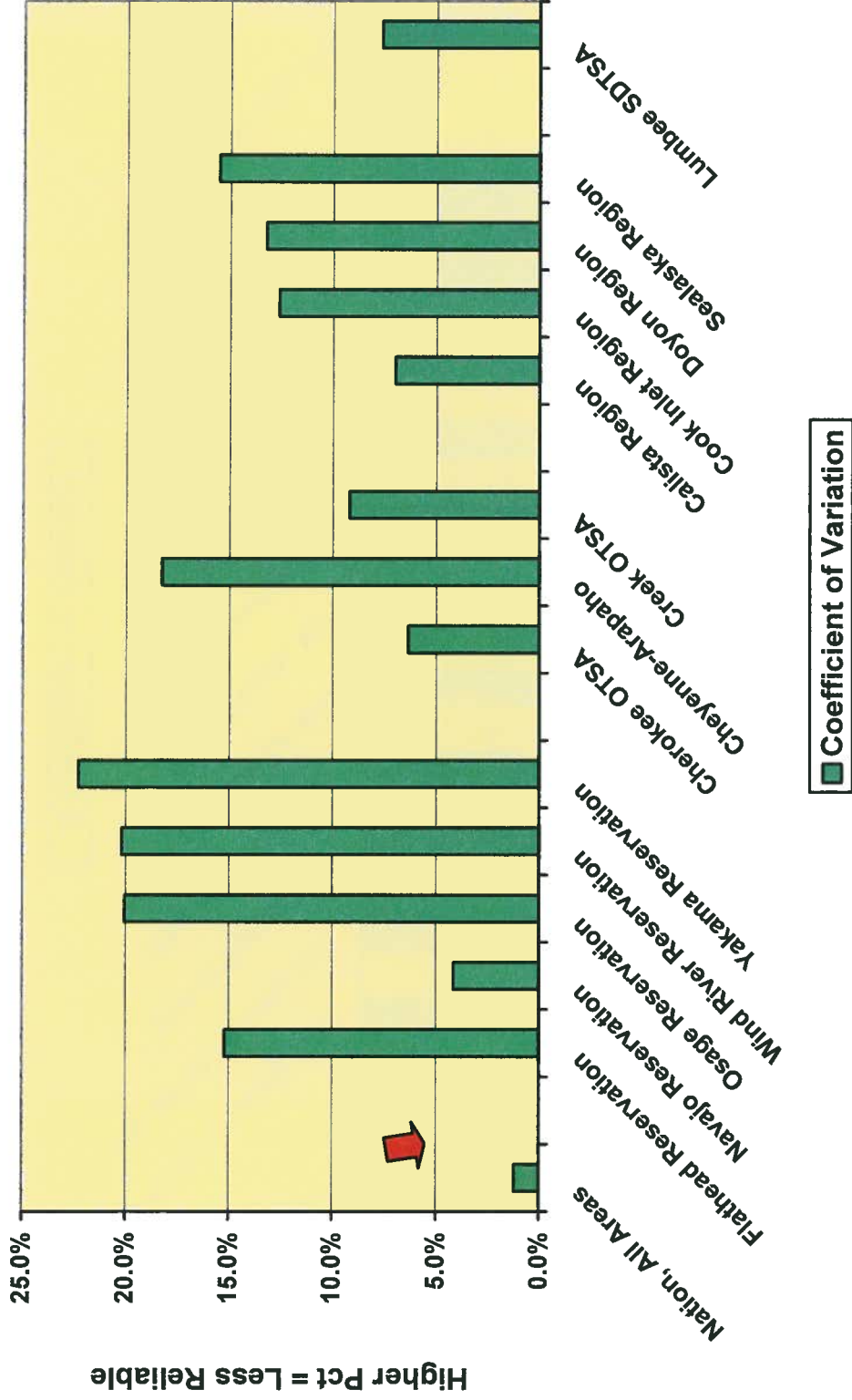
2000 Census v 2006-08 ACS AI/AN Alone Poverty Rate



AI/AN Alone Poverty Rate: 2000 Census v 2006-08 ACS Estimates  
AI/AN Alone Population at the National and Selected Non-AI/AN Area Level

