# Local Snapshots: Native Hawaiian and Pacific Islander Case Studies 

> Case studies allow us to examine the quality of the decennial census count for the NHPI community at a more detailed scale. NHPIs comprise about $0.48 \%$ of the population of the United States, but they are not distributed evenly geographically. We selected four locations with sizable or distinctive NHPI communities and because of the diversity of their NHPI origins. ${ }^{109}$ Our first case study, Hawaii, has the largest population of NHPIs in the United States, and we analyze census coverage for both the state and its five counties. Second, Los Angeles County, California has another large NHPI community. Our third case study, the NHPI community in Northwestern Arkansas, is almost entirely Marshallese and constitutes the largest Marshallese population in the United States. Finally, within the state of Utah, there are large Tongan and Samoan populations in Utah and Salt Lake Counties.

Below, we outline the key findings and avenues for future research across all of our case studies before analyzing each case study individually.

## Key Findings

At the national and the state level, the census appears to have overcounted NHPIs. States with large NHPI populations-including Hawaii and California-were especially likely to have overcounts. But NHPIs were not overcounted everywhere. For example, our case studies show undercounts for both Los Angeles County and Hawaii County (for the NHPI Alone or in Combination population only).

Moreover, these coverage errors change over time. Before 2000, the NHPI population was undercounted. Put another way, in one decennial census an area may have experienced a net overcount. In another decennial census, the same area experienced a net undercount. Future research should focus on improving our understanding of these coverage issues by attending to which data source is causing the error, as well as why it is occurring.

## Impact of Age on Census Accuracy

Comparing our case studies to the national average reveals where specific age groups don't follow national patterns.

There was not a national undercount of young children among NHPIs in 2020. This is surprising since other racial groups had national undercounts of young children. Our case studies showed overcounts of young children. Some case studies had larger overcounts, while others were closer to net zero coverage error.

Our analysis shows that older NHPI children and young adults (ages 10-29) have the largest average overcount at the national level for any age group. Our case studies also show an overcount for NPHIs between the ages of 10-29. Unlike the national average, in our case studies, NHPI children and young adults are not always the largest overcount.

Nationally, NHPI adults (ages 30-64) are closest to net zero coverage error on average, and the existing overcount slowly converges towards zero with increases in age. In our case studies, we also see adults ages 30-64 closest to net zero coverage error, with some interesting exceptions: Many adults ages 25-64 are undercounted in Los Angeles County. Finally, undercounts were common for NHPIs ages 65 and above nationally and in our case studies aside from Los Angeles County, where a large overcount occurred.

More research is needed to better understand these age patterns. Are there differences based on how much is spent on outreach? Is outreach more effective when it's done by members of the impacted group, and does the timing of the outreach matter? Perhaps there are differences in the subgroups that make up each of these age cohorts in these different geographic locations. Additional research is needed to answer these questions.

## Self-Response: Impact of Contextual Variables

Contextual variables-including citizenship status, housing tenure, and English language ability—are thought to impact self-response rates. Self-response provides valuable insight into where people are, and are not, responding to the census. Researchers have hypothesized that self-response rates correlate with overall census accuracy even though self-response rates are not technically a direct measure of decennial census accuracy. ${ }^{110}$

Our case studies are limited in what we can say about the relationship between census accuracy and self-response generally. Los Angeles County experienced an undercount in 2020. But tracts there do not have many NHPIs, and thus we cannot make arguments about the impact of NHPI response rates on census quality. On the other hand, we were able to make more definitive claims about Hawaii because tracts there had a higher concentration of NHPIs; here, we saw similar overcounts and response rates (compared to the national average overcount and average national response rate).

Regardless of any correlation, self-response is important because it is the highest quality response type-thus, knowing self-response rates is a critical first step in planning on how to best improve self-response in our communities. We find some evidence of the potential impact of citizenship status, housing tenure, and English language ability on self-response, but none are supported all the time.

