2012 Alaska Native Population Conference
April 12, 2012

Population Estimates

Eddie Hunsinger
Alaska Department of Labor
and Workforce Development
Population Estimates: What We Provide

• Annual state, borough, census area, city and census designated place population estimates.

• State, borough and census area estimates by age, sex, race and ethnicity.

• Alaska is very fortunate to have data from the Permanent Fund Dividend to use in population estimates.
Population Estimates: Uses

• The population estimates are used for a wide range of purposes, including:
  – Distribution of resources
  – Survey weighting
  – Research and planning
  – Updating of population projections
Population Estimates: How We Make Them (briefly)

• For total population we begin with the last decennial census (2010 Census).

• Create ratios of census counts to PFD recipients in the census year, and carry them forward each year until the next census.

• Adjust to a separately estimated state total.

• There are several additional procedures to account for military, prisons, dorms, etc.
Population (PFD compared to Estimates)

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Population by Age and Sex
(PFD compared to 2010 Census)

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Population Estimates: How We Make Them (briefly) (cont.)

• Race and ethnicity are not included in the PFD data.

• In the past we made race and ethnicity estimates based on census race/ethnicity counts and post-census migration.

• We’re currently looking at combining our estimates with CDC and Census numbers to get the best of everything.
Population Estimates: Alaska Native Population Over Time

• The Alaska Native population has grown consistently over time, largely due to “natural increase.”

• As David will discuss later, we expect the Alaska Native population to continue to grow, and to at least maintain its current share of the state’s total population.
Total Population Estimates
Alaska Native and non-Native, 1880-2010

Sources: U.S. Census Bureau and Alaskool.org
Components of Population Change for Alaska, 1947-2011

Thousands

Year

-20 -10 0 10 20 30 40


End of WWII
Korean War
Vietnam
Pipeline Construction
Oil Boom
1989-91 Recovery
Great Recession
Pipeline Completed
Base closures
Oil Bust

Natural Increase  Net Migration

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Alaska Population by Race, 2000

- White: 73%
- Alaska Native or American Indian: 17%
- Black or African American
- Asian or Pacific Islander

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Alaska Population by Race, 2010

- White: 71%
- Alaska Native or American Indian: 17%
- Black or African American: 12%
- Asian or Pacific Islander: 0%

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Population Estimates: Population by Age and Sex

• The Alaska Native population tends to be younger than the state as a whole, but it is gaining a large number of people in older age groups.
Alaska Native Population by Age and Sex, Alaska 2000
Sources: U.S. Census Bureau; National Center for Health Statistics; Alaska Department of Labor and Workforce Development
Alaska Native Population by Age and Sex, Alaska 2010

Sources: U.S. Census Bureau; National Center for Health Statistics; Alaska Department of Labor and Workforce Development
Alaska Population by Age and Sex, 2000

Sources: U.S. Census Bureau; National Center for Health Statistics; Alaska Department of Labor and Workforce Development
African American Population by Age and Sex, Alaska 2010
Sources: U.S. Census Bureau; National Center for Health Statistics;
Alaska Department of Labor and Workforce Development
White Population by Age and Sex, Alaska 2010

Sources: U.S. Census Bureau; National Center for Health Statistics; Alaska Department of Labor and Workforce Development
The bar chart represents the Hispanic Origin Population by Age and Sex for Alaska in 2010. The chart includes data from the U.S. Census Bureau, National Center for Health Statistics, and Alaska Department of Labor and Workforce Development.

The x-axis represents the population, ranging from 0 to 5000, and the y-axis represents age groups. The chart is divided into two sections: Hispanic Origin Males (blue) and Hispanic Origin Females (red).

The population peaks in the middle age groups, with fewer individuals in younger and older age groups.
Population Estimates:
Population Across the State

• Rural parts of the state generally have net migration losses, but often grow due to natural increase.
• Urban centers gain through net migration, but tend to have lower rates of natural increase.
Bethel Census Area Population by Age and Sex, 2010

Source: U.S. Census Bureau and Alaska Department of Labor and Workforce Development

Age

Population

Males

Females

1500 1200 900 600 300 0 300 600 900 1200 1500
Municipality of Anchorage Population by Age and Sex, 2010

Source: U.S. Census Bureau and Alaska Department of Labor and Workforce Development
Average Annual Rate of Natural Increase by Borough/Census Area, 2000-2010

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Average Annual Rate of Net Migration by Borough/Census Area, 2000-2010

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Population Estimates

Thank you!

