Estimating AIAN Migration on Indian Reservations in the Western United States

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Introduction

This paper will examine migration patterns between 1990 and 2000 for Indians living on reservations. Several factors complicate this issue. First, in 1990, the U.S. Census Bureau (Bureau) estimates that American Indian/Alaska Native (AIAN) populations living on reservations were undercounted at a rate of 12.2 percent nationwide.[1] While census undercounts improved in 2000,[2] the multiracial question in Census 2000 further confuses the connection between 1990 and 2000 reservation populations. At the same time, social, cultural, and demographic factors, such as changing economic opportunities on reservations, a widespread renewal of interest in Indian heritage, and the return to reservation life for retiring baby-boomer Indians are also influencing net migration patterns in a variety of ways.

Little is known about the many factors that drive in and out migration on Indian reservations, save that there are many changes currently underway.[3] The objective of this paper is to empirically examine the question of in- and out-migration on Indian reservations, taking into account differences in reporting on the census due to improved enumeration and the multiracial question offered in 2000. The results will be compared across reservations, and interpreted and reviewed in terms of other socioeconomic factors typically associated with migration, such as the availability of employment opportunities, overall size of the reservation Indian population, the racial composition of the total reservation population, and the age composition of the movers.

Background

After the 1990 U.S. Census, in which the Census Bureau estimated that Indians living on reservations were undercounted by 12.2 percent, much concern was raised within Indian Country about census participation. Adjusted counts were produced for Indian populations on reservations, though the U.S. Congress never officially accepted these counts. While the magnitude of this national undercount is important, it must be recognized that the estimate

1 Hogan, Howard, and Gregg Robinson, 1993, "What the Census Bureau's Coverage Evaluation Programs Tell Us about Differential Undercount."

2 More recent evaluations of differential undercounts suggest that Indians on Reservations were over counted

3 An excellent collection of essays on Indian Demography may be found in, Changing Numbers, Changing Needs, Gary Sandefur, Ronald Rindfuss, Barney Cohen, Editors, National Academy Press, Washington, D.C., 1996.

may be more or less relevant to the actual undercount on any one reservation. This leaves some concern about the validity of even the adjusted population numbers for 1990.

In a similarly uncertain way, the multiracial question on Census 2000 makes it unclear whether the people who identified themselves as AIAN in combination with other races were to be found among the AIAN population in 1990, or within some other racial group in 1990 (See Table 1). For that matter, from 1960 to 1990, more and more people were identifying themselves as AIAN, due in part to changing social perceptions of Indian heritage.[4] In other words, the 1980 census saw more 40-49 year old AIANs than the 1970 census found 30-39 year olds AIANs.

Table 1
U.S. Census Bureau Population Data for the American Indian and Alaska Native Population

Population	Size
1990 U.S. American Indian or Alaska Native (AIAN)	***1,959,234***
2000 U.S. AIAN Alone	2,376,933
2000 U.S. AIAN in Combination with Other Races	1,524,116
2000 U.S. Total AIAN Alone or in Combination	**3,901,049**
2000 U.S. AIAN Alone age 10 and Over	1,927,071
2000 U.S. AIAN in Combination age 10 and Over	1,291,832
2000 U.S. Total AIAN Alone or in Combination age 10 and Over	**3,218,903**

Source: U.S. Census Bureau, Summary File 1, available at http://factfinder.census.gov

These underlying issues mean that estimating migration patterns for Indians living on reservations involves an unusual degree of uncertainty. Fundamentally, those people on a reservation who identified themselves as AIAN in combination with other races are likely to have come from one of five populations during the 1990 census: a) AIAN living on the reservation, b) some other race living on the reservation, c) AIAN living off of the

[4] Passel, Jeffrey, 1996, "The Growing American Indian Population, 1960-1990: Beyond Demography," in *Changing Numbers, Changing Needs*, Gary Sandefur, Ronald Rindfuss, Barney Cohen, Editors, National Academy Press, Washington, D.C.

reservation, d) some other race living off the reservation, or e) those living on the reservation who were not counted in 1990.

Twelve Indian Reservations in the Western United States were selected for the study. The reservations were selected with the intention of providing a range of features of Indian reservations in the United States. The features considered were size; economic conditions (via proximity to a metropolitan area); Indian percent of the total reservation population; and location. Each of the twelve reservations is briefly described in Appendix A.

Methodology

Data from the 1990 and 2000 censuses are used to consider the question of migration of Indians on reservations. The adjusted 1990 census data of AIANs on each reservation are "forward survived" using the method originally developed by Sherman and Cheivre.[5] The differences in age cohorts between this estimated 2000 population and the Census 2000 data provide the net migration estimates by age and sex cohort. The sum of the results by age/sex cohort produce an estimate of total net migration. Results for the collection of 12 different reservations in the Western United States are compared with the 2000 populations of AIAN alone, and the 2000 populations of AIAN alone or in combination populations. The results are compared by 5-year age/sex cohorts to see if expected migration patterns are more pronounced among one set of results (AIAN alone) compared with the other (AIAN in combination). The results are also compared across reservations to see if the size of the reservation, the reservation's proximity to a metropolitan economic base, the racial composition of the total reservation population, the relative size of the AIAN in combination population, or the demographic composition of the migrants play any role in differences between the migration estimates across reservations.

Model and Assumptions

The model used in this study is a forward survival model of natural growth on the reservation, which is a five-year age-cohort component spreadsheet model and incorporates births and deaths only as factors of population change. The migration component is implied by comparing the projected forward survived 2000 AIAN reservation population to the 2000 Census populations (AIAN alone and AIAN alone or in combination). The key assumptions and steps taken in developing the projection are discussed below.

5 As cited in Smith, et al., p. 172.

The starting point of the migration estimation is the population of American Indians on each of the twelve study reservations from the 1990[6] and 2000 Census.[7] For the 1990 population, the adjusted AIAN population data (adjusted by the national estimate of undercounting of Indians on Indian Reservations) on each specific reservation are used. For the 2000 Census, unadjusted data for both the AIAN alone, and the AIAN alone or in combination data are used.

The base fertility rates were obtained from the National Center for Health Statistics (NCHS) in the National Vital Statistics Report, Vol. 50, No. 10, June 6, 2002. The age-specific rates used are found in Table 1, page 7, for American Indians, total. Each of the age-specific rates is then adjusted by a factor of 1.44, the average ratio of Indian Health Service (IHS) birth rates to NCHS American Indian and Alaska Native (AIAN) birth rates, over the years 1991 to 1998, the latest year for which results from IHS are available. The data support the idea that Native Americans who do not live on or near Indian Reservations have lower birth rates, than their on-reservation counterparts. The adjustment factor essentially converts the U.S. Indian fertility rate to an on-Reservation Indian fertility rate.[8]

Age-specific mortality rates used in the model were obtained from the document, "Trends in Indian Health 1998-1999." The model incorporates an adjustment factor to break down the age-specific mortality rates by sex using the National Vital Statistics Report, Vol. 50, No. 15, September 16, 2002, Table 2, "American Indian and Alaska Native Death Rates, Age-specific for male, female, and both sexes."

