

SUPPLEMENTARY APPENDICES: GENETIC ANALYSIS OF CHUM SALMON  
HARVESTED IN THE SOUTH UNIMAK AND SHUMAGIN ISLANDS JUNE FISHERIES,  
1993-1996

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by

Lisa W. Seeb

Penelope A. Crane

Edward M. Debevec

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Appendix 1. Alleles pooled for Pacific Rim baseline and mixture samples for the genetic analysis of the South Peninsula June fishery, 1993-1996.

| Locus      | Allele   |           |             |       |          |     |    |   |    |
|------------|----------|-----------|-------------|-------|----------|-----|----|---|----|
|            | 1        | 2         | 3           | 4     | 5        | 6   | 7  | 8 | 9  |
| sAAT-1,2*  | 100/113  | 120/125   | 65          |       | 84/80/95 |     |    |   |    |
| mAAT-1*    | -100     | -120/-110 | -70         |       |          |     |    |   |    |
| MAH-3*     | 100/140  | 124       | 115         |       |          |     |    |   |    |
| ALAT*      | 100/fast | 93        | 78          |       |          |     |    |   |    |
| ESTD*      | 100      | 91        | 110         |       |          |     |    |   |    |
| G3PDH-2*   | 100/132  | 90        |             |       |          |     |    |   |    |
| GPI-B1,2*  | 100      | fast      | 40          |       |          |     |    |   |    |
| GPI-A*     | 100      | slow      | fast        |       |          |     |    |   |    |
| mIDHP-1*   | 100      | 60        | 140         | 20    | 85       |     |    |   |    |
| sIDHP-2*   | 100/65   | 35        | 85          | 25    | 20       | 110 | 28 |   | 45 |
| LDH-A1*    | 100      | 50        | 110/0       |       |          |     |    |   |    |
| LDH-B2*    | 100/60   | fast      |             |       |          |     |    |   |    |
| sMDH-A1*   | 100      | 200       | 400         | 10    |          |     |    |   |    |
| sMDH-B1,2* | 100/110  | 72/85/95  | fast>110    |       |          |     |    |   |    |
| mMEP-2*    | 100/75   | 122       |             |       |          |     |    |   |    |
| sMEP-1*    | 100      | 90        |             |       |          |     |    |   |    |
| MPI*       | 100      | 94/91/95  | 110         | 80/86 |          |     |    |   |    |
| PEPA*      | 100      | 90        | 110         |       |          |     |    |   |    |
| PEPB-1*    | -100     | -146      | -126        | -127  | -72/-50  |     |    |   |    |
| PGDH*      | 100      | 88/84     | 104/106/110 | 95    |          |     |    |   |    |

Appendix 2. Hierarchical heterogeneity analysis of Alaskan portion of chum salmon baseline. Results were used to pool populations to condense the number of populations in the baseline.

| Populations          | DF  | <i>sAAT-1,2*</i> | DF  | <i>mAAT-1*</i> | DF  | <i>mAH-3*</i> | DF  | <i>ALAT*</i> | DF  | <i>ESTD*</i> | DF  | <i>G3PDH-2*</i> |
|----------------------|-----|------------------|-----|----------------|-----|---------------|-----|--------------|-----|--------------|-----|-----------------|
| total                | 351 | 1174.2           | 234 | 3220.1         | 234 | 2378.0        | 117 | 1179.0       | 234 | 8789.6       | 117 | 839.9           |
| among                | 3   | 387.7            | 2   | 1973.3         | 2   | 682.6         | 1   | 295.6        | 2   | 7092.0       | 1   | 20.2            |
| within               | 348 | 786.6            | 232 | 1246.9         | 232 | 1695.0        | 116 | 883.4        | 232 | 1697.9       | 116 | 819.6           |
| Northwest Alaska     | 213 | 288.8            | 142 | 432.6          | 142 | 1487.0        | 71  | 342.6        | 142 | 1132.0       | 71  | 462.8           |
| Among                | 21  | 145.1            | 14  | 225.0          | 14  | 416.5         | 7   | 124.7        | 14  | 605.8        | 7   | 289.2           |
| Within               | 192 | 143.7            | 128 | 207.6          | 128 | 1071.1        | 64  | 217.9        | 128 | 525.9        | 64  | 173.7           |
| Kotzebue Sound       | 12  | 18.3             | 8   | 11.6           | 8   | 14.2          | 4   | 8.9          | 8   | 1.9          | 4   | 4.8             |
| Among                | 3   | 15.2             | 2   | 0.0            | 2   | 4.2           | 1   | 7.8          | 2   | 0.2          | 1   | 3.2             |
| Within               | 9   | 3.1              | 6   | 11.6           | 6   | 10.0          | 3   | 1.1          | 6   | 1.6          | 3   | 1.6             |
| Noatak River         | 6   | 3.1              | 4   | 11.6           | 4   | 9.2           | 2   | 1.0          | 4   | 0.9          | 2   | 1.1             |
| Among                | 3   | 2.3              | 2   | 10.7           | 2   | 8.4           | 1   | 0.5          | 2   | 0.3          | 1   | 1.1             |
| Within               | 3   | 0.8              | 2   | 0.9            | 2   | 0.8           | 1   | 0.5          | 2   | 0.6          | 1   | 0.0             |
| Noatak River         | 3   | 0.8              | 2   | 0.9            | 2   | 0.8           | 1   | 0.5          | 2   | 0.6          | 1   | 0.0             |
| Kobuk River          | 3   | 0.1              | 2   | 0.0            | 2   | 0.8           | 1   | 0.2          | 2   | 0.7          | 1   | 0.5             |
| Norton Sound         | 18  | 5.1              | 12  | 15.1           | 12  | 11.9          | 6   | 3.9          | 12  | 15.5         | 6   | 14.6            |
| Yukon River          | 81  | 71.4             | 54  | 72.0           | 54  | 830.2         | 27  | 172.5        | 54  | 448.0        | 27  | 105.7           |
| Among                | 33  | 27.7             | 22  | 33.8           | 22  | 704.3         | 11  | 145.5        | 22  | 339.7        | 11  | 82.8            |
| Within               | 48  | 43.6             | 32  | 38.2           | 32  | 125.8         | 16  | 27.0         | 32  | 108.2        | 16  | 22.9            |
| Andreafsky River     | 3   | 0.0              | 2   | 1.6            | 2   | 0.2           | 1   | 4.4          | 2   | 1.3          | 1   | 0.1             |
| Anvik River          | 12  | 4.9              | 8   | 7.4            | 8   | 5.5           | 4   | 4.4          | 8   | 1.1          | 4   | 6.2             |
| Koyukuk River        | 12  | 11.4             | 8   | 3.8            | 8   | 48.8          | 4   | 2.5          | 8   | 4.2          | 4   | 4.7             |
| Among                | 3   | 7.0              | 2   | 1.8            | 2   | 45.4          | 1   | 0.0          | 2   | 3.2          | 1   | 4.0             |
| Within               | 9   | 4.4              | 6   | 2.0            | 6   | 3.3           | 3   | 2.5          | 6   | 1.0          | 3   | 0.6             |
| Early                | 6   | 3.6              | 4   | 1.9            | 4   | 1.2           | 2   | 0.8          | 4   | 1.0          | 2   | 0.1             |
| Late                 | 3   | 0.9              | 2   | 0.1            | 2   | 2.1           | 1   | 1.7          | 2   | 0.0          | 1   | 0.5             |
| Tanana River         | 15  | 23.0             | 10  | 23.4           | 10  | 69.9          | 5   | 14.4         | 10  | 100.1        | 5   | 11.7            |
| Among                | 3   | 16.3             | 2   | 11.9           | 2   | 4.5           | 1   | 3.4          | 2   | 93.5         | 1   | 0.4             |
| Within               | 12  | 6.8              | 8   | 11.5           | 8   | 65.3          | 4   | 11.0         | 8   | 6.6          | 4   | 11.3            |
| Early                | 3   | 0.4              | 2   | 3.2            | 2   | 0.1           | 1   | 0.1          | 2   | 0.8          | 1   | 2.9             |
| Late                 | 9   | 6.4              | 6   | 8.3            | 6   | 65.3          | 3   | 10.9         | 6   | 5.8          | 3   | 8.4             |
| Among                | 3   | 1.3              | 2   | 8.0            | 2   | 63.2          | 1   | 3.2          | 2   | 5.5          | 1   | 4.4             |
| Within               | 6   | 5.1              | 4   | 0.3            | 4   | 2.1           | 2   | 7.7          | 4   | 0.3          | 2   | 4.0             |
| Upper Fall Tanana    | 6   | 5.1              | 4   | 0.3            | 4   | 2.1           | 2   | 7.7          | 4   | 0.3          | 2   | 4.0             |
| Porcupine River      | 3   | 3.4              | 2   | 1.6            | 2   | 0.1           | 1   | 0.0          | 2   | 0.3          | 1   | 0.0             |
| White River          | 3   | 1.0              | 2   | 0.4            | 2   | 1.4           | 1   | 1.4          | 2   | 1.3          | 1   | 0.2             |
| Kuskokwim River      | 45  | 24.1             | 30  | 77.0           | 30  | 132.4         | 15  | 20.6         | 30  | 32.8         | 15  | 24.3            |
| Among                | 3   | 0.2              | 2   | 40.6           | 2   | 114.8         | 1   | 0.6          | 2   | 12.4         | 1   | 3.1             |
| Within               | 42  | 23.9             | 28  | 36.4           | 28  | 17.5          | 14  | 20.0         | 28  | 20.4         | 14  | 21.2            |
| Early                | 39  | 23.5             | 26  | 36.4           | 26  | 15.5          | 13  | 16.0         | 26  | 20.1         | 13  | 21.0            |
| Late                 | 3   | 0.4              | 2   | 0.0            | 2   | 2.0           | 1   | 4.0          | 2   | 0.3          | 1   | 0.2             |
| Bristol Bay          | 27  | 24.6             | 18  | 22.0           | 18  | 71.7          | 9   | 10.9         | 18  | 26.5         | 9   | 22.6            |
| Among                | 3   | 2.1              | 2   | 4.2            | 2   | 36.3          | 1   | 4.6          | 2   | 1.5          | 1   | 9.7             |
| Within               | 24  | 22.4             | 16  | 17.8           | 16  | 35.3          | 8   | 6.3          | 16  | 24.9         | 8   | 12.9            |
| Northern             | 9   | 8.5              | 6   | 6.4            | 6   | 3.1           | 3   | 1.3          | 6   | 9.0          | 3   | 4.2             |
| Among                | 3   | 1.6              | 2   | 3.9            | 2   | 2.1           | 1   | 0.4          | 2   | 7.5          | 1   | 2.2             |
| Within               | 6   | 6.9              | 4   | 2.5            | 4   | 1.0           | 2   | 0.9          | 4   | 1.5          | 2   | 2.0             |
| Nushagak River       | 6   | 6.9              | 4   | 2.5            | 4   | 1.0           | 2   | 0.9          | 4   | 1.5          | 2   | 2.0             |
| Southern             | 15  | 13.9             | 10  | 11.4           | 10  | 32.2          | 5   | 5.0          | 10  | 16.0         | 5   | 8.6             |
| Among                | 6   | 10.6             | 4   | 9.71           | 4   | 31.68         | 2   | 0.03         | 4   | 8.96         | 2   | 6.11            |
| Within               | 9   | 3.29             | 6   | 1.68           | 6   | 0.51          | 3   | 4.92         | 6   | 6.99         | 3   | 2.53            |
| Alagnak/Naknek       | 3   | 0.83             | 2   | 0.3            | 2   | 0.21          | 1   | 3.05         | 2   | 6.21         | 1   | 1.24            |
| Egegik/Ugashik       | 3   | 1.23             | 2   | 1.38           | 2   | 0.3           | 1   | 0.05         | 2   | 0.25         | 1   | 1.18            |
| Meshik/Cinder        | 3   | 1.23             | 2   | 0              | 2   | 0             | 1   | 1.82         | 2   | 0.53         | 1   | 0.11            |
| Sustina River        | 9   | 0.3              | 6   | 9.9            | 6   | 10.7          | 3   | 1.2          | 6   | 1.3          | 3   | 1.7             |
| Among                | 3   | 0.1              | 2   | 3.5            | 2   | 8.0           | 1   | 0.2          | 2   | 0.1          | 1   | 1.5             |
| Within               | 6   | 0.2              | 4   | 6.4            | 4   | 2.7           | 2   | 1.0          | 4   | 1.2          | 2   | 0.2             |
| Susitna River        | 6   | 0.2              | 4   | 6.4            | 4   | 2.7           | 2   | 1.0          | 4   | 1.2          | 2   | 0.2             |
| Gulf of Alaska       | 135 | 497.8            | 90  | 814.3          | 90  | 208.0         | 45  | 540.8        | 90  | 565.9        | 45  | 356.8           |
| Among                | 9   | 171.3            | 6   | 320.0          | 6   | 48.7          | 3   | 324.7        | 6   | 122.2        | 3   | 226.8           |
| Within               | 126 | 326.6            | 84  | 494.3          | 84  | 159.4         | 42  | 216.1        | 84  | 443.7        | 42  | 130.1           |
| North Peninsula      | 21  | 29.8             | 14  | 47.8           | 14  | 10.1          | 7   | 24.0         | 14  | 39.8         | 7   | 32.2            |
| South Peninsula      | 75  | 248.1            | 50  | 314.6          | 50  | 65.0          | 25  | 107.3        | 50  | 334.5        | 25  | 55.6            |
| Kodiak Island        | 18  | 14.7             | 12  | 104.7          | 12  | 82.2          | 6   | 82.3         | 12  | 51.8         | 6   | 32.3            |
| Among                | 15  | 13.5             | 10  | 102.7          | 10  | 80.9          | 5   | 81.0         | 10  | 51.8         | 5   | 32.2            |
| Within               | 3   | 1.2              | 2   | 2.0            | 2   | 1.3           | 1   | 1.3          | 2   | 0.0          | 1   | 0.1             |
| Sturgeon River       | 3   | 1.2              | 2   | 2.0            | 2   | 1.3           | 1   | 1.3          | 2   | 0.0          | 1   | 0.1             |
| Prince William Sound | 12  | 34.0             | 8   | 27.2           | 8   | 2.0           | 4   | 2.5          | 8   | 17.6         | 4   | 9.9             |
| Among                | 3   | 4.6              | 2   | 4.0            | 2   | 0.8           | 1   | 0.8          | 2   | 13.0         | 1   | 0.3             |
| Within               | 9   | 29.3             | 6   | 23.2           | 6   | 1.2           | 3   | 1.7          | 6   | 4.6          | 3   | 9.6             |
| East                 | 6   | 29.3             | 4   | 17.1           | 4   | 1.2           | 2   | 1.7          | 4   | 3.3          | 2   | 8.9             |
| West                 | 3   | 0.0              | 2   | 6.1            | 2   | 0.0           | 1   | 0.0          | 2   | 1.3          | 1   | 0.7             |

Appendix 2. Continued.

| Populations          | DF  | GPI-B1.2* | DF  | GPI-A* | DF  | mIDHP-1* | DF  | sIDHP-2* | DF  | LDH-A1* | DF  | LDH-B2* |
|----------------------|-----|-----------|-----|--------|-----|----------|-----|----------|-----|---------|-----|---------|
| total                | 234 | 324.5     | 234 | 147.6  | 117 | 1405.0   | 468 | 5115.0   | 234 | 2047.0  | 117 | 60.3    |
| among                | 2   | 130.4     | 2   | 11.3   | 1   | 680.6    | 4   | 3162.0   | 2   | 993.0   | 1   | 0.3     |
| within               | 232 | 194.0     | 232 | 136.2  | 116 | 724.4    | 464 | 1953.0   | 232 | 1054.0  | 116 | 60.0    |
| Northwest Alaska     | 142 | 42.7      | 142 | 49.3   | 71  | 434.3    | 284 | 981.1    | 142 | 671.3   | 71  | 32.7    |
| Among                | 14  | 13.0      | 14  | 29.4   | 7   | 141.7    | 28  | 328.4    | 14  | 295.8   | 7   | 13.3    |
| Within               | 128 | 29.7      | 128 | 19.9   | 64  | 292.6    | 256 | 652.7    | 128 | 375.5   | 64  | 19.4    |
| Kotzebue Sound       | 8   | 0.0       | 8   | 0.0    | 4   | 19.5     | 16  | 25.2     | 8   | 30.9    | 4   | 3.0     |
| Among                | 2   | 0.0       | 2   | 0.0    | 1   | 1.6      | 4   | 7.7      | 2   | 0.5     | 1   | 1.7     |
| Within               | 6   | 0.0       | 6   | 0.0    | 3   | 18.0     | 12  | 17.5     | 6   | 30.4    | 3   | 1.3     |
| Noatak River         | 4   | 0.0       | 4   | 0.0    | 2   | 17.9     | 8   | 12.6     | 4   | 29.5    | 2   | 1.3     |
| Among                | 2   | 0.0       | 2   | 0.0    | 1   | 11.0     | 4   | 4.9      | 2   | 29.5    | 1   | 1.1     |
| Within               | 2   | 0.0       | 2   | 0.0    | 1   | 6.9      | 4   | 7.8      | 2   | 0.1     | 1   | 0.3     |
| Noatak River         | 2   | 0.0       | 2   | 0.0    | 1   | 6.9      | 4   | 7.8      | 2   | 0.1     | 1   | 0.3     |
| Kobuk River          | 2   | 0.0       | 2   | 0.0    | 1   | 0.1      | 4   | 4.9      | 2   | 0.9     | 1   | 0.0     |
| Norton Sound         | 12  | 0.0       | 12  | 4.1    | 6   | 15.8     | 24  | 29.1     | 12  | 7.5     | 6   | 5.4     |
| Yukon River          | 54  | 13.7      | 54  | 0.0    | 27  | 174.6    | 108 | 310.6    | 54  | 230.8   | 27  | 11.0    |
| Among                | 22  | 3.7       | 22  | 0.0    | 11  | 94.1     | 44  | 235.8    | 22  | 204.1   | 11  | 7.7     |
| Within               | 32  | 10.0      | 32  | 0.0    | 16  | 80.4     | 64  | 74.8     | 32  | 26.6    | 16  | 3.3     |
| Andreafsky River     | 2   | 0.0       | 2   | 0.0    | 1   | 3.0      | 4   | 1.5      | 2   | 1.1     | 1   | 0.0     |
| Anvik River          | 8   | 2.4       | 8   | 0.0    | 4   | 3.6      | 16  | 19.5     | 8   | 6.1     | 4   | 3.3     |
| Koyukuk River        | 8   | 3.1       | 8   | 0.0    | 4   | 9.5      | 16  | 19.4     | 8   | 6.5     | 4   | 0.0     |
| Among                | 2   | 0.9       | 2   | 0.0    | 1   | 1.3      | 4   | 5.0      | 2   | 1.5     | 1   | 0.0     |
| Within               | 6   | 2.2       | 6   | 0.0    | 3   | 8.3      | 12  | 14.4     | 6   | 5.0     | 3   | 0.0     |
| Early                | 4   | 2.2       | 4   | 0.0    | 2   | 5.3      | 8   | 8.1      | 4   | 2.1     | 2   | 0.0     |
| Late                 | 2   | 0.0       | 2   | 0.0    | 1   | 2.9      | 4   | 6.3      | 2   | 2.8     | 1   | 0.0     |
| Tanana River         | 10  | 4.5       | 10  | 0.0    | 5   | 64.4     | 20  | 32.8     | 10  | 12.8    | 5   | 0.0     |
| Among                | 2   | 3.1       | 2   | 0.0    | 1   | 3.3      | 4   | 4.9      | 2   | 1.3     | 1   | 0.0     |
| Within               | 8   | 1.5       | 8   | 0.0    | 4   | 61.1     | 16  | 27.8     | 8   | 11.6    | 4   | 0.0     |
| Early                | 2   | 1.5       | 2   | 0.0    | 1   | 18.9     | 4   | 1.0      | 2   | 0.6     | 1   | 0.0     |
| Late                 | 6   | 0.0       | 6   | 0.0    | 3   | 42.3     | 12  | 26.9     | 6   | 11.0    | 3   | 0.0     |
| Among                | 2   | 0.0       | 2   | 0.0    | 1   | 41.8     | 4   | 23.2     | 2   | 8.3     | 1   | 0.0     |
| Within               | 4   | 0.0       | 4   | 0.0    | 2   | 0.5      | 8   | 3.7      | 4   | 2.8     | 2   | 0.0     |
| Upper Fall Tanana    | 4   | 0.0       | 4   | 0.0    | 2   | 0.5      | 8   | 3.7      | 4   | 2.8     | 2   | 0.0     |
| Porcupine River      | 2   | 0.0       | 2   | 0.0    | 1   | 0.0      | 4   | 1.5      | 2   | 0.2     | 1   | 0.0     |
| White River          | 2   | 0.0       | 2   | 0.0    | 1   | 0.0      | 4   | 0.1      | 2   | 0.0     | 1   | 0.0     |
| Kuskokwim River      | 30  | 9.1       | 30  | 8.9    | 15  | 23.9     | 60  | 158.4    | 30  | 29.2    | 15  | 0.0     |
| Among                | 2   | 0.6       | 2   | 0.6    | 1   | 11.4     | 4   | 70.9     | 2   | 16.0    | 1   | 0.0     |
| Within               | 28  | 8.6       | 28  | 8.3    | 14  | 12.6     | 56  | 87.5     | 28  | 13.2    | 14  | 0.0     |
| Early                | 26  | 8.6       | 26  | 8.3    | 13  | 12.6     | 52  | 77.8     | 26  | 7.4     | 13  | 0.0     |
| Late                 | 2   | 0.0       | 2   | 0.0    | 1   | 0.0      | 4   | 9.8      | 2   | 5.7     | 1   | 0.0     |
| Bristol Bay          | 18  | 6.9       | 18  | 6.9    | 9   | 58.7     | 36  | 113.6    | 18  | 64.1    | 9   | 0.0     |
| Among                | 2   | 3.3       | 2   | 3.3    | 1   | 39.1     | 4   | 68.6     | 2   | 2.0     | 1   | 0.0     |
| Within               | 16  | 3.6       | 16  | 3.6    | 8   | 19.6     | 32  | 45.0     | 16  | 62.1    | 8   | 0.0     |
| Northern             | 6   | 3.6       | 6   | 3.6    | 3   | 4.5      | 12  | 6.1      | 6   | 15.1    | 3   | 0.0     |
| Among                | 2   | 3.6       | 2   | 3.6    | 1   | 0.8      | 4   | 1.5      | 2   | 15.0    | 1   | 0.0     |
| Within               | 4   | 0.0       | 4   | 0.0    | 2   | 3.7      | 8   | 4.7      | 4   | 0.1     | 2   | 0.0     |
| Nushagak River       | 4   | 0.0       | 4   | 0.0    | 2   | 3.7      | 8   | 4.7      | 4   | 0.1     | 2   | 0.0     |
| Southern             | 10  | 0.0       | 10  | 0.0    | 5   | 15.1     | 20  | 38.8     | 10  | 47.0    | 5   | 0.0     |
| Among                | 4   | 0         | 4   | 0      | 2   | 8.44     | 8   | 24.17    | 4   | 42.06   | 2   | 0       |
| Within               | 6   | 0         | 6   | 0      | 3   | 6.7      | 12  | 14.67    | 6   | 4.95    | 3   | 0       |
| Alagnak/Naknek       | 2   | 0         | 2   | 0      | 1   | 0        | 4   | 3.47     | 2   | 4.05    | 1   | 0       |
| Egegik/Ugashik       | 2   | 0         | 2   | 0      | 1   | 2.07     | 4   | 7.84     | 2   | 0.42    | 1   | 0       |
| Meshik/Cinder        | 2   | 0         | 2   | 0      | 1   | 4.63     | 4   | 3.36     | 2   | 0.48    | 1   | 0       |
| Sustina River        | 6   | 0.0       | 6   | 0.0    | 3   | 0.0      | 12  | 15.8     | 6   | 13.0    | 3   | 0.0     |
| Among                | 2   | 0.0       | 2   | 0.0    | 1   | 0.0      | 4   | 9.6      | 2   | 6.2     | 1   | 0.0     |
| Within               | 4   | 0.0       | 4   | 0.0    | 2   | 0.0      | 8   | 6.2      | 4   | 6.7     | 2   | 0.0     |
| Susitna River        | 4   | 0.0       | 4   | 0.0    | 2   | 0.0      | 8   | 6.2      | 4   | 6.7     | 2   | 0.0     |
| Gulf of Alaska       | 90  | 151.3     | 90  | 87.0   | 45  | 290.1    | 180 | 971.9    | 90  | 382.7   | 45  | 27.3    |
| Among                | 6   | 41.3      | 6   | 35.0   | 3   | 27.7     | 12  | 349.5    | 6   | 120.1   | 3   | 4.0     |
| Within               | 84  | 110.0     | 84  | 52.0   | 42  | 262.3    | 168 | 622.5    | 84  | 262.5   | 42  | 23.2    |
| North Peninsula      | 14  | 5.5       | 14  | 25.8   | 7   | 24.7     | 28  | 66.0     | 14  | 84.3    | 7   | 0.0     |
| South Peninsula      | 50  | 77.2      | 50  | 10.2   | 25  | 102.9    | 100 | 298.9    | 50  | 109.9   | 25  | 21.1    |
| Kodiak Island        | 12  | 23.7      | 12  | 16.0   | 6   | 126.8    | 24  | 205.2    | 12  | 34.8    | 6   | 0.0     |
| Among                | 10  | 23.7      | 10  | 14.3   | 5   | 125.1    | 20  | 202.9    | 10  | 34.8    | 5   | 0.0     |
| Within               | 2   | 0.0       | 2   | 1.8    | 1   | 1.8      | 4   | 2.3      | 2   | 0.0     | 1   | 0.0     |
| Sturgeon River       | 2   | 0.0       | 2   | 1.8    | 1   | 1.8      | 4   | 2.3      | 2   | 0.0     | 1   | 0.0     |
| Prince William Sound | 8   | 3.6       | 8   | 0.0    | 4   | 7.9      | 16  | 52.3     | 8   | 33.5    | 4   | 2.2     |
| Among                | 2   | 0.8       | 2   | 0.0    | 1   | 7.6      | 4   | 5.0      | 2   | 17.3    | 1   | 0.8     |
| Within               | 6   | 2.8       | 6   | 0.0    | 3   | 0.3      | 12  | 47.4     | 6   | 16.2    | 3   | 1.4     |
| East                 | 4   | 2.8       | 4   | 0.0    | 2   | 0.3      | 8   | 45.8     | 4   | 14.6    | 2   | 1.4     |
| West                 | 2   | 0.0       | 2   | 0.0    | 1   | 0.0      | 4   | 1.6      | 2   | 1.6     | 1   | 0.0     |

Appendix 2. Continued.