Contact: eddie.hunsinger@alaska.gov

More information:
http://laborstats.alaska.gov/
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Population Projections

David Howell
Alaska Department of Labor
and Workforce Development
Population Projections

What will be covered?

Alaska Native Population Projections: Inputs and Results
Population Projections

What these projections offer

Projected future population by age and sex for Alaska Natives, based on recent fertility, mortality and migration rates

Do not offer a crystal ball gaze into the future
Population Projections

History

A brief overview of Alaska’s population history
Components of Population Change for Alaska, 1947-2010

Thousands

Year


End of WWII  Korean War  Pipeline Construction  Oil Boom  1989-91 Recovery  Great Recession  Base closures  Oil Bust  Pipeline Completed  Vietnam

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Total Population Estimates
Alaska Native and non-Native, 1880-2000

Sources: U.S. Census Bureau and Alaskool.org
Population Projections

Methods
The Cohort-Component Method

<table>
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<tr>
<th>Year 2010 Age</th>
<th>Year 2020 Age</th>
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<tbody>
<tr>
<td>0</td>
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<tr>
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<tr>
<td>90</td>
<td>90</td>
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<td>100</td>
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</table>

Adjustment for Births, Migrations, Deaths
Estimated Alaska Native Population by Age and Sex, 1985

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Estimated Alaska Native Population by Age and Sex, 1990

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Estimated Alaska Native Population by Age and Sex, 2005

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Estimated Alaska Native Population by Age and Sex,
2010

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Population Projections

Births
Population Projections

Total Fertility Rate

The number of children that a woman would have in her lifetime

In the U.S., assuming no migration, need a TFR of 2.1 to replace the current population
- A TFR higher than 2.1 will produce population growth
- A TFR lower than 2.1 will produce population decline
Total Fertility Rate by Borough and Census Area, 2005-2010

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Total Fertility Rate, Alaska Native and Alaska Total
1985-2010 Point Estimates, 2015-2035 Projections

Year
1985
1990
1995
2000
2005
2010
2015
2020
2025
2030
2035

Total Fertility Rate
3.5
3.9
3.0
3.1
3.4
3.3
3.3
3.3
3.3
3.3
3.3

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Population Projections

Migration
Population Projections

Net Migration Ratio

Net migration as a fraction of the population
Population Projections

Alaska Native Net Migration

Moderate and relatively stable

Projected to be slightly negative, as most Alaska Natives live in Alaska

Projected to be about -.5% per year
Population Projections

Three Projection Scenarios

Baseline Scenario: Net-Migration Ratio of .171%

Low Scenario: Net-Migration Ratio of -.5%

High Scenario: Net-Migration Ratio of 1%
Population Projections

Mortality
U.S. Female Life Expectancy
1970-2010 Estimated, 2011-2030 Projected

Age


Sources: Alaska Department of Labor & Workforce Development, Research and Analysis Section and U.S. National Center for Health Statistics
Alaska and U.S. Female Life Expectancy
1970-2010 Estimated, 2011-2035 Projected

Sources: Alaska Department of Labor & Workforce Development, Research and Analysis Section and U.S. National Center for Health Statistics
Alaska Native and Alaskan Female Life Expectancy at Birth

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Alaska Native and Alaskan Male Life Expectancy at Birth

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Population Projections

Results
Alaska Total Population

1985-2010 Estimated, 2011-2035 Projected

Thousands

- Baseline Scenario
- Low Scenario
- High Scenario

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Alaska Native Total Population

1985-2005 Estimated, 2015-2035 Projected

Thousands

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<tr>
<th>Year</th>
<th>Population</th>
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<td>1985</td>
<td>75,100</td>
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<td>1995</td>
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<td>2005</td>
<td>113,773</td>
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<tr>
<td>2015</td>
<td>130,660</td>
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<tr>
<td>2025</td>
<td>146,010</td>
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<tr>
<td>2035</td>
<td>159,633</td>
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</table>

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Percent of Alaska's Total Population, Alaska Native and Non-Native

1985-2005 Estimated, 2015-2035 Projected

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Projected Average Annual Components of Population Change
Alaska Native Population, 2010-2035