The12 reservations were evaluated on the basis of whether the net migration estimate was positive or negative (net in- or net out-migration). Comparisons were made based on the information developed from the model as described above.

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6 U.S. Department of Commerce, Bureau of the Census.

7 U.S. Department of Commerce, Bureau of the Census. 2001, *2000 Census of Population and Housing, Summary Population and Housing Characteristics*, Washington.

8 This methodology for evaluating birth rates was developed prior to publication of updated estimates of national birth rates provided in National Vital Statistics Reports, Vol. 51, Number 4, February 6, 2003. In this report, revised American Indian birth and fertility rates were produced for 2000, based on 2000 census results, and an associated bridging process, which assigns multiracial census reported parents to single races populations, to be used as denominators for the calculation of fertility rates. The Indian Health Services is currently in the process of revising their own fertility statistics, based on the same type of process. Because there are much higher portions of combined race AIANs off reservations, the authors expect that the ratio of birth rate for on-reservation AIAN to all AIAN (currently estimated to be 1.44) may yet increase. Until the IHS results have been produced however, it is not clear how or if changes in racial reporting are affecting IHS estimates of birth rates on reservations.

Two other data sources are used to examine the migration question across the 12 reservations. First, migration estimates for the AIAN alone population is compared using the sample data from Summary File 4, where respondents were asked about their place of residence in 1995. The Census provides data that indicates whether people living on the reservation in 2000 were living in a different county, living in a different state, or living in a different country in 1995. Five of the twelve reservations are essentially within one county, and none of the reservations in the study cross state lines. So for the five reservations located within one county, the people who indicated they were living in a different county in 1995 are in-migrants to the reservation. For the other seven multi-county reservations in the study the known in-migrants are comprised only of those indicating they lived in a different state in 1995, although some of those who indicated they were living in a different county may also have moved from off-reservation to on-reservation, that is unknowable based on this data source.

Finally, in preparation for the 2000 Census, the Census Bureau developed a database that was used to measure how "hard-to-count" counties in the U.S. would be.[9] The database was developed using information from the 1990 post-enumeration study results that identified factors contributing to differences in undercounting by race and ethnicity. The database includes over 200 socioeconomic factors, which are all combined into one index called the "Hard to Count" (HTC) score. These HTC scores range from 1, which implies not hard to count at all, to over 100, increasing with the estimated difficulty in counting. In an attempt to adjust for differences in undercounting across reservations, the hard-to-count database provides a way of checking results to see if differences in estimated migration could be based in differences in the degree of undercounting that occurred in 1990.

Results

Migration

The results of the estimated in- and out-migration as well as other basic demographic information are presented in Table 2. The results of forward surviving the twelve reservations suggest that net in-migration occurred between 1990 and 2000 on five of the twelve reservations, and that seven reservations experienced net out-migration (see Column **I**, Table 2). The results were reviewed for common sense consistency, especially with respect to questions surrounding the combined use of adjusted 1990 counts, and fertility rates

[9] U.S. Department of Commerce, Bureau of the Census, December 1999, 1990 Data for Census 2000 Planning, Washington, D.C.

Table 2
Demographic Data for the AIAN Alone Populations of Twelve Reservations in the Western United States, 1990 and 2000, with Estimated Migration from 1990 - 2000

	2000 Census Data					*1990 Census Data*					
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**
Reservation	Total Reser-vation	AIAN Alone	AIAN Alone or Combined	Combined AIAN/ All AIAN ((**C-B)/C**)	All AIAN/ Total (**C/A**)	1990 AIAN Total	1990 Adjusted Total	HTC Score	Net Migration	Known In-migrants since 1995	Net Migration/ 1990 total (**I/F**)
Blackfeet	10,100	8,507	8,684	2.0%	84%	7,025	7,994	61	-726	227	-9%
Colville	7,582	4,528	4,775	5.2%	60%	3,788	4,298	61	-157	137	-4%
Gila River	11,257	10,353	10,578	2.1%	92%	9,116	10,387	88	-1,942	81	-19%
Isleta	3,166	2,675	2,856	6.3%	84%	2,699	3,057	55	-656	31	-21%
Nambe	1,764	455	511	11.0%	26%	329	375	50	76	12	20%
Soboba	522	433	440	1.6%	83%	308	353	23	26	2	7%
Torres Martinez	4,146	195	212	8.0%	5%	143	163	80	23	24	14%
Tulalip	9,246	2,049	2,265	9.5%	22%	1,204	1,374	29	608	74	44%
Umatilla	2,927	1,427	1,499	4.8%	49%	1,029	1,166	51	130	198	11%
Warm Springs	3,311	3,038	3,105	2.2%	92%	2,820	3,224	40	-725	108	-23%
Wind River	23,245	6,542	6,862	4.7%	28%	5676	6,470	34	-822	374	-13%
Yakama	31,646	7,289	8,071	9.7%	23%	6307	7,177	46	-424	365	-6%

based on 1990 population estimates. For example there was no incidence of net out-migration of 0-9 year olds without a reasonable out migration of the potential parent pool.

Migration and Racial Composition

The first column in Table 2 shows the total Indian Reservation population, including people of all racial backgrounds (Column **A**). The Indian, or AIAN Alone or in Combination percent of the total reservation population ranges from five percent on the Torres Martinez Reservation in California, to 92 percent for the Gila River Reservation in Arizona, and 92 percent on the Warm Springs Reservation in Oregon (see Column **E**).

Although the multiracial issue confuses the notion of Indian racial identification on the national level, the problem is less critical for the on-reservation Indian populations selected for this study. The percent of AIAN who selected AIAN in combination with other races ranges from a low of 1.6 percent on the Soboba Reservation, to a high of 11 percent on the Nambe Pueblo (Column **D**, Table 2).

The estimated net in- and net out-migration status of each reservation (Column **I**) is preserved regardless of whether the 2000 population of AIAN alone, or AIAN alone or in combination is assumed to be the appropriate 2000 Indian population. Because of this result, the AIAN alone or in combination results will be the focus of the remainder of this report unless otherwise specified.

As might be expected, there is some correlation between the following three factors: the percent of the total AIAN who selected more than one race (Column **D**); the concentration of AIAN on the reservation (Column **E**), and net in- and out- migration (Column **I**). The correlations between the three factors are reported below in Table 3, and are displayed graphically in Figures 1, 2, and 3.