| Populations          | DF  | sMDH-1* | DF  | DHB-1,2* | DF  | mMEP-2* | DF  | sMEP-1* | DF  | MP1*  | DF  | PEPA* |
|----------------------|-----|---------|-----|----------|-----|---------|-----|---------|-----|-------|-----|-------|
| total                | 351 | 599.0   | 351 | 2056.3   | 117 | 1449.1  | 117 | 16.0    | 351 | 715.7 | 117 | 74.2  |
| among                | 3   | 23.5    | 3   | 640.9    | 1   | 225.8   | 1   | 1.8     | 3   | 170.0 | 1   | 8.6   |
| within               | 348 | 575.6   | 348 | 1415.1   | 116 | 1223.3  | 116 | 14.2    | 348 | 545.7 | 116 | 65.6  |
| Northwest Alaska     | 213 | 235.8   | 213 | 395.1    | 71  | 994.4   | 71  | 14.2    | 213 | 270.0 | 71  | 57.9  |
| Among                | 21  | 62.2    | 21  | 124.1    | 7   | 553.0   | 7   | 9.4     | 21  | 96.6  | 7   | 4.9   |
| Within               | 192 | 173.6   | 192 | 271.1    | 64  | 441.4   | 64  | 4.8     | 192 | 173.4 | 64  | 53.0  |
| Kotzebue Sound       | 12  | 14.7    | 12  | 6.8      | 4   | 12.1    | 4   | 0.0     | 12  | 11.8  | 4   | 3.1   |
| Among                | 3   | 0.5     | 3   | 6.5      | 1   | 0.1     | 1   | 0.0     | 3   | 7.5   | 1   | 1.6   |
| Within               | 9   | 14.1    | 9   | 0.3      | 3   | 11.9    | 3   | 0.0     | 9   | 4.3   | 3   | 1.5   |
| Noatak River         | 6   | 13.9    | 6   | 0.0      | 2   | 10.3    | 2   | 0.0     | 6   | 2.2   | 2   | 1.5   |
| Among                | 3   | 12.7    | 3   | 0.0      | 1   | 5.0     | 1   | 0.0     | 3   | 2.2   | 1   | 0.7   |
| Within               | 3   | 1.2     | 3   | 0.0      | 1   | 5.3     | 1   | 0.0     | 3   | 0.1   | 1   | 0.8   |
| Noatak River         | 3   | 1.2     | 3   | 0.0      | 1   | 5.3     | 1   | 0.0     | 3   | 0.1   | 1   | 0.8   |
| Kobuk River          | 3   | 0.3     | 3   | 0.3      | 1   | 1.7     | 1   | 0.0     | 3   | 2.1   | 1   | 0.0   |
| Norton Sound         | 18  | 13.1    | 18  | 20.6     | 6   | 4.1     | 6   | 0.0     | 18  | 3.8   | 6   | 4.5   |
| Yukon River          | 81  | 103.3   | 81  | 112.8    | 27  | 316.2   | 27  | 0.0     | 81  | 112.5 | 27  | 33.1  |
| Among                | 33  | 78.3    | 33  | 59.0     | 11  | 286.1   | 11  | 0.0     | 33  | 90.1  | 11  | 24.3  |
| Within               | 48  | 25.0    | 48  | 53.8     | 16  | 30.0    | 16  | 0.0     | 48  | 22.4  | 16  | 8.8   |
| Andreafsky River     | 3   | 2.8     | 3   | 1.4      | 1   | 0.1     | 1   | 0.0     | 3   | 0.3   | 1   | 2.8   |
| Anvik River          | 12  | 10.4    | 12  | 9.7      | 4   | 10.3    | 4   | 0.0     | 12  | 4.6   | 4   | 2.7   |
| Koyukuk River        | 12  | 2.4     | 12  | 7.7      | 4   | 7.3     | 4   | 0.0     | 12  | 2.0   | 4   | 3.3   |
| Among                | 3   | 0.5     | 3   | 2.3      | 1   | 6.7     | 1   | 0.0     | 3   | 1.5   | 1   | 1.7   |
| Within               | 9   | 1.9     | 9   | 5.4      | 3   | 0.6     | 3   | 0.0     | 9   | 0.5   | 3   | 1.6   |
| Early                | 6   | 1.0     | 6   | 4.4      | 2   | 0.6     | 2   | 0.0     | 6   | 0.0   | 2   | 1.6   |
| Late                 | 3   | 1.0     | 3   | 1.0      | 1   | 0.0     | 1   | 0.0     | 3   | 0.4   | 1   | 0.0   |
| Tanana River         | 15  | 7.8     | 15  | 34.6     | 5   | 5.8     | 5   | 0.0     | 15  | 14.0  | 5   | 0.0   |
| Among                | 3   | 0.0     | 3   | 28.0     | 1   | 1.6     | 1   | 0.0     | 3   | 5.1   | 1   | 0.0   |
| Within               | 12  | 7.8     | 12  | 6.6      | 4   | 4.3     | 4   | 0.0     | 12  | 8.9   | 4   | 0.0   |
| Early                | 3   | 3.4     | 3   | 0.1      | 1   | 0.3     | 1   | 0.0     | 3   | 1.2   | 1   | 0.0   |
| Late                 | 9   | 4.4     | 9   | 6.5      | 3   | 4.0     | 3   | 0.0     | 9   | 7.7   | 3   | 0.0   |
| Among                | 3   | 2.4     | 3   | 4.2      | 1   | 0.3     | 1   | 0.0     | 3   | 4.3   | 1   | 0.0   |
| Within               | 6   | 2.0     | 6   | 2.2      | 2   | 3.7     | 2   | 0.0     | 6   | 3.5   | 2   | 0.0   |
| Upper Fall Tanana    | 6   | 2.0     | 6   | 2.2      | 2   | 3.7     | 2   | 0.0     | 6   | 3.5   | 2   | 0.0   |
| Porcupine River      | 3   | 1.3     | 3   | 0.0      | 1   | 0.8     | 1   | 0.0     | 3   | 0.7   | 1   | 0.0   |
| White River          | 3   | 0.3     | 3   | 0.5      | 1   | 5.7     | 1   | 0.0     | 3   | 0.8   | 1   | 0.0   |
| Kuskokwim River      | 45  | 24.5    | 45  | 60.5     | 15  | 65.5    | 15  | 0.0     | 45  | 15.2  | 15  | 5.5   |
| Among                | 3   | 1.7     | 3   | 24.9     | 1   | 47.5    | 1   | 0.0     | 3   | 0.2   | 1   | 0.3   |
| Within               | 42  | 22.8    | 42  | 35.6     | 14  | 18.0    | 14  | 0.0     | 42  | 15.0  | 14  | 5.2   |
| Early                | 39  | 20.0    | 39  | 35.4     | 13  | 16.5    | 13  | 0.0     | 39  | 14.8  | 13  | 5.2   |
| Late                 | 3   | 2.8     | 3   | 0.2      | 1   | 1.5     | 1   | 0.0     | 3   | 0.2   | 1   | 0.0   |
| Bristol Bay          | 27  | 13.8    | 27  | 70.3     | 9   | 37.6    | 9   | 4.8     | 27  | 30.0  | 9   | 6.9   |
| Among                | 3   | 5.0     | 3   | 27.7     | 1   | 18.1    | 1   | 1.7     | 3   | 15.2  | 1   | 3.4   |
| Within               | 24  | 8.8     | 24  | 42.6     | 8   | 19.4    | 8   | 3.1     | 24  | 14.8  | 8   | 3.5   |
| Northern             | 9   | 1.6     | 9   | 8.4      | 3   | 11.6    | 3   | 3.1     | 9   | 3.3   | 3   | 3.5   |
| Among                | 3   | 0.0     | 3   | 2.5      | 1   | 9.6     | 1   | 1.1     | 3   | 3.1   | 1   | 2.1   |
| Within               | 6   | 1.6     | 6   | 5.9      | 2   | 2.1     | 2   | 2.0     | 6   | 0.2   | 2   | 1.5   |
| Nushagak River       | 6   | 1.6     | 6   | 5.9      | 2   | 2.1     | 2   | 2.0     | 6   | 0.2   | 2   | 1.5   |
| Southern             | 15  | 7.3     | 15  | 34.2     | 5   | 7.8     | 5   | 0.0     | 15  | 11.5  | 5   | 0.0   |
| Among                | 6   | 3.4     | 6   | 12.36    | 2   | 6.1     | 2   | 0       | 6   | 9.61  | 2   | 0     |
| Within               | 9   | 3.88    | 9   | 21.83    | 3   | 1.72    | 3   | 0       | 9   | 1.89  | 3   | 0     |
| Alagnak/Naknek       | 3   | 0.45    | 3   | 4.21     | 1   | 0.65    | 1   | 0       | 3   | 0.64  | 1   | 0     |
| Egegik/Ugashik       | 3   | 3.32    | 3   | 9.91     | 1   | 0.1     | 1   | 0       | 3   | 0     | 1   | 0     |
| Meshik/Cinder        | 3   | 0.11    | 3   | 7.71     | 1   | 0.97    | 1   | 0       | 3   | 1.25  | 1   | 0     |
| Sustina River        | 9   | 4.2     | 9   | 0.0      | 3   | 6.0     | 3   | 0.0     | 9   | 0.1   | 3   | 0.0   |
| Among                | 3   | 0.3     | 3   | 0.0      | 1   | 0.4     | 1   | 0.0     | 3   | 0.1   | 1   | 0.0   |
| Within               | 6   | 3.9     | 6   | 0.0      | 2   | 5.6     | 2   | 0.0     | 6   | 0.0   | 2   | 0.0   |
| Susitna River        | 6   | 3.9     | 6   | 0.0      | 2   | 5.6     | 2   | 0.0     | 6   | 0.0   | 2   | 0.0   |
| Gulf of Alaska       | 135 | 339.8   | 135 | 1020.0   | 45  | 228.9   | 45  | 0.0     | 135 | 275.7 | 45  | 7.7   |
| Among                | 9   | 71.7    | 9   | 334.0    | 3   | 61.3    | 3   | 0.0     | 9   | 56.7  | 3   | 1.2   |
| Within               | 126 | 268.1   | 126 | 686.1    | 42  | 167.6   | 42  | 0.0     | 126 | 219.0 | 42  | 6.5   |
| North Peninsula      | 21  | 12.9    | 21  | 78.8     | 7   | 8.1     | 7   | 0.0     | 21  | 6.5   | 7   | 0.0   |
| South Peninsula      | 75  | 126.4   | 75  | 224.2    | 25  | 86.1    | 25  | 0.0     | 75  | 117.0 | 25  | 6.5   |
| Kodiak Island        | 18  | 116.4   | 18  | 361.4    | 6   | 47.4    | 6   | 0.0     | 18  | 73.9  | 6   | 0.0   |
| Among                | 15  | 116.3   | 15  | 357.7    | 5   | 43.9    | 5   | 0.0     | 15  | 73.9  | 5   | 0.0   |
| Within               | 3   | 0.1     | 3   | 3.7      | 1   | 3.5     | 1   | 0.0     | 3   | 0.0   | 1   | 0.0   |
| Sturgeon River       | 3   | 0.1     | 3   | 3.7      | 1   | 3.5     | 1   | 0.0     | 3   | 0.0   | 1   | 0.0   |
| Prince William Sound | 12  | 12.4    | 12  | 21.8     | 4   | 26.1    | 4   | 0.0     | 12  | 21.7  | 4   | 0.0   |
| Among                | 3   | 2.5     | 3   | 10.5     | 1   | 10.6    | 1   | 0.0     | 3   | 0.0   | 1   | 0.0   |
| Within               | 9   | 9.9     | 9   | 11.3     | 3   | 15.4    | 3   | 0.0     | 9   | 21.7  | 3   | 0.0   |
| East                 | 6   | 9.9     | 6   | 11.2     | 2   | 15.4    | 2   | 0.0     | 6   | 18.9  | 2   | 0.0   |
| West                 | 3   | 0.0     | 3   | 0.2      | 1   | 0.0     | 1   | 0.0     | 3   | 2.8   | 1   | 0.0   |

Appendix 2. Continued.

| Populations          | DF  | PEPB-1* | DF  | PGDH* | DF   | Overall  | P      |
|----------------------|-----|---------|-----|-------|------|----------|--------|
| total                | 468 | 1686.6  | 234 | 646.3 | 4797 | 33.9E+39 | 0.0000 |
| among                | 4   | 290.6   | 2   | 71.8  | 41   | 16.9E+39 | 0.0000 |
| within               | 464 | 1396.0  | 232 | 574.8 | 4756 | 17062.0  | 0.0000 |
| Northwest Alaska     | 284 | 856.6   | 142 | 206.4 | 2911 | 9388.0   | 0.0000 |
| Among                | 28  | 412.7   | 14  | 58.1  | 287  | 3949.0   | 0.0000 |
| Within               | 256 | 443.9   | 128 | 148.2 | 2624 | 5438.5   | 0.0000 |
| Kotzebue Sound       | 16  | 41.7    | 8   | 2.1   | 164  | 230.6    | 0.0005 |
| Among                | 4   | 7.7     | 2   | 0.2   | 41   | 66.2     | 0.0077 |
| Within               | 12  | 34.0    | 6   | 2.0   | 123  | 164.5    | 0.0074 |
| Noatak River         | 8   | 23.7    | 4   | 1.2   | 82   | 141.0    | 0.0001 |
| Among                | 4   | 23.5    | 2   | 1.2   | 41   | 114.8    | 0.0000 |
| Within               | 4   | 0.3     | 2   | 0.0   | 41   | 26.2     | 0.9654 |
| Noatak River         | 4   | 0.3     | 2   | 0.0   | 41   | 26.2     | 0.9654 |
| Kobuk River          | 4   | 10.2    | 2   | 0.8   | 41   | 23.5     | 0.9870 |
| Norton Sound         | 24  | 9.2     | 12  | 12.0  | 246  | 195.3    | 0.9925 |
| Yukon River          | 108 | 280.9   | 54  | 104.3 | 1107 | 3503.0   | 0.0000 |
| Among                | 44  | 218.1   | 22  | 69.4  | 451  | 2704.0   | 0.0000 |
| Within               | 64  | 62.8    | 32  | 34.8  | 656  | 799.0    | 0.0001 |
| Andreafsky River     | 4   | 4.1     | 2   | 1.8   | 41   | 26.2     | 0.9647 |
| Anvik River          | 16  | 11.5    | 8   | 2.6   | 164  | 116.0    | 0.9983 |
| Koyukuk River        | 16  | 23.9    | 8   | 3.4   | 164  | 164.0    | 0.4858 |
| Among                | 4   | 13.9    | 2   | 0.1   | 41   | 96.8     | 0.0000 |
| Within               | 12  | 10.0    | 6   | 3.3   | 123  | 67.2     | 1.0000 |
| Early                | 8   | 8.8     | 4   | 0.5   | 82   | 43.3     | 0.9999 |
| Late                 | 4   | 1.2     | 2   | 2.8   | 41   | 23.8     | 0.9852 |
| Tanana River         | 20  | 18.1    | 10  | 23.2  | 205  | 460.6    | 0.0000 |
| Among                | 4   | 1.5     | 2   | 0.1   | 41   | 178.7    | 0.0000 |
| Within               | 16  | 16.6    | 8   | 23.1  | 164  | 281.9    | 0.0000 |
| Early                | 4   | 11.6    | 2   | 0.0   | 41   | 46.0     | 0.2732 |
| Late                 | 12  | 4.9     | 6   | 23.1  | 123  | 235.9    | 0.0000 |
| Among                | 4   | 3.8     | 2   | 22.6  | 41   | 196.4    | 0.0000 |
| Within               | 8   | 1.2     | 4   | 0.5   | 82   | 39.5     | 1.0000 |
| Upper Fall Tanana    | 8   | 1.2     | 4   | 0.5   | 82   | 39.5     | 1.0000 |
| Porcupine River      | 4   | 3.2     | 2   | 3.3   | 41   | 16.4     | 0.9998 |
| White River          | 4   | 2.0     | 2   | 0.5   | 41   | 15.7     | 0.9999 |
| Kuskokwim River      | 60  | 71.4    | 30  | 21.0  | 615  | 804.3    | 0.0000 |
| Among                | 4   | 41.5    | 2   | 8.7   | 41   | 396.0    | 0.0000 |
| Within               | 56  | 29.9    | 28  | 12.3  | 574  | 408.3    | 1.0000 |
| Early                | 52  | 24.6    | 26  | 11.6  | 533  | 375.2    | 1.0000 |
| Late                 | 4   | 5.3     | 2   | 0.7   | 41   | 33.1     | 0.8043 |
| Bristol Bay          | 36  | 40.6    | 18  | 8.8   | 369  | 641.2    | 0.0000 |
| Among                | 4   | 13.8    | 2   | 0.3   | 41   | 260.0    | 0.0000 |
| Within               | 32  | 26.8    | 16  | 8.5   | 328  | 381.3    | 0.0227 |
| Northern             | 12  | 8.1     | 6   | 1.4   | 123  | 106.5    | 0.8559 |
| Among                | 4   | 3.4     | 2   | 0.1   | 41   | 64.0     | 0.0122 |
| Within               | 8   | 4.7     | 4   | 1.3   | 82   | 42.5     | 0.9999 |
| Nushagak River       | 8   | 4.7     | 4   | 1.3   | 82   | 42.5     | 0.9999 |
| Southern             | 20  | 18.7    | 10  | 7.1   | 205  | 274.8    | 0.0008 |
| Among                | 8   | 8.11    | 4   | 5.98  | 82   | 187.4    | 0.0000 |
| Within               | 12  | 10.54   | 6   | 1.14  | 123  | 87.38    | 0.9937 |
| Alagnak/Naknek       | 4   | 2.48    | 2   | 0     | 41   | 27.83    | 0.9420 |
| Egegik/Ugashik       | 4   | 4.91    | 2   | 0.98  | 41   | 33.99    | 0.7729 |
| Meshik/Cinder        | 4   | 3.15    | 2   | 0.16  | 41   | 25.56    | 0.9718 |
| Sustina River        | 12  | 0.0     | 6   | 0.0   | 123  | 64.1     | 1.0000 |
| Among                | 4   | 0.0     | 2   | 0.0   | 41   | 30.0     | 0.8985 |
| Within               | 8   | 0.0     | 4   | 0.0   | 82   | 34.1     | 1.0000 |
| Susitna River        | 8   | 0.0     | 4   | 0.0   | 82   | 34.1     | 1.0000 |
| Gulf of Alaska       | 180 | 539.4   | 90  | 368.4 | 1845 | 7674.0   | 0.0000 |
| Among                | 12  | 47.0    | 6   | 221.4 | 123  | 2585.0   | 0.0000 |
| Within               | 168 | 492.4   | 84  | 147.0 | 1722 | 5090.0   | 0.0000 |
| North Peninsula      | 28  | 75.9    | 14  | 18.3  | 287  | 590.4    | 0.0000 |
| South Peninsula      | 100 | 192.8   | 50  | 103.6 | 1025 | 2602.0   | 0.0000 |
| Kodiak Island        | 24  | 176.6   | 12  | 17.3  | 246  | 1568.0   | 0.0000 |
| Among                | 20  | 172.4   | 10  | 17.3  | 205  | 1544.0   | 0.0000 |
| Within               | 4   | 4.3     | 2   | 0.0   | 41   | 23.3     | 0.9884 |
| Sturgeon River       | 4   | 4.3     | 2   | 0.0   | 41   | 23.3     | 0.9884 |
| Prince William Sound | 16  | 47.2    | 8   | 7.9   | 164  | 329.6    | 0.0000 |
| Among                | 4   | 10.8    | 2   | 3.1   | 41   | 92.4     | 0.0000 |
| Within               | 12  | 36.3    | 6   | 4.8   | 123  | 237.1    | 0.0000 |
| East                 | 8   | 33.9    | 4   | 4.6   | 82   | 220.3    | 0.0000 |
| West                 | 4   | 2.4     | 2   | 0.2   | 41   | 16.8     | 0.9997 |

Appendix 3. Allele frequency estimates for pooled population groups of chum salmon from the Pacific Rim. Frequencies were used as the baseline for fishery estimates.

| Population                | N    | sAAT-1,2* |        |        |        |        | N    | mAAT-1* |        |        |
|---------------------------|------|-----------|--------|--------|--------|--------|------|---------|--------|--------|
|                           |      | 100       | 120    | 65     | 95     | 125    |      | -100    | -120   | -70    |
| Noatak River              | 292  | 0.9572    | 0.0428 | 0.0000 | 0.0000 | 0.0000 | 296  | 0.9899  | 0.0000 | 0.0101 |
| Kelly Lake                | 95   | 0.9737    | 0.0263 | 0.0000 | 0.0000 | 0.0000 | 95   | 0.9474  | 0.0000 | 0.0526 |
| Kobuk River               | 192  | 0.9883    | 0.0117 | 0.0000 | 0.0000 | 0.0000 | 196  | 0.9796  | 0.0000 | 0.0204 |
| Norton Sound              | 781  | 0.9667    | 0.0333 | 0.0000 | 0.0000 | 0.0000 | 787  | 0.9180  | 0.0083 | 0.0737 |
| Lower Summer Yukon        | 1426 | 0.9614    | 0.0386 | 0.0000 | 0.0000 | 0.0000 | 1433 | 0.9020  | 0.0014 | 0.0967 |
| Koyukuk River Late        | 162  | 0.9321    | 0.0679 | 0.0000 | 0.0000 | 0.0000 | 162  | 0.8704  | 0.0000 | 0.1296 |
| Tanana River Early        | 381  | 0.9639    | 0.0361 | 0.0000 | 0.0000 | 0.0000 | 383  | 0.8890  | 0.0026 | 0.1084 |
| Kuskokwim River early     | 1309 | 0.9681    | 0.0319 | 0.0000 | 0.0000 | 0.0000 | 1323 | 0.9165  | 0.0030 | 0.0805 |
| Kuskokwim River late      | 200  | 0.9712    | 0.0288 | 0.0000 | 0.0000 | 0.0000 | 200  | 0.9900  | 0.0000 | 0.0100 |
| Kanektok River            | 138  | 0.9438    | 0.0562 | 0.0000 | 0.0000 | 0.0000 | 138  | 0.8841  | 0.0036 | 0.1123 |
| Goodnews River            | 96   | 0.9609    | 0.0365 | 0.0026 | 0.0000 | 0.0000 | 100  | 0.9000  | 0.0000 | 0.1000 |
| Togiak River              | 200  | 0.9425    | 0.0575 | 0.0000 | 0.0000 | 0.0000 | 200  | 0.9025  | 0.0100 | 0.0875 |
| Nushagak River            | 282  | 0.9495    | 0.0496 | 0.0009 | 0.0000 | 0.0000 | 286  | 0.9248  | 0.0017 | 0.0734 |
| Naknek/Alagnak Rivers     | 164  | 0.9314    | 0.0686 | 0.0000 | 0.0000 | 0.0000 | 164  | 0.9268  | 0.0000 | 0.0732 |
| Egegik/Ugashik Bay        | 196  | 0.9375    | 0.0574 | 0.0051 | 0.0000 | 0.0000 | 198  | 0.8939  | 0.0025 | 0.1035 |
| Meshik/Cinder River       | 266  | 0.9445    | 0.0555 | 0.0000 | 0.0000 | 0.0000 | 269  | 0.9442  | 0.0000 | 0.0558 |
| Toklat River              | 813  | 0.9373    | 0.0624 | 0.0003 | 0.0000 | 0.0000 | 814  | 0.9072  | 0.0000 | 0.0928 |
| Tanana Late Run           | 597  | 0.9405    | 0.0595 | 0.0000 | 0.0000 | 0.0000 | 596  | 0.9362  | 0.0000 | 0.0638 |
| Porcupine River           | 364  | 0.9560    | 0.0440 | 0.0000 | 0.0000 | 0.0000 | 360  | 0.8903  | 0.0000 | 0.1097 |
| Canadian Yukon Mainstem   | 200  | 0.9512    | 0.0488 | 0.0000 | 0.0000 | 0.0000 | 200  | 0.9250  | 0.0000 | 0.0750 |
| Pelly River               | 83   | 0.9608    | 0.0392 | 0.0000 | 0.0000 | 0.0000 | 84   | 0.8571  | 0.0000 | 0.1429 |
| White River               | 304  | 0.9515    | 0.0485 | 0.0000 | 0.0000 | 0.0000 | 238  | 0.9223  | 0.0000 | 0.0777 |
| Teslin River              | 194  | 0.9665    | 0.0335 | 0.0000 | 0.0000 | 0.0000 | 194  | 0.8969  | 0.0026 | 0.1005 |
| Lawrence Valley Creek     | 100  | 0.8275    | 0.1650 | 0.0075 | 0.0000 | 0.0000 | 100  | 0.8800  | 0.0550 | 0.0650 |
| Moffit Creek              | 100  | 0.8250    | 0.1725 | 0.0025 | 0.0000 | 0.0000 | 100  | 0.9350  | 0.0100 | 0.0550 |
| Joshua Green River        | 180  | 0.8625    | 0.1278 | 0.0097 | 0.0000 | 0.0000 | 179  | 0.8799  | 0.0391 | 0.0810 |
| Frosty Creek              | 98   | 0.8776    | 0.1199 | 0.0026 | 0.0000 | 0.0000 | 99   | 0.8737  | 0.0354 | 0.0909 |
| Alligator Hole            | 100  | 0.8700    | 0.1275 | 0.0025 | 0.0000 | 0.0000 | 98   | 0.8673  | 0.0051 | 0.1276 |
| Trader's Cove Creek       | 100  | 0.9050    | 0.0950 | 0.0000 | 0.0000 | 0.0000 | 99   | 0.9293  | 0.0505 | 0.0202 |
| St. Catherine's Cove      | 79   | 0.8323    | 0.1582 | 0.0095 | 0.0000 | 0.0000 | 80   | 0.8500  | 0.0250 | 0.1250 |
| Peterson Lagoon           | 85   | 0.8735    | 0.1265 | 0.0000 | 0.0000 | 0.0000 | 86   | 0.9128  | 0.0523 | 0.0349 |
| Little John Lagoon        | 80   | 0.9062    | 0.0906 | 0.0031 | 0.0000 | 0.0000 | 78   | 0.8654  | 0.0897 | 0.0449 |
| Sandy Cove                | 100  | 0.9075    | 0.0900 | 0.0025 | 0.0000 | 0.0000 | 100  | 0.8850  | 0.0850 | 0.0300 |
| Russell Creek             | 199  | 0.9183    | 0.0666 | 0.0151 | 0.0000 | 0.0000 | 200  | 0.8550  | 0.0500 | 0.0950 |
| Delta Creek               | 98   | 0.9133    | 0.0867 | 0.0000 | 0.0000 | 0.0000 | 100  | 0.9250  | 0.0600 | 0.0150 |
| Belkofski River           | 87   | 0.9138    | 0.0862 | 0.0000 | 0.0000 | 0.0000 | 86   | 0.9128  | 0.0523 | 0.0349 |
| Volcano Bay               | 106  | 0.9623    | 0.0377 | 0.0000 | 0.0000 | 0.0000 | 106  | 0.8774  | 0.1085 | 0.0142 |
| Ruby's Lagoon             | 98   | 0.8801    | 0.0867 | 0.0332 | 0.0000 | 0.0000 | 99   | 0.9394  | 0.0101 | 0.0505 |
| Canoe Bay                 | 100  | 0.8800    | 0.1200 | 0.0000 | 0.0000 | 0.0000 | 99   | 0.9091  | 0.0455 | 0.0455 |
| Zachary Bay               | 78   | 0.9263    | 0.0545 | 0.0192 | 0.0000 | 0.0000 | 80   | 0.8812  | 0.1188 | 0.0000 |
| Coleman Creek             | 100  | 0.8975    | 0.1025 | 0.0000 | 0.0000 | 0.0000 | 100  | 0.7850  | 0.2100 | 0.0050 |
| Balboa Bay                | 100  | 0.9225    | 0.0650 | 0.0125 | 0.0000 | 0.0000 | 100  | 0.8850  | 0.0400 | 0.0750 |
| Chichagof Bay             | 99   | 0.9545    | 0.0429 | 0.0025 | 0.0000 | 0.0000 | 100  | 0.6750  | 0.2650 | 0.0600 |
| Stepovak Bay              | 50   | 0.8600    | 0.1400 | 0.0000 | 0.0000 | 0.0000 | 49   | 0.8571  | 0.1429 | 0.0000 |
| Stepovak River            | 99   | 0.9343    | 0.0657 | 0.0000 | 0.0000 | 0.0000 | 100  | 0.8200  | 0.0950 | 0.0850 |
| Ivanoff River             | 94   | 0.9309    | 0.0665 | 0.0000 | 0.0000 | 0.0027 | 94   | 0.9202  | 0.0372 | 0.0426 |
| Kiukta Bay                | 100  | 0.9375    | 0.0625 | 0.0000 | 0.0000 | 0.0000 | 100  | 0.8650  | 0.1100 | 0.0250 |
| Kujulik Bay               | 71   | 0.9542    | 0.0458 | 0.0000 | 0.0000 | 0.0000 | 72   | 0.8264  | 0.1181 | 0.0556 |
| Aniakchak River           | 100  | 0.9200    | 0.0775 | 0.0025 | 0.0000 | 0.0000 | 100  | 0.8350  | 0.1250 | 0.0400 |
| Amber Bay                 | 92   | 0.9158    | 0.0815 | 0.0000 | 0.0000 | 0.0027 | 92   | 0.8315  | 0.1304 | 0.0380 |
| Chiginigak Bay            | 75   | 0.9200    | 0.0667 | 0.0133 | 0.0000 | 0.0000 | 75   | 0.8533  | 0.1067 | 0.0400 |
| Kialagvik Bay             | 100  | 0.9550    | 0.0400 | 0.0000 | 0.0000 | 0.0050 | 100  | 0.7300  | 0.1950 | 0.0750 |
| Alinchak Bay              | 95   | 0.9342    | 0.0579 | 0.0079 | 0.0000 | 0.0000 | 99   | 0.7929  | 0.1566 | 0.0505 |
| Alagogshak River          | 94   | 0.9468    | 0.0479 | 0.0000 | 0.0000 | 0.0053 | 94   | 0.7819  | 0.1543 | 0.0638 |
| Gull Cape Creek           | 100  | 0.9775    | 0.0225 | 0.0000 | 0.0000 | 0.0000 | 100  | 0.9600  | 0.0150 | 0.0250 |
| Hallo Bay                 | 100  | 0.9400    | 0.0600 | 0.0000 | 0.0000 | 0.0000 | 99   | 0.7576  | 0.2020 | 0.0404 |
| McNeil River              | 101  | 0.9827    | 0.0173 | 0.0000 | 0.0000 | 0.0000 | 109  | 0.8211  | 0.1560 | 0.0229 |
| American River            | 145  | 0.9345    | 0.0603 | 0.0052 | 0.0000 | 0.0000 | 143  | 0.7867  | 0.1853 | 0.0280 |
| Dog Bay                   | 100  | 0.9200    | 0.0750 | 0.0050 | 0.0000 | 0.0000 | 100  | 0.8200  | 0.1200 | 0.0600 |
| Sukhoi Lagoon             | 100  | 0.9475    | 0.0525 | 0.0000 | 0.0000 | 0.0000 | 100  | 0.8750  | 0.0250 | 0.1000 |
| Sturgeon Lagoon           | 170  | 0.9309    | 0.0691 | 0.0000 | 0.0000 | 0.0000 | 170  | 0.7794  | 0.0471 | 0.1735 |
| Uganik River              | 88   | 0.9261    | 0.0682 | 0.0057 | 0.0000 | 0.0000 | 88   | 0.8693  | 0.0909 | 0.0398 |
| Kizhuyak River            | 332  | 0.9081    | 0.0919 | 0.0000 | 0.0000 | 0.0000 | 337  | 0.9926  | 0.0015 | 0.0059 |
| Susitna River             | 100  | 0.9225    | 0.0775 | 0.0000 | 0.0000 | 0.0000 | 99   | 0.8990  | 0.0556 | 0.0455 |
| West Prince William Sound | 192  | 0.9427    | 0.0547 | 0.0026 | 0.0000 | 0.0000 | 191  | 0.7618  | 0.2068 | 0.0314 |

Appendix 3. Continued.