In general, census tracts with large NHPI populations that have more non-citizens experience lower self-response. The relationship between citizenship and self-response is especially nuanced for NHPIs. According to the 2014 report, A Community of Contrasts: Native Hawaiians and Pacific Islanders in the United States, "While Native Hawaiians and many Pacific Islanders born in Hawai'i, Guam, or the Commonwealth of the Northern Mariana Islands are U.S. citizens, some Pacific Islanders are foreign-born and, depending on their country of birth, may hold different types of immigration statuses." ${ }^{111}$ Therefore, our analysis of the impact of citizenship on self-response will only apply to certain NHPI groups, while not being applicable to others.

More research is needed to better understand how self-response impacts overall census quality for the NHPI population, which also requires the Census Bureau to begin providing measures of self-response by race. Additional research can help show the extent to which self-response impacts overall census quality, and if it does so differentially by race, ethnicity, age, or sex. Moreover, while housing tenure and English language ability do seem to have some impact on self-response, more data are needed to better define the relationship between these factors and self-response. ${ }^{112}$ Experts should study what other contextual variables impact self-response rates.

In order to undertake this research, more geographically granular measures of census quality are sorely needed. ${ }^{113}$ For instance, being able to examine how self-response correlates with net coverage error at the county or city level can tell us a lot more than the state or national levels. Lastly, researchers should study why factors such as housing tenure, citizenship, and English language ability impact self-response and whether other variables may also affect self-response rates in NHPI communities.

## Hawaif

Hawaii is home to the largest NHPI community in the United States. ${ }^{114}$ The NHPI community has kept almost exact pace with the population growth of Hawaii from

2000 to 2020. The NHPI Alone or in Combination population made up nearly a quarter of the population of Hawaii in 2000 and continued to do so in 2020. Most of this population is Native Hawaiian, as approximately half of all Native Hawaiians who live in the United States live in Hawaii. The majority of the NHPI community who is foreign-born lives in Honolulu County and comprises the largest group of NHPIs who do not speak English very well (commonly referred to as Limited English Proficient or LEP).

Based on PA, Hawaii had a potential overcount in 2010 and 2020 for both the NHPI Alone as well as the NHPI Alone or in Combination populations. This held true in almost every county in Hawaii. The only exception is the NHPI Alone or in Combination population in the 2020 Census for Hawaii County.

| Coverage: Hawaii |  | NHPI Alone | NHPI Alone or in Combination |
| :---: | :---: | :---: | :---: |
| 2000* | Population Estimates | 768,660 | 768,660 |
|  | Census Population | 626,808 | 988,415 |
|  | Net Coverage (\%) | 20.3\% undercount | 25.0\% overcount |
| 2010 | Population Estimates | 120,469 | 289,888 |
|  | Census Population | 138,292 | 358,951 |
|  | Net Coverage (\%) | 13.8\% overcount | 21.3\% overcount |
| 2020 | Population Estimates | 136,357 | 329,764 |
|  | Census Population | 149,949 | 345,220 |
|  | Net Coverage (\%) | 9.5\% overcount | 4.6\% overcount |


| NHPI Alone 2020 |  | Hawaii |  |
| :---: | ---: | :---: | :---: |
| Native Born | Overall | $83 \%$ | $76 \%$ |
|  | LEP (ages 5+) | $5 \%$ | $5 \%$ |
| Foreign Born | Overall | $17 \%$ | $24 \%$ |
|  | LEP (ages 5+) | $50 \%$ | $36 \%$ |
|  | Naturalized Citizen | $21 \%$ | $41 \%$ |
|  | Non-Citizen | $79 \%$ | $59 \%$ |

## County-Level Demographics

## PA Analysis, Housing Tenure and English Language Ability

## Hawaii County

Population: 200,629


Hawaii County was one of the largest counties with an estimated undercount in the 2020 Census and was the only county with more NHPI homeowners than renters. This is surprising because homeownership is generally positively correlated with census response rates; ${ }^{115}$ therefore, we would not have expected undercounts.