Table 3
Correlation Coefficients for Net Migration,
AIAN Percent of Reservation, and Combined Racial Percent of All AIAN

	Combined AIAN % of All AIAN	AIAN % REZ	% Migration
Combined AIAN % of All AIAN	1	-0.8	0.6
AIAN % REZ	-0.8	1	-0.6
% Migration	0.6	-0.6	1

Figure 1
Relationship Between Migration and
Percent of AIAN Population Reporting Combined Race

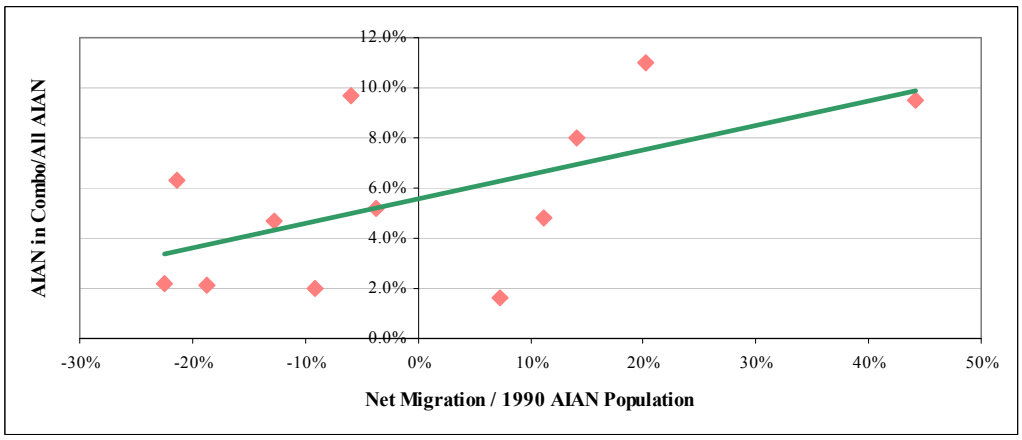


Figure 2
Relationship Between Migration and
AIAN Percent of Total Reservation Population

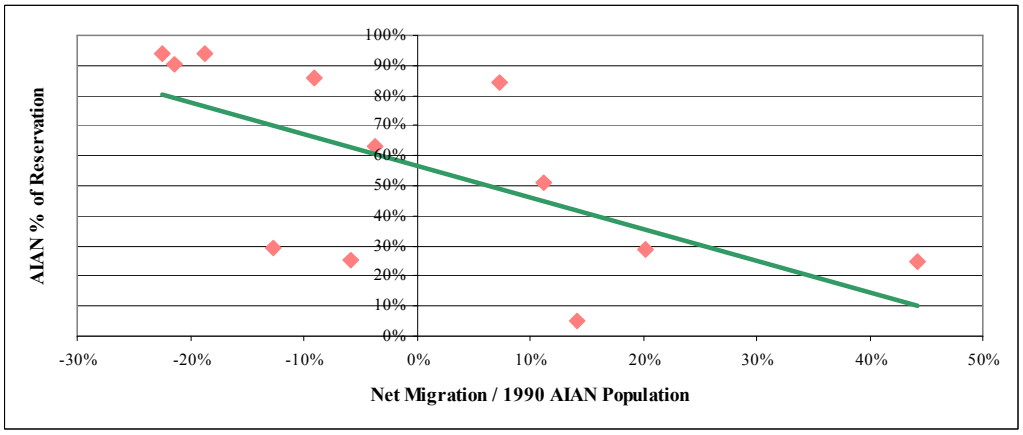
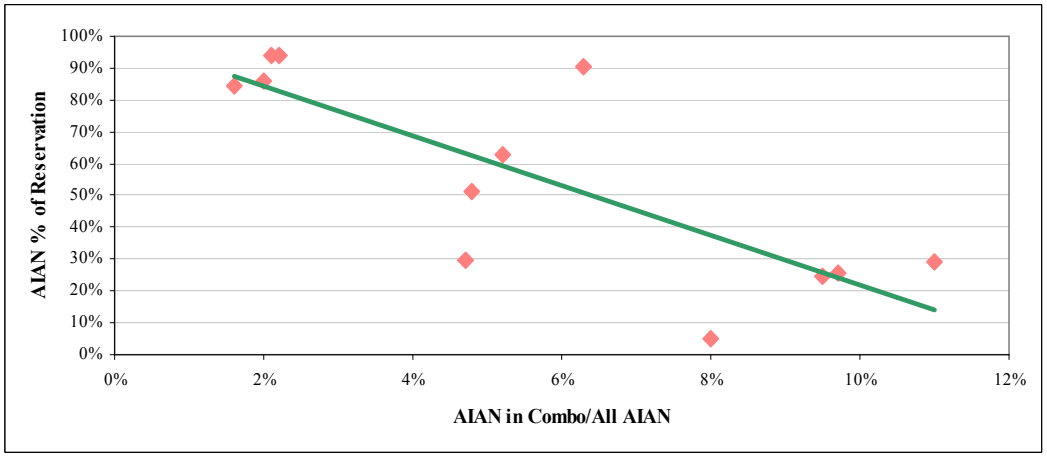


Figure 3
Relationship Between Percent of AIAN Population Reporting Combined Race
and AIAN Percent of Total Reservation Population



As is seen in Figure 1, the relationship between migration and the percent of the total AIAN population reporting more than one race is not strong. The correlation coefficient of 0.6 suggests the two are positively correlated, with the percent of the AIAN population reporting more than one race tending slightly to increase with the tendency toward positive net in-migration. However with but 12 points, any relationship is tenuous at best, and suggests that this relationship might be further explored.

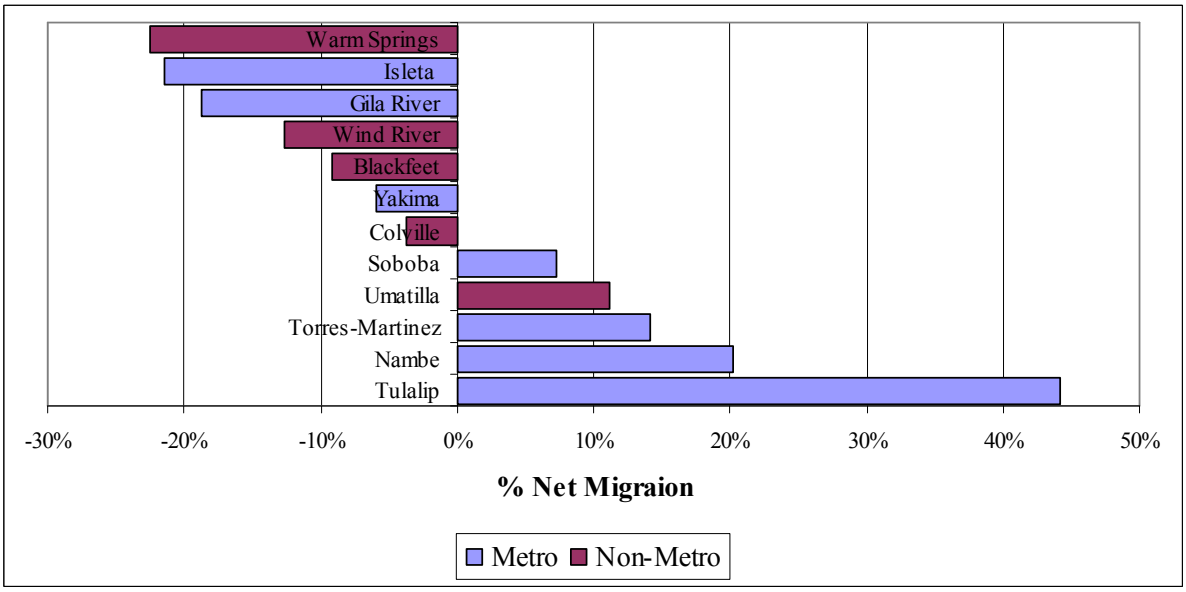
The relationship between net migration and the concentration of AIAN as a percent of the total reservation population is similarly tenuous (see Figure 2). However, the relationship suggests if anything a negative correlation between net migration and the percent AIAN on an Indian Reservation. The relationship portrayed in Figure 3 is slightly stronger, and the correlation coefficient of 0.8 supports the slightly stronger connection between the decreasing percent of the reservation population that reported AIAN, and the incidence of combined race reporting among the AIAN community. This latter result is to be expected, since the more non-Indians there are living on a reservation, the more likely the chance of marriage between Indian and non-Indian, and the more likely the presence of multiracials.

