

**ORIGINAL SHAREHOLDERS OF THE SEALASKA  
CORPORATION AND THEIR DESCENDANTS:  
ESTIMATES AND PROJECTIONS**

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**A Report Prepared by  
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**February 23, 2005**

## Summary

This is a final report submitted to the Sealaska Corporation. An interim report was submitted to the Sealaska Corporation in December 2004. This report was requested for two purposes:

1. To provide a current estimate, as of December 2004, for the current number of original shareholders of the Sealaska Corporation and their descendants, with an estimate for the number who were one-fourth or more blood quantum and the number who were one-eighth or more blood quantum.
2. To develop a population projection for December 2008 for the number of original shareholders of the Sealaska Corporation and their descendants, with a projection for the number who were one-fourth or more blood quantum and the number who were one-eighth or more blood quantum.

Based on earlier work of Jeffrey S. Passel (2002), I constructed a demographic model for the original shareholders and their descendants, including sons and daughters, grandsons and granddaughters, and great-grandsons and great-granddaughters. I relied on earlier work of Passel for most of the demographic assumptions. Fertility rates were based on the childbearing levels for Alaskan Natives. Mortality rates were based on the probability of surviving, by age and sex, from Alaskan life tables. The age and sex, and blood quantum distribution, for the population were based from Passel's earlier work. For the blood quantum distribution of descendants, rates were derived from figures and tables cited in Passel's (2002) report. Recent mortality data were provided by the Sealaska Corporation in order to produce an up-to-date estimate for the number of original shareholders alive in December 2004.

There were 13,722 original shareholders recorded at the end-of-year 1973 in the Sealaska Corporation. **I estimate that the number of original shareholders currently alive at the end-of-year 2004 is 10,792.** Table 1 presents summary information.

The original shareholders have, at the end of 2004, 21,468 lineal descendants. **I estimate that 11,558 descendants are one-fourth or more blood quantum. If the criterion is set at one-eighth or more blood quantum, I estimate that there are 18,222 descendants currently alive.** The remaining descendants, about 3,246, have blood quantum levels less than one-eighth.

Regarding future trends, this work forecasts that there will 10,181 original shareholders and 32,424 descendants alive at the end-of-year 2008. **In 2008, the demographic model projects that 13,267 descendants will be one-fourth or more blood quantum, 26,378 will be one-eighth or more, and the remaining 6,046 descendants will be less than one-eighth.**

The report describes the background to the work, the data sources and methods, and the main results. The final section of the report includes a list of recommendations for improving the estimates and projections of the original shareholders and descendants, by blood quantum, and a brief biography of the report's author.

The appendix includes a table presenting annual estimates for 1973 to 2004, and annual projections for 2005 to 2008 for the number of original shareholders and their descendants, their sons and daughters, their grandsons and granddaughters, and their great-grandsons and great-granddaughters, by blood quantum levels.

## **Background**

The Sealaska Corporation was formed more than thirty years ago, on December 18, 1971, with almost 16,000 shareholders. Earlier discussion by the Corporation's Board of Directors has considered issues relating to the expansion of shareholders to include descendants of the original shareholders. One option has been to include descendants who have a minimum blood quantum, such as one-fourth or greater or one-eighth or greater.

In response to earlier needs for demographic data, Jeffrey S. Passel (2002) prepared a report that provided extensive information on the age, sex, and blood quantum composition of the original shareholder population, developed data sources and methods for estimating the current descendants, and offered projections for the future population of the original shareholders and their descendants.

In response to a request for current information and updated projections, I have relied greatly on Passel's earlier work, updated with recent data on deceased shareholders and new assumptions for the preparation of this report. I submitted an earlier interim report in December 2004. This report presents more tables and discussion. It also presents new estimates and projections for the great-grandchildren of the original shareholders; this results in slightly more descendants of the original shareholders than was shown in the earlier interim report. For example, I estimate that there are about 443 great-grandchildren alive at the end of 2004 and there will be about 1,632 at the end of 2008.

## **Data Sources and Methods**

Several data sources were relied on for the preparation of this report. Data were needed for information on the age-sex population composition, births, deaths, and the blood quantum distribution of births.

This report makes use of the following data sources:

1. Age-sex population composition. Passel's (2002) Table 2 reports the distribution of the original shareholders, in 1973, by year of birth and blood quantum levels. I relied on Passel's data as the starting point for my demographic model. I used information for the entire population, by year of birth and blood quantum, for the fertility and mortality assumptions. I did not consider the population separately for males and females.
2. Births. I relied on age-specific fertility rates for American Indian and Alaskan Native men and women from the National Center for Health Statistics (1997) for information on the likelihood, by age, of having a child. Because I started with population for both sexes, I averaged the rates for men and women to derive a set of age-specific fertility rates for both sexes. Figure 1 shows the age-specific rates used for the demographic model for 1973. I relied on Passel (2002) for data on the overall level of childbearing for the Sealaska Corporation population. I

assumed that the population had 2.20 children on average in 1973, increasing to 2.25 by 2000, and continued at a level of 2.25 thereafter. I adjusted the 1973 age-specific fertility rates to equal these overall fertility levels. Figure 2 illustrates the modest increases in the total fertility rate that are assumed for the demographic model for 1973 to 2008.