## County-Level Demographics (continued)

## PA Analysis, Housing Tenure and English Language Ability

## Kauai County

Population: 73,298



## IMPACT OF AGE ON CENSUS ACCURACY

- In general, the data follow the national average with some exceptions:
- Children ages 5-9 are undercounted in all Hawaiian counties except Honolulu.
- The overcount for young adults is lower in Hawaii (approximately 20\%) than it is nationally (approximately 30\%).
- Hawaii County seems to have smaller undercounts for the population ages 65 and above (from approximately a $10 \%$ overcount to approximately a $30 \%$ undercount), while Kauai tends to have larger undercounts for the population ages 65 and above (from an approximately $20 \%$ to $60 \%$ undercount) versus the state and national averages.
- For the NHPI Alone or in Combination population, coverage by age group is even closer to the national average.
- The overcounts for the youngest (ages 0-9) as well as for those in their 30s are slightly higher than the national average (younger children were overcounted between 15-25\% and those in their 30s were overcounted 20-25\%). However, the shape of the age distribution is generally the same.


Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

NHPI Alone or in Combination Coverage by Age Group: 2010


## SELF-RESPONSE RATES

- There is not a strong correlation between the NHPI population and selfresponse rates by census tract throughout Hawaii.
- As the percentage of the NHPI population increases in a census tract, the response rate for that tract generally gets closer to the average response rate for the state. That is, the highest and lowest selfresponse rates seem to occur in places with relatively few NHPI residents.


Source: United States Census Bureau, Tract Level Response Rates, 2020. Note: Census tracts in white indicate no self response data reported.

- While we would expect lower rates in both rural and urban areas generally, some of the more rural areas show lower self-response rates, while more urban areas show higher self-response rates. ${ }^{116}$


## CITIZENSHIP

- Most NHPIs who are not citizens are located in Honolulu County.
- There are relatively few non-citizen NHPIs in the rest of the state.
- For census tracts with larger non-citizen NHPI populations, especially in Honolulu County, some have lower than average self-response rates. Others do have average to above average selfresponse rates.

Non-Citizen NHPI Alone Population


Response Rate by Census Tract



## ARKANSAS

 NHPI POPULATION|  | NHPI Alone |
| :---: | :---: | | NHPI Alone or in |
| :---: |
| Combination |
| 2000 | $0.7 \%(1,930) \quad 0 \%(3,223)$

## TOP 5 NHPI SUBGROUPS

Alone or in Combination 2020


Arkansas has a relatively large Marshallese population located in the northwestern part of the state. While the NHPI community is generally quite small in Arkansas, Marshallese make up a larger share of the NHPI population in those parts of the state. ${ }^{117}$ This small NHPI population is growing. In 2000, NHPIs were less than 0.15\% of the total state population. By 2020, this increased by almost 8,700 people to make up nearly $0.6 \%$ of the population (for NHPI Alone or in Combination)—an approximately 300\% increase.

A number of factors-including citizenship, English proficiency, and homeownership-may impact the overall census quality for the NHPI population in Arkansas. First, the NHPI community in Arkansas is approximately two-thirds foreign born, because most NHPIs in the state are foreign-born Marshallese. Nearly $90 \%$ of this foreign-born population are non-citizens, and over half are Limited English Proficiency (LEP)-
potentially impacting decennial census response. Homeowners are more likely to respond to the census than renters, and only $6 \%$ of NHPIs in Arkansas own their homes (compared with $42 \%$ of NHPIs nationally).
Thus, we suspect NHPIs in Arkansas would have lower response rates based on their low rates of homeownership. ${ }^{118}$ Overall, the NHPI population is still quite small in Arkansas, meaning it is hard to draw statistically significant conclusions based on analysis, but important questions are still raised for further research.

## Based on PA, Arkansas had a potential overcount in the 2000, 2010, and 2020 Censuses for the NHPI population (both Alone and Alone or in Combination).