Migration and Proximity to Metropolitan Economic Base

One of the greatest difficulties that many Indian Reservation populations face is a lack of employment opportunities. Throughout the 1990s, this has changed on some reservations with the proliferation of Indian gaming facilities and other economic development activities. However, in many cases the problems persist. A general lack of resource availability such as housing, infrastructure, electricity in some cases, and recreational facilities is often cited as a reason that young people move away from reservation life. In acknowledgement of the importance of employment opportunities for all potential migrants, the collection of 12 reservations was divided into two groups. Seven of the 12 reservations are within reasonable commuting distance to a metropolitan economic hub that can provide employment opportunities if they are lacking on the reservation. The other five reservations are located in non-metropolitan areas.

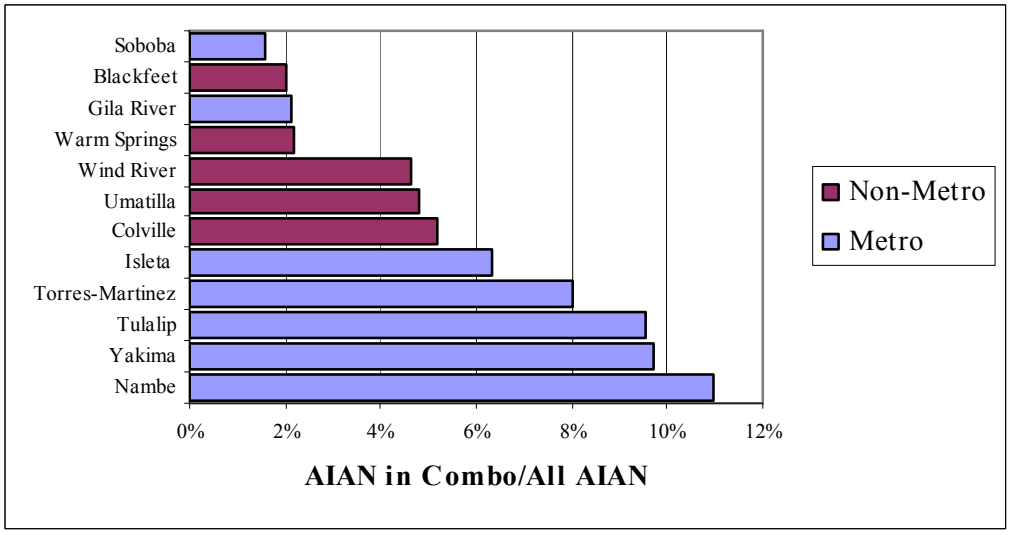
The results of the net migration estimation do not provide a firm conclusion, but rather suggest a relationship that might be considered for further study. This relationship can be seen in Figure 4, which shows that the three highest net in-migration percentages were seen on three reservations that were all near metropolitan areas. Furthermore, four of the five reservations not located near a metropolitan area experienced net out-migration between 1990 and 2000.

Figure 4
Net Migration Between 1990 and 2000,
by Proximity to Metropolitan Area



Returning to the theme of multiracial AIAN populations on reservations, reservations that were closer to metropolitan areas (and therefore large non-Indian populations) seem to have higher rates of people who reported their race as AIAN in combination with other races (see Figure 5).

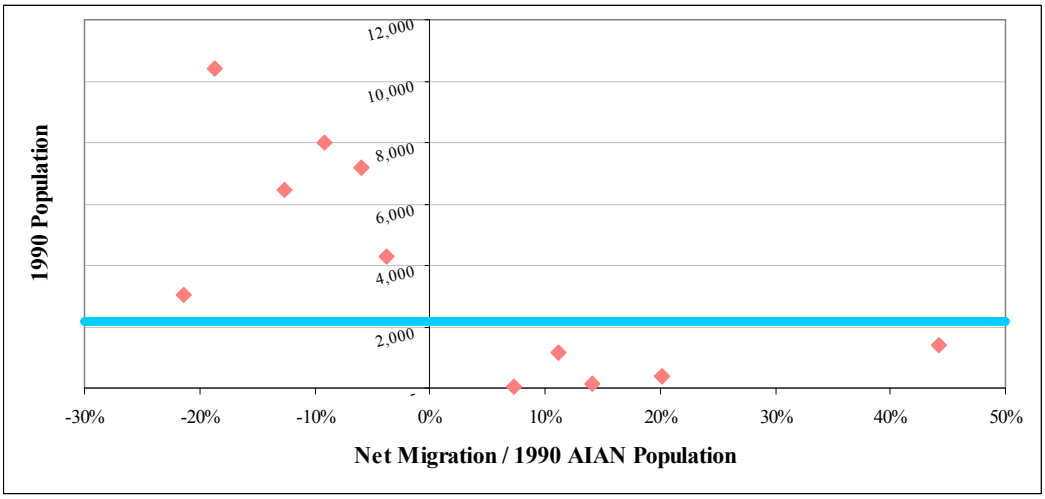
Figure 5
Percent of Reservation AIAN Population Reporting
AIAN in Combination with Other Races by Proximity to Metropolitan Area



Migration and Reservation Size

Perhaps the most distinct result that is seen in the migration estimation results is that reservations that had populations under 2,500 in 1990 experienced in-migration without exception, and reservations with populations greater than 2,500 in 1990 experienced net out-migration without exception. This relationship is shown graphically in Figure 6. Again, whether this result is merely coincidental is not at all clear, and should be further explored.

Figure 6
Net-Migration as a Percent of 1990 Population
By Size of 1990 Reservation Indian Population



Migration and Demographic Composition

Another important trend that is identified through examination of estimated net migration patterns by age and sex cohort, is that the 40 to 79 age cohorts proportionally experienced much higher rates of in-migration than younger age cohorts (see Figure 7). This supports anecdotal evidence that many Indians who were encouraged to leave reservations in the 1950s and 1960s as a result of the assimilationist[10] policies of the federal government are now electing to return to their homelands on reservations. In each five-year age cohort between 40 and 79 years of age, more than half of the twelve reservations experienced net in-migration for that age cohort. For each of the age cohorts 55-59, 65-69, and 70-74, net in-migration was estimated to have occurred on ten of the 12 reservations. As shown in Figure 7, the number of reservations experiencing net in-migration implies that the remaining reservations showed either net out-migration for the given cohort, or zero net migration.