3. Deaths. I used 1989-91 life tables for the state of Alaska for the mortality assumptions, with the assumption that life expectancy at birth improved slightly (or, in other words, that mortality decreased) from 1973 onwards. Figure 3 illustrates the one-year survival probabilities, for both sexes combined, that are used in the demographic model for 1973. With these life tables and assumptions, the population of original shareholders fit fairly well the actual experience for the 1973 to 2004 period. For the end-of-year 2004, there is a different of less than 20 deaths between the actual mortality experience and the number of predicted deaths.
4. Blood quantum distribution of births. We do not have actual data on the blood quantum of the mother and father – assuming that one of them is an original shareholder – and the blood quantum of their offspring. Passel (2002) worked extensively with records of the Sealaska Shareholder Information System to make estimates of couples and their children. His work seems very reasonable to me. I relied on his earlier work to develop estimates for the blood quantum distribution of descendants, given the blood quantum of the parents. Because Passel found that the patterns are changing, I made one set of estimates for 1973 (see the top Panel A of Table 2) and a second set for 1995 (see the bottom panel B of Table 2). For the 1973 to 1995 period, I estimated a set of numbers that moved slowly from Panel A to Panel B. For the period after 1995, I assumed that the numbers in Panel B were constant.

Turning to methods, I started with the original shareholder population, in 1973, by year of birth and blood quantum. I moved the population forward, five years at a time, assuming the possibility of deaths and births. For births, I relied on the age-specific fertility rates and the figures shown in Table 2 to calculate the number of descendants by blood quantum. As did Passel in his earlier work, I made a separate adjustment for whether the birth was between two shareholders (because one does not want to count such a birth twice, once for each shareholder) or between a shareholder and a non-shareholder (because one wants to count this birth as a single new descendant).

The demographic model includes the year of birth of sons and daughters of shareholders, along with their blood quantum. Once the sons and daughters reached their late teen years, in the late 1980s, they began to have children. By about 2000, relatively few of the original shareholders were having children. But their sons and daughters were having children – grandsons and granddaughters of the original shareholder – and adding considerably to the descendants of the original shareholders. Some of the grandsons and granddaughters are probably old enough to be having children now.

## **Main Results**

The population of 13,722 original shareholders, as of December 31, 1973, has been gradually reduced by deaths to an estimated 10,792 in December 2004, according to records of deceased shareholders and an estimate of deaths according in the last few months of 2004. This represents a decrease of 2,930, or more than one-fifth of the original shareholders. Because the original shareholders are an increasingly older group, the number of annual deaths will increase steadily in the future. By the end-of-year 2008, we project that there will be 10,181 original shareholders, a decrease of more than 600 from 2004.

Figure 4 illustrates the age and sex composition of the original shareholders at the end of 1973. At that time, they were aged 0 to 75+ years, although most were in the ages 5 to 35 years. By the end of 2004, as shown in Figure 5, the original shareholders had aged 31 years, and they were a much older group. Relatively few original shareholders are now having children, most are in the ages 30 to 55 years, and a considerable number are more elderly.

Table 3 shows estimates for 1973 and 2004, and projections for 2008 for the number of original shareholders and for their descendants, including their sons and daughters (the second generation), their grandsons and granddaughters (the third generation), and their great-grandsons and great-granddaughters (the fourth generation), by blood quantum levels. The appendix includes a longer table presenting annual estimates for 1973 to 2004, and annual projections for 2005 to 2008 for the number of original shareholders and their descendants, their sons and daughters, their grandsons and granddaughters, and their great-grandsons and great-granddaughters, by blood quantum levels.

### **Sons and Daughters of Original Shareholders**

After the formation of the Sealaska Corporation in 1973, the relatively young population of original shareholders were having about 400 or more children born annually. Births to the original shareholders continued to increase the 2<sup>nd</sup> generation population – the sons and daughters of original shareholders – until recent years. In 2004, for example, we estimate that there were fewer than 100 children born to original shareholders because the youngest original shareholders were in their 30s. Table 4 presents estimates for the descendants of the original shareholders, by blood quantum, at the end of 2004.

We estimate, at end-of-year 2004, that there are 13,711 2<sup>nd</sup> generation descendants of original shareholders. We further estimate that 9,350 are one-fourth or more blood quantum. Another 4,298 are blood quantum between one-eighth and one-fourth, so that 13,648 (9,350 plus 4,298) are one-eighth or more blood quantum. Relatively few 2<sup>nd</sup> generation descendants are less than one-eighth blood quantum (there are an estimated 63 descendants in this category in 2004).

The number of sons and daughters of original shareholders will increase modestly in future years because there are relatively few births and, as the 2<sup>nd</sup> generation ages, there

will be an increasing number of deaths. We project that the 2<sup>nd</sup> generation descendants will increase to 13,996 by the end-of-year 2008, an increase of 285 from 2004. Table 5 shows projections of descendants of original shareholders, by blood quantum, at the end of 2008. We estimate that 9,516 will be one-fourth or more blood quantum. Another 4,415 will be blood quantum between one-eighth and one-fourth. Or, in other words, there will be 13,931 2<sup>nd</sup> generation descendants with blood quantum of one-eighth or more. There will be about 65 descendants in 2008 with less than one-eighth blood quantum.

### **Grandsons and Granddaughters of Original Shareholders**

By the late 1980s, the first group of sons and daughters reached an age when they began to have children, giving birth to the 3<sup>rd</sup> generation – grandsons and granddaughters of the original shareholders.

An increasing proportion of the grandsons and granddaughters have blood quantum levels in the lower range because their parents – the sons and daughters of the original shareholders – have lower levels and because their parents increasingly have a marital partner who is either a non-shareholder or who also has lower blood quantum levels. The overall effect of these changes is that more grandsons and granddaughters have blood quantum levels in the one-eighth to one-fourth range, and a considerable number have blood quantum levels that are less than one-eighth.

We estimate, at end-of-year 2004, that there are 7,314 3<sup>rd</sup> generation descendants of original shareholders. We further estimate that 2,141 are one-fourth or more blood quantum. Another 2,211 are blood quantum between one-eighth and one-fourth, so that 4,352 (2,141 plus 2,211) are one-eighth or more blood quantum. There are a considerable number of 3<sup>rd</sup> generation descendants who are less than one-eighth blood quantum (there are an estimated 2,962 descendants in this category in 2004). Table 4 presents estimates for the descendants of the original shareholders, by blood quantum, at the end of 2004.