| Coverage: Arkansas |  | NHPI Alone | NHPI Alone or in Combination |
| :---: | :---: | :---: | :---: |
| 2000* | Population Estimates <br> Census Population <br> Net Coverage (\%) | 19,878 22,764 13.5\% overcount | $\begin{gathered} 19,878 \\ 28,774 \\ 36.6 \% \text { overcount } \end{gathered}$ |
| 2010 | Population Estimates <br> Census Population <br> Net Coverage (\%) | $\begin{aligned} & 3,793 \\ & 6,685 \end{aligned}$ <br> 55.2\% overcount | $\begin{gathered} 5,940 \\ 8,594 \\ \mathbf{3 6 . 5 \%} \text { overcount } \end{gathered}$ |
| 2020 | Population Estimates <br> Census Population <br> Net Coverage (\%) | $\begin{gathered} 11,532 \\ 14,461 \\ \mathbf{2 2 . 5 \%} \text { overcount } \end{gathered}$ | $\begin{gathered} 13,755 \\ 17,252 \\ \mathbf{2 2 . 6 \%} \text { overcount } \end{gathered}$ |


|  |  | Arkansas |  |
| :---: | ---: | :---: | :---: |
| NHPI Alone 2020 Born | Overall | $37 \%$ | $76 \%$ |
|  | LEP (ages 5+) | $11 \%$ | $5 \%$ |
| Foreign Born | Overall | $63 \%$ | $24 \%$ |
|  | LEP (ages 5+) | $61 \%$ | $36 \%$ |
|  | Naturalized Citizen | $11 \%$ | $41 \%$ |
|  | Non-Citizen | $89 \%$ | $59 \%$ |

[^0]
## IMPACT OF AGE ON CENSUS ACCURACY

- In general, until about age 44, the NHPI population has a higher estimated overcount in Arkansas than NHPIs nationally.
- From ages 45-64, the NHPI population in Arkansas generally follows the national pattern.
- For those ages 65 and above, estimated undercounts in Arkansas are significantly higher than they are nationally. This data point is concerning for older (ages 65 and above) NHPIs in Arkansas because they are missed at much higher rates. ${ }^{119}$

NHPI Alone Coverage by Age Group: 2010


Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

NHPI Alone or in Combination Coverage by Age Group: 2010


## SELF-RESPONSE RATES

- While the NHPI population in Arkansas is small, over $20 \%$ of some census tracts are NHPI-a relatively large self-clustering.
- Tracts with more than $20 \%$ NHPIs have higher self-response rates (usually between 60-70\%) than the national average. ${ }^{120}$
- Benton County is a microcosm of this pattern. It has one census tract with an over $10 \%$ concentration of the NHPI population, which has over a 70\% self-response rate.
- There are high response rates surrounding Little Rock and its suburbs, and in northwestern Arkansas where the Marshallese population is located.

Response Rate by Census Tract: 2020


Note: Census tracts in white indicate no self response data reported.

A Look at Benton County, Arkansas...

| PA Coverage: Benton County |  | NHPI Alone | NHPI Alone or in Combination | TOP 5 NHPI SUBGROUPS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Alone or in Combination 2020 |  |
| 2000* | Population Estimates |  | 989 | 9892,280 | -Benton County $\quad$ United States |  |  |  |  |
|  | Census Population | 1,907 |  |  |  |  |  |  |  |
|  | Net Coverage (\%) | 63.4\% overcount | 79.0\% overcount | Marshallese |  |  |  |  |
| 2010 | Population Estimates | 544 | $\begin{gathered} 685 \\ 1,004 \\ 37.7 \% \text { overcount } \end{gathered}$ | Other Pacific Islander |  |  |  |  |
|  | Census Population | 775 |  | Native Hawaiian |  |  |  |  |
|  | Net Coverage (\%) | 35.0\% overcount |  | Samoan |  |  |  |  |
| 2020 | Population Estimates | 1,994 | 2,2873,075 | Chamorro | 25\% | 50\% | 75\% | 100\% |
|  | Census Population | 2,601 |  |  |  |  |  |  |
|  | Net Coverage (\%) | 26.4\% overcount | 29.4\% overcount | Source: ACS 2020 |  |  |  |  |

HOUSING TENURE AND ENGLISH LANGUAGE ABILITY

|  | Homeowners | Renters | Native Born | Overall | $\begin{aligned} & \text { LEP } \\ & \text { (ages } 5+\text { ) } \end{aligned}$ | Foreign Born | Overall | LEP | Naturalized Citizen | NonCitizen |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Tenure | 2\% | 98\% |  | 27\% | 18\% |  | 73\% | 61\% | 5\% | 95\% |