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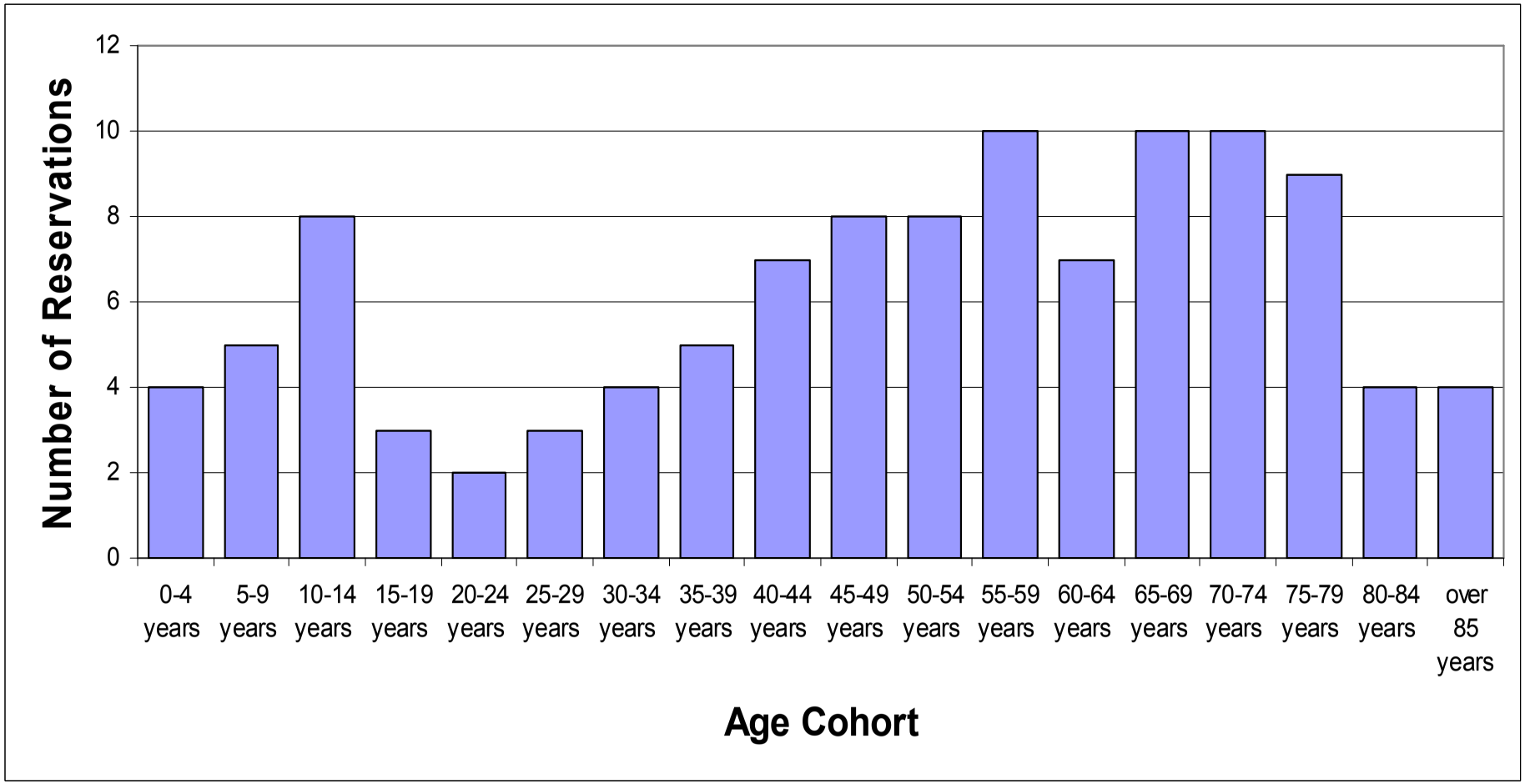
10 Shoemaker, Nancy, 1999. *American Indian Population Recovery in the Twentieth Century*, University of New Mexico Press, Albuquerque, pp 76-79.

Figure 7
Demographic Composition of In-Migrants Across All Reservations



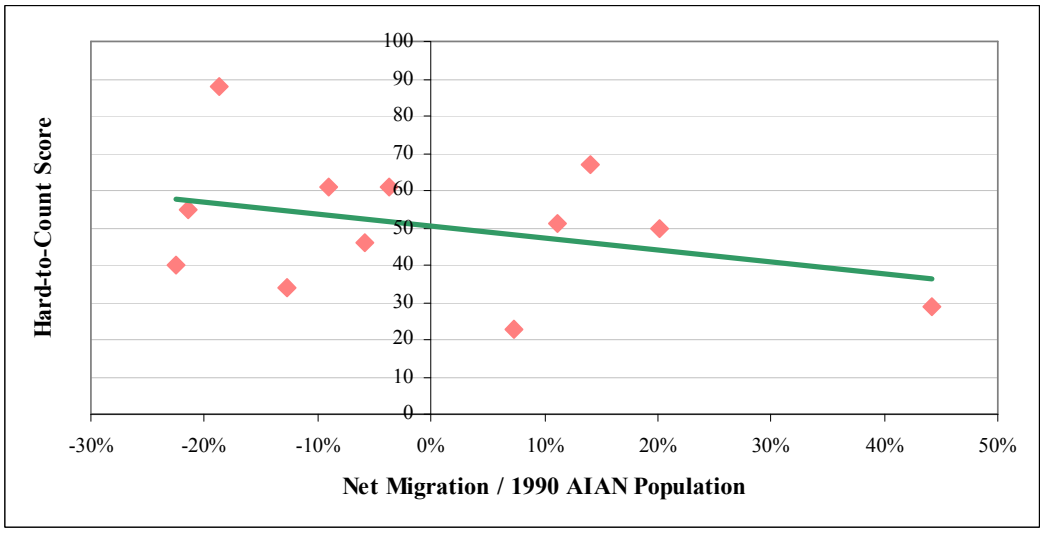
Hence in the case of each of the three cohorts mentioned above, there were two reservations with either net zero, or net out-migration.

Implications for Undercount Adjustment Based on Migration

The fact that some reservations may have experienced greater, and some lesser degrees of undercounting in 1990 affects the estimates of migration on reservations between 1990 and 2000. Specifically, if a reservation were undercounted more than the national adjustment factors, then the adjustment would produce a 1990 population that was still too low. Hence, this number, when forward survived would still be shy of the true number, and the resulting estimates of net migration would err in the direction of overestimating the in-migrants, and underestimating out-migration. Conversely, if a reservation were undercounted less than the national estimated average, the adjusted population would be larger than the true population, and in-migration would be underestimated, with out-migration overestimated.