The number of grandsons and granddaughters of original shareholders will increase substantially in future years because the 2<sup>nd</sup> generation is currently having about 2,000 births each year. We project that the 3<sup>rd</sup> generation descendants will increase to 16,796 by the end-of-year 2008, an increase of 9,482 from 2004. Table 5 shows projections of descendants of original shareholders, by blood quantum, at the end of 2008. We estimate that 3,506 will be one-fourth or more blood quantum. Another 8,125 will be blood quantum between one-eighth and one-fourth. Or, in other words, there will be 11,631 3<sup>rd</sup> generation descendants with blood quantum of one-eighth or more. There will be about 5,165 descendants in 2008 with less than one-eighth blood quantum.

### **Great-Grandsons and Great-Granddaughters of Original Shareholders**

Based on the ages of the 3<sup>rd</sup> generation, they began to have some births after about 1995. During 2000 to 2004, they were having about one hundred births per year. Because the

model is based on estimates of the sons and daughters of the original shareholders, it is unclear what assumptions should be made about the blood quantum levels for the great-grandchildren. Based on current trends and assumptions, many of the births to the great-grandsons and great-granddaughters of the original shareholders will have blood quantum levels less than one-fourth, and a substantial number will have blood quantum levels less than one-eighth.

We estimate, at end-of-year 2004, that there are 443 4th generation descendants of original shareholders. We further estimate that 67 are one-fourth or more blood quantum. Another 155 are blood quantum between one-eighth and one-fourth, so that 222 (67 plus 155) are one-eighth or more blood quantum. There are a considerable number of 4th generation descendants who are less than one-eighth blood quantum (there are an estimated 221 descendants in this category in 2004). Table 4 presents estimates for the descendants of the original shareholders, by blood quantum, at the end of 2004.

The number of great-grandsons and great-granddaughters of original shareholders will increase substantially in future years because the 3rd generation will soon be having about several hundred births each year. We project that the 4<sup>th</sup> generation descendants will increase to 1,632 by the end-of-year 2008, an increase of 1,189 from 2004. Table 5 shows projections of descendants of original shareholders, by blood quantum, at the end of 2008. We estimate that 245 will be one-fourth or more blood quantum. Another 571 will be blood quantum between one-eighth and one-fourth. Or, in other words, there will be 816 4th generation descendants with blood quantum of one-eighth or more. There will be a similar number of about 816 descendants in 2008 with less than one-eighth blood quantum.

### **Total Number of Descendants of Original Shareholders**

The total number of descendants of original shareholders is the sum of their sons and daughters plus the sum of their grandsons and granddaughters plus the sum of great-grandsons and great-granddaughters, taking blood quantum into account.

The original shareholders have, at the end of 2004, 21,468 lineal descendants. I estimate that 11,558 descendants are one-fourth or more blood quantum. If the criterion is set at one-eighth or more blood quantum, I estimate that there are 18,222 descendants currently alive. The remaining descendants, about 3,246, have blood quantum levels less than one-eighth.

Regarding future trends, this work forecasts that there will 10,181 original shareholders alive at the end-of-year 2008. By 2008, there will be 32,424 descendants, of whom 13,267 will be one-fourth or more blood quantum, 26,378 will be one-eighth or more, and the remaining 6,046 descendants will be less than one-eighth.

## Recommendations

The demographic data for the sons and daughters of the original shareholders makes clear that they began to have a considerable number of children beginning in the late 1980s. Our demographic data gives us reasonable information for making assumptions about childbearing and the blood quantum distribution of the sons and daughters. We currently lack similar demographic data for the grandchildren and the great-grandchildren. Rather, earlier work by Passel and this report relies on data for previous generations in order to derive assumptions for the grandchildren and great-grandchildren.

Without updated information about their ages and their marital partners, it is very difficult to estimate precisely the numbers and blood quantum levels for the generational descendants of the original shareholders, especially for the great-grandsons and great-granddaughters of the original shareholders.

Similar to the earlier work by Passel, I find that the single most critical issue is having a link between data on parents, by blood quantum, and their children. Passel's earlier work is competent and presents a useful demographic basis for estimates and projections. But, without an up-to-date assessment of current marital partners, and their offspring, by blood quantum, it is difficult to move too far into the future without worrying about the accuracy of the forecasts.

For more accurate future estimates and projections of the original shareholders and their descendants, the Sealaska Corporation may want to consider the following suggestions:

1. Conduct a census of the original shareholders, either through contacting shareholders or by an up-to-date analysis of available administrative records, in order to develop a current count of the number, sex, age, and number of descendants.
2. Conduct a survey of the original shareholders to request information about their descendants and their blood quantum levels.
3. Develop a demographic model, based on data collected from items 1 and 2 above in order to provide more accurate estimates and projections of the blood quantum distribution of the descendants of the original shareholders.

Although earlier work by Passel and this report use the best practices for a demographic model, this is considerable uncertainty about the blood quantum distribution of the grandchildren and, particularly, the great-grandchildren of the original shareholders. More up-to-date information about the descendants would be useful for improving the accuracy of current estimates and future projections.

### **About the Author**

Barry Edmonston was born in Kingston, Ontario and grew up in Winnipeg, Manitoba. He received his Ph.D. degree from the University of Michigan, with a specialization in population studies. He served as a faculty member at Stanford University and Cornell University, and as a senior research associate at the Urban Institute and the National Academy of Sciences. Since 1997, he has been the Director of the Population Research Center at Portland State University. The Population Research Center provides population analysis, estimates, and projections for the state of Oregon, including its cities and counties, non-profit and business organizations, and local governments.