## CITIZENSHIP STATUS

- Because of the limited data available, the impact of citizenship on selfresponse for the NHPI population in Arkansas is inconclusive.
- There is a grouping in northwest Arkansas of foreign-born, largely noncitizen NHPIs.
- The Marshallese population is covered by the Compact of Free Association Migrants, which complicates the relationship between citizenship status and self response. ${ }^{121}$
- Examining census tracts with more than 10\% NHPIs reveals that the lowest self-response rates tended to be in places that had a higher proportion of non-citizens. When we look at Benton County we see some areas with large proportions of non-citizens in the NHPI population. This is due to the aforementioned Marshallese population being the major NHPI group in this area, which drives the lower non-citizen rates.


Source: United States Census Bureau, Decennial Census, Tract Level Response Rates (2020), and ACS (2016-2020).

Response Rate by Census Tract Percentage of NHPI Alone Population and Citizenship State: 2020



Population with Citizenship


Total Tract Population
$0 \quad 500010000$


## LOS ANGELES COUNTY NHPI POPULATION

|  | NHPI Alone |
| :---: | :---: |
| 2000 | $0.4 \%(33,598)$ |
| 2010 | $0.4 \%(36,443)$ |
| NHPI Alone or in |  |
| Combination |  |
| 2020 | $0.6 \%(53,480)$ |

## TOP 5 NHPI SUBGROUPS

Alone or in Combination 2020
 Source: ACS 2020

Outside of Hawaii, Los Angeles County has the largest population of NHPIs in the United States with 3.5\% of the total NHPI population. This diverse and geographically large county with a population of over 10 million people ${ }^{122}$ has consistently had a population of about 0.6\% NHPI Alone or in Combination over the last 20 years. ${ }^{123}$ Other Pacific Islanders are the largest
group of NHPIs in Los Angeles County, followed closely by Native Hawaiians and Samoans. Therefore, the NHPI population in Los Angeles County is slightly less likely to be foreign-born (approximately $25 \%$ ) than the nation as a whole (approximately $30 \%$ ). Further, the NHPI community in Los Angeles County is slightly less likely to own their home than the national average for the NHPI community. While we might expect a better census response rate given the number of NHPI citizens in Los Angeles County, this is mitigated by the high percentage of NHPI renters (because renters are less likely than homeowners to respond to the Census).

Based on PA, Los Angeles County had a potential overcount in 2010, but then flipped to a potential undercount in 2020 for the NHPI Alone Population.

| Coverage: Los Angeles |  | NHPI Alone | NHPI Alone or in Combination |
| :---: | ---: | :---: | :---: |
| 2000* | Population Estimates | $\mathbf{1 , 2 8 5 , 2 9 1}$ | $\mathbf{1 , 2 8 5 , 2 9 1}$ |
|  | Census Population | $\mathbf{1 , 2 0 7 , 3 9 7}$ | $\mathbf{1 , 3 1 1 , 7 5 5}$ |
|  | Net Coverage (\%) | $\mathbf{6 . 3 \%}$ undercount | $\mathbf{2 . 0 \%}$ overcount |
| $\mathbf{2 0 1 0}$ | Population Estimates | 35,837 | 60,508 |
|  | Census Population | 36,443 | 62,945 |
|  | Net Coverage (\%) | $\mathbf{1 . 7 \%}$ overcount | $\mathbf{4 . 0 \%}$ overcount |
| $\mathbf{2 0 2 0}$ | Copulation Estimates | 21,923 | 44,220 |
|  | Census Population | 21,327 | 44,206 |
|  | Net Coverage (\%) | $\mathbf{2 . 8 \%}$ undercount | $\mathbf{0 . 0 3 \%}$ undercount |


| NHPI Alone 2020 |  |  |  | Los Angeles |  |  |  | California | United States |
| :---: | ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Housing Tenure | Homeowners | $35 \%$ | $45 \%$ | $42 \%$ |  |  |  |  |  |
|  | Renters | $65 \%$ | $55 \%$ | $58 \%$ |  |  |  |  |  |
| Native Born | Overall | $76 \%$ | $71 \%$ | $76 \%$ |  |  |  |  |  |
|  | LEP** (ages 5+) | $4 \%$ | $5 \%$ | $5 \%$ |  |  |  |  |  |
| Foreign Born | Overall | $24 \%$ | $29 \%$ | $24 \%$ |  |  |  |  |  |
|  | LEP** (ages 5+) | $29 \%$ | $29 \%$ | $36 \%$ |  |  |  |  |  |
|  | Naturalized Citizen | $55 \%$ | $60 \%$ | $41 \%$ |  |  |  |  |  |