| Population                      | sAAT-1.2* |        |        |        |        |        | mAAT-1* |        |        |        |
|---------------------------------|-----------|--------|--------|--------|--------|--------|---------|--------|--------|--------|
|                                 | N         | 100    | 120    | 65     | 95     | 125    | N       | -100   | -120   | -70    |
| Olsen Creek                     | 199       | 0.9020 | 0.0980 | 0.0000 | 0.0000 | 0.0000 | 200     | 0.7725 | 0.2075 | 0.0200 |
| Constantine Creek               | 100       | 0.9225 | 0.0775 | 0.0000 | 0.0000 | 0.0000 | 100     | 0.8100 | 0.1850 | 0.0050 |
| Keta Creek                      | 99        | 0.9747 | 0.0227 | 0.0025 | 0.0000 | 0.0000 | 99      | 0.6515 | 0.3333 | 0.0152 |
| Herman Creek                    | 158       | 0.9003 | 0.0997 | 0.0000 | 0.0000 | 0.0000 | 158     | 0.6203 | 0.3101 | 0.0696 |
| Southeast Alaska                | 898       | 0.8783 | 0.1217 | 0.0000 | 0.0000 | 0.0000 | 897     | 0.6878 | 0.2525 | 0.0596 |
| Port Real Marina                | 148       | 0.8480 | 0.1520 | 0.0000 | 0.0000 | 0.0000 | 148     | 0.8649 | 0.1318 | 0.0034 |
| Eastern Prince of Wales Island  | 655       | 0.8637 | 0.1359 | 0.0000 | 0.0004 | 0.0000 | 659     | 0.8604 | 0.1055 | 0.0341 |
| Eastern Queen Charlotte Islands | 428       | 0.9188 | 0.0812 | 0.0000 | 0.0000 | 0.0000 | 431     | 0.8399 | 0.1566 | 0.0035 |
| Nass River Area                 | 309       | 0.8536 | 0.1464 | 0.0000 | 0.0000 | 0.0000 | 311     | 0.6350 | 0.2974 | 0.0675 |
| Kitimat/Mussel River            | 221       | 0.8824 | 0.1176 | 0.0000 | 0.0000 | 0.0000 | 223     | 0.6883 | 0.2489 | 0.0628 |
| Nekite Channel/River            | 188       | 0.9082 | 0.0891 | 0.0000 | 0.0027 | 0.0000 | 197     | 0.7056 | 0.2310 | 0.0635 |
| East Vancouver Island           | 800       | 0.8966 | 0.1025 | 0.0006 | 0.0003 | 0.0000 | 796     | 0.6413 | 0.3574 | 0.0013 |
| West Vancouver Island           | 606       | 0.9179 | 0.0821 | 0.0000 | 0.0000 | 0.0000 | 600     | 0.7192 | 0.2800 | 0.0008 |
| Lower Fraser River              | 400       | 0.8488 | 0.1506 | 0.0006 | 0.0000 | 0.0000 | 399     | 0.6566 | 0.3421 | 0.0013 |
| Upper Fraser River              | 596       | 0.8549 | 0.1451 | 0.0000 | 0.0000 | 0.0000 | 595     | 0.6941 | 0.3050 | 0.0008 |
| Skagit River                    | 251       | 0.9173 | 0.0827 | 0.0000 | 0.0000 | 0.0000 | 249     | 0.6345 | 0.3655 | 0.0000 |
| Bellingham Maritime Hatchery    | 100       | 0.8650 | 0.1350 | 0.0000 | 0.0000 | 0.0000 | 100     | 0.4800 | 0.4950 | 0.0250 |
| Mill Creek                      | 178       | 0.8694 | 0.1306 | 0.0000 | 0.0000 | 0.0000 | 176     | 0.7017 | 0.2727 | 0.0256 |
| Hood Canal Hatchery             | 449       | 0.8909 | 0.1091 | 0.0000 | 0.0000 | 0.0000 | 407     | 0.6450 | 0.3550 | 0.0000 |
| Gakko/Miomote Rivers            | 119       | 0.9664 | 0.0336 | 0.0000 | 0.0000 | 0.0000 | 113     | 0.9867 | 0.0000 | 0.0133 |
| Tsugaruishi River               | 78        | 0.9744 | 0.0256 | 0.0000 | 0.0000 | 0.0000 | 77      | 0.9805 | 0.0195 | 0.0000 |
| Ohkawa River                    | 78        | 0.9744 | 0.0256 | 0.0000 | 0.0000 | 0.0000 | 74      | 0.9459 | 0.0338 | 0.0203 |
| Teshio River                    | 80        | 0.9531 | 0.0469 | 0.0000 | 0.0000 | 0.0000 | 73      | 1.0000 | 0.0000 | 0.0000 |
| Chitose River                   | 80        | 0.9531 | 0.0469 | 0.0000 | 0.0000 | 0.0000 | 71      | 1.0000 | 0.0000 | 0.0000 |
| Tokachi River                   | 79        | 0.9842 | 0.0158 | 0.0000 | 0.0000 | 0.0000 | 58      | 0.9655 | 0.0000 | 0.0345 |
| Kushiro River                   | 80        | 0.9781 | 0.0219 | 0.0000 | 0.0000 | 0.0000 | 69      | 0.9638 | 0.0072 | 0.0290 |
| Nishibetsu River                | 80        | 0.9875 | 0.0125 | 0.0000 | 0.0000 | 0.0000 | 68      | 0.9485 | 0.0294 | 0.0221 |
| Shari River                     | 80        | 0.9625 | 0.0375 | 0.0000 | 0.0000 | 0.0000 | 76      | 0.9671 | 0.0197 | 0.0132 |
| Tokusibetsu River               | 39        | 0.9551 | 0.0321 | 0.0128 | 0.0000 | 0.0000 | 38      | 0.9868 | 0.0132 | 0.0000 |
| Amur River                      | 46        | 0.9620 | 0.0380 | 0.0000 | 0.0000 | 0.0000 | 46      | 0.9239 | 0.0000 | 0.0761 |
| Ryzanovka River                 | 51        | 0.9902 | 0.0098 | 0.0000 | 0.0000 | 0.0000 | 51      | 1.0000 | 0.0000 | 0.0000 |
| Kalininka River                 | 49        | 0.9541 | 0.0459 | 0.0000 | 0.0000 | 0.0000 | 49      | 1.0000 | 0.0000 | 0.0000 |
| Naiba River                     | 61        | 0.9344 | 0.0656 | 0.0000 | 0.0000 | 0.0000 | 61      | 0.9754 | 0.0164 | 0.0082 |
| Udarnitsa River                 | 98        | 0.9439 | 0.0561 | 0.0000 | 0.0000 | 0.0000 | 98      | 0.9847 | 0.0000 | 0.0153 |
| Anadyr/Kanchalan Rivers         | 182       | 0.9135 | 0.0865 | 0.0000 | 0.0000 | 0.0000 | 180     | 0.9694 | 0.0056 | 0.0250 |
| Nerpichi Lake                   | 40        | 0.9125 | 0.0875 | 0.0000 | 0.0000 | 0.0000 | 39      | 0.9744 | 0.0000 | 0.0256 |
| Kamchatka River                 | 75        | 0.9567 | 0.0433 | 0.0000 | 0.0000 | 0.0000 | 75      | 0.8067 | 0.0867 | 0.1067 |
| Utka River                      | 79        | 0.9367 | 0.0633 | 0.0000 | 0.0000 | 0.0000 | 76      | 0.9868 | 0.0000 | 0.0132 |
| Kikchik River                   | 40        | 0.9000 | 0.1000 | 0.0000 | 0.0000 | 0.0000 | 40      | 0.9875 | 0.0000 | 0.0125 |
| Pymta River                     | 79        | 0.9019 | 0.0981 | 0.0000 | 0.0000 | 0.0000 | 78      | 0.9615 | 0.0000 | 0.0385 |
| Kol River                       | 90        | 0.9083 | 0.0917 | 0.0000 | 0.0000 | 0.0000 | 76      | 0.9474 | 0.0329 | 0.0197 |
| Hairusova River                 | 115       | 0.9283 | 0.0717 | 0.0000 | 0.0000 | 0.0000 | 31      | 1.0000 | 0.0000 | 0.0000 |
| Tumani River                    | 66        | 0.8447 | 0.1553 | 0.0000 | 0.0000 | 0.0000 | 62      | 0.9758 | 0.0242 | 0.0000 |
| Ola River                       | 80        | 0.8844 | 0.1156 | 0.0000 | 0.0000 | 0.0000 | 77      | 0.9870 | 0.0000 | 0.0130 |



## Appendix 3. Continued.

| Population                | N    | mAH-3* |        |        | N    | ALAT*  |        |        | N    | ESTD*  |        |        |
|---------------------------|------|--------|--------|--------|------|--------|--------|--------|------|--------|--------|--------|
|                           |      | 100    | 124    | 115    |      | 100    | 93     | 78     |      | 100    | 91     | 110    |
| Noatak River              | 274  | 0.5182 | 0.4818 | 0.0000 | 289  | 0.8512 | 0.1488 | 0.0000 | 285  | 0.6158 | 0.3842 | 0.0000 |
| Kelly Lake                | 93   | 0.6398 | 0.3602 | 0.0000 | 100  | 0.8300 | 0.1700 | 0.0000 | 94   | 0.6383 | 0.3617 | 0.0000 |
| Kobuk River               | 185  | 0.4838 | 0.5162 | 0.0000 | 192  | 0.9036 | 0.0964 | 0.0000 | 197  | 0.6066 | 0.3934 | 0.0000 |
| Norton Sound              | 666  | 0.4730 | 0.5270 | 0.0000 | 774  | 0.8611 | 0.1389 | 0.0000 | 787  | 0.4746 | 0.5254 | 0.0000 |
| Lower Summer Yukon        | 1354 | 0.4823 | 0.5177 | 0.0000 | 1425 | 0.8863 | 0.1137 | 0.0000 | 1423 | 0.4705 | 0.5295 | 0.0000 |
| Koyukuk River Late        | 152  | 0.7467 | 0.2533 | 0.0000 | 162  | 0.8920 | 0.1080 | 0.0000 | 160  | 0.4000 | 0.6000 | 0.0000 |
| Tanana River Early        | 341  | 0.7405 | 0.2595 | 0.0000 | 384  | 0.9440 | 0.0560 | 0.0000 | 384  | 0.4297 | 0.5703 | 0.0000 |
| Kuskokwim River early     | 1282 | 0.4891 | 0.5109 | 0.0000 | 1316 | 0.8815 | 0.1185 | 0.0000 | 1306 | 0.4866 | 0.5134 | 0.0000 |
| Kuskokwim River late      | 198  | 0.7702 | 0.2298 | 0.0000 | 199  | 0.8945 | 0.1055 | 0.0000 | 200  | 0.3925 | 0.6075 | 0.0000 |
| Kanektok River            | 133  | 0.4774 | 0.5226 | 0.0000 | 136  | 0.8971 | 0.1029 | 0.0000 | 137  | 0.5292 | 0.4708 | 0.0000 |
| Goodnews River            | 96   | 0.5260 | 0.4740 | 0.0000 | 99   | 0.8990 | 0.1010 | 0.0000 | 100  | 0.5900 | 0.4100 | 0.0000 |
| Togiak River              | 198  | 0.4949 | 0.5051 | 0.0000 | 196  | 0.9082 | 0.0918 | 0.0000 | 198  | 0.5505 | 0.4495 | 0.0000 |
| Nushagak River            | 273  | 0.4469 | 0.5531 | 0.0000 | 286  | 0.8951 | 0.1049 | 0.0000 | 280  | 0.4607 | 0.5393 | 0.0000 |
| Naknek/Alagnak Rivers     | 158  | 0.4684 | 0.5316 | 0.0000 | 162  | 0.8704 | 0.1296 | 0.0000 | 163  | 0.5951 | 0.4049 | 0.0000 |
| Egegik/Ugashik Bay        | 188  | 0.6170 | 0.3830 | 0.0000 | 198  | 0.8737 | 0.1263 | 0.0000 | 197  | 0.4975 | 0.5025 | 0.0000 |
| Meshik/Cinder River       | 252  | 0.6647 | 0.3353 | 0.0000 | 269  | 0.8699 | 0.1301 | 0.0000 | 259  | 0.5000 | 0.5000 | 0.0000 |
| Toklat River              | 801  | 0.7285 | 0.2715 | 0.0000 | 813  | 0.9330 | 0.0670 | 0.0000 | 813  | 0.2632 | 0.7368 | 0.0000 |
| Tanana Late Run           | 529  | 0.8563 | 0.1437 | 0.0000 | 587  | 0.9148 | 0.0852 | 0.0000 | 596  | 0.2248 | 0.7752 | 0.0000 |
| Porcupine River           | 359  | 0.6936 | 0.3064 | 0.0000 | 363  | 0.9628 | 0.0372 | 0.0000 | 362  | 0.3370 | 0.6630 | 0.0000 |
| Canadian Yukon Mainstem   | 200  | 0.7275 | 0.2725 | 0.0000 | 200  | 0.9575 | 0.0425 | 0.0000 | 200  | 0.3900 | 0.6100 | 0.0000 |
| Pelly River               | 65   | 0.7077 | 0.2923 | 0.0000 | 84   | 0.9464 | 0.0536 | 0.0000 | 84   | 0.4226 | 0.5774 | 0.0000 |
| White River               | 236  | 0.9110 | 0.0890 | 0.0000 | 316  | 0.9826 | 0.0174 | 0.0000 | 315  | 0.2365 | 0.7635 | 0.0000 |
| Teslin River              | 185  | 0.6541 | 0.3459 | 0.0000 | 193  | 0.9689 | 0.0311 | 0.0000 | 194  | 0.5438 | 0.4562 | 0.0000 |
| Lawrence Valley Creek     | 97   | 0.5515 | 0.4485 | 0.0000 | 100  | 0.7700 | 0.2300 | 0.0000 | 99   | 0.9343 | 0.0657 | 0.0000 |
| Moffit Creek              | 100  | 0.4750 | 0.5250 | 0.0000 | 100  | 0.8000 | 0.2000 | 0.0000 | 99   | 0.9394 | 0.0606 | 0.0000 |
| Joshua Green River        | 169  | 0.5325 | 0.4675 | 0.0000 | 180  | 0.7417 | 0.2583 | 0.0000 | 179  | 0.8771 | 0.1229 | 0.0000 |
| Frosty Creek              | 98   | 0.4745 | 0.5255 | 0.0000 | 98   | 0.7296 | 0.2704 | 0.0000 | 99   | 0.9192 | 0.0808 | 0.0000 |
| Alligator Hole            | 99   | 0.5152 | 0.4848 | 0.0000 | 100  | 0.6450 | 0.3550 | 0.0000 | 100  | 0.9250 | 0.0750 | 0.0000 |
| Trader's Cove Creek       | 96   | 0.5000 | 0.5000 | 0.0000 | 99   | 0.8232 | 0.1768 | 0.0000 | 93   | 0.9140 | 0.0860 | 0.0000 |
| St. Catherine's Cove      | 78   | 0.5321 | 0.4679 | 0.0000 | 79   | 0.6835 | 0.3165 | 0.0000 | 79   | 0.8924 | 0.1076 | 0.0000 |
| Peterson Lagoon           | 81   | 0.4136 | 0.5864 | 0.0000 | 84   | 0.7381 | 0.2619 | 0.0000 | 86   | 1.0000 | 0.0000 | 0.0000 |
| Little John Lagoon        | 75   | 0.4267 | 0.5733 | 0.0000 | 80   | 0.8875 | 0.1125 | 0.0000 | 78   | 0.9423 | 0.0577 | 0.0000 |
| Sandy Cove                | 97   | 0.4433 | 0.5567 | 0.0000 | 98   | 0.8418 | 0.1582 | 0.0000 | 100  | 0.9250 | 0.0750 | 0.0000 |
| Russell Creek             | 187  | 0.4064 | 0.5936 | 0.0000 | 199  | 0.8291 | 0.1709 | 0.0000 | 200  | 0.9575 | 0.0425 | 0.0000 |
| Delta Creek               | 98   | 0.3827 | 0.6173 | 0.0000 | 100  | 0.8100 | 0.1900 | 0.0000 | 99   | 0.9192 | 0.0808 | 0.0000 |
| Belkofski River           | 84   | 0.4583 | 0.5417 | 0.0000 | 80   | 0.7438 | 0.2562 | 0.0000 | 86   | 0.9535 | 0.0465 | 0.0000 |
| Volcano Bay               | 106  | 0.4717 | 0.5283 | 0.0000 | 106  | 0.7594 | 0.2406 | 0.0000 | 106  | 0.9906 | 0.0094 | 0.0000 |
| Ruby's Lagoon             | 98   | 0.4592 | 0.5408 | 0.0000 | 100  | 0.9450 | 0.0550 | 0.0000 | 99   | 0.9444 | 0.0556 | 0.0000 |
| Canoe Bay                 | 97   | 0.3814 | 0.6186 | 0.0000 | 97   | 0.8763 | 0.1237 | 0.0000 | 96   | 0.9583 | 0.0417 | 0.0000 |
| Zachary Bay               | 77   | 0.3766 | 0.6234 | 0.0000 | 77   | 0.9221 | 0.0779 | 0.0000 | 78   | 1.0000 | 0.0000 | 0.0000 |
| Coleman Creek             | 100  | 0.3550 | 0.6450 | 0.0000 | 100  | 0.7800 | 0.2200 | 0.0000 | 100  | 0.9350 | 0.0650 | 0.0000 |
| Balboa Bay                | 100  | 0.4600 | 0.5400 | 0.0000 | 100  | 0.8650 | 0.1350 | 0.0000 | 100  | 0.9050 | 0.0950 | 0.0000 |
| Chichagof Bay             | 94   | 0.4468 | 0.5532 | 0.0000 | 100  | 0.7400 | 0.2600 | 0.0000 | 99   | 0.9141 | 0.0859 | 0.0000 |
| Stepovak Bay              | 50   | 0.3700 | 0.6300 | 0.0000 | 49   | 0.9184 | 0.0816 | 0.0000 | 50   | 0.9600 | 0.0400 | 0.0000 |
| Stepovak River            | 97   | 0.5155 | 0.4845 | 0.0000 | 100  | 0.8700 | 0.1300 | 0.0000 | 100  | 0.9800 | 0.0200 | 0.0000 |
| Ivanoff River             | 93   | 0.4570 | 0.5430 | 0.0000 | 93   | 0.8495 | 0.1505 | 0.0000 | 93   | 0.9086 | 0.0914 | 0.0000 |
| Kiukta Bay                | 99   | 0.5000 | 0.5000 | 0.0000 | 100  | 0.8400 | 0.1600 | 0.0000 | 100  | 0.9200 | 0.0800 | 0.0000 |
| Kujulik Bay               | 69   | 0.4638 | 0.5362 | 0.0000 | 72   | 0.8958 | 0.1042 | 0.0000 | 71   | 0.9014 | 0.0986 | 0.0000 |
| Aniakchak River           | 100  | 0.3600 | 0.6400 | 0.0000 | 99   | 0.8333 | 0.1667 | 0.0000 | 100  | 0.9600 | 0.0350 | 0.0050 |
| Amber Bay                 | 85   | 0.4176 | 0.5824 | 0.0000 | 91   | 0.8352 | 0.1648 | 0.0000 | 92   | 0.8804 | 0.1196 | 0.0000 |
| Chiginigak Bay            | 70   | 0.3500 | 0.6500 | 0.0000 | 74   | 0.8311 | 0.1689 | 0.0000 | 75   | 0.8467 | 0.1533 | 0.0000 |
| Kialagvik Bay             | 96   | 0.3906 | 0.6094 | 0.0000 | 100  | 0.8300 | 0.1700 | 0.0000 | 100  | 0.8900 | 0.1100 | 0.0000 |
| Alinchak Bay              | 98   | 0.4694 | 0.5306 | 0.0000 | 98   | 0.9235 | 0.0765 | 0.0000 | 99   | 0.8485 | 0.1515 | 0.0000 |
| Alagogshak River          | 93   | 0.3978 | 0.6022 | 0.0000 | 92   | 0.8696 | 0.1304 | 0.0000 | 94   | 0.8670 | 0.1330 | 0.0000 |
| Gull Cape Creek           | 99   | 0.3283 | 0.6717 | 0.0000 | 100  | 0.8900 | 0.1100 | 0.0000 | 100  | 0.9200 | 0.0800 | 0.0000 |
| Hallo Bay                 | 97   | 0.3557 | 0.6443 | 0.0000 | 94   | 0.8936 | 0.1064 | 0.0000 | 98   | 0.9235 | 0.0765 | 0.0000 |
| McNeil River              | 93   | 0.2742 | 0.7258 | 0.0000 | 108  | 0.8843 | 0.1157 | 0.0000 | 102  | 0.5441 | 0.4559 | 0.0000 |
| American River            | 144  | 0.2882 | 0.7118 | 0.0000 | 145  | 0.7897 | 0.2103 | 0.0000 | 145  | 0.9552 | 0.0448 | 0.0000 |
| Dog Bay                   | 100  | 0.3300 | 0.6700 | 0.0000 | 100  | 0.9000 | 0.1000 | 0.0000 | 100  | 0.9500 | 0.0500 | 0.0000 |
| Sukhoi Lagoon             | 97   | 0.6289 | 0.3711 | 0.0000 | 98   | 0.7551 | 0.2449 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Sturgeon Lagoon           | 127  | 0.5039 | 0.4961 | 0.0000 | 171  | 0.6053 | 0.3947 | 0.0000 | 171  | 1.0000 | 0.0000 | 0.0000 |
| Uganik River              | 88   | 0.3523 | 0.6477 | 0.0057 | 86   | 0.8663 | 0.1337 | 0.0000 | 88   | 0.9091 | 0.0909 | 0.0000 |
| Kizhuyak River            | 310  | 0.6532 | 0.3468 | 0.0000 | 335  | 0.9343 | 0.0657 | 0.0000 | 336  | 0.6875 | 0.3125 | 0.0000 |
| Susitna River             | 99   | 0.3384 | 0.6616 | 0.0000 | 100  | 0.7200 | 0.2800 | 0.0000 | 99   | 0.9646 | 0.0354 | 0.0000 |
| West Prince William Sound | 184  | 0.4103 | 0.5897 | 0.0000 | 192  | 0.9635 | 0.0365 | 0.0000 | 192  | 0.9974 | 0.0026 | 0.0000 |
| Olsen Creek               | 200  | 0.4550 | 0.5450 | 0.0000 | 200  | 0.9575 | 0.0425 | 0.0000 | 198  | 0.9697 | 0.0303 | 0.0000 |

Appendix 3. Continued.

| Population                      | N   | mAH-3* |        |        | N   | ALAT*  |        |        | N   | ESTD*  |        |        |
|---------------------------------|-----|--------|--------|--------|-----|--------|--------|--------|-----|--------|--------|--------|
|                                 |     | 100    | 124    | 115    |     | 100    | 93     | 78     |     | 100    | 91     | 110    |
| Constantine Creek               | 98  | 0.4337 | 0.5663 | 0.0000 | 100 | 0.9350 | 0.0650 | 0.0000 | 100 | 0.9850 | 0.0150 | 0.0000 |
| Keta Creek                      | 97  | 0.4072 | 0.5928 | 0.0000 | 100 | 0.9600 | 0.0400 | 0.0000 | 99  | 0.9545 | 0.0455 | 0.0000 |
| Herman Creek                    | 89  | 0.6124 | 0.3876 | 0.0000 | 158 | 0.8797 | 0.1203 | 0.0000 | 158 | 0.9430 | 0.0570 | 0.0000 |
| Southeast Alaska                | 649 | 0.3852 | 0.6148 | 0.0000 | 732 | 0.8081 | 0.1919 | 0.0000 | 903 | 0.9408 | 0.0587 | 0.0006 |
| Port Real Marina                | 62  | 0.4435 | 0.5565 | 0.0000 | 108 | 0.8194 | 0.1806 | 0.0000 | 148 | 0.8412 | 0.1588 | 0.0000 |
| Eastern Prince of Wales Island  | 359 | 0.4401 | 0.5599 | 0.0000 | 524 | 0.8235 | 0.1765 | 0.0000 | 661 | 0.8495 | 0.1505 | 0.0000 |
| Eastern Queen Charlotte Islands | 294 | 0.2925 | 0.7075 | 0.0000 | 427 | 0.8618 | 0.1382 | 0.0000 | 431 | 0.9060 | 0.0940 | 0.0000 |
| Nass River Area                 | 246 | 0.4207 | 0.5793 | 0.0000 | 421 | 0.8848 | 0.1152 | 0.0000 | 311 | 0.9614 | 0.0386 | 0.0000 |
| Kitimat/Mussel River            | 24  | 0.2500 | 0.7500 | 0.0000 | 223 | 0.8072 | 0.1928 | 0.0000 | 223 | 0.9641 | 0.0359 | 0.0000 |
| Nekite Channel/River            | 125 | 0.2240 | 0.7760 | 0.0000 | 188 | 0.9468 | 0.0532 | 0.0000 | 197 | 0.9721 | 0.0279 | 0.0000 |
| East Vancouver Island           | 756 | 0.3095 | 0.6905 | 0.0000 | 800 | 0.7981 | 0.1994 | 0.0025 | 800 | 0.9925 | 0.0075 | 0.0000 |
| West Vancouver Island           | 494 | 0.2490 | 0.7510 | 0.0000 | 605 | 0.8281 | 0.1719 | 0.0000 | 606 | 0.9909 | 0.0091 | 0.0000 |
| Lower Fraser River              | 378 | 0.3439 | 0.6561 | 0.0000 | 400 | 0.8125 | 0.1875 | 0.0000 | 400 | 0.9975 | 0.0025 | 0.0000 |
| Upper Fraser River              | 565 | 0.3611 | 0.6389 | 0.0000 | 597 | 0.8040 | 0.1960 | 0.0000 | 600 | 1.0000 | 0.0000 | 0.0000 |
| Skagit River                    | 251 | 0.3825 | 0.6175 | 0.0000 | 251 | 0.8048 | 0.1952 | 0.0000 | 251 | 1.0000 | 0.0000 | 0.0000 |
| Bellingham Maritime Hatchery    | 99  | 0.4293 | 0.5707 | 0.0000 | 100 | 0.7600 | 0.2400 | 0.0000 | 100 | 1.0000 | 0.0000 | 0.0000 |
| Mill Creek                      | 179 | 0.3436 | 0.6564 | 0.0000 | 179 | 0.8631 | 0.1369 | 0.0000 | 179 | 1.0000 | 0.0000 | 0.0000 |
| Hood Canal Hatchery             | 448 | 0.3527 | 0.6473 | 0.0000 | 448 | 0.8917 | 0.1083 | 0.0000 | 449 | 1.0000 | 0.0000 | 0.0000 |
| Gakko/Miomote Rivers            | 109 | 0.5917 | 0.4083 | 0.0000 | 117 | 0.8333 | 0.1667 | 0.0000 | 119 | 0.5882 | 0.4118 | 0.0000 |
| Tsugaruishi River               | 78  | 0.6410 | 0.3590 | 0.0000 | 80  | 0.8312 | 0.1688 | 0.0000 | 80  | 0.6375 | 0.3625 | 0.0000 |
| Ohkawa River                    | 79  | 0.5316 | 0.4684 | 0.0000 | 78  | 0.7692 | 0.2308 | 0.0000 | 72  | 0.7639 | 0.2361 | 0.0000 |
| Teshio River                    | 33  | 0.5606 | 0.4394 | 0.0000 | 39  | 0.7692 | 0.2308 | 0.0000 | 80  | 0.6125 | 0.3875 | 0.0000 |
| Chitose River                   | 38  | 0.3947 | 0.6053 | 0.0000 | 75  | 0.8267 | 0.1733 | 0.0000 | 77  | 0.6169 | 0.3831 | 0.0000 |
| Tokachi River                   | 79  | 0.5127 | 0.4873 | 0.0000 | 78  | 0.7436 | 0.2564 | 0.0000 | 80  | 0.7500 | 0.2375 | 0.0125 |
| Kushiro River                   | 80  | 0.4562 | 0.5438 | 0.0000 | 80  | 0.8125 | 0.1875 | 0.0000 | 80  | 0.7750 | 0.2250 | 0.0000 |
| Nishibetsu River                | 78  | 0.5513 | 0.4487 | 0.0000 | 71  | 0.8873 | 0.1127 | 0.0000 | 80  | 0.7188 | 0.2812 | 0.0000 |
| Shari River                     | 77  | 0.4805 | 0.5195 | 0.0000 | 80  | 0.7812 | 0.2188 | 0.0000 | 80  | 0.6875 | 0.3125 | 0.0000 |
| Tokusibetsu River               | 38  | 0.5263 | 0.4737 | 0.0000 | 38  | 0.6974 | 0.3026 | 0.0000 | 40  | 0.7250 | 0.2750 | 0.0000 |
| Amur River                      | 43  | 0.9070 | 0.0930 | 0.0000 | 39  | 0.5000 | 0.5000 | 0.0000 | 46  | 0.9891 | 0.0109 | 0.0000 |
| Ryzanovka River                 | 28  | 0.4107 | 0.5893 | 0.0000 | 50  | 0.7500 | 0.2500 | 0.0000 | 51  | 0.6569 | 0.3431 | 0.0000 |
| Kalininka River                 | 35  | 0.5714 | 0.4286 | 0.0000 | 48  | 0.5208 | 0.4792 | 0.0000 | 49  | 0.1531 | 0.8469 | 0.0000 |
| Naiba River                     | 30  | 0.7167 | 0.2833 | 0.0000 | 60  | 0.7500 | 0.2333 | 0.0167 | 61  | 0.7623 | 0.2377 | 0.0000 |
| Udarnitsa River                 | 42  | 0.5952 | 0.4048 | 0.0000 | 96  | 0.6719 | 0.3281 | 0.0000 | 98  | 0.5510 | 0.4490 | 0.0000 |
| Anadyr/Kanchalan Rivers         | 161 | 0.4037 | 0.5963 | 0.0000 | 165 | 0.8545 | 0.1455 | 0.0000 | 170 | 0.6912 | 0.3088 | 0.0000 |
| Nerpichi Lake                   | 25  | 0.5000 | 0.5000 | 0.0000 | 40  | 0.8500 | 0.1500 | 0.0000 | 40  | 0.8125 | 0.1875 | 0.0000 |
| Kamchatka River                 | 72  | 0.7569 | 0.2431 | 0.0000 | 70  | 0.8786 | 0.1214 | 0.0000 | 75  | 0.7667 | 0.2333 | 0.0000 |
| Utka River                      | 34  | 0.4412 | 0.5588 | 0.0000 | 68  | 0.8309 | 0.1691 | 0.0000 | 63  | 0.7698 | 0.2302 | 0.0000 |
| Kikchik River                   | 38  | 0.6447 | 0.3553 | 0.0000 | 40  | 0.8000 | 0.2000 | 0.0000 | 40  | 0.9250 | 0.0750 | 0.0000 |
| Pymta River                     | 78  | 0.6731 | 0.3269 | 0.0000 | 75  | 0.8067 | 0.1933 | 0.0000 | 79  | 0.9241 | 0.0759 | 0.0000 |
| Kol River                       | 75  | 0.6400 | 0.3600 | 0.0000 | 90  | 0.8278 | 0.1667 | 0.0056 | 90  | 0.9444 | 0.0556 | 0.0000 |
| Hairusova River                 | 42  | 0.6667 | 0.3333 | 0.0000 | 41  | 0.9024 | 0.0976 | 0.0000 | 106 | 0.9387 | 0.0613 | 0.0000 |
| Tumani River                    | 63  | 0.5000 | 0.5000 | 0.0000 | 64  | 0.8281 | 0.1719 | 0.0000 | 65  | 0.8923 | 0.1077 | 0.0000 |
| Ola River                       | 63  | 0.6111 | 0.3889 | 0.0000 | 80  | 0.7875 | 0.2125 | 0.0000 | 80  | 0.8312 | 0.1688 | 0.0000 |