Mr. Edmonston has conducted several studies for Native American organizations. He directed a study for the Native American Rehabilitation Association of Portland, Oregon with estimates of the number of younger American Indians and Alaskan Natives in the metropolitan Portland area, their characteristics, and implications for program needs. He worked with the Klamath Indian Tribes in Oregon on ways to monitor and estimate the blood quantum levels of their descendants. He completed a study for the Coquille Indian Tribe, in Coos Bay-North Bend, Oregon, with estimates of current numbers and characteristics and projections of their future population and needs for housing, education, and elderly services.

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**Table 1. Original Shareholders and Lineal Descendants, By Blood Quantum, at End of Year for 1973, 2004, and 2008**

|                                   | Original Shareholders | Descendants of Shareholders |        |            |               |
|-----------------------------------|-----------------------|-----------------------------|--------|------------|---------------|
|                                   |                       | Total                       | 1/4+   | 1/8 to 1/4 | Less than 1/8 |
| <b>1973 Original Shareholders</b> | 13,722                | 0                           | 0      | 0          | 0             |
| <b>2004 Estimates</b>             | 10,792                | 21,468                      | 11,558 | 6,664      | 3,246         |
| <b>2008 Projections</b>           | 10,181                | 32,424                      | 13,267 | 13,111     | 6,046         |

**Table 2. Assumptions about the Blood Quantum Distribution of Descendants of the Original Shareholders, by Blood Quantum: For Initial Year of 1973 and for 1995 and After; Values for 1974 to 1994 are Interpolated from the 1973 and 1995 Data**

**A. Assumptions for 1973**

| Parent's Blood Quantum | Descendant's Blood Quantum |       |       |       |       |       |       |       |                 | Total |
|------------------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-----------------|-------|
|                        | 8/8th                      | 7/8th | 6/8th | 5/8th | 4/8th | 3/8th | 2/8th | 1/8th | Less than 1/8th |       |
| 8/8th                  | 0.49                       |       | 0.07  |       | 0.44  |       |       |       |                 | 1.00  |
| 7/8th                  |                            | 0.05  | 0.40  |       | 0.15  | 0.40  |       |       |                 | 1.00  |
| 6/8th                  |                            |       | 0.40  | 0.05  | 0.10  | 0.45  |       |       |                 | 1.00  |
| 5/8th                  |                            |       |       | 0.20  | 0.20  | 0.10  | 0.50  |       |                 | 1.00  |
| 4/8th                  |                            |       | 0.04  |       | 0.39  |       | 0.57  |       |                 | 1.00  |
| 3/8th                  |                            |       |       |       | 0.10  |       | 0.30  | 0.60  |                 | 1.00  |
| 2/8th                  |                            |       |       |       | 0.10  |       | 0.23  | 0.67  |                 | 1.00  |
| 1/8th                  |                            |       |       |       |       |       | 0.10  | 0.15  | 0.75            | 1.00  |
| Less than 1/8th        |                            |       |       |       |       |       | 0.05  | 0.10  | 0.85            | 1.00  |

**B. Assumptions for 1995 and After**

| Parent's Blood Quantum | Descendant's Blood Quantum |       |       |       |       |       |       |       |                 | Total |
|------------------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-----------------|-------|
|                        | 8/8th                      | 7/8th | 6/8th | 5/8th | 4/8th | 3/8th | 2/8th | 1/8th | Less than 1/8th |       |
| 8/8th                  | 0.27                       |       | 0.10  |       | 0.63  |       |       |       |                 | 1.00  |
| 7/8th                  |                            | 0.00  | 0.25  |       | 0.25  | 0.50  |       |       |                 | 1.00  |
| 6/8th                  |                            |       | 0.20  | 0.05  | 0.10  | 0.65  |       |       |                 | 1.00  |
| 5/8th                  |                            |       |       | 0.10  | 0.10  | 0.10  | 0.70  |       |                 | 1.00  |
| 4/8th                  |                            |       | 0.06  |       | 0.18  |       | 0.76  |       |                 | 1.00  |
| 3/8th                  |                            |       |       |       | 0.05  |       | 0.20  | 0.75  |                 | 1.00  |
| 2/8th                  |                            |       |       |       | 0.08  |       | 0.19  | 0.73  |                 | 1.00  |
| 1/8th                  |                            |       |       |       |       |       | 0.05  | 0.10  | 0.85            | 1.00  |
| Less than 1/8th        |                            |       |       |       |       |       | 0.00  | 0.05  | 0.95            | 1.00  |

Note: This table shows the distribution of the descendant's blood quantum according to that of the parent. For example, the top panel A, indicates that a parent who is 6/8 (or 3/4) blood quantum has a .40 probability of having a children who is 6/8th, a .05 chance of a chance who is 5/8th, a .10 chance of a child who is 4/8th (or 1/2), and a .45 chance of having a child who is 3/8th. The probabilities always add to 1.00, of course.

**Table 3. Original Shareholders and Their Descendants by Blood Quantum, End of Year, 1973, 2004, and 2008: Estimates for 1973 and 2004; Projections for 2008**

|  | <b>Total</b> | <b>Blood Quantum</b> |                   |                   |                   |                |
|--|--------------|----------------------|-------------------|-------------------|-------------------|----------------|
|  |              | <b>More than 3/4</b> | <b>1/2 to 3/4</b> | <b>1/4 to 1/2</b> | <b>1/8 to 1/4</b> | <b>&lt;1/8</b> |
| <i>End of Year, 1973</i>                           |              |                      |                   |                   |                   |                |
| <b>Original Shareholders</b>                       | 13,722       | 5,462                | 4,169             | 3,973             | 118               | 0              |
| <i>End of Year, 2004</i>                           |              |                      |                   |                   |                   |                |
| <b>Original Shareholders</b>                       | 10,792       | 3,885                | 3,346             | 3,453             | 108               | 0              |
| <b>Descendants</b>                                 | 21,468       | 2,083                | 3,585             | 5,890             | 6,664             | 3,246          |
| <b>Original Shareholders and Their Descendants</b> | 32,260       | 5,968                | 6,931             | 9,343             | 6,772             | 3,246          |
| <i>End of Year, 2008</i>                           |              |                      |                   |                   |                   |                |
| <b>Original Shareholders</b>                       | 10,181       | 3,609                | 3,156             | 3,310             | 105               | 0              |
| <b>Descendants</b>                                 | 32,424       | 2,188                | 4,045             | 7,034             | 13,111            | 6,046          |
| <b>Original Shareholders and Their Descendants</b> | 42,605       | 5,797                | 7,201             | 10,344            | 13,216            | 6,046          |