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Projected Average Annual Natural Increase and Net Migration
Alaska Native Population, 2010-2035

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Population Projections

Projected Population by Age
Estimated Alaska Native Population by Age and Sex, 2010

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Projected Alaska Native Population by Age and Sex, 2015

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Projected Alaska Native Population by Age and Sex, 2025

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Projected Alaska Native Population by Age and Sex, 2030

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Projected Alaska Native Population by Age and Sex, 2035

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Alaska Native and non-Native Projected Population by Age and Sex, 2035

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Alaska Native Population by Selected Age Groups, Percent Distribution
2010 Estimated, 2015-2035 Projected

Percent

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<tr>
<th>Year</th>
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<th>20-64</th>
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<tbody>
<tr>
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<td>6.5</td>
<td>38.6</td>
<td>54.9</td>
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<td>2015</td>
<td>7.5</td>
<td>37.8</td>
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<td>2020</td>
<td>8.9</td>
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<td>12.0</td>
<td>37.2</td>
<td>50.8</td>
</tr>
<tr>
<td>2035</td>
<td>12.2</td>
<td>36.5</td>
<td>51.3</td>
</tr>
</tbody>
</table>

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Alaska Non-Native by Selected Age Groups, Percent Distribution

2010 Estimated, 2015-2035 Projected

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Population Projections

Regional Projections for the Total Population
Population Projections

Total Fertility Rates Across the State

Highest in boroughs and census areas with high proportion of Alaska Natives

Lowest (in some cases less than 2.0) in Southeast
Net Migration Across the State

Very unpredictable but very important to projecting future populations

By far the highest is in Mat-Su

Roughly zero or negative in most other places,
But age profile of migration matters a lot
Population Projections

Life Expectancy Across the State

Not possible to determine directly, as data is so limited

Estimated based on the proportion Alaska Native and non-Native in each borough
Percent Alaska Native by Borough and Census Area, 2010

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Alaska Native Population By Selected Region, 1980-2010
(“Urban” Includes Anchorage, Fairbanks, Juneau, Kenai and Mat-Su Boroughs)

Sources: U.S. Census Bureau and Alaska Department of Labor and Workforce Development, Research and Analysis Section
Population by Labor Market Region

1960-2035

Thousands

Northern
Southwest
Southeast
Gulf Coast
Interior
Anchorage/Mat-su

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Population by Labor Market Region
1960-2035

Thousands

- Northern
- Southwest
- Southeast
- Gulf Coast
- Interior

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
Population Projections

Thank You!

Contact: david.howell@alaska.gov

More information and data:
http://labor.alaska.gov/research/
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Migration

Eddie Hunsinger
Alaska Department of Labor
and Workforce Development
Components of Population Change for Alaska, 1947-2011

Thousands

Year

-20 -10 0 10 20 30 40

End of WWII
Korean War
Vietnam
Pipeline Construction
Oil Boom
1989-91 Recovery
Base closures
Pipeline Completed
Oil Bust
Great Recession

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
IRS Exemption-Based State to State Migration for Alaska, 2000-2010

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
PFD-Based Migration To and From Alaska by Age and Sex, 
2000-2010 Average Annual

Note: Adjusted for one year delay in eligibility for PFD.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
PFD-Based Net Migration by Age, 2000-2010
Average Annual

Note: Adjusted for one year delay in eligibility for PFD.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Percent of Alaskans who were in Alaska at age 18 and again at Age 22, 1995-2010, based on PFD data

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Percent of Alaska Residents Born in Alaska

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
PFD-Based Migration To and From Alaska by Region, 2000-2010 Average Annual

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
In-State Net Migration by Economic Region
2009-2010

Note: Based on Alaska Permanent Fund Dividend Applications
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Cumulative Migration by Age and Sex, 2000 to 2009

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section
PFD-Based Migration To and From Majority Native Areas, 2000-2010 Average Annual

- **Out from Alaska Native Majority Boroughs/Census Areas**
  - Rest of Alaska: 2,364
  - Outside of the State: 2,163

- **In to Alaska Native Majority Boroughs/Census Areas**
  - Rest of Alaska: 1,513
  - Outside of the State: 2,065

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section
Migration

Thank you!

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More information:
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