Chart I

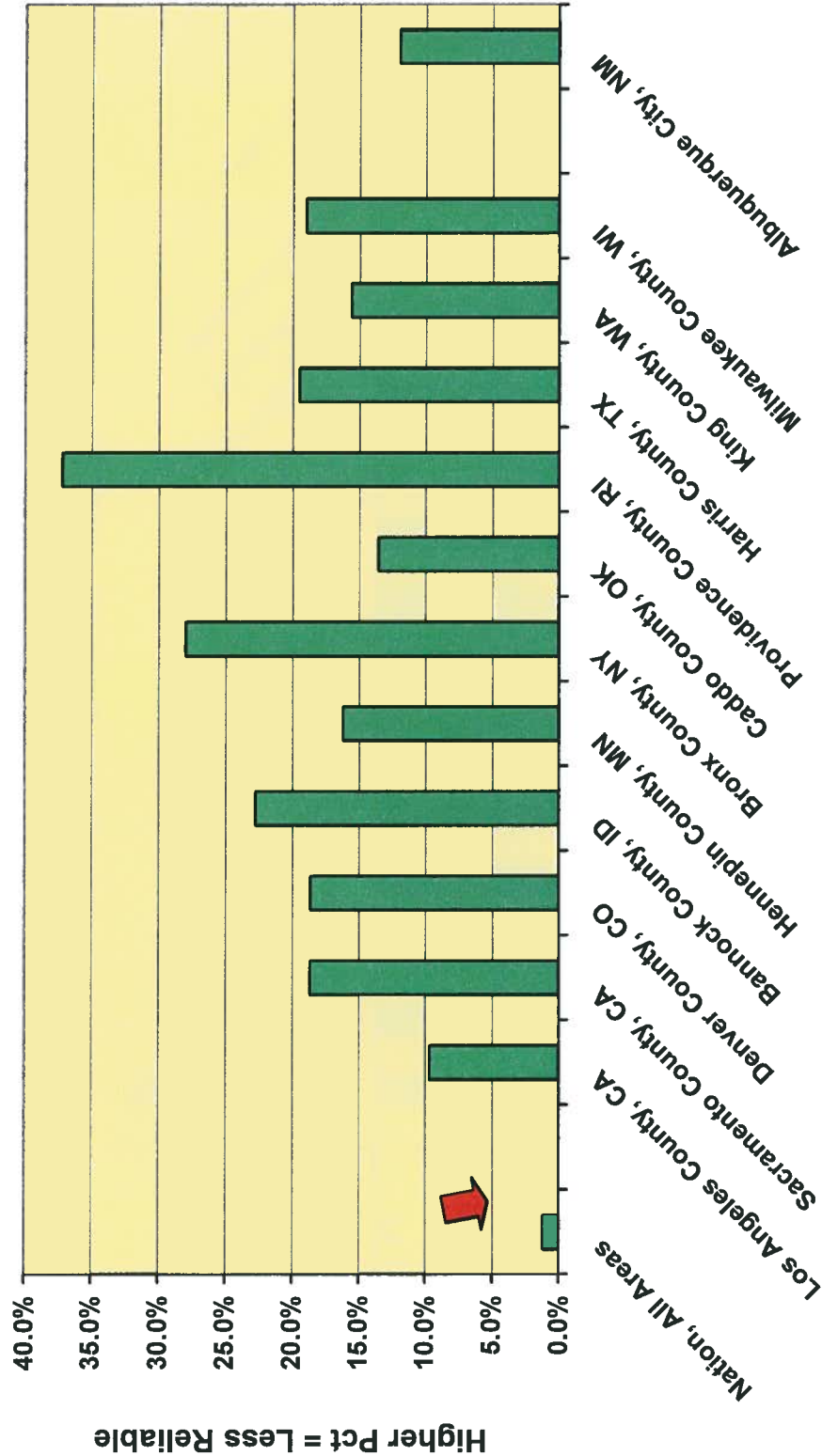
### Statistical Reliability - AI/AN Alone Poverty Count



Statistical Reliability of Poverty Count  
AI/AN Alone Population at the National and AI/AN Area Level  
**5.0% or Smaller Coefficient of Variation Is Considered Very Reliable**  
**Higher Percentages Are Considered Less Reliable**

Chart J

### Statistical Reliability - AI/AN Alone Poverty Count



■ Coefficient of Variation

Statistical Reliability of Poverty Count  
AI/AN Alone Population at the National and Selected Non-AI/AN Area Level  
**5.0% or Smaller Coefficient of Variation Is Considered Very Reliable**  
**Higher Percentages Are Considered Less Reliable**