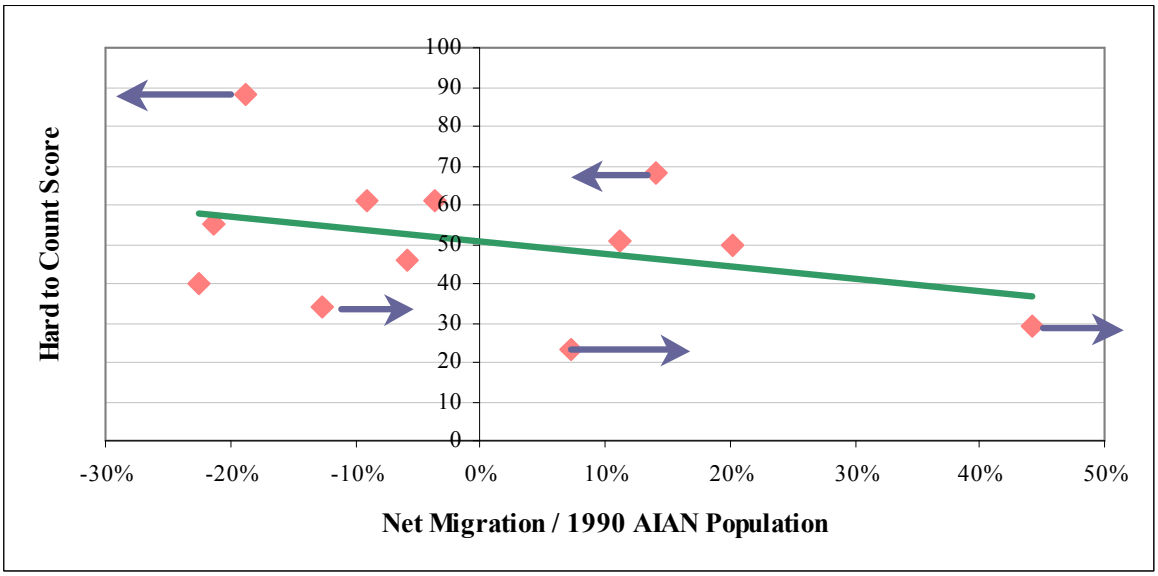
Use of the Hard-to-Count score as a way to explore these potential results does not immediately suggest that the score is a way to evaluate how appropriate the adjustment factor may be for a given reservation. As shown in Figure 8, the simple net in- and out-migration result is correlated negatively with the degree of difficulty in counting. That is, counter to what we might expect, there is greater incidence of net out-migration in areas with high measures of difficulty to count – and a suspected migration error that would actually underestimate out-migration.

Figure 8
Hard-to-Count Index, Compared with Net Migration Estimate



However, this result is not surprising, given that reservations with large populations, located in remote areas tend to be more difficult to count. So one possibility is that the estimates of migration presented in this report may, if anything, underestimate the degree of net migration in both directions. That is, some reservations estimated to have experienced net out-migration may actually have experienced a greater degree of out-migration, and those experiencing net in-migration may also have truly experienced greater degrees of net in-migration. Figure 9 shows a schematic that demonstrates the implication that HTC scores suggest in terms of potential error in migration estimates. If we assume that the reservations with HTC scores near the middle (between 40 and 60) were adjusted approximately correctly, then it is possible that those reservations with HTC scores greater than 60 may have been undercounted to a greater extent, and those under 40 a lesser extent than the national estimated undercount for which they were adjusted. If so, the estimates of net migration would need to be adjusted downward (less net-inmigration, more net out-migration) for those above 60, and upward (more net in-migration, less net outmigration) for those reservations with scores under 40.

Figure 9
Hard to Count Score, Compared with Net Migration
Showing Direction of Possible Migration Error Correction



Summary

The purpose of this paper is to see if empirical results could direct additional research about the demographic changes occurring within Indian populations on Indian reservations in the Western United States. Several trends or hypotheses are suggested by the results:

- ❖ Because the incidence of multiracial identification is smaller among on-reservation AIAN populations than off-reservation populations this change in the Census survey does not obscure demographic trends in migration.

- ❖ The incidence of racial identification as AIAN in combination with other races is more strongly associated with reservations that have higher proportions of non-Indian populations than those with lower shares of non-Indians.

- ❖ Reservations that are located far from metropolitan economic centers experienced more out-migration compared with reservations located near urban centers.

- ❖ Larger reservations (with 1990 populations greater than 2,500) experienced net out-migration, while smaller reservations experienced net in-migration between 1990 and 2000.

- ❖ Older age cohorts of AIANs moved onto Indian reservations on nearly all of the reservations, regardless of whether or not the reservation as a whole experienced net in-migration.

- ❖ Use of the Hard-to-Count Scores developed by the U.S. Census as a way to evaluate the 1990 national adjustment may provide guidance in the future in terms of knowing how to evaluate 1990 census data.

Each of the trends suggested in this paper would benefit from further research to see if the same trends are found when a greater number of Indian Reservations are considered. However, data limitations will continue to further complicate the ability to evaluate patterns that may exist. Also, for each of the suggested trends, there are already known exceptions. Each reservation has a unique set of features that combine together with unique cultural factors to influence migration in ways that may be difficult to ever identify quantitatively. One method that might provide a better understanding of these trends in the future would be to use econometric, or regression techniques to evaluate how demographic, geographic, and economic factors differently effect in and out migration patterns.

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Appendix A - Tribe Summaries

The following summaries were developed based on information available on the internet and from other sources in February 2004. Population figures cited may or may not parallel data census population data used in the body of this paper.

Arizona

Gila River Indian Community[11]

The Gila River Indian Community (GRIC) borders the southern Phoenix metropolitan area on 371,933 acres. The reservation is in an arid region and sits at an altitude of about 1,284 feet. In 1994, the community had about 11,550 people and 39 per cent unemployment.[12]

The Gila River Indian Community capitalizes on their close proximity to the Phoenix area by owning three highly successful industrial parks. In addition, the community earns money from a golf course, a resort with a 500-room hotel and a 17,000 square foot spa, and three casinos. The casinos alone provide about 1,200 jobs to community members. However, the community considers agriculture to be the foundation of their heritage, and farms about 15,000 acres annually.

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11 Most of this section is derived from: Gila River Indian Community, n.d., Website: http://www.gric.nsn.us/index.html, accessed February 2, 3, 2004.

12 Tiller, Veronica E. Velarde, (compiler and editor), October 1995, American Indian Reservations and Indian Trust Areas, Tiller Research, Inc. (under an award from the U.S. Department of Commerce, Economic Development Administration.)

California

Soboba Band of Luiseno Indians

The Reservation of the Soboba Band is located along the San Jacinto River, just northeast of Hemet, California, in Riverside County and is about 6,886 acres. The Soboba Indians are a relatively small group. The reservation is mostly rural, although the population of Hemet has increasing significantly over the last two decades, leading to increased urbanization of the area.[13] The Band has historically suffered from high unemployment and loss of surface water resulting from the inefficient functioning of the California Aqueduct that passes under their reservation.

The Band currently owns a casino, a sports complex, and hosts an annual Pow-Wow. The Band plans to build a casino at Diamond Lake, one of the largest man-made lakes in the area. The Band has a sand and gravel mining operation, and leases farmland and grows citrus fruits.