Appendix 3. Continued.

| Population                | G3PDH-2* |        |        | N    | GPI-B1.2* |        |        | N    | GPI-A* |        |        |        |
|---------------------------|----------|--------|--------|------|-----------|--------|--------|------|--------|--------|--------|--------|
|                           | N        | 100    | 90     |      | N         | 100    | fast   |      | 40     | N      | 100    | slow   |
| Noatak River              | 285      | 0.8912 | 0.1088 | 294  | 1.0000    | 0.0000 | 0.0000 | 294  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kelly Lake                | 91       | 0.8626 | 0.1374 | 97   | 1.0000    | 0.0000 | 0.0000 | 97   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kobuk River               | 195      | 0.9179 | 0.0821 | 200  | 1.0000    | 0.0000 | 0.0000 | 200  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Norton Sound              | 777      | 0.8726 | 0.1274 | 789  | 1.0000    | 0.0000 | 0.0000 | 777  | 0.9994 | 0.0000 | 0.0006 | 0.0006 |
| Lower Summer Yukon        | 1413     | 0.8450 | 0.1550 | 1427 | 0.9996    | 0.0004 | 0.0000 | 1431 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Koyukuk River Late        | 160      | 0.8875 | 0.1125 | 162  | 1.0000    | 0.0000 | 0.0000 | 162  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Tanana River Early        | 369      | 0.8333 | 0.1667 | 383  | 0.9993    | 0.0007 | 0.0000 | 383  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kuskokwim River early     | 1309     | 0.8705 | 0.1295 | 1324 | 0.9996    | 0.0000 | 0.0004 | 1324 | 0.9992 | 0.0000 | 0.0008 | 0.0008 |
| Kuskokwim River late      | 200      | 0.8375 | 0.1625 | 199  | 1.0000    | 0.0000 | 0.0000 | 200  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kanektok River            | 136      | 0.8419 | 0.1581 | 138  | 1.0000    | 0.0000 | 0.0000 | 138  | 0.9964 | 0.0036 | 0.0000 | 0.0000 |
| Goodnews River            | 96       | 0.8646 | 0.1354 | 100  | 1.0000    | 0.0000 | 0.0000 | 100  | 0.9900 | 0.0050 | 0.0050 | 0.0050 |
| Togiak River              | 199      | 0.8844 | 0.1156 | 199  | 0.9975    | 0.0025 | 0.0000 | 199  | 0.9950 | 0.0050 | 0.0000 | 0.0000 |
| Nushagak River            | 279      | 0.8513 | 0.1487 | 286  | 1.0000    | 0.0000 | 0.0000 | 286  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Naknek/Alagnak Rivers     | 162      | 0.9105 | 0.0895 | 162  | 1.0000    | 0.0000 | 0.0000 | 162  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Egegik/Ugashik Bay        | 195      | 0.9333 | 0.0667 | 197  | 1.0000    | 0.0000 | 0.0000 | 197  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Meshik/Cinder River       | 249      | 0.8855 | 0.1145 | 269  | 1.0000    | 0.0000 | 0.0000 | 269  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Toklat River              | 812      | 0.8307 | 0.1693 | 812  | 1.0000    | 0.0000 | 0.0000 | 812  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Tanana Late Run           | 595      | 0.8597 | 0.1403 | 590  | 1.0000    | 0.0000 | 0.0000 | 568  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Porcupine River           | 354      | 0.8559 | 0.1441 | 363  | 1.0000    | 0.0000 | 0.0000 | 263  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Canadian Yukon Mainstem   | 196      | 0.8750 | 0.1250 | 200  | 1.0000    | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Pelly River               | 84       | 0.8631 | 0.1369 | 84   | 1.0000    | 0.0000 | 0.0000 | 84   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| White River               | 298      | 0.8423 | 0.1577 | 264  | 1.0000    | 0.0000 | 0.0000 | 150  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Teslin River              | 192      | 0.9766 | 0.0234 | 193  | 1.0000    | 0.0000 | 0.0000 | 78   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Lawrence Valley Creek     | 100      | 0.9450 | 0.0550 | 100  | 1.0000    | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Moffit Creek              | 100      | 0.8600 | 0.1400 | 100  | 1.0000    | 0.0000 | 0.0000 | 98   | 0.9643 | 0.0357 | 0.0000 | 0.0000 |
| Joshua Green River        | 171      | 0.8889 | 0.1111 | 180  | 0.9986    | 0.0014 | 0.0000 | 180  | 0.9972 | 0.0028 | 0.0000 | 0.0000 |
| Frosty Creek              | 96       | 0.8594 | 0.1406 | 100  | 1.0000    | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Alligator Hole            | 100      | 0.8400 | 0.1600 | 100  | 1.0000    | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Trader's Cove Creek       | 94       | 0.8457 | 0.1543 | 100  | 0.9975    | 0.0025 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| St. Catherine's Cove      | 76       | 0.8487 | 0.1513 | 79   | 0.9968    | 0.0032 | 0.0000 | 78   | 0.9936 | 0.0064 | 0.0000 | 0.0000 |
| Peterson Lagoon           | 83       | 0.9639 | 0.0361 | 84   | 1.0000    | 0.0000 | 0.0000 | 84   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Little John Lagoon        | 79       | 0.8671 | 0.1329 | 80   | 0.9906    | 0.0062 | 0.0031 | 80   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Sandy Cove                | 100      | 0.9000 | 0.1000 | 97   | 1.0000    | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Russell Creek             | 197      | 0.8756 | 0.1244 | 199  | 0.9925    | 0.0075 | 0.0000 | 200  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Delta Creek               | 100      | 0.8500 | 0.1500 | 100  | 0.9850    | 0.0150 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Belkofski River           | 79       | 0.8924 | 0.1076 | 86   | 0.9826    | 0.0174 | 0.0000 | 86   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Volcano Bay               | 106      | 0.8302 | 0.1698 | 106  | 0.9811    | 0.0189 | 0.0000 | 106  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Ruby's Lagoon             | 99       | 0.7475 | 0.2525 | 100  | 0.9900    | 0.0100 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Canoe Bay                 | 96       | 0.8542 | 0.1458 | 100  | 0.9875    | 0.0125 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Zachary Bay               | 77       | 0.8701 | 0.1299 | 77   | 0.9870    | 0.0130 | 0.0000 | 77   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Coleman Creek             | 99       | 0.7980 | 0.2020 | 100  | 1.0000    | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Balboa Bay                | 100      | 0.8650 | 0.1350 | 100  | 0.9900    | 0.0100 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Chichagof Bay             | 98       | 0.9082 | 0.0918 | 100  | 1.0000    | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Stepovak Bay              | 50       | 0.8400 | 0.1600 | 49   | 1.0000    | 0.0000 | 0.0000 | 49   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Stepovak River            | 97       | 0.8660 | 0.1340 | 99   | 0.9949    | 0.0051 | 0.0000 | 99   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Ivanoff River             | 94       | 0.8404 | 0.1596 | 93   | 0.9973    | 0.0027 | 0.0000 | 93   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kiukta Bay                | 99       | 0.8333 | 0.1667 | 100  | 1.0000    | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kujulik Bay               | 70       | 0.8857 | 0.1143 | 72   | 0.9931    | 0.0069 | 0.0000 | 72   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Aniakchak River           | 100      | 0.8550 | 0.1450 | 100  | 0.9825    | 0.0175 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Amber Bay                 | 92       | 0.8750 | 0.1250 | 91   | 0.9973    | 0.0027 | 0.0000 | 91   | 0.9945 | 0.0055 | 0.0000 | 0.0000 |
| Chiginigak Bay            | 74       | 0.8919 | 0.1081 | 75   | 1.0000    | 0.0000 | 0.0000 | 75   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kialagvik Bay             | 94       | 0.8404 | 0.1596 | 100  | 0.9950    | 0.0050 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Alinchak Bay              | 99       | 0.8737 | 0.1263 | 100  | 1.0000    | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Alagogshak River          | 93       | 0.8710 | 0.1290 | 94   | 1.0000    | 0.0000 | 0.0000 | 94   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Gull Cape Creek           | 100      | 0.9000 | 0.1000 | 100  | 0.9975    | 0.0025 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hallo Bay                 | 97       | 0.8918 | 0.1082 | 97   | 1.0000    | 0.0000 | 0.0000 | 97   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| McNeil River              | 100      | 0.9350 | 0.0650 | 109  | 0.9954    | 0.0046 | 0.0000 | 108  | 0.9954 | 0.0046 | 0.0000 | 0.0000 |
| American River            | 144      | 0.8576 | 0.1424 | 145  | 1.0000    | 0.0000 | 0.0000 | 145  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Dog Bay                   | 98       | 0.8367 | 0.1633 | 100  | 0.9950    | 0.0000 | 0.0050 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Sukhoi Lagoon             | 98       | 0.8061 | 0.1939 | 100  | 0.9925    | 0.0075 | 0.0000 | 100  | 0.9850 | 0.0000 | 0.0150 | 0.0150 |
| Sturgeon Lagoon           | 166      | 0.7018 | 0.2982 | 171  | 1.0000    | 0.0000 | 0.0000 | 171  | 0.9971 | 0.0000 | 0.0029 | 0.0029 |
| Uganik River              | 87       | 0.8448 | 0.1552 | 86   | 0.9971    | 0.0029 | 0.0000 | 86   | 0.9942 | 0.0058 | 0.0000 | 0.0000 |
| Kizhuyak River            | 333      | 0.6081 | 0.3919 | 337  | 1.0000    | 0.0000 | 0.0000 | 337  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Susitna River             | 98       | 0.7398 | 0.2602 | 100  | 0.9900    | 0.0100 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| West Prince William Sound | 191      | 0.7016 | 0.2984 | 192  | 1.0000    | 0.0000 | 0.0000 | 192  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Olsen Creek               | 199      | 0.7261 | 0.2739 | 200  | 1.0000    | 0.0000 | 0.0000 | 200  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |

Appendix 3. Continued.

| Population                      | G3PDH-2* |        |        | GPI-B1.2* |        |        |        | GPI-A* |        |        |        |
|---------------------------------|----------|--------|--------|-----------|--------|--------|--------|--------|--------|--------|--------|
|                                 | N        | 100    | 90     | N         | 100    | fast   | 40     | N      | 100    | slow   | fast   |
| Constantine Creek               | 100      | 0.6050 | 0.3950 | 100       | 0.9975 | 0.0025 | 0.0000 | 100    | 1.0000 | 0.0000 | 0.0000 |
| Keta Creek                      | 98       | 0.6837 | 0.3163 | 100       | 1.0000 | 0.0000 | 0.0000 | 100    | 1.0000 | 0.0000 | 0.0000 |
| Herman Creek                    | 154      | 0.8312 | 0.1688 | 159       | 1.0000 | 0.0000 | 0.0000 | 159    | 0.9906 | 0.0094 | 0.0000 |
| Southeast Alaska                | 886      | 0.8166 | 0.1834 | 904       | 1.0000 | 0.0000 | 0.0000 | 903    | 0.9989 | 0.0011 | 0.0000 |
| Port Real Marina                | 146      | 0.8014 | 0.1986 | 142       | 1.0000 | 0.0000 | 0.0000 | 144    | 0.9896 | 0.0069 | 0.0035 |
| Eastern Prince of Wales Island  | 647      | 0.7720 | 0.2280 | 656       | 1.0000 | 0.0000 | 0.0000 | 655    | 0.9779 | 0.0137 | 0.0084 |
| Eastern Queen Charlotte Islands | 425      | 0.8588 | 0.1412 | 431       | 0.9994 | 0.0006 | 0.0000 | 427    | 1.0000 | 0.0000 | 0.0000 |
| Nass River Area                 | 302      | 0.8311 | 0.1689 | 309       | 1.0000 | 0.0000 | 0.0000 | 305    | 1.0000 | 0.0000 | 0.0000 |
| Kitimat/Mussel River            | 217      | 0.8594 | 0.1406 | 221       | 1.0000 | 0.0000 | 0.0000 | 147    | 1.0000 | 0.0000 | 0.0000 |
| Nekite Channel/River            | 193      | 0.8860 | 0.1140 | 179       | 1.0000 | 0.0000 | 0.0000 | 195    | 1.0000 | 0.0000 | 0.0000 |
| East Vancouver Island           | 798      | 0.9524 | 0.0476 | 473       | 1.0000 | 0.0000 | 0.0000 | 472    | 1.0000 | 0.0000 | 0.0000 |
| West Vancouver Island           | 558      | 0.9588 | 0.0412 | 303       | 0.9983 | 0.0017 | 0.0000 | 385    | 1.0000 | 0.0000 | 0.0000 |
| Lower Fraser River              | 397      | 0.9232 | 0.0768 | 202       | 1.0000 | 0.0000 | 0.0000 | 202    | 1.0000 | 0.0000 | 0.0000 |
| Upper Fraser River              | 596      | 0.9270 | 0.0730 | 401       | 0.9988 | 0.0000 | 0.0012 | 402    | 0.9988 | 0.0012 | 0.0000 |
| Skagit River                    | 249      | 0.8574 | 0.1426 | 162       | 1.0000 | 0.0000 | 0.0000 | 251    | 0.9980 | 0.0000 | 0.0020 |
| Bellingham Maritime Hatchery    | 100      | 0.8850 | 0.1150 | 100       | 1.0000 | 0.0000 | 0.0000 | 100    | 0.9950 | 0.0000 | 0.0050 |
| Mill Creek                      | 178      | 0.9410 | 0.0590 | 179       | 1.0000 | 0.0000 | 0.0000 | 179    | 1.0000 | 0.0000 | 0.0000 |
| Hood Canal Hatchery             | 449      | 0.8274 | 0.1726 | 202       | 1.0000 | 0.0000 | 0.0000 | 202    | 1.0000 | 0.0000 | 0.0000 |
| Gakko/Miomote Rivers            | 117      | 0.9829 | 0.0171 | 119       | 0.9937 | 0.0063 | 0.0000 | 119    | 1.0000 | 0.0000 | 0.0000 |
| Tsugaruishi River               | 79       | 1.0000 | 0.0000 | 80        | 1.0000 | 0.0000 | 0.0000 | 80     | 1.0000 | 0.0000 | 0.0000 |
| Ohkawa River                    | 75       | 0.9667 | 0.0333 | 80        | 1.0000 | 0.0000 | 0.0000 | 80     | 1.0000 | 0.0000 | 0.0000 |
| Teshio River                    | 40       | 0.9750 | 0.0250 | 80        | 1.0000 | 0.0000 | 0.0000 | 79     | 1.0000 | 0.0000 | 0.0000 |
| Chitose River                   | 74       | 0.9730 | 0.0270 | 80        | 0.9938 | 0.0062 | 0.0000 | 77     | 1.0000 | 0.0000 | 0.0000 |
| Tokachi River                   | 77       | 0.9675 | 0.0325 | 80        | 1.0000 | 0.0000 | 0.0000 | 80     | 1.0000 | 0.0000 | 0.0000 |
| Kushiro River                   | 80       | 0.9812 | 0.0188 | 80        | 1.0000 | 0.0000 | 0.0000 | 80     | 1.0000 | 0.0000 | 0.0000 |
| Nishibetsu River                | 75       | 0.9467 | 0.0533 | 80        | 1.0000 | 0.0000 | 0.0000 | 80     | 1.0000 | 0.0000 | 0.0000 |
| Shari River                     | 77       | 0.9545 | 0.0455 | 80        | 1.0000 | 0.0000 | 0.0000 | 80     | 1.0000 | 0.0000 | 0.0000 |
| Tokusibetsu River               | 37       | 0.9730 | 0.0270 | 40        | 1.0000 | 0.0000 | 0.0000 | 40     | 1.0000 | 0.0000 | 0.0000 |
| Amur River                      | 44       | 0.7614 | 0.2386 | 40        | 1.0000 | 0.0000 | 0.0000 | 46     | 1.0000 | 0.0000 | 0.0000 |
| Ryzanovka River                 | 50       | 0.9400 | 0.0600 | 51        | 0.9951 | 0.0049 | 0.0000 | 51     | 0.9706 | 0.0294 | 0.0000 |
| Kalininka River                 | 49       | 0.7857 | 0.2143 | 49        | 1.0000 | 0.0000 | 0.0000 | 49     | 1.0000 | 0.0000 | 0.0000 |
| Naiba River                     | 61       | 0.8197 | 0.1803 | 55        | 1.0000 | 0.0000 | 0.0000 | 61     | 1.0000 | 0.0000 | 0.0000 |
| Udamitsa River                  | 98       | 0.9031 | 0.0969 | 98        | 1.0000 | 0.0000 | 0.0000 | 97     | 1.0000 | 0.0000 | 0.0000 |
| Anadyr/Kanchalan Rivers         | 182      | 0.9176 | 0.0824 | 182       | 1.0000 | 0.0000 | 0.0000 | 104    | 1.0000 | 0.0000 | 0.0000 |
| Nerpichi Lake                   | 40       | 0.9125 | 0.0875 | 40        | 1.0000 | 0.0000 | 0.0000 | 40     | 1.0000 | 0.0000 | 0.0000 |
| Kamchatka River                 | 74       | 0.8716 | 0.1284 | 75        | 1.0000 | 0.0000 | 0.0000 | 68     | 1.0000 | 0.0000 | 0.0000 |
| Utka River                      | 78       | 0.9167 | 0.0833 | 79        | 1.0000 | 0.0000 | 0.0000 | 79     | 1.0000 | 0.0000 | 0.0000 |
| Kikchik River                   | 39       | 0.8974 | 0.1026 | 40        | 1.0000 | 0.0000 | 0.0000 | 40     | 1.0000 | 0.0000 | 0.0000 |
| Pymta River                     | 78       | 0.9103 | 0.0897 | 79        | 0.9937 | 0.0063 | 0.0000 | 79     | 1.0000 | 0.0000 | 0.0000 |
| Kol River                       | 90       | 0.8611 | 0.1389 | 90        | 1.0000 | 0.0000 | 0.0000 | 90     | 1.0000 | 0.0000 | 0.0000 |
| Hairusova River                 | 31       | 0.8710 | 0.1290 | 51        | 1.0000 | 0.0000 | 0.0000 | 38     | 1.0000 | 0.0000 | 0.0000 |
| Tumani River                    | 64       | 0.8047 | 0.1953 | 66        | 1.0000 | 0.0000 | 0.0000 | 65     | 0.9846 | 0.0154 | 0.0000 |
| Ola River                       | 78       | 0.8141 | 0.1859 | 80        | 0.9906 | 0.0031 | 0.0062 | 77     | 0.9935 | 0.0065 | 0.0000 |

## Appendix 3. Continued.

| Population                | N    | mDHP-1* |        |        |        |        |
|---------------------------|------|---------|--------|--------|--------|--------|
|                           |      | 100     | 60     | 140    | 20     | 85     |
| Noatak River              | 294  | 0.9728  | 0.0272 | 0.0000 | 0.0000 | 0.0000 |
| Kelly Lake                | 99   | 0.9141  | 0.0859 | 0.0000 | 0.0000 | 0.0000 |
| Kobuk River               | 196  | 0.9413  | 0.0587 | 0.0000 | 0.0000 | 0.0000 |
| Norton Sound              | 783  | 0.9732  | 0.0268 | 0.0000 | 0.0000 | 0.0000 |
| Lower Summer Yukon        | 1429 | 0.9853  | 0.0147 | 0.0000 | 0.0000 | 0.0000 |
| Koyukuk River Late        | 162  | 0.9907  | 0.0093 | 0.0000 | 0.0000 | 0.0000 |
| Tanana River Early        | 385  | 0.9584  | 0.0416 | 0.0000 | 0.0000 | 0.0000 |
| Kuskokwim River early     | 1322 | 0.9849  | 0.0151 | 0.0000 | 0.0000 | 0.0000 |
| Kuskokwim River late      | 200  | 1.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kanektok River            | 138  | 0.9710  | 0.0290 | 0.0000 | 0.0000 | 0.0000 |
| Goodnews River            | 100  | 0.9850  | 0.0150 | 0.0000 | 0.0000 | 0.0000 |
| Togiak River              | 200  | 0.9850  | 0.0150 | 0.0000 | 0.0000 | 0.0000 |
| Nushagak River            | 286  | 0.9773  | 0.0227 | 0.0000 | 0.0000 | 0.0000 |
| Naknek/Alagnak Rivers     | 164  | 0.9573  | 0.0427 | 0.0000 | 0.0000 | 0.0000 |
| Egegik/Ugashik Bay        | 197  | 0.9239  | 0.0761 | 0.0000 | 0.0000 | 0.0000 |
| Meshik/Cinder River       | 271  | 0.9059  | 0.0941 | 0.0000 | 0.0000 | 0.0000 |
| Toklat River              | 815  | 0.9558  | 0.0442 | 0.0000 | 0.0000 | 0.0000 |
| Tanana Late Run           | 596  | 0.9933  | 0.0067 | 0.0000 | 0.0000 | 0.0000 |
| Porcupine River           | 362  | 0.9903  | 0.0097 | 0.0000 | 0.0000 | 0.0000 |
| Canadian Yukon Mainstem   | 199  | 1.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Pelly River               | 84   | 1.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| White River               | 307  | 1.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Teslin River              | 194  | 1.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Lawrence Valley Creek     | 100  | 0.8550  | 0.1450 | 0.0000 | 0.0000 | 0.0000 |
| Moffit Creek              | 100  | 0.9550  | 0.0450 | 0.0000 | 0.0000 | 0.0000 |
| Joshua Green River        | 180  | 0.9528  | 0.0472 | 0.0000 | 0.0000 | 0.0000 |
| Frosty Creek              | 100  | 0.9100  | 0.0900 | 0.0000 | 0.0000 | 0.0000 |
| Alligator Hole            | 99   | 0.9394  | 0.0606 | 0.0000 | 0.0000 | 0.0000 |
| Trader's Cove Creek       | 100  | 0.9500  | 0.0500 | 0.0000 | 0.0000 | 0.0000 |
| St. Catherine's Cove      | 80   | 0.9500  | 0.0500 | 0.0000 | 0.0000 | 0.0000 |
| Peterson Lagoon           | 86   | 0.9593  | 0.0407 | 0.0000 | 0.0000 | 0.0000 |
| Little John Lagoon        | 80   | 0.8750  | 0.1250 | 0.0000 | 0.0000 | 0.0000 |
| Sandy Cove                | 100  | 0.9200  | 0.0800 | 0.0000 | 0.0000 | 0.0000 |
| Russell Creek             | 200  | 0.8800  | 0.1200 | 0.0000 | 0.0000 | 0.0000 |
| Delta Creek               | 100  | 0.9000  | 0.1000 | 0.0000 | 0.0000 | 0.0000 |
| Belkofski River           | 84   | 0.9107  | 0.0893 | 0.0000 | 0.0000 | 0.0000 |
| Volcano Bay               | 106  | 0.9009  | 0.0991 | 0.0000 | 0.0000 | 0.0000 |
| Ruby's Lagoon             | 100  | 0.8300  | 0.1700 | 0.0000 | 0.0000 | 0.0000 |
| Canoe Bay                 | 100  | 0.8400  | 0.1600 | 0.0000 | 0.0000 | 0.0000 |
| Zachary Bay               | 80   | 0.8938  | 0.1062 | 0.0000 | 0.0000 | 0.0000 |
| Coleman Creek             | 100  | 0.9450  | 0.0550 | 0.0000 | 0.0000 | 0.0000 |
| Balboa Bay                | 100  | 0.9000  | 0.1000 | 0.0000 | 0.0000 | 0.0000 |
| Chichagof Bay             | 100  | 0.9100  | 0.0900 | 0.0000 | 0.0000 | 0.0000 |
| Stepovak Bay              | 50   | 0.9000  | 0.1000 | 0.0000 | 0.0000 | 0.0000 |
| Stepovak River            | 100  | 0.8000  | 0.2000 | 0.0000 | 0.0000 | 0.0000 |
| Ivanoff River             | 94   | 0.8989  | 0.1011 | 0.0000 | 0.0000 | 0.0000 |
| Kiukta Bay                | 100  | 0.9250  | 0.0750 | 0.0000 | 0.0000 | 0.0000 |
| Kujulik Bay               | 72   | 0.8403  | 0.1597 | 0.0000 | 0.0000 | 0.0000 |
| Aniakchak River           | 100  | 0.8250  | 0.1750 | 0.0000 | 0.0000 | 0.0000 |
| Amber Bay                 | 92   | 0.9620  | 0.0380 | 0.0000 | 0.0000 | 0.0000 |
| Chiginigak Bay            | 75   | 0.9600  | 0.0400 | 0.0000 | 0.0000 | 0.0000 |
| Kialagvik Bay             | 100  | 0.9400  | 0.0600 | 0.0000 | 0.0000 | 0.0000 |
| Alinchak Bay              | 100  | 0.9800  | 0.0200 | 0.0000 | 0.0000 | 0.0000 |
| Alagogshak River          | 94   | 0.8830  | 0.1170 | 0.0000 | 0.0000 | 0.0000 |
| Gull Cape Creek           | 100  | 0.8900  | 0.1100 | 0.0000 | 0.0000 | 0.0000 |
| Hallo Bay                 | 100  | 0.8900  | 0.1100 | 0.0000 | 0.0000 | 0.0000 |
| McNeil River              | 109  | 0.9128  | 0.0872 | 0.0000 | 0.0000 | 0.0000 |
| American River            | 145  | 0.8379  | 0.1621 | 0.0000 | 0.0000 | 0.0000 |
| Dog Bay                   | 100  | 0.9550  | 0.0450 | 0.0000 | 0.0000 | 0.0000 |
| Sukhoi Lagoon             | 100  | 0.7450  | 0.2550 | 0.0000 | 0.0000 | 0.0000 |
| Sturgeon Lagoon           | 171  | 0.9971  | 0.0029 | 0.0000 | 0.0000 | 0.0000 |
| Uganik River              | 88   | 0.9432  | 0.0568 | 0.0000 | 0.0000 | 0.0000 |
| Kizhuyak River            | 337  | 1.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Susitna River             | 100  | 0.9000  | 0.1000 | 0.0000 | 0.0000 | 0.0000 |
| West Prince William Sound | 191  | 0.8508  | 0.1492 | 0.0000 | 0.0000 | 0.0000 |
| Olsen Creek               | 200  | 0.9025  | 0.0975 | 0.0000 | 0.0000 | 0.0000 |

Appendix 3. Continued.