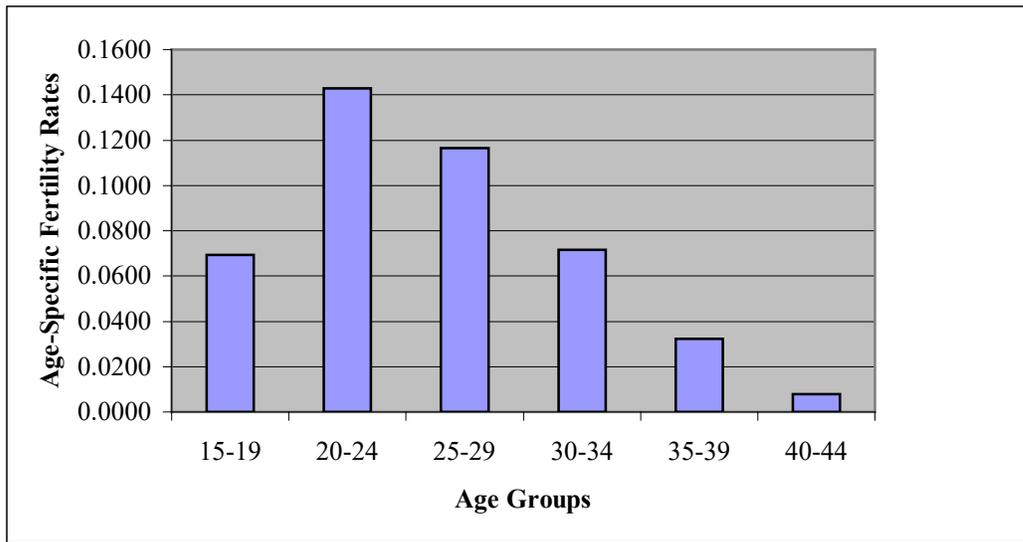
**Table 4. Descendants of Original Shareholders by Blood Quantum, End of 2004**

|  | <b>Total</b> | <b>Blood Quantum</b> |                   |                   |                   |                |
|--|--------------|----------------------|-------------------|-------------------|-------------------|----------------|
|  |              | <b>More than 3/4</b> | <b>1/2 to 3/4</b> | <b>1/4 to 1/2</b> | <b>1/8 to 1/4</b> | <b>&lt;1/8</b> |
| <b>Second Generation (Sons and Daughters of Original Shareholders)</b>                       | 13,711       | 1,776                | 2,992             | 4,582             | 4,298             | 63             |
| <b>Third Generation (Grandsons and Granddaughters of Original Shareholders)</b>              | 7,314        | 300                  | 578               | 1,263             | 2,211             | 2,962          |
| <b>Fourth Generation (Great-Grandsons and Great-Granddaughters of Original Shareholders)</b> | 443          | 7                    | 15                | 45                | 155               | 221            |
| <b>All Descendants</b>   | 21,468       | 2,083                | 3,585             | 5,890             | 6,664             | 3,246          |

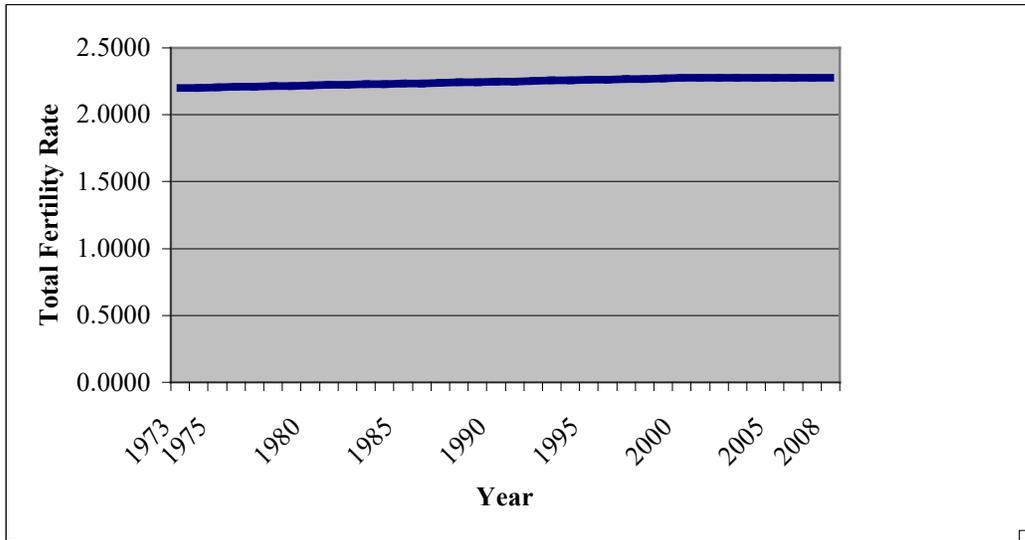
**Table 5. Descendants of Original Shareholders by Blood Quantum, End of 2008**