Torres-Martinez Band of Mission Indians

The Torres-Martinez Reservation is located in Thermal, California in Riverside and Imperial Counties, north of the Salton Sea. The reservation is of moderate size at about 24,024 acres of land in 1994.[14] The Band historically inhabited land near and in the Cahuilla Basin, a dry lakebed. In the first half of the twentieth century, the Colorado River flooded and inundated the lakebed, temporarily forming the Salton Sea. Subsequently, two Federal canals constructed in the 1930s and 1940s and resulting agricultural runoff permanently flooded the Cahuilla Basin and formed a permanent Salton Sea. Thus, almost half of the Band's lands, about 11,000 acres, was flooded.[15] In 2002, a settlement was reached between the Band, local irrigation districts, and the U.S. Departments of Interior and Justice. Settlement monies

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13 Guay, Joel R., 2002, p. 2.

14 Tiller 1995.

15 Quimby, Frank and Bob Laidlaw, March 28, 2002, "Southern California Water Rights Settlement Opens Way for Tribal Economic Development," U.S. Newswire, Webpage: http://www.usnewswire.com/topnews/first/0328-137.html.

provided by the Departments and the districts will be used to compensate Band members and purchase new Tribal lands[16, 17].

After living in poverty for decades, the Band is using the settlement monies to improve members' standards of living and to increase economic development. Currently, the Band has a housing improvement program; a Youth Opportunity Program; an Indian education program which teaches about the Band's culture; child care; a Tribal employment office that offers counseling, job referrals, support service referrals, employment screening, and resume writing assistance; a Tribal Environmental Protection Agency; a G.E.D. preparatory program; and Fire Protection Services.

Montana

Blackfeet[18]

The Blackfeet Nation's reservation is a total of 1.5 million acres located in Glacier County in northwestern Montana, with administrative offices in Browning, Montana. It borders Alberta, Canada to the north, Glacier National Park to the west, and the Lewis and Clark National Forest to the southwest. The reservation's altitude ranges from 3,400 feet to over 9,000 feet in the northeast. The area is quite rural, with the nearest major city located 125 miles southeast of the reservation in Great Falls, Montana. The Blackfeet Tribe is a moderately-sized Tribe, with about 15,560 enrolled members. Approximately 7,000 live within the reservation and about 8,560 live outside the reservation.

The Blackfeet Tribal Business Council governs the reservation area. Businesses include two campgrounds, a bingo hall, two casinos, bottled spring water, and a cable television company. A wind power development project is proposed to be built on the reservation in Babb, Montana. In addition, Blackfeet Community College in Browning offers an accredited two-year college education with emphases on Blackfeet studies, business, hospitality,

16 Quimby, Frank and Bob Laidlaw, March 28, 2002, "Southern California Water Rights Settlement Opens Way for Tribal Economic Development," U.S. Newswire, Webpage: http://www.usnewswire.com/topnews/first/0328-137.html.

17 May, James, October 29, 2001, Torres-Martinez Finally Will Get Settlement Money, *Indian Country Today*, Webpage: http://www.indiancountry.com/?2748, accessed February 3, 2004.

18 The material in this section is drawn from: Blackfeet Nation, December 9, 2003, "Welcome to the Blackfeet Nation," Website: http://www.blackfeetnation.com, accessed February 2, 2004.

tourism, psychology, social services, construction, and computer networking. The poverty rate for American Indians on the reservation in 1999 was 35 percent.[19]

New Mexico

Pueblo of Isleta

The Pueblo of Isleta straddles the Rio Grande River fifteen miles south of Albuquerque. Isleta Pueblo is one of the larger pueblos in New Mexico in terms of acreage; however the membership is moderate at about 4,800, with most members living on the reservation.

Historically, Isleta's economy was based on agriculture, with about 4,500 acres currently farmed. Agricultural infrastructure is maintained by The Isleta Pueblo Farming Enterprise. Woodlands on the reservation are currently used for timber, grazing, hunting, and pinon nut production. More recently, the Pueblo has capitalized on its proximity to Albuquerque and many tribal members work in the City and the surrounding metropolitan area. The Tribe also runs its own law enforcement, health department, solid waste management, fire and rescue service, and water quality programs. The Isleta Department of Education was started by the Pueblo in 2001 and serves about 429 child and adult learners."[20] All these programs offer employment opportunities to the members.

The Pueblo also features a golf course, recreational facilities, including fishing and camping, and one of the largest casinos in New Mexico that provides a significant amount of funding for Tribal members and programs. Private Tribal businesses include a sand and gravel operation and a few small businesses serving the community.

Nambe Pueblo

Nambe Pueblo is located 18 miles north of Santa Fe. The pueblo is about 19,000 acres, is surrounded by national forest, and lies at the base of the Sangre de Cristo Mountains. The Pueblo is on the National Register of Historic Places. As a result of this distinction, the Nambe Rock Formations have been featured in films, and is a popular tourist attraction.

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19 Northwest Area Foundation, n.d., Indicator Website, Reservations, Website: http://www.indicators.nwaf.org/ShowMap.asp?ParentFIPS=2, accessed February 2, 2004.

20 Pueblo of Isleta, Department of Education, 2003, Website: http://isletaeducation.org/, accessed February 3, 2004.

The Pueblo is somewhat small with about 610 members, 20 per cent of which were in the labor force in 1995. The Pueblo historically has had an agriculturally-based economy. The reservation grazes animals on over 18,000 acres, about half of which is woodland. Pueblo members are employed at Los Alamos National Laboratory and in the area's construction industry. Three small businesses round out the Tribe's private economy.

Recreation and fishing fees at Nambe Lake provides the Tribe with revenue. Nambe Falls Recreation Area features an annual July 4th celebration. Pueblo artists are able to a small amount of money from their work. The Tribe accepts Housing and Urban Development assistance for residential construction. The Tribe also utilizes funds from federal grants and contracts, which provide significant employment in the Tribal administration and artist studios. The Tribe runs the community water system, a community center, and other services.[21]

Oregon

Confederated Tribes of the Umatilla Indian Reservation

The Cayuse, Umatilla and Walla Walla people make up the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). Most of the Reservation is located just east of Pendleton, Oregon, while a smaller portion is located southeast of Pilot Rock. The reservation is large at 172,000 acres. The Confederated Tribes has a moderate enrollment of a little over 2,400 members. Approximately 1,500 non-Indians live on the Reservation.

Currently, the Confederated Tribes' economy is formed by agriculture, livestock, timber, recreation, including hunting and fishing, as well as such commercial enterprises as a conveniently-located travel plaza, a Tribal market, a trailer court, a grain elevator, and a popular casino/resort complex which employees about 500 people. The Tribe also runs the Tamastslikt Cultural Institute, which is part of the casino complex.