| Population                      | N   | mDHP-1* |        |        |        |        |
|---------------------------------|-----|---------|--------|--------|--------|--------|
|                                 |     | 100     | 60     | 140    | 20     | 85     |
| Constantine Creek               | 100 | 0.9150  | 0.0850 | 0.0000 | 0.0000 | 0.0000 |
| Keta Creek                      | 99  | 0.9040  | 0.0960 | 0.0000 | 0.0000 | 0.0000 |
| Herman Creek                    | 159 | 0.9088  | 0.0912 | 0.0000 | 0.0000 | 0.0000 |
| Southeast Alaska                | 901 | 0.9040  | 0.0960 | 0.0000 | 0.0000 | 0.0000 |
| Port Real Marina                | 147 | 0.9150  | 0.0850 | 0.0000 | 0.0000 | 0.0000 |
| Eastern Prince of Wales Island  | 652 | 0.9663  | 0.0337 | 0.0000 | 0.0000 | 0.0000 |
| Eastern Queen Charlotte Islands | 431 | 0.9814  | 0.0186 | 0.0000 | 0.0000 | 0.0000 |
| Nass River Area                 | 311 | 0.8714  | 0.1286 | 0.0000 | 0.0000 | 0.0000 |
| Kitimat/Mussel River            | 223 | 0.8632  | 0.1345 | 0.0022 | 0.0000 | 0.0000 |
| Nekite Channel/River            | 195 | 0.8641  | 0.1359 | 0.0000 | 0.0000 | 0.0000 |
| East Vancouver Island           | 800 | 0.9344  | 0.0650 | 0.0006 | 0.0000 | 0.0000 |
| West Vancouver Island           | 605 | 0.9537  | 0.0463 | 0.0000 | 0.0000 | 0.0000 |
| Lower Fraser River              | 400 | 0.9162  | 0.0812 | 0.0000 | 0.0025 | 0.0000 |
| Upper Fraser River              | 594 | 0.9125  | 0.0875 | 0.0000 | 0.0000 | 0.0000 |
| Skagit River                    | 250 | 0.8700  | 0.1300 | 0.0000 | 0.0000 | 0.0000 |
| Bellingham Maritime Hatchery    | 100 | 0.8350  | 0.1650 | 0.0000 | 0.0000 | 0.0000 |
| Mill Creek                      | 179 | 0.8575  | 0.1425 | 0.0000 | 0.0000 | 0.0000 |
| Hood Canal Hatchery             | 449 | 0.6904  | 0.3096 | 0.0000 | 0.0000 | 0.0000 |
| Gakko/Miomote Rivers            | 119 | 0.9580  | 0.0378 | 0.0000 | 0.0000 | 0.0042 |
| Tsugaruishi River               | 78  | 0.9808  | 0.0192 | 0.0000 | 0.0000 | 0.0000 |
| Ohkawa River                    | 80  | 0.9812  | 0.0188 | 0.0000 | 0.0000 | 0.0000 |
| Teshio River                    | 79  | 0.9114  | 0.0886 | 0.0000 | 0.0000 | 0.0000 |
| Chitose River                   | 77  | 0.9675  | 0.0325 | 0.0000 | 0.0000 | 0.0000 |
| Tokachi River                   | 80  | 0.9000  | 0.1000 | 0.0000 | 0.0000 | 0.0000 |
| Kushiro River                   | 80  | 0.8562  | 0.1438 | 0.0000 | 0.0000 | 0.0000 |
| Nishibetsu River                | 80  | 0.7312  | 0.2688 | 0.0000 | 0.0000 | 0.0000 |
| Shari River                     | 80  | 0.7688  | 0.2312 | 0.0000 | 0.0000 | 0.0000 |
| Tokusibetsu River               | 40  | 0.7625  | 0.2375 | 0.0000 | 0.0000 | 0.0000 |
| Amur River                      | 40  | 0.6750  | 0.3250 | 0.0000 | 0.0000 | 0.0000 |
| Ryzanovka River                 | 51  | 0.8824  | 0.1176 | 0.0000 | 0.0000 | 0.0000 |
| Kalininka River                 | 48  | 0.8750  | 0.1250 | 0.0000 | 0.0000 | 0.0000 |
| Naiba River                     | 60  | 0.8750  | 0.1250 | 0.0000 | 0.0000 | 0.0000 |
| Udarnitsa River                 | 96  | 0.8385  | 0.1615 | 0.0000 | 0.0000 | 0.0000 |
| Anadyr/Kanchalan Rivers         | 180 | 0.5944  | 0.4056 | 0.0000 | 0.0000 | 0.0000 |
| Nerpichi Lake                   | 40  | 0.7625  | 0.2375 | 0.0000 | 0.0000 | 0.0000 |
| Kamchatka River                 | 75  | 0.9533  | 0.0467 | 0.0000 | 0.0000 | 0.0000 |
| Utka River                      | 77  | 0.5779  | 0.4221 | 0.0000 | 0.0000 | 0.0000 |
| Kikchik River                   | 40  | 0.8750  | 0.1250 | 0.0000 | 0.0000 | 0.0000 |
| Pymta River                     | 79  | 0.9367  | 0.0633 | 0.0000 | 0.0000 | 0.0000 |
| Kol River                       | 91  | 0.8791  | 0.1209 | 0.0000 | 0.0000 | 0.0000 |
| Hairusova River                 | 106 | 0.9198  | 0.0802 | 0.0000 | 0.0000 | 0.0000 |
| Tumani River                    | 66  | 0.9167  | 0.0833 | 0.0000 | 0.0000 | 0.0000 |
| Ola River                       | 80  | 0.8938  | 0.1062 | 0.0000 | 0.0000 | 0.0000 |

## Appendix 3. Continued.

| Population                | N    | sIDHP-2* |        |        |        |        |        |        |        |
|---------------------------|------|----------|--------|--------|--------|--------|--------|--------|--------|
|                           |      | 100      | 35     | 85     | 25     | 20     | 110    | 28     | 45     |
| Noatak River              | 285  | 0.5754   | 0.3825 | 0.0351 | 0.0070 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kelly Lake                | 97   | 0.6340   | 0.3351 | 0.0155 | 0.0155 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kobuk River               | 193  | 0.5855   | 0.3964 | 0.0181 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Norton Sound              | 787  | 0.4365   | 0.5000 | 0.0584 | 0.0051 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Lower Summer Yukon        | 1423 | 0.4751   | 0.4533 | 0.0668 | 0.0049 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Koyukuk River Late        | 162  | 0.4969   | 0.4105 | 0.0926 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Tanana River Early        | 380  | 0.5316   | 0.3961 | 0.0724 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kuskokwim River early     | 1322 | 0.4520   | 0.4792 | 0.0628 | 0.0061 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kuskokwim River late      | 199  | 0.6231   | 0.3618 | 0.0025 | 0.0126 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kanektok River            | 138  | 0.4674   | 0.4601 | 0.0616 | 0.0109 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Goodnews River            | 99   | 0.4394   | 0.4747 | 0.0808 | 0.0051 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Togiak River              | 196  | 0.4617   | 0.4617 | 0.0714 | 0.0051 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Nushagak River            | 281  | 0.4448   | 0.4893 | 0.0641 | 0.0018 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Naknek/Alagnak Rivers     | 163  | 0.4601   | 0.4785 | 0.0368 | 0.0245 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Egegik/Ugashik Bay        | 197  | 0.5076   | 0.3680 | 0.0736 | 0.0508 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Meshik/Cinder River       | 266  | 0.4981   | 0.3891 | 0.0376 | 0.0752 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Toklat River              | 814  | 0.5774   | 0.3636 | 0.0590 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Tanana Late Run           | 596  | 0.5101   | 0.4497 | 0.0403 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Porcupine River           | 364  | 0.3997   | 0.5522 | 0.0481 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Canadian Yukon Mainstem   | 200  | 0.5075   | 0.4700 | 0.0225 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Pelly River               | 84   | 0.4821   | 0.4881 | 0.0298 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| White River               | 298  | 0.3809   | 0.5839 | 0.0352 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Teslin River              | 194  | 0.6572   | 0.3196 | 0.0232 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Lawrence Valley Creek     | 98   | 0.5051   | 0.3724 | 0.0357 | 0.0867 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Moffit Creek              | 99   | 0.3889   | 0.3737 | 0.0556 | 0.1818 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Joshua Green River        | 177  | 0.3814   | 0.3023 | 0.0565 | 0.2599 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Frosty Creek              | 100  | 0.3650   | 0.4050 | 0.0450 | 0.1850 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Alligator Hole            | 100  | 0.3850   | 0.3650 | 0.0350 | 0.2150 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Trader's Cove Creek       | 98   | 0.4133   | 0.3418 | 0.0153 | 0.2296 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| St. Catherine's Cove      | 80   | 0.4125   | 0.3250 | 0.0812 | 0.1812 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Peterson Lagoon           | 84   | 0.3690   | 0.4881 | 0.0060 | 0.1369 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Little John Lagoon        | 80   | 0.4375   | 0.3000 | 0.0312 | 0.2312 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Sandy Cove                | 100  | 0.3800   | 0.2950 | 0.0900 | 0.2350 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Russell Creek             | 196  | 0.4311   | 0.2551 | 0.0587 | 0.2551 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Delta Creek               | 100  | 0.4950   | 0.3150 | 0.0650 | 0.1250 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Belkofski River           | 86   | 0.5640   | 0.2616 | 0.0116 | 0.1628 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Volcano Bay               | 106  | 0.5566   | 0.2123 | 0.0283 | 0.2028 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Ruby's Lagoon             | 99   | 0.4091   | 0.1263 | 0.0707 | 0.3939 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Canoe Bay                 | 100  | 0.5400   | 0.2300 | 0.0100 | 0.2150 | 0.0050 | 0.0000 | 0.0000 | 0.0000 |
| Zachary Bay               | 80   | 0.4438   | 0.2625 | 0.0375 | 0.2562 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Coleman Creek             | 100  | 0.4050   | 0.3400 | 0.0450 | 0.2100 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Balboa Bay                | 100  | 0.3650   | 0.3900 | 0.0000 | 0.2450 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Chichagof Bay             | 100  | 0.4700   | 0.2300 | 0.0750 | 0.2250 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Stepovak Bay              | 49   | 0.3776   | 0.3673 | 0.0204 | 0.2347 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Stepovak River            | 96   | 0.4896   | 0.3385 | 0.0260 | 0.1458 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Ivanoff River             | 93   | 0.3548   | 0.3710 | 0.0054 | 0.2688 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kiukta Bay                | 98   | 0.4847   | 0.2653 | 0.0204 | 0.2296 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kujulik Bay               | 72   | 0.4306   | 0.3125 | 0.0347 | 0.2222 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Aniakchak River           | 100  | 0.3800   | 0.3900 | 0.0250 | 0.2050 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Amber Bay                 | 92   | 0.4837   | 0.3207 | 0.0217 | 0.1739 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Chiginigak Bay            | 75   | 0.4467   | 0.3333 | 0.0333 | 0.1867 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kialagvik Bay             | 95   | 0.3737   | 0.3789 | 0.0211 | 0.2263 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Alinchak Bay              | 100  | 0.4300   | 0.3150 | 0.0750 | 0.1800 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Alagoshak River           | 93   | 0.3817   | 0.3548 | 0.0054 | 0.2527 | 0.0054 | 0.0000 | 0.0000 | 0.0000 |
| Gull Cape Creek           | 100  | 0.3800   | 0.4850 | 0.0150 | 0.1200 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hallo Bay                 | 99   | 0.3737   | 0.3333 | 0.0303 | 0.2626 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| McNeil River              | 105  | 0.4905   | 0.2952 | 0.0048 | 0.2048 | 0.0048 | 0.0000 | 0.0000 | 0.0000 |
| American River            | 145  | 0.4759   | 0.2586 | 0.0207 | 0.2448 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Dog Bay                   | 100  | 0.4050   | 0.3400 | 0.0150 | 0.2400 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Sukhoi Lagoon             | 99   | 0.3889   | 0.2929 | 0.1364 | 0.1818 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Sturgeon Lagoon           | 171  | 0.3947   | 0.2719 | 0.2310 | 0.1023 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Uganik River              | 88   | 0.5284   | 0.3466 | 0.0057 | 0.1193 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kizhuyak River            | 336  | 0.4598   | 0.3914 | 0.1086 | 0.0402 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Susitna River             | 99   | 0.3990   | 0.4545 | 0.0051 | 0.1414 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| West Prince William Sound | 192  | 0.5859   | 0.2266 | 0.1250 | 0.0599 | 0.0026 | 0.0000 | 0.0000 | 0.0000 |
| Olsen Creek               | 198  | 0.5631   | 0.2348 | 0.1187 | 0.0833 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Appendix 3. Continued.

| Population                      | N   | sIDHP-2* |        |        |        |        |        |        |        |
|---------------------------------|-----|----------|--------|--------|--------|--------|--------|--------|--------|
|                                 |     | 100      | 35     | 85     | 25     | 20     | 110    | 28     | 45     |
| Constantine Creek               | 100 | 0.5650   | 0.3650 | 0.0150 | 0.0550 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Keta Creek                      | 98  | 0.5510   | 0.2092 | 0.1786 | 0.0612 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Herman Creek                    | 146 | 0.5514   | 0.3219 | 0.0205 | 0.1027 | 0.0000 | 0.0034 | 0.0000 | 0.0000 |
| Southeast Alaska                | 858 | 0.4330   | 0.3432 | 0.0472 | 0.1766 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Port Real Marina                | 140 | 0.3929   | 0.3143 | 0.0964 | 0.1964 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Eastern Prince of Wales Island  | 634 | 0.4109   | 0.2674 | 0.0994 | 0.2224 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Eastern Queen Charlotte Islands | 385 | 0.2844   | 0.3325 | 0.1364 | 0.2468 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Nass River Area                 | 255 | 0.4235   | 0.3255 | 0.0549 | 0.1961 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kitimat/Mussel River            | 129 | 0.4031   | 0.4070 | 0.0620 | 0.1279 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Nekite Channel/River            | 71  | 0.2887   | 0.5211 | 0.0282 | 0.1620 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| East Vancouver Island           | 796 | 0.6118   | 0.2845 | 0.0433 | 0.0597 | 0.0000 | 0.0000 | 0.0006 | 0.0000 |
| West Vancouver Island           | 605 | 0.4430   | 0.3000 | 0.0860 | 0.1620 | 0.0000 | 0.0074 | 0.0017 | 0.0000 |
| Lower Fraser River              | 398 | 0.6445   | 0.2211 | 0.0653 | 0.0641 | 0.0000 | 0.0025 | 0.0025 | 0.0000 |
| Upper Fraser River              | 592 | 0.5938   | 0.2770 | 0.0490 | 0.0802 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Skagit River                    | 251 | 0.6255   | 0.2669 | 0.0359 | 0.0637 | 0.0000 | 0.0000 | 0.0080 | 0.0000 |
| Bellingham Maritime Hatchery    | 100 | 0.5950   | 0.2150 | 0.1000 | 0.0850 | 0.0000 | 0.0000 | 0.0050 | 0.0000 |
| Mill Creek                      | 179 | 0.4832   | 0.3492 | 0.1257 | 0.0419 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hood Canal Hatchery             | 449 | 0.6214   | 0.2294 | 0.0924 | 0.0557 | 0.0000 | 0.0000 | 0.0011 | 0.0000 |
| Gakko/Miomote Rivers            | 116 | 0.6379   | 0.3017 | 0.0129 | 0.0474 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Tsugaruishi River               | 80  | 0.6250   | 0.3312 | 0.0062 | 0.0250 | 0.0125 | 0.0000 | 0.0000 | 0.0000 |
| Ohkawa River                    | 80  | 0.6062   | 0.3312 | 0.0125 | 0.0000 | 0.0500 | 0.0000 | 0.0000 | 0.0000 |
| Teshio River                    | 80  | 0.5688   | 0.3875 | 0.0062 | 0.0375 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Chitose River                   | 77  | 0.5779   | 0.3636 | 0.0195 | 0.0390 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Tokachi River                   | 79  | 0.5316   | 0.3797 | 0.0380 | 0.0506 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kushiro River                   | 79  | 0.5253   | 0.3608 | 0.0063 | 0.1076 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Nishibetsu River                | 80  | 0.5688   | 0.3312 | 0.0188 | 0.0812 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Shari River                     | 80  | 0.5000   | 0.3688 | 0.0250 | 0.1062 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Tokusibetsu River               | 40  | 0.5500   | 0.3250 | 0.0375 | 0.0875 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Amur River                      | 47  | 0.4574   | 0.4043 | 0.0851 | 0.0532 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Ryzanovka River                 | 47  | 0.5532   | 0.2447 | 0.0000 | 0.1383 | 0.0000 | 0.0638 | 0.0000 | 0.0000 |
| Kalininka River                 | 27  | 0.5926   | 0.2963 | 0.0000 | 0.0370 | 0.0000 | 0.0741 | 0.0000 | 0.0000 |
| Naiba River                     | 20  | 0.6500   | 0.2500 | 0.0750 | 0.0000 | 0.0000 | 0.0250 | 0.0000 | 0.0000 |
| Udamitsa River                  | 53  | 0.5849   | 0.2547 | 0.0472 | 0.0660 | 0.0000 | 0.0472 | 0.0000 | 0.0000 |
| Anadyr/Kanchalan Rivers         | 182 | 0.4231   | 0.4368 | 0.1044 | 0.0302 | 0.0000 | 0.0000 | 0.0000 | 0.0055 |
| Nerpichi Lake                   | 40  | 0.5625   | 0.2500 | 0.1625 | 0.0250 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kamchatka River                 | 75  | 0.4667   | 0.4467 | 0.0800 | 0.0067 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Utka River                      | 77  | 0.4026   | 0.4545 | 0.1104 | 0.0325 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kikchik River                   | 40  | 0.5375   | 0.2000 | 0.0750 | 0.1875 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Pymta River                     | 79  | 0.5633   | 0.2405 | 0.0823 | 0.1139 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kol River                       | 78  | 0.5513   | 0.2821 | 0.1026 | 0.0641 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hairusova River                 | 106 | 0.5094   | 0.2783 | 0.0708 | 0.1415 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Tumani River                    | 66  | 0.5530   | 0.2273 | 0.1439 | 0.0758 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Ola River                       | 80  | 0.5500   | 0.2438 | 0.0750 | 0.1312 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |



## Appendix 3. Continued.

| Population                | N    | LDH-A1* |        |        | N    | LDH-B2* |        |     | N    | sMDH-A1* |        |        |        |
|---------------------------|------|---------|--------|--------|------|---------|--------|-----|------|----------|--------|--------|--------|
|                           |      | 100     | 50     | 110    |      | 100     | 120    | 100 |      | 200      | 400    | -10    |        |
| Noatak River              | 288  | 0.7812  | 0.2188 | 0.0000 | 295  | 0.9966  | 0.0034 |     | 291  | 0.9124   | 0.0876 | 0.0000 | 0.0000 |
| Kelly Lake                | 98   | 0.9388  | 0.0612 | 0.0000 | 92   | 1.0000  | 0.0000 |     | 98   | 0.9796   | 0.0204 | 0.0000 | 0.0000 |
| Kobuk River               | 200  | 0.8375  | 0.1625 | 0.0000 | 199  | 1.0000  | 0.0000 |     | 200  | 0.9175   | 0.0825 | 0.0000 | 0.0000 |
| Norton Sound              | 785  | 0.8166  | 0.1834 | 0.0000 | 791  | 0.9981  | 0.0019 |     | 787  | 0.9574   | 0.0413 | 0.0006 | 0.0006 |
| Lower Summer Yukon        | 1430 | 0.8031  | 0.1969 | 0.0000 | 1432 | 0.9993  | 0.0007 |     | 1427 | 0.9478   | 0.0512 | 0.0000 | 0.0011 |
| Koyukuk River Late        | 162  | 0.7531  | 0.2469 | 0.0000 | 162  | 1.0000  | 0.0000 |     | 162  | 0.9167   | 0.0833 | 0.0000 | 0.0000 |
| Tanana River Early        | 385  | 0.7610  | 0.2390 | 0.0000 | 386  | 1.0000  | 0.0000 |     | 384  | 0.9375   | 0.0625 | 0.0000 | 0.0000 |
| Kuskokwim River early     | 1314 | 0.8018  | 0.1982 | 0.0000 | 1323 | 1.0000  | 0.0000 |     | 1318 | 0.9499   | 0.0489 | 0.0000 | 0.0011 |
| Kuskokwim River late      | 199  | 0.7111  | 0.2889 | 0.0000 | 200  | 1.0000  | 0.0000 |     | 199  | 0.9397   | 0.0603 | 0.0000 | 0.0000 |
| Kanektok River            | 138  | 0.8370  | 0.1630 | 0.0000 | 138  | 1.0000  | 0.0000 |     | 138  | 0.9638   | 0.0362 | 0.0000 | 0.0000 |
| Goodnews River            | 99   | 0.8081  | 0.1919 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 100  | 0.9550   | 0.0450 | 0.0000 | 0.0000 |
| Togiak River              | 199  | 0.8794  | 0.1206 | 0.0000 | 200  | 1.0000  | 0.0000 |     | 198  | 0.9571   | 0.0429 | 0.0000 | 0.0000 |
| Nushagak River            | 286  | 0.7850  | 0.2150 | 0.0000 | 286  | 1.0000  | 0.0000 |     | 285  | 0.9561   | 0.0439 | 0.0000 | 0.0000 |
| Naknek/Alagnak Rivers     | 162  | 0.8611  | 0.1389 | 0.0000 | 164  | 1.0000  | 0.0000 |     | 163  | 0.9479   | 0.0521 | 0.0000 | 0.0000 |
| Egegik/Ugashik Bay        | 189  | 0.7487  | 0.2513 | 0.0000 | 198  | 1.0000  | 0.0000 |     | 198  | 0.9444   | 0.0556 | 0.0000 | 0.0000 |
| Meshik/Cinder River       | 261  | 0.9080  | 0.0920 | 0.0000 | 271  | 1.0000  | 0.0000 |     | 269  | 0.9201   | 0.0799 | 0.0000 | 0.0000 |
| Toklat River              | 814  | 0.7617  | 0.2383 | 0.0000 | 815  | 1.0000  | 0.0000 |     | 814  | 0.9318   | 0.0682 | 0.0000 | 0.0000 |
| Tanana Late Run           | 597  | 0.7136  | 0.2864 | 0.0000 | 596  | 1.0000  | 0.0000 |     | 594  | 0.9461   | 0.0539 | 0.0000 | 0.0000 |
| Porcupine River           | 360  | 0.7042  | 0.2958 | 0.0000 | 364  | 1.0000  | 0.0000 |     | 364  | 0.8984   | 0.1016 | 0.0000 | 0.0000 |
| Canadian Yukon Mainstem   | 200  | 0.7075  | 0.2925 | 0.0000 | 200  | 1.0000  | 0.0000 |     | 199  | 0.8970   | 0.1030 | 0.0000 | 0.0000 |
| Pelly River               | 81   | 0.7346  | 0.2654 | 0.0000 | 84   | 1.0000  | 0.0000 |     | 84   | 0.8810   | 0.1190 | 0.0000 | 0.0000 |
| White River               | 307  | 0.5293  | 0.4707 | 0.0000 | 186  | 1.0000  | 0.0000 |     | 304  | 0.9556   | 0.0444 | 0.0000 | 0.0000 |
| Teslin River              | 194  | 0.6881  | 0.3119 | 0.0000 | 193  | 1.0000  | 0.0000 |     | 194  | 0.8789   | 0.1211 | 0.0000 | 0.0000 |
| Lawrence Valley Creek     | 99   | 0.9394  | 0.0606 | 0.0000 | 99   | 1.0000  | 0.0000 |     | 98   | 0.9031   | 0.0969 | 0.0000 | 0.0000 |
| Moffit Creek              | 100  | 0.8900  | 0.1100 | 0.0000 | 99   | 1.0000  | 0.0000 |     | 99   | 0.9495   | 0.0505 | 0.0000 | 0.0000 |
| Joshua Green River        | 180  | 0.8972  | 0.1028 | 0.0000 | 180  | 1.0000  | 0.0000 |     | 180  | 0.9444   | 0.0556 | 0.0000 | 0.0000 |
| Frosty Creek              | 100  | 0.9000  | 0.1000 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 99   | 0.9495   | 0.0505 | 0.0000 | 0.0000 |
| Alligator Hole            | 99   | 0.8687  | 0.1313 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 100  | 0.9250   | 0.0750 | 0.0000 | 0.0000 |
| Trader's Cove Creek       | 100  | 0.9200  | 0.0800 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 100  | 0.9750   | 0.0250 | 0.0000 | 0.0000 |
| St. Catherine's Cove      | 79   | 0.8228  | 0.1772 | 0.0000 | 80   | 1.0000  | 0.0000 |     | 80   | 0.9125   | 0.0875 | 0.0000 | 0.0000 |
| Peterson Lagoon           | 84   | 0.6310  | 0.3690 | 0.0000 | 85   | 1.0000  | 0.0000 |     | 85   | 0.9412   | 0.0588 | 0.0000 | 0.0000 |
| Little John Lagoon        | 80   | 0.8688  | 0.1312 | 0.0000 | 80   | 1.0000  | 0.0000 |     | 80   | 0.9438   | 0.0500 | 0.0062 | 0.0000 |
| Sandy Cove                | 98   | 0.9133  | 0.0867 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 100  | 0.9850   | 0.0150 | 0.0000 | 0.0000 |
| Russell Creek             | 198  | 0.9015  | 0.0985 | 0.0000 | 200  | 1.0000  | 0.0000 |     | 197  | 0.9543   | 0.0457 | 0.0000 | 0.0000 |
| Delta Creek               | 100  | 0.9150  | 0.0850 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 100  | 0.9400   | 0.0600 | 0.0000 | 0.0000 |
| Belkofski River           | 86   | 0.9709  | 0.0291 | 0.0000 | 86   | 1.0000  | 0.0000 |     | 85   | 0.9765   | 0.0235 | 0.0000 | 0.0000 |
| Volcano Bay               | 106  | 0.9151  | 0.0849 | 0.0000 | 106  | 1.0000  | 0.0000 |     | 106  | 0.9104   | 0.0896 | 0.0000 | 0.0000 |
| Ruby's Lagoon             | 100  | 1.0000  | 0.0000 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 99   | 0.8535   | 0.1465 | 0.0000 | 0.0000 |
| Canoe Bay                 | 99   | 0.9646  | 0.0354 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 100  | 0.9300   | 0.0700 | 0.0000 | 0.0000 |
| Zachary Bay               | 77   | 0.9935  | 0.0065 | 0.0000 | 80   | 1.0000  | 0.0000 |     | 80   | 0.9438   | 0.0562 | 0.0000 | 0.0000 |
| Coleman Creek             | 100  | 0.9550  | 0.0450 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 97   | 0.9639   | 0.0361 | 0.0000 | 0.0000 |
| Balboa Bay                | 100  | 0.9650  | 0.0350 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 100  | 0.9500   | 0.0500 | 0.0000 | 0.0000 |
| Chichagof Bay             | 100  | 0.9400  | 0.0600 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 99   | 0.8687   | 0.1313 | 0.0000 | 0.0000 |
| Stepovak Bay              | 49   | 0.9490  | 0.0510 | 0.0000 | 49   | 1.0000  | 0.0000 |     | 49   | 0.9694   | 0.0204 | 0.0102 | 0.0000 |
| Stepovak River            | 100  | 0.8950  | 0.1050 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 100  | 0.9100   | 0.0900 | 0.0000 | 0.0000 |
| Ivanoff River             | 93   | 0.9462  | 0.0538 | 0.0000 | 94   | 1.0000  | 0.0000 |     | 93   | 0.9086   | 0.0806 | 0.0108 | 0.0000 |
| Kiukta Bay                | 95   | 0.9842  | 0.0158 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 100  | 0.9350   | 0.0650 | 0.0000 | 0.0000 |
| Kujulik Bay               | 71   | 0.9718  | 0.0282 | 0.0000 | 72   | 1.0000  | 0.0000 |     | 72   | 0.9653   | 0.0347 | 0.0000 | 0.0000 |
| Aniakchak River           | 99   | 0.9343  | 0.0657 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 100  | 0.9450   | 0.0550 | 0.0000 | 0.0000 |
| Amber Bay                 | 90   | 0.9667  | 0.0333 | 0.0000 | 92   | 1.0000  | 0.0000 |     | 92   | 0.9511   | 0.0489 | 0.0000 | 0.0000 |
| Chiginigak Bay            | 75   | 0.9400  | 0.0600 | 0.0000 | 75   | 1.0000  | 0.0000 |     | 75   | 0.9600   | 0.0400 | 0.0000 | 0.0000 |
| Kialagvik Bay             | 98   | 0.9592  | 0.0408 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 100  | 0.9400   | 0.0600 | 0.0000 | 0.0000 |
| Alinchak Bay              | 99   | 0.9343  | 0.0657 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 99   | 0.8788   | 0.1212 | 0.0000 | 0.0000 |
| Alagoshak River           | 94   | 0.9681  | 0.0319 | 0.0000 | 94   | 0.9947  | 0.0053 |     | 94   | 0.9468   | 0.0532 | 0.0000 | 0.0000 |
| Gull Cape Creek           | 100  | 0.9900  | 0.0100 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 100  | 0.9850   | 0.0150 | 0.0000 | 0.0000 |
| Hallo Bay                 | 97   | 0.9485  | 0.0515 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 99   | 0.9798   | 0.0202 | 0.0000 | 0.0000 |
| McNeil River              | 109  | 0.9450  | 0.0550 | 0.0000 | 108  | 0.9861  | 0.0139 |     | 109  | 0.9862   | 0.0138 | 0.0000 | 0.0000 |
| American River            | 145  | 0.9379  | 0.0586 | 0.0034 | 145  | 1.0000  | 0.0000 |     | 145  | 0.9690   | 0.0310 | 0.0000 | 0.0000 |
| Dog Bay                   | 100  | 0.8850  | 0.1150 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 99   | 0.9444   | 0.0556 | 0.0000 | 0.0000 |
| Sukhoi Lagoon             | 100  | 0.9450  | 0.0550 | 0.0000 | 100  | 1.0000  | 0.0000 |     | 99   | 0.7424   | 0.1768 | 0.0051 | 0.0758 |
| Sturgeon Lagoon           | 171  | 0.9854  | 0.0146 | 0.0000 | 171  | 1.0000  | 0.0000 |     | 171  | 0.9240   | 0.0760 | 0.0000 | 0.0000 |
| Uganik River              | 87   | 0.9425  | 0.0517 | 0.0057 | 88   | 1.0000  | 0.0000 |     | 88   | 0.9432   | 0.0398 | 0.0170 | 0.0000 |
| Kizhuyak River            | 337  | 0.9451  | 0.0549 | 0.0000 | 336  | 1.0000  | 0.0000 |     | 337  | 0.8947   | 0.1053 | 0.0000 | 0.0000 |
| Susitna River             | 100  | 0.9050  | 0.0950 | 0.0000 | 99   | 1.0000  | 0.0000 |     | 100  | 0.9600   | 0.0400 | 0.0000 | 0.0000 |
| West Prince William Sound | 191  | 0.8482  | 0.1518 | 0.0000 | 192  | 1.0000  | 0.0000 |     | 192  | 0.9661   | 0.0339 | 0.0000 | 0.0000 |
| Olsen Creek               | 200  | 0.9175  | 0.0825 | 0.0000 | 198  | 0.9975  | 0.0025 |     | 199  | 0.9347   | 0.0653 | 0.0000 | 0.0000 |

Appendix 3. Continued.