|  | Total  | Blood Quantum |            |            |            |       |
|--|--------|---------------|------------|------------|------------|-------|
|  |        | More than 3/4 | 1/2 to 3/4 | 1/4 to 1/2 | 1/8 to 1/4 | <1/8  |
| <b>Second Generation (Sons and Daughters of Original Shareholders)</b>                       | 13,996 | 1,712         | 3,044      | 4,760      | 4,415      | 65    |
| <b>Third Generation (Grandsons and Granddaughters of Original Shareholders)</b>              | 16,796 | 456           | 947        | 2,103      | 8,125      | 5,165 |
| <b>Fourth Generation (Great-Grandsons and Great-Granddaughters of Original Shareholders)</b> | 1,632  | 20            | 54         | 171        | 571        | 816   |
| <b>All Descendants</b>   | 32,424 | 2,188         | 4,045      | 7,034      | 13,111     | 6,046 |

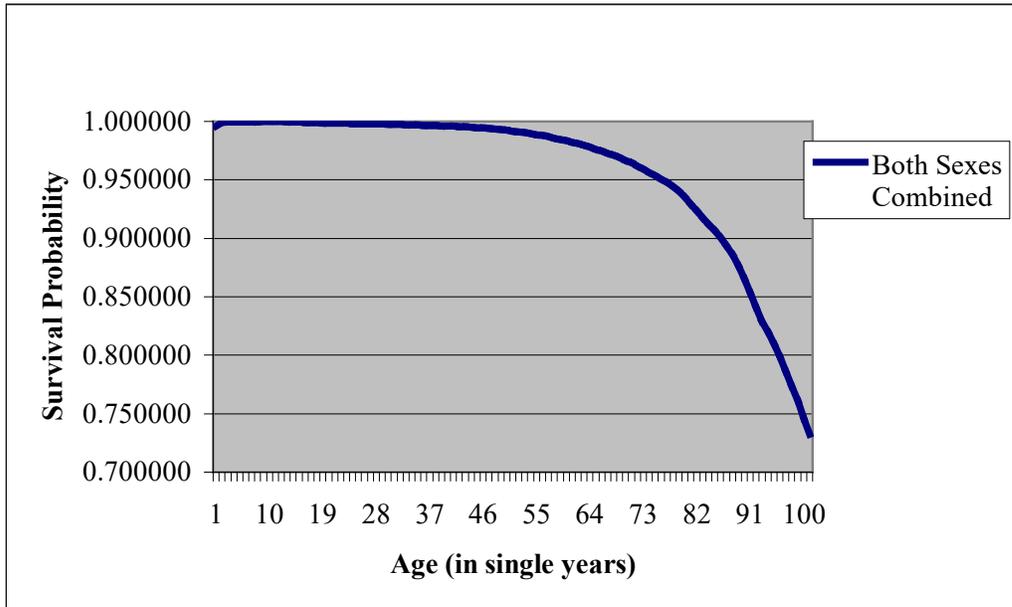
**Figure 1. Age-Specific Fertility Rates for Population Model: 1973-2008**



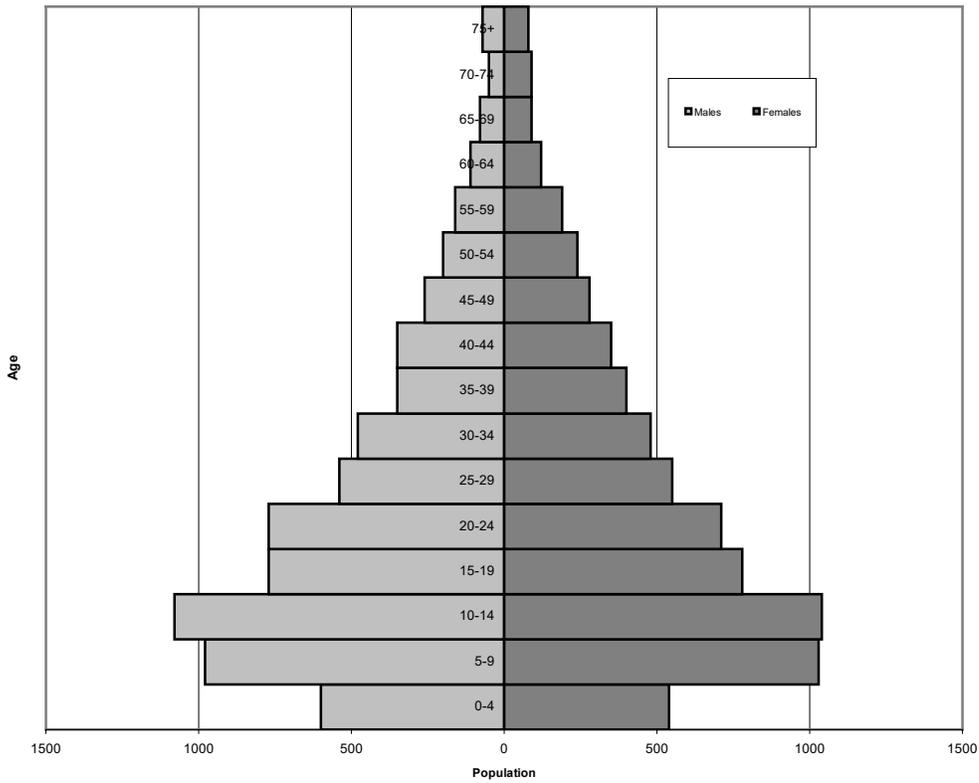
**Figure 2. Total Fertility Rate for Population Model: 1973-2008**