The Tribal Government employs almost 500 employees and includes departments such as administration, health and human services, natural resources, economic and community development, tribal services, education, fire protection, and police. Total government and casino employment is 36 per cent CTUIR members, 15 per cent other Indians, and 49 per cent non-Indians.[22] The Tribal government's payroll exceeds 31 million dollars annually,

21 Tiller 1995.

22 http://www.umatilla.nsn.us/

with an estimated economic impact to the local communities of $168 million. The casino provides about 12 million dollars for the government's operating expenses.[23]

Confederated Tribes of the Warm Springs Indian Reservation

The Warm Springs Indian Reservation (WSIR) is the home of the Warm Springs, Wasco, and Paiute Native American Tribes. WSIR is a large reservation in terms of land area with 643,570 acres in north-central Oregon from the Cascade Mountains to the Deschutes River. The Reservation has a moderate to large membership of 4,000. There are about 1,100 employed members of the Tribes, with the majority (57.7 per cent) employed in the Tribal government, and most of the rest in private industry.[24] The tribal economy is based primarily on natural resources, including hydropower, forest products, and ranching. Tourism and recreation also make important contributions. The Tribe has a successful casino and resort complex. Other Tribally owned businesses include a museum, a shopping plaza, and two tile companies.

Washington

Confederated Tribes of the Colville Indian Reservation

The Confederated Tribes of the Colville Indian Reservation spans approximately 1.4 million acres of land in northeastern Washington State, about 100 miles northwest of Spokane. Today, over 8,700 descendants of 12 aboriginal tribes of Indians are enrolled in the Confederated Tribes of the Colville Reservation. The Colville Indian Reservation is occupied by over 5,000 residents, both Colville tribal members and their families and other non-Colville members, living either in small communities or in rural settings. Approximately, fifty percent of the Confederated Tribes' membership live on or adjacent to the reservation.[25]

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[23] Confederated Tribes of the Umatilla Indian Reservation, September 2003, "Our Labor Force," Web page: http://www.umatilla.nsn.us/labor.html, accessed February 3, 2004.

[24] State of Oregon, Department of Administrative Services, Office of Economic Analysis, 2000?, "Tables DP-1-3. Profile of General Demographic Characteristics: 2000, Geographic Area: Warm Springs Reservation and Trust Land, OR," *Census 2000 Demographic Profiles, Demographic, Social, Economic, and Housing Characteristics, American Indian Reservation and Trust Land*, Webpage: http://www.oea.das.state.or.us/census2000/profile/280414405.pdf, accessed February 3, 2004.

[25] Confederated Tribes of the Colville Reservation, 2000, Colville Tribes Official Website: http://www.colvilletribes.com/, accessed February 3, 2004.

Tribal enterprises include three casinos, a recreation enterprise, trading post, two community stores, a restaurant and bar, a resort, two timber companies, two wood processing companies, and a credit union. Colville Tribal Enterprises and Colville Tribal Service Corporation, an arm of the tribal government, operate a construction company that generates significant revenues and tribal employment. Colville Business Council oversees a diverse, multi-million dollar administration that employees from 800 to 1200 individuals in permanent, part-time, and seasonal positions. The tribe has about 6,000 head of cattle and 1,000 horses, and runs a successful meat-packing plant. The tribe has almost 82,000 acres of commercial farmland primarily for wheat, alfalfa, barley, and apple crops. Approximately 2,000 acres are irrigated. The tribe has a mineral permit system in place to regulate mining in the area.

Grand Coulee Dam, a popular tourist attraction, is located on the reservation. There is also a tribal museum and gallery at Coulee Dam. Houseboat rental operations in two locations on Lake Roosevelt have been highly successful in capitalizing on the popularity of the region. Finally, the tribe sponsors a number of special events, including the 4th of July Encampment in Nespelem and the annual Stampede in Omak every October.

The reservation maintains four community centers, one in each of its four districts. Additionally, the tribe is currently completing its flagship outreach facility, the Chief Joseph Interpretive Center.[26]

Tulalip Tribes

The Tulalip Tribes are an amalgam of the Snohomish, Snoqualmie, Skagit, Suiattle, Samish and Stillaguamish Tribes and allied bands located in the mid-Puget Sound area, just west of Marysville, Washington, and just north of the Snohomish River. The reservation has 22,000 acres of land, over 50 per cent of which is in federal trust status. The Reservation is rich with natural resources: marine waters, tidelands, fresh water creeks and lakes, wetlands, forests and developable land.

The Tribe has approximately 3,200 enrolled members. About 2000 members live on the reservation. The Tribe provides many services to its members including preschool, higher education assistance, health and dental clinics, a pharmacy, a state-licensed chemical dependency recovery program, and a senior retirement home and cultural activities. In addition to two Marysville School District (MSD) elementary schools, the Tribe collaborates with MSD in providing on-Reservation middle school and high school alternative programs. The Tulalip Tribes provides over-sight to the Tulalip Housing Authority, which provides nearly 300 housing units for Tribal members, and to the Tulalip Utilities District, the primary provider of water/sewer services.

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[26] Tiller 1995.

Of the 1,200 employees working for the Tulalip Tribes, over two-thirds are working in the Tribe's business enterprises: Casino/Bingo, land leasing, cablevision company, marine moorage, liquor store, and the Quil Ceda Village Business Park.

Yakama Nation

The Yakima Valley lies along the eastern slopes of the Cascade Mountains in the south central part of the state of Washington. The Yakama Indian Reservation has more than 1,300,000 acres, which is twice as large as the state of Rhode Island. Tribal enrollment is more than 8,800 people, and there are more than 13,700 people living on or near the reservation.[27] As of 1995, the reservation had 142,000 acres of irrigated land, in which apples are an important crop. There are 936,358 acres in grazing. The tribe also has a herd of buffalo. The Yakama Indian Nation manages 309,000 acres of reservation timber, the largest stand of commercial saw log timber of any Indian reservation.

The Nation owns several tourist facilities, including a large cultural center, restaurant, gift shop, and museum. The reservation also has a large restaurant, meeting lodge, RV park, museum, gift shop, library, and movie theater. The Nation also owns the Wapato Industrial Park, a large complex with excellent highway access, in the city of Wapato. Tenants include a tribally owned and operated furniture manufacturer and one of the nation's largest producers and packers of commercial pears and apples.

Wyoming

Wind River

The Wind River Reservation serves as the contemporary home of the Eastern Shoshone and Northern Arapaho tribes, and is Wyoming's only American Indian reservation. The reservation is located in the scenic west-central portion of the state. The terrain is rugged and mountainous in parts, while other areas are forested or suitable for grazing. The Big Wind River and Little Wind River run through the reservation. The proximity of the reservation to the Rocky Mountains and the Continental Divide, as well as to Yellowstone and Grand Teton national parks, places it at the center of an outstanding tourist area. The Wind River Reservation is the resting place for Sacajewea, the young woman who helped guide the Lewis and Clark expedition through Shoshone lands.

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[27] Online Highways, 2002, Destination Guide, Yakama Indian Nation, Webpage: http://www.ohwy.com/wa/y/yakamana.htm, accessed February 3, 2004.

As the Eastern Shoshone and the Northern Arapaho tribes do not share the same culture, each Tribe has its own separate Tribal government and Business Council. Tribal enrollment is 6,281, and trust acreage of the reservation is 1,889,533, making it a large reservation both in terms of size and membership. Grazing land is leased to outside interests, and the Arapaho raise pure-bred Herefords on 400,000 acres in the northeast portion of the reservation. The area's many lakes and streams provide excellent recreational fishing opportunities. The tribe operates an enterprise called 789 Bingo, which generates tribal revenues and employment.

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