| Population                      | LDH-A1* |        |        |        | LDH-B2* |        |        | sMDH-A1* |        |        |        |        |
|---------------------------------|---------|--------|--------|--------|---------|--------|--------|----------|--------|--------|--------|--------|
|                                 | N       | 100    | 50     | 110    | N       | 100    | 120    | N        | 100    | 200    | 400    | -10    |
| Constantine Creek               | 100     | 0.9800 | 0.0200 | 0.0000 | 100     | 1.0000 | 0.0000 | 99       | 0.9848 | 0.0152 | 0.0000 | 0.0000 |
| Keta Creek                      | 100     | 0.8950 | 0.1050 | 0.0000 | 98      | 1.0000 | 0.0000 | 100      | 0.9300 | 0.0700 | 0.0000 | 0.0000 |
| Herman Creek                    | 159     | 0.9591 | 0.0409 | 0.0000 | 158     | 1.0000 | 0.0000 | 119      | 0.9790 | 0.0210 | 0.0000 | 0.0000 |
| Southeast Alaska                | 901     | 0.9739 | 0.0261 | 0.0000 | 905     | 0.9972 | 0.0028 | 585      | 0.9752 | 0.0248 | 0.0000 | 0.0000 |
| Port Real Marina                | 148     | 0.9764 | 0.0236 | 0.0000 | 148     | 0.9797 | 0.0203 | 108      | 0.9074 | 0.0926 | 0.0000 | 0.0000 |
| Eastern Prince of Wales Island  | 652     | 0.9701 | 0.0299 | 0.0000 | 661     | 0.9849 | 0.0151 | 456      | 0.9331 | 0.0669 | 0.0000 | 0.0000 |
| Eastern Queen Charlotte Islands | 431     | 0.9408 | 0.0568 | 0.0023 | 431     | 0.9455 | 0.0545 | 429      | 0.9021 | 0.0979 | 0.0000 | 0.0000 |
| Nass River Area                 | 311     | 0.9695 | 0.0305 | 0.0000 | 311     | 0.9904 | 0.0096 | 310      | 0.9661 | 0.0339 | 0.0000 | 0.0000 |
| Kitimat/Mussel River            | 222     | 0.9752 | 0.0248 | 0.0000 | 223     | 0.9978 | 0.0022 | 221      | 0.9751 | 0.0249 | 0.0000 | 0.0000 |
| Nekite Channel/River            | 196     | 0.9898 | 0.0000 | 0.0102 | 197     | 1.0000 | 0.0000 | 196      | 0.9745 | 0.0255 | 0.0000 | 0.0000 |
| East Vancouver Island           | 800     | 0.9931 | 0.0069 | 0.0000 | 800     | 0.9975 | 0.0025 | 800      | 0.9938 | 0.0062 | 0.0000 | 0.0000 |
| West Vancouver Island           | 606     | 0.9992 | 0.0008 | 0.0000 | 606     | 1.0000 | 0.0000 | 605      | 0.9719 | 0.0281 | 0.0000 | 0.0000 |
| Lower Fraser River              | 400     | 0.9988 | 0.0012 | 0.0000 | 400     | 1.0000 | 0.0000 | 400      | 0.9912 | 0.0088 | 0.0000 | 0.0000 |
| Upper Fraser River              | 600     | 0.9917 | 0.0083 | 0.0000 | 600     | 1.0000 | 0.0000 | 600      | 0.9867 | 0.0133 | 0.0000 | 0.0000 |
| Skagit River                    | 251     | 1.0000 | 0.0000 | 0.0000 | 251     | 0.9980 | 0.0020 | 249      | 0.9819 | 0.0181 | 0.0000 | 0.0000 |
| Bellingham Maritime Hatchery    | 100     | 1.0000 | 0.0000 | 0.0000 | 100     | 1.0000 | 0.0000 | 99       | 0.9747 | 0.0253 | 0.0000 | 0.0000 |
| Mill Creek                      | 179     | 1.0000 | 0.0000 | 0.0000 | 179     | 0.9944 | 0.0056 | 179      | 0.9749 | 0.0251 | 0.0000 | 0.0000 |
| Hood Canal Hatchery             | 449     | 1.0000 | 0.0000 | 0.0000 | 449     | 1.0000 | 0.0000 | 449      | 0.9866 | 0.0134 | 0.0000 | 0.0000 |
| Gakko/Miomote Rivers            | 118     | 0.8517 | 0.1483 | 0.0000 | 119     | 1.0000 | 0.0000 | 119      | 0.8235 | 0.1723 | 0.0000 | 0.0042 |
| Tsugaruishi River               | 80      | 0.8375 | 0.1500 | 0.0125 | 80      | 1.0000 | 0.0000 | 80       | 0.9188 | 0.0812 | 0.0000 | 0.0000 |
| Ohkawa River                    | 80      | 0.8688 | 0.1312 | 0.0000 | 80      | 1.0000 | 0.0000 | 80       | 0.8812 | 0.1188 | 0.0000 | 0.0000 |
| Teshio River                    | 80      | 0.8500 | 0.1375 | 0.0125 | 80      | 1.0000 | 0.0000 | 40       | 0.7875 | 0.2125 | 0.0000 | 0.0000 |
| Chitose River                   | 77      | 0.8247 | 0.1558 | 0.0195 | 80      | 1.0000 | 0.0000 | 77       | 0.8961 | 0.1039 | 0.0000 | 0.0000 |
| Tokachi River                   | 80      | 0.8938 | 0.1062 | 0.0000 | 79      | 1.0000 | 0.0000 | 80       | 0.9125 | 0.0875 | 0.0000 | 0.0000 |
| Kushiro River                   | 80      | 0.9562 | 0.0438 | 0.0000 | 79      | 1.0000 | 0.0000 | 80       | 0.9125 | 0.0875 | 0.0000 | 0.0000 |
| Nishibetsu River                | 80      | 0.8375 | 0.1625 | 0.0000 | 80      | 1.0000 | 0.0000 | 80       | 0.9188 | 0.0812 | 0.0000 | 0.0000 |
| Shari River                     | 80      | 0.7188 | 0.2812 | 0.0000 | 80      | 1.0000 | 0.0000 | 40       | 0.8375 | 0.1625 | 0.0000 | 0.0000 |
| Tokusibetsu River               | 40      | 0.9125 | 0.0875 | 0.0000 | 40      | 1.0000 | 0.0000 | 40       | 0.8750 | 0.1250 | 0.0000 | 0.0000 |
| Amur River                      | 38      | 1.0000 | 0.0000 | 0.0000 | 48      | 1.0000 | 0.0000 | 48       | 0.9062 | 0.0938 | 0.0000 | 0.0000 |
| Ryzanovka River                 | 50      | 0.9300 | 0.0400 | 0.0300 | 51      | 1.0000 | 0.0000 | 50       | 0.7500 | 0.2500 | 0.0000 | 0.0000 |
| Kalininka River                 | 48      | 0.9688 | 0.0312 | 0.0000 | 49      | 1.0000 | 0.0000 | 49       | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Naiba River                     | 61      | 0.9426 | 0.0574 | 0.0000 | 61      | 1.0000 | 0.0000 | 35       | 0.9286 | 0.0714 | 0.0000 | 0.0000 |
| Udamitsa River                  | 98      | 0.9541 | 0.0459 | 0.0000 | 98      | 1.0000 | 0.0000 | 95       | 0.9158 | 0.0842 | 0.0000 | 0.0000 |
| Anadyr/Kanchalan Rivers         | 180     | 0.9556 | 0.0444 | 0.0000 | 183     | 0.9973 | 0.0027 | 182      | 0.9863 | 0.0137 | 0.0000 | 0.0000 |
| Nerpichi Lake                   | 40      | 0.8875 | 0.1125 | 0.0000 | 40      | 0.9750 | 0.0250 | 40       | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kamchatka River                 | 75      | 0.8533 | 0.1467 | 0.0000 | 75      | 0.9867 | 0.0133 | 75       | 0.9733 | 0.0267 | 0.0000 | 0.0000 |
| Utka River                      | 79      | 0.9304 | 0.0696 | 0.0000 | 79      | 1.0000 | 0.0000 | 78       | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kikchik River                   | 40      | 0.7750 | 0.2250 | 0.0000 | 40      | 0.9625 | 0.0375 | 40       | 0.9875 | 0.0125 | 0.0000 | 0.0000 |
| Pymta River                     | 79      | 0.8608 | 0.1392 | 0.0000 | 79      | 1.0000 | 0.0000 | 78       | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kol River                       | 90      | 0.7833 | 0.2167 | 0.0000 | 91      | 0.9835 | 0.0165 | 77       | 0.9805 | 0.0195 | 0.0000 | 0.0000 |
| Hairusova River                 | 106     | 0.8962 | 0.1038 | 0.0000 | 154     | 0.9773 | 0.0227 | 98       | 0.9745 | 0.0255 | 0.0000 | 0.0000 |
| Tumani River                    | 66      | 0.8258 | 0.1742 | 0.0000 | 66      | 0.9621 | 0.0379 | 66       | 0.9545 | 0.0455 | 0.0000 | 0.0000 |
| Ola River                       | 80      | 0.7812 | 0.2188 | 0.0000 | 80      | 0.9875 | 0.0125 | 80       | 0.9812 | 0.0188 | 0.0000 | 0.0000 |

## Appendix 3. Continued.

| Population                | sMDH-BI.2* |        |        |        |          | mMEP-2* |        |        | sMEP-1* |        |        |
|---------------------------|------------|--------|--------|--------|----------|---------|--------|--------|---------|--------|--------|
|                           | N          | 100    | 72     | 50     | fast>110 | N       | 100    | 122    | N       | 100    | 90     |
| Noatak River              | 293        | 1.0000 | 0.0000 | 0.0000 | 0.0000   | 291     | 0.6821 | 0.3179 | 295     | 1.0000 | 0.0000 |
| Kelly Lake                | 95         | 1.0000 | 0.0000 | 0.0000 | 0.0000   | 96      | 0.7656 | 0.2344 | 101     | 1.0000 | 0.0000 |
| Kobuk River               | 199        | 0.9962 | 0.0038 | 0.0000 | 0.0000   | 197     | 0.7132 | 0.2868 | 198     | 1.0000 | 0.0000 |
| Norton Sound              | 788        | 0.9943 | 0.0029 | 0.0029 | 0.0000   | 781     | 0.6965 | 0.3035 | 785     | 1.0000 | 0.0000 |
| Lower Summer Yukon        | 1431       | 0.9944 | 0.0042 | 0.0007 | 0.0007   | 1431    | 0.8057 | 0.1943 | 1413    | 1.0000 | 0.0000 |
| Koyukuk River Late        | 162        | 0.9954 | 0.0046 | 0.0000 | 0.0000   | 162     | 0.8827 | 0.1173 | 161     | 1.0000 | 0.0000 |
| Tanana River Early        | 383        | 0.9876 | 0.0124 | 0.0000 | 0.0000   | 384     | 0.8919 | 0.1081 | 384     | 1.0000 | 0.0000 |
| Kuskokwim River early     | 1319       | 0.9947 | 0.0044 | 0.0004 | 0.0006   | 1313    | 0.7666 | 0.2334 | 1317    | 1.0000 | 0.0000 |
| Kuskokwim River late      | 200        | 0.9775 | 0.0225 | 0.0000 | 0.0000   | 199     | 0.9070 | 0.0930 | 200     | 1.0000 | 0.0000 |
| Kanektok River            | 138        | 0.9982 | 0.0018 | 0.0000 | 0.0000   | 137     | 0.7737 | 0.2263 | 138     | 0.9964 | 0.0036 |
| Goodnews River            | 100        | 1.0000 | 0.0000 | 0.0000 | 0.0000   | 99      | 0.7121 | 0.2879 | 100     | 1.0000 | 0.0000 |
| Togiak River              | 200        | 0.9900 | 0.0088 | 0.0012 | 0.0000   | 197     | 0.6802 | 0.3198 | 200     | 1.0000 | 0.0000 |
| Nushagak River            | 283        | 0.9929 | 0.0044 | 0.0018 | 0.0009   | 285     | 0.7702 | 0.2298 | 286     | 0.9983 | 0.0017 |
| Naknek/Alagnak Rivers     | 164        | 0.9893 | 0.0015 | 0.0061 | 0.0030   | 162     | 0.7747 | 0.2253 | 162     | 1.0000 | 0.0000 |
| Egegik/Ugashik Bay        | 198        | 0.9912 | 0.0000 | 0.0000 | 0.0088   | 196     | 0.7985 | 0.2015 | 197     | 1.0000 | 0.0000 |
| Meshik/Cinder River       | 270        | 0.9889 | 0.0000 | 0.0056 | 0.0056   | 260     | 0.8404 | 0.1596 | 269     | 1.0000 | 0.0000 |
| Toklat River              | 815        | 0.9975 | 0.0025 | 0.0000 | 0.0000   | 814     | 0.9048 | 0.0952 | 413     | 1.0000 | 0.0000 |
| Tanana Late Run           | 597        | 0.9996 | 0.0004 | 0.0000 | 0.0000   | 597     | 0.9104 | 0.0896 | 596     | 1.0000 | 0.0000 |
| Porcupine River           | 364        | 1.0000 | 0.0000 | 0.0000 | 0.0000   | 362     | 0.9503 | 0.0497 | 263     | 1.0000 | 0.0000 |
| Canadian Yukon Mainstem   | 200        | 1.0000 | 0.0000 | 0.0000 | 0.0000   | 200     | 0.8750 | 0.1250 | 99      | 1.0000 | 0.0000 |
| Pelly River               | 84         | 1.0000 | 0.0000 | 0.0000 | 0.0000   | 83      | 0.9398 | 0.0602 | 84      | 1.0000 | 0.0000 |
| White River               | 300        | 0.9992 | 0.0008 | 0.0000 | 0.0000   | 307     | 0.9788 | 0.0212 | 174     | 1.0000 | 0.0000 |
| Teslin River              | 194        | 1.0000 | 0.0000 | 0.0000 | 0.0000   | 193     | 0.9171 | 0.0829 | 94      | 1.0000 | 0.0000 |
| Lawrence Valley Creek     | 100        | 0.9475 | 0.0050 | 0.0225 | 0.0250   | 96      | 0.8854 | 0.1146 | 97      | 1.0000 | 0.0000 |
| Moffit Creek              | 100        | 0.9875 | 0.0075 | 0.0000 | 0.0050   | 100     | 0.8600 | 0.1400 | 100     | 1.0000 | 0.0000 |
| Joshua Green River        | 180        | 0.9722 | 0.0208 | 0.0042 | 0.0028   | 180     | 0.8917 | 0.1083 | 176     | 1.0000 | 0.0000 |
| Frosty Creek              | 99         | 0.9798 | 0.0051 | 0.0025 | 0.0126   | 100     | 0.8750 | 0.1250 | 100     | 1.0000 | 0.0000 |
| Alligator Hole            | 100        | 0.9825 | 0.0100 | 0.0075 | 0.0000   | 100     | 0.9150 | 0.0850 | 100     | 1.0000 | 0.0000 |
| Trader's Cove Creek       | 99         | 0.9747 | 0.0051 | 0.0202 | 0.0000   | 99      | 0.9091 | 0.0909 | 100     | 1.0000 | 0.0000 |
| St. Catherine's Cove      | 79         | 0.9747 | 0.0127 | 0.0000 | 0.0127   | 79      | 0.8481 | 0.1519 | 79      | 1.0000 | 0.0000 |
| Peterson Lagoon           | 85         | 0.9647 | 0.0088 | 0.0000 | 0.0265   | 83      | 0.9157 | 0.0843 | 84      | 1.0000 | 0.0000 |
| Little John Lagoon        | 80         | 0.9844 | 0.0094 | 0.0000 | 0.0062   | 80      | 0.8625 | 0.1375 | 80      | 1.0000 | 0.0000 |
| Sandy Cove                | 100        | 0.9700 | 0.0100 | 0.0100 | 0.0100   | 98      | 0.8265 | 0.1735 | 98      | 1.0000 | 0.0000 |
| Russell Creek             | 200        | 0.9700 | 0.0188 | 0.0012 | 0.0100   | 200     | 0.8675 | 0.1325 | 199     | 1.0000 | 0.0000 |
| Delta Creek               | 100        | 0.9775 | 0.0075 | 0.0075 | 0.0075   | 99      | 0.8535 | 0.1465 | 100     | 1.0000 | 0.0000 |
| Belkofski River           | 87         | 0.9856 | 0.0057 | 0.0057 | 0.0029   | 86      | 0.8488 | 0.1512 | 86      | 1.0000 | 0.0000 |
| Volcano Bay               | 106        | 0.9953 | 0.0024 | 0.0000 | 0.0024   | 106     | 0.9292 | 0.0708 | 106     | 1.0000 | 0.0000 |
| Ruby's Lagoon             | 99         | 0.9975 | 0.0025 | 0.0000 | 0.0000   | 100     | 0.9350 | 0.0650 | 100     | 1.0000 | 0.0000 |
| Canoe Bay                 | 100        | 0.9825 | 0.0100 | 0.0000 | 0.0075   | 100     | 0.8650 | 0.1350 | 60      | 1.0000 | 0.0000 |
| Zachary Bay               | 80         | 0.9281 | 0.0500 | 0.0000 | 0.0219   | 77      | 0.8571 | 0.1429 | 77      | 1.0000 | 0.0000 |
| Coleman Creek             | 100        | 0.9450 | 0.0500 | 0.0025 | 0.0025   | 100     | 0.9100 | 0.0900 | 100     | 1.0000 | 0.0000 |
| Balboa Bay                | 100        | 0.9450 | 0.0475 | 0.0050 | 0.0025   | 99      | 0.8283 | 0.1717 | 99      | 1.0000 | 0.0000 |
| Chichagof Bay             | 100        | 0.9925 | 0.0025 | 0.0050 | 0.0000   | 100     | 0.9250 | 0.0750 | 100     | 1.0000 | 0.0000 |
| Stepovak Bay              | 50         | 0.9900 | 0.0100 | 0.0000 | 0.0000   | 49      | 0.8571 | 0.1429 | 49      | 1.0000 | 0.0000 |
| Stepovak River            | 100        | 0.9850 | 0.0150 | 0.0000 | 0.0000   | 100     | 0.9150 | 0.0850 | 100     | 1.0000 | 0.0000 |
| Ivanoff River             | 94         | 0.9707 | 0.0186 | 0.0053 | 0.0053   | 93      | 0.9516 | 0.0484 | 90      | 1.0000 | 0.0000 |
| Kiukta Bay                | 100        | 0.9625 | 0.0300 | 0.0000 | 0.0075   | 98      | 0.8622 | 0.1378 | 100     | 1.0000 | 0.0000 |
| Kujulik Bay               | 72         | 0.9618 | 0.0347 | 0.0035 | 0.0000   | 72      | 0.8958 | 0.1042 | 72      | 1.0000 | 0.0000 |
| Aniakchak River           | 100        | 0.9800 | 0.0200 | 0.0000 | 0.0000   | 98      | 0.8418 | 0.1582 | 100     | 1.0000 | 0.0000 |
| Amber Bay                 | 92         | 0.9565 | 0.0353 | 0.0054 | 0.0027   | 86      | 0.8895 | 0.1105 | 91      | 1.0000 | 0.0000 |
| Chiginigak Bay            | 75         | 0.9767 | 0.0233 | 0.0000 | 0.0000   | 75      | 0.9333 | 0.0667 | 74      | 1.0000 | 0.0000 |
| Kialagvik Bay             | 100        | 0.9775 | 0.0200 | 0.0000 | 0.0025   | 99      | 0.9091 | 0.0909 | 100     | 1.0000 | 0.0000 |
| Alinchak Bay              | 100        | 0.9425 | 0.0500 | 0.0000 | 0.0075   | 96      | 0.9010 | 0.0990 | 100     | 1.0000 | 0.0000 |
| Alagogshak River          | 94         | 0.9840 | 0.0160 | 0.0000 | 0.0000   | 87      | 0.8966 | 0.1034 | 94      | 1.0000 | 0.0000 |
| Gull Cape Creek           | 100        | 0.9650 | 0.0250 | 0.0100 | 0.0000   | 100     | 0.9600 | 0.0400 | 100     | 1.0000 | 0.0000 |
| Hallo Bay                 | 100        | 0.9400 | 0.0600 | 0.0000 | 0.0000   | 95      | 0.9263 | 0.0737 | 96      | 1.0000 | 0.0000 |
| McNeil River              | 109        | 0.9702 | 0.0275 | 0.0000 | 0.0023   | 109     | 0.8073 | 0.1927 | 109     | 1.0000 | 0.0000 |
| American River            | 145        | 0.9897 | 0.0086 | 0.0017 | 0.0000   | 145     | 0.8828 | 0.1172 | 142     | 1.0000 | 0.0000 |
| Dog Bay                   | 100        | 0.9600 | 0.0250 | 0.0000 | 0.0150   | 100     | 0.9150 | 0.0850 | 100     | 1.0000 | 0.0000 |
| Sukhoi Lagoon             | 100        | 0.9975 | 0.0025 | 0.0000 | 0.0000   | 100     | 0.9500 | 0.0500 | 100     | 1.0000 | 0.0000 |
| Sturgeon Lagoon           | 170        | 0.8324 | 0.0029 | 0.1647 | 0.0000   | 167     | 0.9940 | 0.0060 | 171     | 1.0000 | 0.0000 |
| Uganik River              | 88         | 0.9830 | 0.0142 | 0.0028 | 0.0000   | 87      | 0.9310 | 0.0690 | 87      | 1.0000 | 0.0000 |
| Kizhuyak River            | 337        | 1.0000 | 0.0000 | 0.0000 | 0.0000   | 330     | 0.8455 | 0.1545 | 333     | 1.0000 | 0.0000 |
| Susitna River             | 100        | 0.9775 | 0.0225 | 0.0000 | 0.0000   | 100     | 0.9300 | 0.0700 | 100     | 1.0000 | 0.0000 |
| West Prince William Sound | 192        | 0.9596 | 0.0326 | 0.0000 | 0.0078   | 185     | 0.7892 | 0.2108 | 192     | 1.0000 | 0.0000 |
| Olsen Creek               | 200        | 0.9825 | 0.0100 | 0.0000 | 0.0075   | 200     | 0.8550 | 0.1450 | 200     | 1.0000 | 0.0000 |

Appendix 3. Continued.

| Population                      | N   | sMDH-B1.2* |        |        |          | N   | mMEP-2* |        | N   | sMEP-1* |        |
|---------------------------------|-----|------------|--------|--------|----------|-----|---------|--------|-----|---------|--------|
|                                 |     | 100        | 72     | 50     | fast>110 |     | 100     | 122    |     | 100     | 90     |
| Constantine Creek               | 100 | 0.9875     | 0.0125 | 0.0000 | 0.0000   | 100 | 0.8150  | 0.1850 | 100 | 1.0000  | 0.0000 |
| Keta Creek                      | 100 | 0.9775     | 0.0225 | 0.0000 | 0.0000   | 98  | 0.9388  | 0.0612 | 98  | 1.0000  | 0.0000 |
| Herman Creek                    | 159 | 0.9796     | 0.0204 | 0.0000 | 0.0000   | 159 | 0.9403  | 0.0597 | 157 | 1.0000  | 0.0000 |
| Southeast Alaska                | 783 | 0.9872     | 0.0105 | 0.0006 | 0.0016   | 890 | 0.8843  | 0.1157 | 897 | 0.9978  | 0.0022 |
| Port Real Marina                | 108 | 0.9606     | 0.0370 | 0.0000 | 0.0023   | 148 | 0.9324  | 0.0676 | 108 | 1.0000  | 0.0000 |
| Eastern Prince of Wales Island  | 459 | 0.9788     | 0.0158 | 0.0000 | 0.0054   | 654 | 0.9480  | 0.0520 | 612 | 1.0000  | 0.0000 |
| Eastern Queen Charlotte Islands | 431 | 0.9664     | 0.0278 | 0.0000 | 0.0058   | 427 | 0.8899  | 0.1101 | 430 | 1.0000  | 0.0000 |
| Nass River Area                 | 311 | 0.9727     | 0.0233 | 0.0032 | 0.0008   | 308 | 0.8718  | 0.1282 | 309 | 1.0000  | 0.0000 |
| Kitimat/Mussel River            | 223 | 0.9888     | 0.0101 | 0.0011 | 0.0000   | 221 | 0.8507  | 0.1493 | 221 | 0.9977  | 0.0023 |
| Nekite Channel/River            | 197 | 0.9987     | 0.0000 | 0.0000 | 0.0013   | 192 | 0.8333  | 0.1667 | 195 | 1.0000  | 0.0000 |
| East Vancouver Island           | 800 | 0.9975     | 0.0019 | 0.0000 | 0.0006   | 800 | 0.7812  | 0.2188 | 747 | 1.0000  | 0.0000 |
| West Vancouver Island           | 605 | 0.9930     | 0.0066 | 0.0004 | 0.0000   | 606 | 0.7904  | 0.2096 | 545 | 1.0000  | 0.0000 |
| Lower Fraser River              | 400 | 0.9906     | 0.0081 | 0.0012 | 0.0000   | 400 | 0.8275  | 0.1725 | 367 | 1.0000  | 0.0000 |
| Upper Fraser River              | 598 | 0.9925     | 0.0075 | 0.0000 | 0.0000   | 600 | 0.8492  | 0.1508 | 541 | 1.0000  | 0.0000 |
| Skagit River                    | 251 | 0.9980     | 0.0020 | 0.0000 | 0.0000   | 251 | 0.7251  | 0.2749 | 244 | 1.0000  | 0.0000 |
| Bellingham Maritime Hatchery    | 100 | 0.9900     | 0.0100 | 0.0000 | 0.0000   | 99  | 0.7576  | 0.2424 | 99  | 1.0000  | 0.0000 |
| Mill Creek                      | 179 | 0.9888     | 0.0112 | 0.0000 | 0.0000   | 178 | 0.7725  | 0.2275 | 175 | 1.0000  | 0.0000 |
| Hood Canal Hatchery             | 449 | 0.9950     | 0.0050 | 0.0000 | 0.0000   | 449 | 0.7773  | 0.2227 | 414 | 1.0000  | 0.0000 |
| Gakko/Miomote Rivers            | 119 | 0.9916     | 0.0042 | 0.0042 | 0.0000   | 119 | 0.9034  | 0.0966 | 119 | 0.9244  | 0.0756 |
| Tsugaruishi River               | 80  | 0.9938     | 0.0000 | 0.0031 | 0.0031   | 79  | 0.9367  | 0.0633 | 79  | 0.9684  | 0.0316 |
| Ohkawa River                    | 80  | 0.9906     | 0.0000 | 0.0094 | 0.0000   | 80  | 0.9250  | 0.0750 | 80  | 0.9125  | 0.0875 |
| Teshio River                    | 80  | 1.0000     | 0.0000 | 0.0000 | 0.0000   | 80  | 0.8875  | 0.1125 | 80  | 0.9812  | 0.0188 |
| Chitose River                   | 80  | 0.9938     | 0.0031 | 0.0031 | 0.0000   | 76  | 0.9211  | 0.0789 | 75  | 0.9867  | 0.0133 |
| Tokachi River                   | 80  | 0.9375     | 0.0281 | 0.0344 | 0.0000   | 80  | 0.9125  | 0.0875 | 80  | 0.9875  | 0.0125 |
| Kushiro River                   | 80  | 0.9594     | 0.0156 | 0.0250 | 0.0000   | 80  | 0.9125  | 0.0875 | 80  | 0.9812  | 0.0188 |
| Nishibetsu River                | 80  | 0.9812     | 0.0094 | 0.0094 | 0.0000   | 80  | 0.7938  | 0.2062 | 80  | 0.9750  | 0.0250 |
| Shari River                     | 40  | 0.9688     | 0.0250 | 0.0062 | 0.0000   | 80  | 0.9062  | 0.0938 | 80  | 0.9938  | 0.0062 |
| Tokusibetsu River               | 40  | 0.9812     | 0.0062 | 0.0125 | 0.0000   | 40  | 0.8125  | 0.1875 | 40  | 1.0000  | 0.0000 |
| Amur River                      | 46  | 1.0000     | 0.0000 | 0.0000 | 0.0000   | 40  | 0.9500  | 0.0500 | 40  | 1.0000  | 0.0000 |
| Ryzanovka River                 | 51  | 0.9902     | 0.0098 | 0.0000 | 0.0000   | 51  | 0.9216  | 0.0784 | 51  | 0.9902  | 0.0098 |
| Kalininka River                 | 49  | 0.8571     | 0.0153 | 0.1224 | 0.0051   | 48  | 0.8958  | 0.1042 | 48  | 1.0000  | 0.0000 |
| Naiba River                     | 61  | 0.9672     | 0.0041 | 0.0205 | 0.0082   | 60  | 0.8250  | 0.1750 | 60  | 1.0000  | 0.0000 |
| Udarnitsa River                 | 98  | 0.9286     | 0.0102 | 0.0459 | 0.0153   | 97  | 0.8814  | 0.1186 | 98  | 1.0000  | 0.0000 |
| Anadyr/Kanchalan Rivers         | 182 | 0.9945     | 0.0027 | 0.0014 | 0.0014   | 103 | 0.7039  | 0.2961 | 104 | 1.0000  | 0.0000 |
| Nerpichi Lake                   | 40  | 0.9750     | 0.0250 | 0.0000 | 0.0000   | 40  | 0.7000  | 0.3000 | 40  | 1.0000  | 0.0000 |
| Kamchatka River                 | 75  | 0.9800     | 0.0167 | 0.0000 | 0.0033   | 75  | 0.7733  | 0.2267 | 76  | 1.0000  | 0.0000 |
| Utka River                      | 79  | 0.9968     | 0.0032 | 0.0000 | 0.0000   | 79  | 0.8228  | 0.1772 | 79  | 1.0000  | 0.0000 |
| Kikchik River                   | 40  | 0.9812     | 0.0125 | 0.0062 | 0.0000   | 36  | 0.8056  | 0.1944 | 40  | 1.0000  | 0.0000 |
| Pymta River                     | 79  | 0.9905     | 0.0095 | 0.0000 | 0.0000   | 79  | 0.7025  | 0.2975 | 79  | 1.0000  | 0.0000 |
| Kol River                       | 91  | 0.9945     | 0.0000 | 0.0000 | 0.0055   | 90  | 0.7389  | 0.2611 | 91  | 1.0000  | 0.0000 |
| Hairusova River                 | 153 | 0.9984     | 0.0016 | 0.0000 | 0.0000   | 107 | 0.7991  | 0.2009 | 68  | 1.0000  | 0.0000 |
| Tumani River                    | 66  | 0.9962     | 0.0000 | 0.0000 | 0.0038   | 64  | 0.8281  | 0.1719 | 65  | 1.0000  | 0.0000 |
| Ola River                       | 80  | 0.9844     | 0.0156 | 0.0000 | 0.0000   | 80  | 0.8750  | 0.1250 | 80  | 1.0000  | 0.0000 |