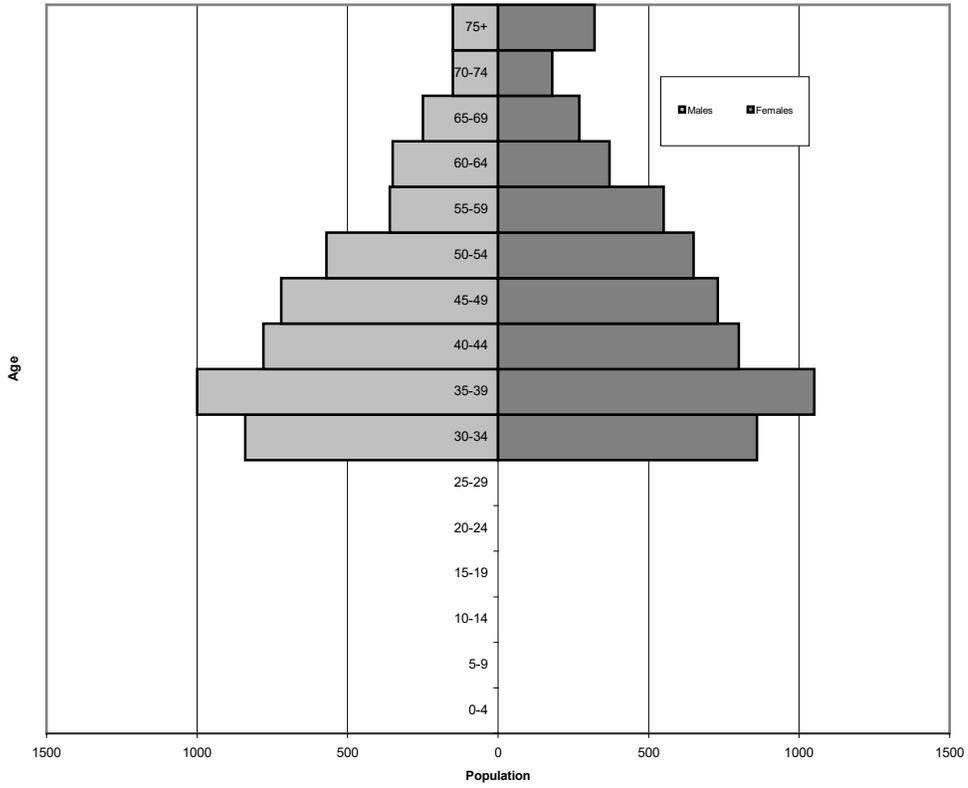
**Figure 3. One-Year Survival Probabilities for Population Model: 1973-2008**



**Figure 4. Age-Sex Composition of Original Shareholders of the Sealaska Corporation:  
End of 1973**



**Figure 5. Age-Sex Composition of Original Shareholders of the Sealaska Corporation:  
End of 2004**



## References

National Center for Health Statistics

- 1997 "Report of Final Nasality Statistics, 1995," *Monthly Vital Statistics Report*.  
Volume 45, No. 11, Supplement, June 10.
- 1998 *U.S. Decennial Life Tables for 1989-1991. Volume II. State Life Tables, Alaska*.  
Washington, D.C.: National Center for Health Statistics.

Passel, Jeffrey S.

- 2002 Original Shareholders of the Sealaska Corporation and Their Descendants:  
Estimates and Analysis. Report to the Shareholder Committee of the Sealaska  
Corporation. September 30.

## **Appendix**

This appendix includes a table showing the annual population estimates and projections, from 1973 to 2008, for the original shareholders of the Sealaska Corporation and their descendants.

The table presents annual estimates and projections for the second, third, and fourth generation descendants of the original shareholders. In addition, the table displays estimates and for projections for the descendants who have blood quantum levels of one-fourth or greater, of one-eighth to one-fourth, and of one-eighth or less.

Due to rounding of numbers in the tables in the main report, there are occasionally numbers that differ by + or -1 from the numbers shown in the more detailed appendix table.

**Appendix Table A. Original Shareholders and Lineal Descendants by Blood Quantum, at End of Year  
1973 to 2008: Estimates for 1973-2004; Projections for 2005 to 2008**

| Year | Original Shareholders | 2nd Generation (Sons and Daughters) |       |            |               |
|------|-----------------------|-------------------------------------|-------|------------|---------------|
|      |                       | Total                               | 1/4+  | 1/8 to 1/4 | Less than 1/8 |
| 1973 | 13,722                | ---                                 | ---   | ---        | ---           |
| 1974 | 13,669                | 564                                 | 241   | 319        | 3             |
| 1975 | 13,616                | 790                                 | 388   | 397        | 4             |
| 1976 | 13,563                | 1,108                               | 625   | 476        | 6             |
| 1977 | 13,511                | 1,553                               | 1,006 | 538        | 10            |
| 1978 | 13,458                | 2,178                               | 1,619 | 545        | 14            |
| 1979 | 13,390                | 2,557                               | 1,890 | 651        | 16            |
| 1980 | 13,322                | 3,002                               | 2,207 | 776        | 18            |
| 1981 | 13,254                | 3,524                               | 2,577 | 926        | 21            |
| 1982 | 13,187                | 4,137                               | 3,009 | 1,104      | 24            |
| 1983 | 13,120                | 4,858                               | 3,514 | 1,316      | 27            |
| 1984 | 13,035                | 5,337                               | 3,848 | 1,460      | 29            |
| 1985 | 12,951                | 5,864                               | 4,214 | 1,619      | 31            |
| 1986 | 12,868                | 6,442                               | 4,614 | 1,796      | 32            |
| 1987 | 12,784                | 7,078                               | 5,053 | 1,991      | 34            |
| 1988 | 12,702                | 7,777                               | 5,533 | 2,207      | 36            |
| 1989 | 12,601                | 8,262                               | 5,855 | 2,368      | 39            |
| 1990 | 12,500                | 8,778                               | 6,196 | 2,540      | 41            |
| 1991 | 12,401                | 9,325                               | 6,557 | 2,725      | 43            |
| 1992 | 12,302                | 9,907                               | 6,939 | 2,922      | 45            |
| 1993 | 12,204                | 10,525                              | 7,343 | 3,134      | 48            |
| 1994 | 12,085                | 10,906                              | 7,588 | 3,269      | 50            |
| 1995 | 11,968                | 11,301                              | 7,841 | 3,409      | 51            |
| 1996 | 11,852                | 11,711                              | 8,102 | 3,556      | 53            |
| 1997 | 11,737                | 12,135                              | 8,372 | 3,708      | 55            |
| 1998 | 11,623                | 12,574                              | 8,650 | 3,867      | 57            |
| 1999 | 11,485                | 12,781                              | 8,778 | 3,945      | 58            |
| 2000 | 11,349                | 12,991                              | 8,908 | 4,024      | 59            |
| 2001 | 11,215                | 13,204                              | 9,040 | 4,104      | 60            |
| 2002 | 11,082                | 13,421                              | 9,173 | 4,186      | 61            |
| 2003 | 10,950                | 13,641                              | 9,309 | 4,270      | 63            |
| 2004 | 10,792                | 13,711                              | 9,350 | 4,298      | 63            |
| 2005 | 10,636                | 13,782                              | 9,391 | 4,327      | 64            |
| 2006 | 10,482                | 13,853                              | 9,432 | 4,357      | 64            |
| 2007 | 10,331                | 13,924                              | 9,474 | 4,386      | 64            |
| 2008 | 10,181                | 13,996                              | 9,515 | 4,415      | 65            |