[^1]
## IMPACT OF AGE ON CENSUS ACCURACY

- Compared with the United States as a whole, the overcounts for NHPIs in LA County are smaller. In fact, some age groups actually turn into undercounts.
Generally, up until about age 65, the patterns between age groups are similar to the national pattern (e.g., ages 15-24 have a higher overcount than ages 25-64).
- For ages 65 and above, the pattern for NHPIs in Los Angeles completely diverges from the national average. Instead of a substantial national undercount, there is a substantial estimated overcount in Los Angeles County.


Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

## SELF-RESPONSE RATES

- The largest tract level concentration of the NHPI community is under $4 \%$.
- We cannot draw any conclusions about the relationship between the presence of the NHPI community and tract-level self-response rates because there are no tracts with very large NHPI communities.
- NHPIs in Los Angeles County seem to be relatively spread out throughout the county.

Response Rate by Census Tract


Source: United States Census Bureau, Tract Level Response Rates, 2020. Note: Census tracts in white indicate no self response data reported.

## CITIZENSHIP

- We cannot draw any strong conclusions about the impact of citizenship for the NHPI community on tract-level selfresponse rates because there are no tracts with more than 4\% NHPIs.

Response Rate by County Tract
Percentage of NHPI Alone
Population and Citizenship: 2020


Non-Citizen Population
NHPI Alone 2020


Source: United States Census Bureau, Decennial Census, Tract Level Response Rates (2020), and ACS (2016-2020).


## County-Level Demographics

## Salt Lake County



## IMPACT OF AGE ON CENSUS ACCURACY

- In general, NHPIs in the state of Utah, Utah County, and Salt Lake County all show the same patterns for age distribution of undercounts and overcounts as the national average.
- For the NHPI Alone population ages 70 and above, there is a large estimated overcount in Utah County in 2010. ${ }^{125}$


Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.


[^2]

## SELF-RESPONSE RATES

- In Salt Lake County, there are lower response rates in places where more NHPIs live. This is noteworthy because we know that overall the NHPI community is estimated to be overcounted in Salt Lake County, meaning the role of Nonresponse Followup had to be substantial here.

Response Rate by Census Tract: 2020


Source: United States Census Bureau, Tract Level Response Rates, 2020.
Note: Census tracts in white indicate no self response data reported.

- Relatively lower response rates flow up the I-15 corridor. The suburbs have higher response rates as well as in Salt Lake City moving up towards the University of Utah. ${ }^{126}$
- The areas with higher response rates tend to be in wealthier areas of the city, while lower response rates are in less wealthy areas.
- There is not a large enough concentration of NHPIs to use these self-response data for Utah County.


## CITIZENSHIP VARIABLE IMPACT

- Areas with relatively lower response rates also have a larger percentage of noncitizen NHPIs.
- Places with larger NHPI populations in Salt Lake City tend to have lower response rates. However, more research would be needed to determine if this is directly impacted by NHPIs' citizenship status given the small sample size of tracts with high proportions of NHPIs.

Non-Citizen NHPI Alone Population By Census Tract: 2020


Population with Citizenship


Response Rate by Census Tract


[^3]
[^0]:    Source: ACS 2020
    *For the data from 2000, the estimated population numbers come from the 1990 population estimates-before the census offered the option to select multiple races. For the first time in 2000 , the census allowed respondents to select multiple races. Therefore, while we cannot differentiate between Alone and Alone or in Combination for the Population Estimates, we can make that differentiation for the census population.

[^1]:    **LEP (Limited English Proficiency): those who speak English "less than very well"

[^2]:    Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

[^3]:    Source: United States Census Bureau, Decennial Census, Tract Level Response Rates (2020), and ACS (2016-2020).