## Appendix 3. Continued.

| Population                | N    | MPI*   |        |        |        |        | N    | PEPA*  |        |        |
|---------------------------|------|--------|--------|--------|--------|--------|------|--------|--------|--------|
|                           |      | 100    | 94     | 110    | 80     | 74     |      | 100    | 90     | 113    |
| Noatak River              | 291  | 0.9210 | 0.0790 | 0.0000 | 0.0000 | 0.0000 | 1424 | 0.9965 | 0.0000 | 0.0035 |
| Kelly Lake                | 96   | 0.8854 | 0.1146 | 0.0000 | 0.0000 | 0.0000 | 192  | 1.0000 | 0.0000 | 0.0000 |
| Kobuk River               | 196  | 0.9464 | 0.0510 | 0.0000 | 0.0000 | 0.0026 | 337  | 1.0000 | 0.0000 | 0.0000 |
| Norton Sound              | 786  | 0.8855 | 0.1145 | 0.0000 | 0.0000 | 0.0000 | 170  | 1.0000 | 0.0000 | 0.0000 |
| Lower Summer Yukon        | 1423 | 0.8767 | 0.1233 | 0.0000 | 0.0000 | 0.0000 | 269  | 1.0000 | 0.0000 | 0.0000 |
| Koyukuk River Late        | 162  | 0.8858 | 0.1142 | 0.0000 | 0.0000 | 0.0000 | 162  | 1.0000 | 0.0000 | 0.0000 |
| Tanana River Early        | 381  | 0.9344 | 0.0656 | 0.0000 | 0.0000 | 0.0000 | 197  | 1.0000 | 0.0000 | 0.0000 |
| Kuskokwim River early     | 1299 | 0.8687 | 0.1313 | 0.0000 | 0.0000 | 0.0000 | 286  | 0.9965 | 0.0000 | 0.0035 |
| Kuskokwim River late      | 200  | 0.8775 | 0.1225 | 0.0000 | 0.0000 | 0.0000 | 200  | 1.0000 | 0.0000 | 0.0000 |
| Kanektok River            | 138  | 0.8768 | 0.1232 | 0.0000 | 0.0000 | 0.0000 | 1323 | 0.9996 | 0.0000 | 0.0004 |
| Goodnews River            | 99   | 0.8990 | 0.0960 | 0.0000 | 0.0000 | 0.0051 | 273  | 1.0000 | 0.0000 | 0.0000 |
| Togiak River              | 196  | 0.8776 | 0.1224 | 0.0000 | 0.0000 | 0.0000 | 546  | 1.0000 | 0.0000 | 0.0000 |
| Nushagak River            | 282  | 0.8369 | 0.1631 | 0.0000 | 0.0000 | 0.0000 | 162  | 1.0000 | 0.0000 | 0.0000 |
| Naknek/Alagnak Rivers     | 161  | 0.8727 | 0.1273 | 0.0000 | 0.0000 | 0.0000 | 781  | 0.9987 | 0.0000 | 0.0013 |
| Egegik/Ugashik Bay        | 195  | 0.9000 | 0.1000 | 0.0000 | 0.0000 | 0.0000 | 192  | 1.0000 | 0.0000 | 0.0000 |
| Meshik/Cinder River       | 261  | 0.9349 | 0.0651 | 0.0000 | 0.0000 | 0.0000 | 294  | 0.9983 | 0.0000 | 0.0017 |
| Toklat River              | 809  | 0.8999 | 0.1001 | 0.0000 | 0.0000 | 0.0000 | 380  | 1.0000 | 0.0000 | 0.0000 |
| Tanana Late Run           | 593  | 0.9224 | 0.0776 | 0.0000 | 0.0000 | 0.0000 | 361  | 1.0000 | 0.0000 | 0.0000 |
| Porcupine River           | 363  | 0.9201 | 0.0799 | 0.0000 | 0.0000 | 0.0000 | 191  | 1.0000 | 0.0000 | 0.0000 |
| Canadian Yukon Mainstem   | 200  | 0.9175 | 0.0825 | 0.0000 | 0.0000 | 0.0000 | 200  | 1.0000 | 0.0000 | 0.0000 |
| Pelly River               | 84   | 0.9702 | 0.0298 | 0.0000 | 0.0000 | 0.0000 | 200  | 1.0000 | 0.0000 | 0.0000 |
| White River               | 311  | 0.9373 | 0.0627 | 0.0000 | 0.0000 | 0.0000 | 145  | 1.0000 | 0.0000 | 0.0000 |
| Teslin River              | 195  | 0.9744 | 0.0256 | 0.0000 | 0.0000 | 0.0000 | 109  | 1.0000 | 0.0000 | 0.0000 |
| Lawrence Valley Creek     | 100  | 0.8600 | 0.1400 | 0.0000 | 0.0000 | 0.0000 | 106  | 1.0000 | 0.0000 | 0.0000 |
| Moffit Creek              | 100  | 0.9050 | 0.0950 | 0.0000 | 0.0000 | 0.0000 | 200  | 1.0000 | 0.0000 | 0.0000 |
| Joshua Green River        | 177  | 0.9011 | 0.0989 | 0.0000 | 0.0000 | 0.0000 | 180  | 1.0000 | 0.0000 | 0.0000 |
| Frosty Creek              | 98   | 0.9082 | 0.0918 | 0.0000 | 0.0000 | 0.0000 | 193  | 1.0000 | 0.0000 | 0.0000 |
| Alligator Hole            | 100  | 0.9250 | 0.0750 | 0.0000 | 0.0000 | 0.0000 | 138  | 1.0000 | 0.0000 | 0.0000 |
| Trader's Cove Creek       | 97   | 0.9124 | 0.0876 | 0.0000 | 0.0000 | 0.0000 | 798  | 1.0000 | 0.0000 | 0.0000 |
| St. Catherine's Cove      | 80   | 0.8750 | 0.1250 | 0.0000 | 0.0000 | 0.0000 | 91   | 0.9945 | 0.0000 | 0.0055 |
| Peterson Lagoon           | 85   | 0.8882 | 0.1118 | 0.0000 | 0.0000 | 0.0000 | 84   | 1.0000 | 0.0000 | 0.0000 |
| Little John Lagoon        | 80   | 0.8875 | 0.1125 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Sandy Cove                | 100  | 0.8200 | 0.1800 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Russell Creek             | 198  | 0.8510 | 0.1490 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Delta Creek               | 99   | 0.8232 | 0.1717 | 0.0051 | 0.0000 | 0.0000 | 99   | 1.0000 | 0.0000 | 0.0000 |
| Belkofski River           | 78   | 0.8462 | 0.1538 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Volcano Bay               | 106  | 0.7972 | 0.2028 | 0.0000 | 0.0000 | 0.0000 | 99   | 1.0000 | 0.0000 | 0.0000 |
| Ruby's Lagoon             | 100  | 0.9150 | 0.0850 | 0.0000 | 0.0000 | 0.0000 | 79   | 1.0000 | 0.0000 | 0.0000 |
| Canoe Bay                 | 100  | 0.8600 | 0.1400 | 0.0000 | 0.0000 | 0.0000 | 83   | 1.0000 | 0.0000 | 0.0000 |
| Zachary Bay               | 78   | 0.8910 | 0.1090 | 0.0000 | 0.0000 | 0.0000 | 80   | 1.0000 | 0.0000 | 0.0000 |
| Coleman Creek             | 100  | 0.7650 | 0.2350 | 0.0000 | 0.0000 | 0.0000 | 98   | 1.0000 | 0.0000 | 0.0000 |
| Balboa Bay                | 100  | 0.8050 | 0.1950 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Chichagof Bay             | 98   | 0.9184 | 0.0816 | 0.0000 | 0.0000 | 0.0000 | 86   | 1.0000 | 0.0000 | 0.0000 |
| Stepovak Bay              | 50   | 0.8100 | 0.1900 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Stepovak River            | 100  | 0.7950 | 0.2050 | 0.0000 | 0.0000 | 0.0000 | 97   | 1.0000 | 0.0000 | 0.0000 |
| Ivanoff River             | 93   | 0.9194 | 0.0753 | 0.0054 | 0.0000 | 0.0000 | 77   | 1.0000 | 0.0000 | 0.0000 |
| Kiukta Bay                | 100  | 0.8950 | 0.1050 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Kujulik Bay               | 71   | 0.7817 | 0.2183 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Aniakchak River           | 100  | 0.7200 | 0.2800 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Amber Bay                 | 92   | 0.8750 | 0.1250 | 0.0000 | 0.0000 | 0.0000 | 49   | 1.0000 | 0.0000 | 0.0000 |
| Chiginigak Bay            | 75   | 0.8400 | 0.1600 | 0.0000 | 0.0000 | 0.0000 | 99   | 1.0000 | 0.0000 | 0.0000 |
| Kialagvik Bay             | 100  | 0.7500 | 0.2500 | 0.0000 | 0.0000 | 0.0000 | 93   | 1.0000 | 0.0000 | 0.0000 |
| Alinchak Bay              | 99   | 0.8384 | 0.1616 | 0.0000 | 0.0000 | 0.0000 | 100  | 0.9950 | 0.0000 | 0.0050 |
| Alagoshak River           | 94   | 0.7979 | 0.2021 | 0.0000 | 0.0000 | 0.0000 | 72   | 1.0000 | 0.0000 | 0.0000 |
| Gull Cape Creek           | 100  | 0.9050 | 0.0950 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Hallo Bay                 | 98   | 0.8265 | 0.1735 | 0.0000 | 0.0000 | 0.0000 | 91   | 1.0000 | 0.0000 | 0.0000 |
| McNeil River              | 100  | 0.7950 | 0.2050 | 0.0000 | 0.0000 | 0.0000 | 75   | 1.0000 | 0.0000 | 0.0000 |
| American River            | 145  | 0.8897 | 0.1103 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Dog Bay                   | 99   | 0.8636 | 0.1364 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Sukhoi Lagoon             | 97   | 0.7062 | 0.2938 | 0.0000 | 0.0000 | 0.0000 | 94   | 1.0000 | 0.0000 | 0.0000 |
| Sturgeon Lagoon           | 170  | 0.9441 | 0.0559 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Uganik River              | 88   | 0.7841 | 0.2102 | 0.0057 | 0.0000 | 0.0000 | 98   | 1.0000 | 0.0000 | 0.0000 |
| Kizhuyak River            | 337  | 0.9585 | 0.0415 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| Susitna River             | 97   | 0.7887 | 0.2113 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 |
| West Prince William Sound | 190  | 0.8079 | 0.1921 | 0.0000 | 0.0000 | 0.0000 | 99   | 1.0000 | 0.0000 | 0.0000 |
| Olsen Creek               | 199  | 0.8492 | 0.1508 | 0.0000 | 0.0000 | 0.0000 | 88   | 1.0000 | 0.0000 | 0.0000 |

Appendix 3. Continued.

| Population                      | N   | MPI*   |        |        |        |        | N   | PEPA*  |        |        |
|---------------------------------|-----|--------|--------|--------|--------|--------|-----|--------|--------|--------|
|                                 |     | 100    | 94     | 110    | 80     | 74     |     | 100    | 90     | 113    |
| Constantine Creek               | 100 | 0.7000 | 0.3000 | 0.0000 | 0.0000 | 0.0000 | 100 | 1.0000 | 0.0000 | 0.0000 |
| Keta Creek                      | 99  | 0.8333 | 0.1667 | 0.0000 | 0.0000 | 0.0000 | 100 | 1.0000 | 0.0000 | 0.0000 |
| Herman Creek                    | 117 | 0.8632 | 0.1368 | 0.0000 | 0.0000 | 0.0000 | 551 | 1.0000 | 0.0000 | 0.0000 |
| Southeast Alaska                | 580 | 0.9078 | 0.0862 | 0.0000 | 0.0060 | 0.0000 | 835 | 0.9994 | 0.0006 | 0.0000 |
| Port Real Marina                | 107 | 0.8879 | 0.1121 | 0.0000 | 0.0000 | 0.0000 | 224 | 1.0000 | 0.0000 | 0.0000 |
| Eastern Prince of Wales Island  | 453 | 0.8951 | 0.1049 | 0.0000 | 0.0000 | 0.0000 | 234 | 0.9979 | 0.0021 | 0.0000 |
| Eastern Queen Charlotte Islands | 430 | 0.9279 | 0.0721 | 0.0000 | 0.0000 | 0.0000 | 167 | 1.0000 | 0.0000 | 0.0000 |
| Nass River Area                 | 310 | 0.8903 | 0.0968 | 0.0000 | 0.0129 | 0.0000 | 96  | 1.0000 | 0.0000 | 0.0000 |
| Kitimat/Mussel River            | 223 | 0.9193 | 0.0785 | 0.0000 | 0.0022 | 0.0000 | 140 | 1.0000 | 0.0000 | 0.0000 |
| Nekite Channel/River            | 197 | 0.9518 | 0.0482 | 0.0000 | 0.0000 | 0.0000 | 156 | 1.0000 | 0.0000 | 0.0000 |
| East Vancouver Island           | 800 | 0.9038 | 0.0956 | 0.0000 | 0.0006 | 0.0000 | 196 | 1.0000 | 0.0000 | 0.0000 |
| West Vancouver Island           | 602 | 0.9244 | 0.0756 | 0.0000 | 0.0000 | 0.0000 | 59  | 1.0000 | 0.0000 | 0.0000 |
| Lower Fraser River              | 400 | 0.8975 | 0.1025 | 0.0000 | 0.0000 | 0.0000 | 99  | 0.9949 | 0.0000 | 0.0051 |
| Upper Fraser River              | 600 | 0.8758 | 0.1242 | 0.0000 | 0.0000 | 0.0000 | 251 | 0.9920 | 0.0000 | 0.0080 |
| Skagit River                    | 251 | 0.8207 | 0.1793 | 0.0000 | 0.0000 | 0.0000 | 329 | 1.0000 | 0.0000 | 0.0000 |
| Bellingham Maritime Hatchery    | 100 | 0.9100 | 0.0900 | 0.0000 | 0.0000 | 0.0000 | 455 | 1.0000 | 0.0000 | 0.0000 |
| Mill Creek                      | 179 | 0.7430 | 0.2570 | 0.0000 | 0.0000 | 0.0000 | 161 | 1.0000 | 0.0000 | 0.0000 |
| Hood Canal Hatchery             | 449 | 0.8719 | 0.1281 | 0.0000 | 0.0000 | 0.0000 | 333 | 0.9925 | 0.0000 | 0.0075 |
| Gakko/Miomote Rivers            | 119 | 0.9496 | 0.0504 | 0.0000 | 0.0000 | 0.0000 | 119 | 1.0000 | 0.0000 | 0.0000 |
| Tsugaruishi River               | 79  | 0.9304 | 0.0696 | 0.0000 | 0.0000 | 0.0000 | 80  | 1.0000 | 0.0000 | 0.0000 |
| Ohkawa River                    | 80  | 0.9750 | 0.0250 | 0.0000 | 0.0000 | 0.0000 | 78  | 1.0000 | 0.0000 | 0.0000 |
| Teshio River                    | 80  | 0.9625 | 0.0375 | 0.0000 | 0.0000 | 0.0000 | 80  | 1.0000 | 0.0000 | 0.0000 |
| Chitose River                   | 79  | 0.9873 | 0.0127 | 0.0000 | 0.0000 | 0.0000 | 80  | 1.0000 | 0.0000 | 0.0000 |
| Tokachi River                   | 79  | 0.9241 | 0.0570 | 0.0190 | 0.0000 | 0.0000 | 80  | 1.0000 | 0.0000 | 0.0000 |
| Kushiro River                   | 70  | 0.9929 | 0.0071 | 0.0000 | 0.0000 | 0.0000 | 80  | 1.0000 | 0.0000 | 0.0000 |
| Nishibetsu River                | 80  | 0.9562 | 0.0438 | 0.0000 | 0.0000 | 0.0000 | 40  | 1.0000 | 0.0000 | 0.0000 |
| Shari River                     | 80  | 0.9812 | 0.0188 | 0.0000 | 0.0000 | 0.0000 | 80  | 1.0000 | 0.0000 | 0.0000 |
| Tokusibetsu River               | 40  | 0.9875 | 0.0125 | 0.0000 | 0.0000 | 0.0000 | 80  | 1.0000 | 0.0000 | 0.0000 |
| Amur River                      | 44  | 0.8750 | 0.1250 | 0.0000 | 0.0000 | 0.0000 | 44  | 1.0000 | 0.0000 | 0.0000 |
| Ryzanovka River                 | 49  | 1.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 50  | 1.0000 | 0.0000 | 0.0000 |
| Kalininka River                 | 49  | 1.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 49  | 1.0000 | 0.0000 | 0.0000 |
| Naiba River                     | 61  | 0.9754 | 0.0246 | 0.0000 | 0.0000 | 0.0000 | 61  | 1.0000 | 0.0000 | 0.0000 |
| Udarnitsa River                 | 98  | 0.9796 | 0.0204 | 0.0000 | 0.0000 | 0.0000 | 98  | 1.0000 | 0.0000 | 0.0000 |
| Anadyr/Kanchalan Rivers         | 183 | 0.9044 | 0.0956 | 0.0000 | 0.0000 | 0.0000 | 182 | 1.0000 | 0.0000 | 0.0000 |
| Nerpichi Lake                   | 38  | 0.8947 | 0.1053 | 0.0000 | 0.0000 | 0.0000 | 90  | 0.9944 | 0.0056 | 0.0000 |
| Kamchatka River                 | 75  | 0.8933 | 0.1067 | 0.0000 | 0.0000 | 0.0000 | 75  | 0.9867 | 0.0133 | 0.0000 |
| Utka River                      | 79  | 0.8924 | 0.1076 | 0.0000 | 0.0000 | 0.0000 | 132 | 0.9924 | 0.0038 | 0.0038 |
| Kikchik River                   | 40  | 0.8750 | 0.1250 | 0.0000 | 0.0000 | 0.0000 | 80  | 1.0000 | 0.0000 | 0.0000 |
| Pymta River                     | 78  | 0.8462 | 0.1538 | 0.0000 | 0.0000 | 0.0000 | 66  | 1.0000 | 0.0000 | 0.0000 |
| Kol River                       | 90  | 0.8833 | 0.1167 | 0.0000 | 0.0000 | 0.0000 | 76  | 0.9934 | 0.0000 | 0.0066 |
| Hairusova River                 | 152 | 0.8947 | 0.1053 | 0.0000 | 0.0000 | 0.0000 | 40  | 1.0000 | 0.0000 | 0.0000 |
| Tumani River                    | 66  | 0.8864 | 0.1136 | 0.0000 | 0.0000 | 0.0000 | 79  | 0.9937 | 0.0000 | 0.0063 |
| Ola River                       | 80  | 0.8812 | 0.1188 | 0.0000 | 0.0000 | 0.0000 | 40  | 1.0000 | 0.0000 | 0.0000 |

## Appendix 3. Continued.

| Population                | N    | PEPB-1* |        |        |        |        | N    | PGDH   |        |        |        |
|---------------------------|------|---------|--------|--------|--------|--------|------|--------|--------|--------|--------|
|                           |      | -100    | -146   | -126   | -127   | -72    |      | 100    | 88     | 106    | 95     |
| Noatak River              | 289  | 0.9221  | 0.0554 | 0.0225 | 0.0000 | 0.0000 | 295  | 0.9644 | 0.0356 | 0.0000 | 0.0000 |
| Kelly Lake                | 84   | 0.7917  | 0.1071 | 0.1012 | 0.0000 | 0.0000 | 97   | 0.9794 | 0.0206 | 0.0000 | 0.0000 |
| Kobuk River               | 196  | 0.9362  | 0.0485 | 0.0153 | 0.0000 | 0.0000 | 199  | 0.9724 | 0.0276 | 0.0000 | 0.0000 |
| Norton Sound              | 782  | 0.9341  | 0.0575 | 0.0083 | 0.0000 | 0.0000 | 785  | 0.9783 | 0.0217 | 0.0000 | 0.0000 |
| Lower Summer Yukon        | 1410 | 0.9167  | 0.0699 | 0.0135 | 0.0000 | 0.0000 | 1433 | 0.9518 | 0.0482 | 0.0000 | 0.0000 |
| Koyukuk River Late        | 162  | 0.8488  | 0.1420 | 0.0093 | 0.0000 | 0.0000 | 162  | 0.9630 | 0.0370 | 0.0000 | 0.0000 |
| Tanana River Early        | 380  | 0.8289  | 0.1500 | 0.0211 | 0.0000 | 0.0000 | 386  | 0.9663 | 0.0337 | 0.0000 | 0.0000 |
| Kuskokwim River early     | 1310 | 0.9191  | 0.0687 | 0.0122 | 0.0000 | 0.0000 | 1325 | 0.9577 | 0.0423 | 0.0000 | 0.0000 |
| Kuskokwim River late      | 199  | 0.8266  | 0.1658 | 0.0050 | 0.0025 | 0.0000 | 200  | 0.9850 | 0.0150 | 0.0000 | 0.0000 |
| Kanektok River            | 138  | 0.9094  | 0.0833 | 0.0036 | 0.0000 | 0.0036 | 138  | 0.9565 | 0.0435 | 0.0000 | 0.0000 |
| Goodnews River            | 99   | 0.9394  | 0.0556 | 0.0051 | 0.0000 | 0.0000 | 100  | 0.9650 | 0.0350 | 0.0000 | 0.0000 |
| Togiak River              | 200  | 0.9450  | 0.0425 | 0.0125 | 0.0000 | 0.0000 | 199  | 0.9673 | 0.0327 | 0.0000 | 0.0000 |
| Nushagak River            | 280  | 0.9250  | 0.0518 | 0.0196 | 0.0000 | 0.0036 | 286  | 0.9633 | 0.0367 | 0.0000 | 0.0000 |
| Naknek/Alagnak Rivers     | 164  | 0.9390  | 0.0549 | 0.0061 | 0.0000 | 0.0000 | 164  | 0.9817 | 0.0183 | 0.0000 | 0.0000 |
| Egegik/Ugashik Bay        | 194  | 0.9278  | 0.0670 | 0.0026 | 0.0026 | 0.0000 | 198  | 0.9773 | 0.0227 | 0.0000 | 0.0000 |
| Meshik/Cinder River       | 264  | 0.9034  | 0.0852 | 0.0114 | 0.0000 | 0.0000 | 269  | 0.9554 | 0.0446 | 0.0000 | 0.0000 |
| Toklat River              | 808  | 0.7976  | 0.1788 | 0.0235 | 0.0000 | 0.0000 | 815  | 0.9785 | 0.0215 | 0.0000 | 0.0000 |
| Tanana Late Run           | 593  | 0.8263  | 0.1518 | 0.0219 | 0.0000 | 0.0000 | 597  | 0.9447 | 0.0553 | 0.0000 | 0.0000 |
| Porcupine River           | 364  | 0.8297  | 0.1676 | 0.0027 | 0.0000 | 0.0000 | 364  | 0.9725 | 0.0275 | 0.0000 | 0.0000 |
| Canadian Yukon Mainstem   | 200  | 0.8300  | 0.1675 | 0.0025 | 0.0000 | 0.0000 | 200  | 0.9650 | 0.0350 | 0.0000 | 0.0000 |
| Pelly River               | 84   | 0.8333  | 0.1667 | 0.0000 | 0.0000 | 0.0000 | 84   | 0.9524 | 0.0476 | 0.0000 | 0.0000 |
| White River               | 298  | 0.8691  | 0.1309 | 0.0000 | 0.0000 | 0.0000 | 308  | 0.9984 | 0.0016 | 0.0000 | 0.0000 |
| Teslin River              | 194  | 0.8660  | 0.1340 | 0.0000 | 0.0000 | 0.0000 | 195  | 0.9949 | 0.0051 | 0.0000 | 0.0000 |
| Lawrence Valley Creek     | 98   | 0.8112  | 0.1786 | 0.0102 | 0.0000 | 0.0000 | 99   | 0.9949 | 0.0051 | 0.0000 | 0.0000 |
| Moffit Creek              | 99   | 0.7929  | 0.1667 | 0.0404 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Joshua Green River        | 177  | 0.8955  | 0.0989 | 0.0056 | 0.0000 | 0.0000 | 180  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Frosty Creek              | 99   | 0.8384  | 0.1313 | 0.0303 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Alligator Hole            | 99   | 0.8283  | 0.1566 | 0.0152 | 0.0000 | 0.0000 | 100  | 0.9950 | 0.0000 | 0.0050 | 0.0000 |
| Trader's Cove Creek       | 96   | 0.7083  | 0.2760 | 0.0156 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| St. Catherine's Cove      | 76   | 0.8026  | 0.1447 | 0.0526 | 0.0000 | 0.0000 | 80   | 0.9812 | 0.0188 | 0.0000 | 0.0000 |
| Peterson Lagoon           | 80   | 0.7438  | 0.1375 | 0.1188 | 0.0000 | 0.0000 | 86   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Little John Lagoon        | 80   | 0.8250  | 0.1625 | 0.0125 | 0.0000 | 0.0000 | 80   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Sandy Cove                | 100  | 0.8450  | 0.1250 | 0.0300 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Russell Creek             | 187  | 0.8529  | 0.1203 | 0.0241 | 0.0000 | 0.0027 | 200  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Delta Creek               | 100  | 0.7400  | 0.2400 | 0.0200 | 0.0000 | 0.0000 | 100  | 0.9850 | 0.0150 | 0.0000 | 0.0000 |
| Belkofski River           | 86   | 0.8488  | 0.1453 | 0.0000 | 0.0058 | 0.0000 | 87   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Volcano Bay               | 106  | 0.8396  | 0.1368 | 0.0236 | 0.0000 | 0.0000 | 106  | 0.9811 | 0.0189 | 0.0000 | 0.0000 |
| Ruby's Lagoon             | 100  | 0.9150  | 0.0600 | 0.0150 | 0.0100 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Canoe Bay                 | 100  | 0.8200  | 0.1600 | 0.0150 | 0.0050 | 0.0000 | 98   | 0.9847 | 0.0153 | 0.0000 | 0.0000 |
| Zachary Bay               | 78   | 0.8013  | 0.1987 | 0.0000 | 0.0000 | 0.0000 | 80   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Coleman Creek             | 100  | 0.7950  | 0.1750 | 0.0100 | 0.0200 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Balboa Bay                | 99   | 0.8485  | 0.1364 | 0.0051 | 0.0101 | 0.0000 | 100  | 0.9750 | 0.0250 | 0.0000 | 0.0000 |
| Chichagof Bay             | 99   | 0.7879  | 0.2071 | 0.0051 | 0.0000 | 0.0000 | 100  | 0.9200 | 0.0800 | 0.0000 | 0.0000 |
| Stepovak Bay              | 50   | 0.8300  | 0.1000 | 0.0400 | 0.0300 | 0.0000 | 49   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Stepovak River            | 98   | 0.8571  | 0.1224 | 0.0204 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Ivanoff River             | 89   | 0.8427  | 0.1292 | 0.0281 | 0.0000 | 0.0000 | 94   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kiukta Bay                | 99   | 0.8081  | 0.1768 | 0.0051 | 0.0101 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Kujulik Bay               | 71   | 0.8732  | 0.0845 | 0.0423 | 0.0000 | 0.0000 | 72   | 0.9931 | 0.0069 | 0.0000 | 0.0000 |
| Aniakchak River           | 98   | 0.8265  | 0.1684 | 0.0051 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Amber Bay                 | 92   | 0.7717  | 0.2120 | 0.0163 | 0.0000 | 0.0000 | 92   | 0.9946 | 0.0054 | 0.0000 | 0.0000 |
| Chiginigak Bay            | 74   | 0.8243  | 0.1486 | 0.0270 | 0.0000 | 0.0000 | 75   | 0.9933 | 0.0067 | 0.0000 | 0.0000 |
| Kialagvik Bay             | 98   | 0.8163  | 0.1582 | 0.0255 | 0.0000 | 0.0000 | 100  | 0.9900 | 0.0100 | 0.0000 | 0.0000 |
| Alinchak Bay              | 98   | 0.8265  | 0.1735 | 0.0000 | 0.0000 | 0.0000 | 100  | 0.9950 | 0.0050 | 0.0000 | 0.0000 |
| Alagoshak River           | 94   | 0.7713  | 0.2234 | 0.0053 | 0.0000 | 0.0000 | 94   | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Gull Cape Creek           | 99   | 0.7778  | 0.2222 | 0.0000 | 0.0000 | 0.0000 | 100  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hallo Bay                 | 95   | 0.7789  | 0.2211 | 0.0000 | 0.0000 | 0.0000 | 100  | 0.9950 | 0.0050 | 0.0000 | 0.0000 |
| McNeil River              | 103  | 0.8738  | 0.0971 | 0.0049 | 0.0243 | 0.0000 | 109  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| American River            | 144  | 0.8125  | 0.1840 | 0.0000 | 0.0035 | 0.0000 | 145  | 0.9966 | 0.0034 | 0.0000 | 0.0000 |
| Dog Bay                   | 95   | 0.7526  | 0.2474 | 0.0000 | 0.0000 | 0.0000 | 100  | 0.9850 | 0.0150 | 0.0000 | 0.0000 |
| Sukhoi Lagoon             | 99   | 0.7374  | 0.1566 | 0.1061 | 0.0000 | 0.0000 | 100  | 0.9650 | 0.0350 | 0.0000 | 0.0000 |
| Sturgeon Lagoon           | 170  | 0.9706  | 0.0265 | 0.0029 | 0.0000 | 0.0000 | 171  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Uganik River              | 86   | 0.8023  | 0.1686 | 0.0291 | 0.0000 | 0.0000 | 88   | 0.9830 | 0.0170 | 0.0000 | 0.0000 |
| Kizhuyak River            | 336  | 1.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 337  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Susitna River             | 99   | 0.7727  | 0.1970 | 0.0000 | 0.0303 | 0.0000 | 100  | 0.9850 | 0.0150 | 0.0000 | 0.0000 |
| West Prince William Sound | 186  | 0.7715  | 0.2151 | 0.0108 | 0.0027 | 0.0000 | 190  | 0.9000 | 0.1000 | 0.0000 | 0.0000 |
| Olsen Creek               | 200  | 0.7950  | 0.1900 | 0.0075 | 0.0075 | 0.0000 | 200  | 0.9425 | 0.0575 | 0.0000 | 0.0000 |