3rd and 4th Generations

| Year | 3rd Generation (Grandsons and Granddaughters) |       |            |               | 4th Generation (Greatgrandsons and Greatgranddaughters) |      |            |               |
|------|---|-------|------------|---------------|---|------|------------|---------------|
|      | Total   | 1/4+  | 1/8 to 1/4 | Less than 1/8 | Total   | 1/4+ | 1/8 to 1/4 | Less than 1/8 |
| 1973 | ---   | ---   | ---        | ---           | ---   | ---  | ---        | ---           |
| 1974 | ---   | ---   | ---        | ---           | ---   | ---  | ---        | ---           |
| 1975 | ---   | ---   | ---        | ---           | ---   | ---  | ---        | ---           |
| 1976 | ---   | ---   | ---        | ---           | ---   | ---  | ---        | ---           |
| 1977 | ---   | ---   | ---        | ---           | ---   | ---  | ---        | ---           |
| 1978 | ---   | ---   | ---        | ---           | ---   | ---  | ---        | ---           |
| 1979 | ---   | ---   | ---        | ---           | ---   | ---  | ---        | ---           |
| 1980 | ---   | ---   | ---        | ---           | ---   | ---  | ---        | ---           |
| 1981 | ---   | ---   | ---        | ---           | ---   | ---  | ---        | ---           |
| 1982 | ---   | ---   | ---        | ---           | ---   | ---  | ---        | ---           |
| 1983 | ---   | ---   | ---        | ---           | ---   | ---  | ---        | ---           |
| 1984 | 1   | 1     | 0          | 0             | ---   | ---  | ---        | ---           |
| 1985 | 2   | 1     | 0          | 1             | ---   | ---  | ---        | ---           |
| 1986 | 6   | 3     | 1          | 2             | ---   | ---  | ---        | ---           |
| 1987 | 19  | 7     | 4          | 8             | ---   | ---  | ---        | ---           |
| 1988 | 59  | 22    | 14         | 23            | ---   | ---  | ---        | ---           |
| 1989 | 91  | 33    | 22         | 36            | ---   | ---  | ---        | ---           |
| 1990 | 141   | 51    | 35         | 56            | ---   | ---  | ---        | ---           |
| 1991 | 220   | 78    | 54         | 87            | ---   | ---  | ---        | ---           |
| 1992 | 341   | 120   | 84         | 137           | ---   | ---  | ---        | ---           |
| 1993 | 529   | 184   | 131        | 214           | ---   | ---  | ---        | ---           |
| 1994 | 705   | 243   | 176        | 287           | ---   | ---  | ---        | ---           |
| 1995 | 941   | 321   | 235        | 385           | ---   | ---  | ---        | ---           |
| 1996 | 1,255   | 424   | 313        | 517           | 1   | 0    | 0          | 1             |
| 1997 | 1,674   | 561   | 419        | 694           | 3   | 0    | 1          | 1             |
| 1998 | 2,234   | 742   | 559        | 932           | 8   | 1    | 3          | 4             |
| 1999 | 2,720   | 895   | 683        | 1,142         | 25  | 4    | 9          | 12            |
| 2000 | 3,312   | 1,079 | 833        | 1,400         | 77  | 12   | 27         | 38            |
| 2001 | 4,033   | 1,301 | 1,016      | 1,716         | 118   | 18   | 41         | 59            |
| 2002 | 4,911   | 1,569 | 1,239      | 2,103         | 183   | 27   | 64         | 92            |
| 2003 | 5,981   | 1,893 | 1,511      | 2,577         | 286   | 43   | 100        | 143           |
| 2004 | 7,314   | 2,141 | 2,211      | 2,962         | 443   | 66   | 155        | 222           |
| 2005 | 8,968   | 2,422 | 3,142      | 3,403         | 688   | 103  | 241        | 344           |
| 2006 | 11,026  | 2,740 | 4,375      | 3,911         | 917   | 137  | 321        | 458           |
| 2007 | 13,951  | 3,099 | 5,997      | 4,494         | 1,223   | 183  | 428        | 612           |
| 2008 | 16,796  | 3,506 | 8,125      | 5,165         | 1,632   | 245  | 571        | 816           |