## Appendix 3. Continued.

| Population                      | N   | PEPB-1* |        |        |        |        | N   | PGDH   |        |        |        |
|---------------------------------|-----|---------|--------|--------|--------|--------|-----|--------|--------|--------|--------|
|                                 |     | -100    | -146   | -126   | -127   | -72    |     | 100    | 88     | 106    | 95     |
| Constantine Creek               | 99  | 0.9444  | 0.0404 | 0.0051 | 0.0101 | 0.0000 | 100 | 0.9400 | 0.0600 | 0.0000 | 0.0000 |
| Keta Creek                      | 100 | 0.8100  | 0.1750 | 0.0000 | 0.0150 | 0.0000 | 100 | 0.8950 | 0.1050 | 0.0000 | 0.0000 |
| Herman Creek                    | 118 | 0.7754  | 0.1441 | 0.0508 | 0.0297 | 0.0000 | 159 | 0.9969 | 0.0031 | 0.0000 | 0.0000 |
| Southeast Alaska                | 576 | 0.7795  | 0.1354 | 0.0365 | 0.0486 | 0.0000 | 905 | 0.9895 | 0.0099 | 0.0006 | 0.0000 |
| Port Real Marina                | 108 | 0.7315  | 0.1481 | 0.0648 | 0.0556 | 0.0000 | 148 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Eastern Prince of Wales Island  | 455 | 0.7505  | 0.1659 | 0.0451 | 0.0385 | 0.0000 | 661 | 0.9939 | 0.0061 | 0.0000 | 0.0000 |
| Eastern Queen Charlotte Islands | 429 | 0.6608  | 0.2634 | 0.0664 | 0.0082 | 0.0012 | 431 | 0.9640 | 0.0360 | 0.0000 | 0.0000 |
| Nass River Area                 | 308 | 0.7857  | 0.1201 | 0.0422 | 0.0519 | 0.0000 | 311 | 0.9904 | 0.0096 | 0.0000 | 0.0000 |
| Kitimat/Mussel River            | 218 | 0.7592  | 0.1743 | 0.0229 | 0.0436 | 0.0000 | 216 | 0.9884 | 0.0116 | 0.0000 | 0.0000 |
| Nekite Channel/River            | 196 | 0.7143  | 0.1939 | 0.0714 | 0.0102 | 0.0102 | 196 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| East Vancouver Island           | 798 | 0.6184  | 0.2105 | 0.1429 | 0.0257 | 0.0025 | 799 | 0.9987 | 0.0013 | 0.0000 | 0.0000 |
| West Vancouver Island           | 601 | 0.5907  | 0.2787 | 0.1148 | 0.0150 | 0.0008 | 605 | 0.9959 | 0.0033 | 0.0000 | 0.0008 |
| Lower Fraser River              | 398 | 0.6256  | 0.2098 | 0.1319 | 0.0314 | 0.0013 | 400 | 0.9925 | 0.0062 | 0.0000 | 0.0012 |
| Upper Fraser River              | 595 | 0.6756  | 0.1471 | 0.1185 | 0.0588 | 0.0000 | 600 | 0.9933 | 0.0067 | 0.0000 | 0.0000 |
| Skagit River                    | 249 | 0.7871  | 0.1064 | 0.0763 | 0.0301 | 0.0000 | 251 | 0.9841 | 0.0139 | 0.0020 | 0.0000 |
| Bellingham Maritime Hatchery    | 100 | 0.7300  | 0.1450 | 0.0750 | 0.0500 | 0.0000 | 100 | 0.9950 | 0.0050 | 0.0000 | 0.0000 |
| Mill Creek                      | 178 | 0.7051  | 0.1180 | 0.0955 | 0.0815 | 0.0000 | 179 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hood Canal Hatchery             | 448 | 0.5692  | 0.2266 | 0.0982 | 0.1038 | 0.0022 | 449 | 0.9777 | 0.0223 | 0.0000 | 0.0000 |
| Gakko/Miomote Rivers            | 119 | 0.6933  | 0.0168 | 0.2857 | 0.0042 | 0.0000 | 119 | 0.9748 | 0.0168 | 0.0084 | 0.0000 |
| Tsugaruishi River               | 79  | 0.7468  | 0.0063 | 0.2468 | 0.0000 | 0.0000 | 80  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Ohkawa River                    | 80  | 0.6125  | 0.0000 | 0.3875 | 0.0000 | 0.0000 | 80  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Teshio River                    | 80  | 0.7000  | 0.0125 | 0.2812 | 0.0062 | 0.0000 | 80  | 0.9500 | 0.0438 | 0.0062 | 0.0000 |
| Chitose River                   | 76  | 0.6842  | 0.0395 | 0.2763 | 0.0000 | 0.0000 | 80  | 0.9562 | 0.0438 | 0.0000 | 0.0000 |
| Tokachi River                   | 80  | 0.7375  | 0.0000 | 0.2625 | 0.0000 | 0.0000 | 80  | 0.9938 | 0.0062 | 0.0000 | 0.0000 |
| Kushiro River                   | 80  | 0.8438  | 0.0000 | 0.1562 | 0.0000 | 0.0000 | 80  | 0.9938 | 0.0062 | 0.0000 | 0.0000 |
| Nishibetsu River                | 80  | 0.7875  | 0.0000 | 0.2062 | 0.0062 | 0.0000 | 79  | 0.9937 | 0.0063 | 0.0000 | 0.0000 |
| Shari River                     | 80  | 0.8750  | 0.0000 | 0.1250 | 0.0000 | 0.0000 | 80  | 0.9688 | 0.0312 | 0.0000 | 0.0000 |
| Tokusibetsu River               | 39  | 0.6923  | 0.0128 | 0.2821 | 0.0128 | 0.0000 | 40  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Amur River                      | 47  | 0.9681  | 0.0319 | 0.0000 | 0.0000 | 0.0000 | 48  | 0.9688 | 0.0312 | 0.0000 | 0.0000 |
| Ryzanovka River                 | 51  | 0.7451  | 0.0196 | 0.2353 | 0.0000 | 0.0000 | 51  | 0.9608 | 0.0392 | 0.0000 | 0.0000 |
| Kalininka River                 | 49  | 0.4694  | 0.0918 | 0.4388 | 0.0000 | 0.0000 | 49  | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| Naiba River                     | 61  | 0.7951  | 0.0246 | 0.1803 | 0.0000 | 0.0000 | 61  | 0.9672 | 0.0328 | 0.0000 | 0.0000 |
| Udarnitsa River                 | 96  | 0.7188  | 0.0573 | 0.2240 | 0.0000 | 0.0000 | 98  | 0.9949 | 0.0051 | 0.0000 | 0.0000 |
| Anadyr/Kanchalan Rivers         | 181 | 0.8895  | 0.0829 | 0.0276 | 0.0000 | 0.0000 | 182 | 0.9725 | 0.0275 | 0.0000 | 0.0000 |
| Nerpichi Lake                   | 40  | 0.9375  | 0.0500 | 0.0125 | 0.0000 | 0.0000 | 40  | 0.9625 | 0.0250 | 0.0000 | 0.0125 |
| Kamchatka River                 | 75  | 0.9533  | 0.0267 | 0.0200 | 0.0000 | 0.0000 | 75  | 0.9200 | 0.0800 | 0.0000 | 0.0000 |
| Utka River                      | 76  | 0.8882  | 0.0789 | 0.0329 | 0.0000 | 0.0000 | 79  | 0.9810 | 0.0190 | 0.0000 | 0.0000 |
| Kikchik River                   | 40  | 0.8000  | 0.1625 | 0.0375 | 0.0000 | 0.0000 | 40  | 0.9625 | 0.0375 | 0.0000 | 0.0000 |
| Pymta River                     | 79  | 0.9114  | 0.0506 | 0.0380 | 0.0000 | 0.0000 | 79  | 0.9557 | 0.0443 | 0.0000 | 0.0000 |
| Kol River                       | 90  | 0.9500  | 0.0444 | 0.0056 | 0.0000 | 0.0000 | 91  | 0.8736 | 0.1209 | 0.0000 | 0.0055 |
| Hairusova River                 | 141 | 0.8511  | 0.1206 | 0.0071 | 0.0213 | 0.0000 | 130 | 0.9846 | 0.0154 | 0.0000 | 0.0000 |
| Tumani River                    | 66  | 0.8864  | 0.0833 | 0.0303 | 0.0000 | 0.0000 | 66  | 0.9697 | 0.0303 | 0.0000 | 0.0000 |
| Ola River                       | 80  | 0.8375  | 0.0875 | 0.0750 | 0.0000 | 0.0000 | 80  | 0.9438 | 0.0562 | 0.0000 | 0.0000 |



Appendix 4. Allele frequency estimates for chum salmon sampled from the South Unimak and Shumagin Islands fisheries in June 1993-1996.

| Fishery               | N   | <i>sAAT-1.2*</i> |        |        |        | N   | <i>mAAT-1*</i> |        |        | N   | <i>mAH-3*</i> |        |  |
|-----------------------|-----|------------------|--------|--------|--------|-----|----------------|--------|--------|-----|---------------|--------|--|
|                       |     | 100              | 120    | 65     | 95     |     | -100           | -120   | -70    |     | 100           | 124    |  |
| South Unimak, 1993-1  | 391 | 0.9520           | 0.0428 | 0.0013 | 0.0038 | 390 | 0.9167         | 0.0218 | 0.0615 | 392 | 0.5306        | 0.4694 |  |
| South Unimak, 1993-2, | 397 | 0.9421           | 0.0548 | 0.0006 | 0.0025 | 397 | 0.9194         | 0.0214 | 0.0592 | 392 | 0.5357        | 0.4643 |  |
| South Unimak, 1994-1  | 394 | 0.9239           | 0.0736 | 0.0006 | 0.0019 | 395 | 0.9203         | 0.0278 | 0.0519 | 381 | 0.5066        | 0.4934 |  |
| South Unimak, 1994-2  | 397 | 0.9427           | 0.0567 | 0.0006 | 0.0000 | 395 | 0.9063         | 0.0152 | 0.0785 | 385 | 0.4857        | 0.5143 |  |
| South Unimak, 1994-3  | 397 | 0.9414           | 0.0554 | 0.0000 | 0.0031 | 399 | 0.9135         | 0.0163 | 0.0702 | 386 | 0.5104        | 0.4896 |  |
| South Unimak, 1995-1  | 399 | 0.9530           | 0.0432 | 0.0000 | 0.0038 | 397 | 0.9181         | 0.0164 | 0.0655 | 385 | 0.5104        | 0.4896 |  |
| South Unimak, 1995-2  | 399 | 0.9536           | 0.0439 | 0.0000 | 0.0025 | 398 | 0.9221         | 0.0138 | 0.0641 | 386 | 0.5285        | 0.4715 |  |
| South Unimak, 1995-3  | 397 | 0.9433           | 0.0535 | 0.0013 | 0.0019 | 395 | 0.9076         | 0.0089 | 0.0835 | 382 | 0.5223        | 0.4777 |  |
| South Unimak, 1996-1  | 400 | 0.9225           | 0.0669 | 0.0025 | 0.0081 | 398 | 0.9008         | 0.0302 | 0.0691 | 383 | 0.5418        | 0.4582 |  |
| South Unimak, 1996-2  | 399 | 0.9273           | 0.0683 | 0.0019 | 0.0025 | 395 | 0.9025         | 0.0354 | 0.0620 | 394 | 0.5178        | 0.4822 |  |
| South Unimak, 1996-3  | 398 | 0.9102           | 0.0835 | 0.0025 | 0.0038 | 397 | 0.8866         | 0.0529 | 0.0605 | 395 | 0.4962        | 0.5038 |  |
| Shumagin, 1994-1      | 396 | 0.9482           | 0.0473 | 0.0006 | 0.0038 | 398 | 0.9435         | 0.0163 | 0.0402 | 390 | 0.5192        | 0.4808 |  |
| Shumagin, 1994-2      | 399 | 0.9392           | 0.0583 | 0.0000 | 0.0025 | 399 | 0.9085         | 0.0263 | 0.0652 | 385 | 0.5000        | 0.5000 |  |
| Shumagin, 1994-3      | 397 | 0.9452           | 0.0504 | 0.0000 | 0.0044 | 397 | 0.9307         | 0.0239 | 0.0453 | 385 | 0.5078        | 0.4922 |  |
| Shumagin, 1995-1      | 397 | 0.9496           | 0.0491 | 0.0006 | 0.0006 | 398 | 0.9070         | 0.0188 | 0.0741 | 395 | 0.4886        | 0.5114 |  |
| Shumagin, 1995-2      | 394 | 0.9435           | 0.0463 | 0.0013 | 0.0089 | 389 | 0.9062         | 0.0308 | 0.0630 | 390 | 0.4833        | 0.5167 |  |
| Shumagin, 1995-3      | 349 | 0.9334           | 0.0552 | 0.0014 | 0.0100 | 346 | 0.9147         | 0.0520 | 0.0332 | 345 | 0.5159        | 0.4841 |  |
| Shumagin, 1996-1      | 398 | 0.9340           | 0.0647 | 0.0000 | 0.0013 | 396 | 0.9268         | 0.0354 | 0.0379 | 371 | 0.4596        | 0.5404 |  |
| Shumagin, 1996-2      | 396 | 0.9318           | 0.0657 | 0.0000 | 0.0025 | 397 | 0.9068         | 0.0441 | 0.0491 | 396 | 0.5126        | 0.4874 |  |
| Shumagin, 1996-3      | 399 | 0.9248           | 0.0677 | 0.0031 | 0.0044 | 398 | 0.9008         | 0.0616 | 0.0377 | 395 | 0.4911        | 0.5089 |  |

| Fishery               | N   | <i>ALAT*</i> |        |        | N   | <i>ESTD*</i> |        |        | N   | <i>G3PDH-2*</i> |        |  |
|-----------------------|-----|--------------|--------|--------|-----|--------------|--------|--------|-----|-----------------|--------|--|
|                       |     | 100          | 93     | 78     |     | 100          | 91     | 110    |     | 100             | 90     |  |
| South Unimak, 1993-1  | 376 | 0.8790       | 0.1210 | 0.0000 | 392 | 0.6033       | 0.3967 | 0.0000 | 389 | 0.8728          | 0.1272 |  |
| South Unimak, 1993-2, | 393 | 0.8461       | 0.1539 | 0.0000 | 397 | 0.6285       | 0.3715 | 0.0000 | 392 | 0.8941          | 0.1059 |  |
| South Unimak, 1994-1  | 392 | 0.8648       | 0.1352 | 0.0000 | 396 | 0.6578       | 0.3409 | 0.0013 | 386 | 0.8925          | 0.1075 |  |
| South Unimak, 1994-2  | 390 | 0.8782       | 0.1218 | 0.0000 | 395 | 0.6190       | 0.3810 | 0.0000 | 386 | 0.8964          | 0.1036 |  |
| South Unimak, 1994-3  | 393 | 0.8550       | 0.1450 | 0.0000 | 398 | 0.6420       | 0.3580 | 0.0000 | 397 | 0.8992          | 0.1008 |  |
| South Unimak, 1995-1  | 392 | 0.8801       | 0.1199 | 0.0000 | 398 | 0.5314       | 0.4686 | 0.0000 | 399 | 0.8634          | 0.1366 |  |
| South Unimak, 1995-2  | 397 | 0.8451       | 0.1549 | 0.0000 | 400 | 0.6312       | 0.3688 | 0.0000 | 398 | 0.8832          | 0.1168 |  |
| South Unimak, 1995-3  | 382 | 0.8730       | 0.1270 | 0.0000 | 397 | 0.5970       | 0.4005 | 0.0025 | 395 | 0.9089          | 0.0911 |  |
| South Unimak, 1996-1  | 395 | 0.8481       | 0.1519 | 0.0000 | 399 | 0.6817       | 0.3183 | 0.0000 | 396 | 0.8813          | 0.1187 |  |
| South Unimak, 1996-2  | 383 | 0.8446       | 0.1554 | 0.0000 | 399 | 0.6930       | 0.3070 | 0.0000 | 399 | 0.8935          | 0.1065 |  |
| South Unimak, 1996-3  | 378 | 0.8519       | 0.1481 | 0.0000 | 397 | 0.7594       | 0.2393 | 0.0013 | 397 | 0.8741          | 0.1259 |  |
| Shumagin, 1994-1      | 377 | 0.8753       | 0.1247 | 0.0000 | 397 | 0.6385       | 0.3615 | 0.0000 | 397 | 0.8904          | 0.1096 |  |
| Shumagin, 1994-2      | 387 | 0.8760       | 0.1227 | 0.0013 | 398 | 0.6633       | 0.3367 | 0.0000 | 396 | 0.8939          | 0.1061 |  |
| Shumagin, 1994-3      | 392 | 0.8686       | 0.1314 | 0.0000 | 397 | 0.6637       | 0.3363 | 0.0000 | 397 | 0.8955          | 0.1045 |  |
| Shumagin, 1995-1      | 381 | 0.8898       | 0.1102 | 0.0000 | 398 | 0.6030       | 0.3970 | 0.0000 | 392 | 0.8788          | 0.1212 |  |
| Shumagin, 1995-2      | 380 | 0.8789       | 0.1211 | 0.0000 | 394 | 0.6523       | 0.3464 | 0.0013 | 393 | 0.8957          | 0.1043 |  |
| Shumagin, 1995-3      | 333 | 0.8018       | 0.1982 | 0.0000 | 349 | 0.7163       | 0.2837 | 0.0000 | 344 | 0.9055          | 0.0945 |  |
| Shumagin, 1996-1      |     |              |        |        | 397 | 0.6751       | 0.3249 | 0.0000 | 398 | 0.9083          | 0.0917 |  |
| Shumagin, 1996-2      |     |              |        |        | 396 | 0.7109       | 0.2879 | 0.0013 | 395 | 0.9000          | 0.1000 |  |
| Shumagin, 1996-3      |     |              |        |        | 398 | 0.7299       | 0.2701 | 0.0000 | 397 | 0.9068          | 0.0932 |  |

Appendix 4. Continued.

| Fishery               | N   | GPI-B1.2* |        |        | N   | GPI-A* |        |        | N   | mIDHP-1* |        |        |
|-----------------------|-----|-----------|--------|--------|-----|--------|--------|--------|-----|----------|--------|--------|
|                       |     | 100       | fast   | 40     |     | 100    | slow   | fast   |     | 100      | 60     | 140    |
| South Unimak, 1993-1  | 393 | 1.0000    | 0.0000 | 0.0000 | 393 | 0.9987 | 0.0000 | 0.0013 | 393 | 0.9338   | 0.0662 | 0.0000 |
| South Unimak, 1993-2, | 396 | 1.0000    | 0.0000 | 0.0000 | 397 | 0.9987 | 0.0000 | 0.0013 | 396 | 0.9470   | 0.0518 | 0.0013 |
| South Unimak, 1994-1  | 397 | 1.0000    | 0.0000 | 0.0000 | 397 | 0.9987 | 0.0013 | 0.0000 | 395 | 0.9266   | 0.0734 | 0.0000 |
| South Unimak, 1994-2  | 397 | 0.9994    | 0.0006 | 0.0000 | 397 | 0.9950 | 0.0050 | 0.0000 | 396 | 0.9394   | 0.0606 | 0.0000 |
| South Unimak, 1994-3  | 398 | 0.9994    | 0.0006 | 0.0000 | 398 | 1.0000 | 0.0000 | 0.0000 | 397 | 0.9219   | 0.0781 | 0.0000 |
| South Unimak, 1995-1  | 399 | 0.9987    | 0.0000 | 0.0013 | 398 | 0.9987 | 0.0000 | 0.0013 | 399 | 0.9449   | 0.0551 | 0.0000 |
| South Unimak, 1995-2  | 400 | 1.0000    | 0.0000 | 0.0000 | 399 | 1.0000 | 0.0000 | 0.0000 | 400 | 0.9325   | 0.0675 | 0.0000 |
| South Unimak, 1995-3  | 396 | 1.0000    | 0.0000 | 0.0000 | 396 | 0.9987 | 0.0013 | 0.0000 | 397 | 0.9270   | 0.0718 | 0.0013 |
| South Unimak, 1996-1  | 399 | 0.9987    | 0.0000 | 0.0013 | 399 | 0.9987 | 0.0000 | 0.0013 | 399 | 0.9361   | 0.0639 | 0.0000 |
| South Unimak, 1996-2  | 397 | 0.9994    | 0.0000 | 0.0006 | 396 | 1.0000 | 0.0000 | 0.0000 | 397 | 0.9270   | 0.0730 | 0.0000 |
| South Unimak, 1996-3  | 397 | 1.0000    | 0.0000 | 0.0000 | 396 | 1.0000 | 0.0000 | 0.0000 | 398 | 0.9485   | 0.0515 | 0.0000 |
| Shumagin, 1994-1      | 398 | 0.9975    | 0.0025 | 0.0000 | 398 | 1.0000 | 0.0000 | 0.0000 | 397 | 0.9194   | 0.0806 | 0.0000 |
| Shumagin, 1994-2      | 398 | 0.9994    | 0.0006 | 0.0000 | 399 | 0.9987 | 0.0000 | 0.0013 | 400 | 0.9162   | 0.0838 | 0.0000 |
| Shumagin, 1994-3      | 397 | 0.9994    | 0.0006 | 0.0000 | 396 | 0.9987 | 0.0013 | 0.0000 | 397 | 0.9131   | 0.0869 | 0.0000 |
| Shumagin, 1995-1      | 398 | 1.0000    | 0.0000 | 0.0000 | 398 | 1.0000 | 0.0000 | 0.0000 | 398 | 0.9485   | 0.0515 | 0.0000 |
| Shumagin, 1995-2      | 394 | 0.9962    | 0.0038 | 0.0000 | 394 | 0.9975 | 0.0013 | 0.0013 | 393 | 0.9173   | 0.0827 | 0.0000 |
| Shumagin, 1995-3      | 347 | 0.9971    | 0.0022 | 0.0007 | 345 | 1.0000 | 0.0000 | 0.0000 | 349 | 0.9054   | 0.0946 | 0.0000 |
| Shumagin, 1996-1      | 398 | 0.9981    | 0.0019 | 0.0000 | 396 | 1.0000 | 0.0000 | 0.0000 | 396 | 0.9318   | 0.0682 | 0.0000 |
| Shumagin, 1996-2      | 397 | 0.9994    | 0.0000 | 0.0006 | 396 | 0.9987 | 0.0013 | 0.0000 | 398 | 0.9334   | 0.0666 | 0.0000 |
| Shumagin, 1996-3      | 397 | 0.9969    | 0.0031 | 0.0000 | 397 | 1.0000 | 0.0000 | 0.0000 | 397 | 0.9043   | 0.0957 | 0.0000 |

| Fishery               | N   | sIDHP-2* |        |        |        |        |        |        |
|-----------------------|-----|----------|--------|--------|--------|--------|--------|--------|
|                       |     | 100      | 35     | 85     | 25     | 20     | 110    | 45     |
| South Unimak, 1993-1  | 391 | 0.4910   | 0.4156 | 0.0639 | 0.0281 | 0.0000 | 0.0000 | 0.0013 |
| South Unimak, 1993-2, | 397 | 0.4647   | 0.4383 | 0.0592 | 0.0340 | 0.0013 | 0.0000 | 0.0025 |
| South Unimak, 1994-1  | 395 | 0.4772   | 0.4025 | 0.0696 | 0.0456 | 0.0013 | 0.0013 | 0.0025 |
| South Unimak, 1994-2  | 397 | 0.4773   | 0.4169 | 0.0730 | 0.0315 | 0.0000 | 0.0000 | 0.0013 |
| South Unimak, 1994-3  | 392 | 0.4872   | 0.4133 | 0.0523 | 0.0459 | 0.0000 | 0.0013 | 0.0000 |
| South Unimak, 1995-1  | 395 | 0.4861   | 0.4190 | 0.0633 | 0.0316 | 0.0000 | 0.0000 | 0.0000 |
| South Unimak, 1995-2  | 394 | 0.4937   | 0.3934 | 0.0609 | 0.0508 | 0.0000 | 0.0013 | 0.0000 |
| South Unimak, 1995-3  | 392 | 0.5077   | 0.3852 | 0.0574 | 0.0485 | 0.0013 | 0.0000 | 0.0000 |
| South Unimak, 1996-1  | 381 | 0.4724   | 0.4383 | 0.0433 | 0.0446 | 0.0013 | 0.0000 | 0.0000 |
| South Unimak, 1996-2  | 390 | 0.5244   | 0.3795 | 0.0603 | 0.0359 | 0.0000 | 0.0000 | 0.0000 |
| South Unimak, 1996-3  | 386 | 0.4896   | 0.3795 | 0.0453 | 0.0855 | 0.0000 | 0.0000 | 0.0000 |
| Shumagin, 1994-1      | 397 | 0.4773   | 0.4156 | 0.0479 | 0.0567 | 0.0000 | 0.0013 | 0.0013 |
| Shumagin, 1994-2      | 389 | 0.4961   | 0.3689 | 0.0746 | 0.0578 | 0.0013 | 0.0000 | 0.0013 |
| Shumagin, 1994-3      | 392 | 0.4885   | 0.3954 | 0.0485 | 0.0612 | 0.0038 | 0.0013 | 0.0013 |
| Shumagin, 1995-1      | 398 | 0.4636   | 0.4234 | 0.0754 | 0.0352 | 0.0025 | 0.0000 | 0.0000 |
| Shumagin, 1995-2      | 391 | 0.4847   | 0.3990 | 0.0767 | 0.0396 | 0.0000 | 0.0000 | 0.0000 |
| Shumagin, 1995-3      | 346 | 0.5173   | 0.3266 | 0.0361 | 0.1185 | 0.0014 | 0.0000 | 0.0000 |
| Shumagin, 1996-1      | 394 | 0.5165   | 0.3591 | 0.0546 | 0.0685 | 0.0013 | 0.0000 | 0.0000 |
| Shumagin, 1996-2      | 396 | 0.4987   | 0.3788 | 0.0354 | 0.0871 | 0.0000 | 0.0000 | 0.0000 |
| Shumagin, 1996-3      | 397 | 0.5277   | 0.3501 | 0.0466 | 0.0743 | 0.0000 | 0.0000 | 0.0013 |

## Appendix 4. Continued.

| Fishery              | N   | LDH-A1* |        |        | N   | LDH-B2* |        |  | N   | sMDH-A1* |        |        |
|----------------------|-----|---------|--------|--------|-----|---------|--------|--|-----|----------|--------|--------|
|                      |     | 100     | 50     | 110    |     | 100     | 120    |  |     | 100      | 200    | -10    |
| South Unimak, 1993-1 | 393 | 0.9020  | 0.0980 | 0.0000 | 395 | 0.9987  | 0.0013 |  | 394 | 0.9327   | 0.0660 | 0.0013 |
| South Unimak, 1993-2 | 398 | 0.8518  | 0.1482 | 0.0000 | 397 | 0.9987  | 0.0013 |  | 397 | 0.9232   | 0.0756 | 0.0013 |
| South Unimak, 1994-1 | 395 | 0.8418  | 0.1570 | 0.0013 | 398 | 0.9987  | 0.0013 |  | 397 | 0.9320   | 0.0630 | 0.0050 |
| South Unimak, 1994-2 | 394 | 0.8629  | 0.1371 | 0.0000 | 397 | 0.9975  | 0.0025 |  | 397 | 0.9458   | 0.0542 | 0.0000 |
| South Unimak, 1994-3 | 393 | 0.8613  | 0.1374 | 0.0013 | 399 | 0.9975  | 0.0025 |  | 399 | 0.9436   | 0.0551 | 0.0013 |
| South Unimak, 1995-1 | 397 | 0.8086  | 0.1914 | 0.0000 | 399 | 1.0000  | 0.0000 |  | 398 | 0.9485   | 0.0515 | 0.0000 |
| South Unimak, 1995-2 | 399 | 0.8534  | 0.1441 | 0.0025 | 406 | 0.9975  | 0.0025 |  | 394 | 0.9239   | 0.0749 | 0.0013 |
| South Unimak, 1995-3 | 394 | 0.8325  | 0.1637 | 0.0038 | 397 | 1.0000  | 0.0000 |  | 395 | 0.9316   | 0.0684 | 0.0000 |
| South Unimak, 1996-1 | 400 | 0.8238  | 0.1725 | 0.0038 | 399 | 0.9963  | 0.0038 |  | 395 | 0.9291   | 0.0709 | 0.0000 |
| South Unimak, 1996-2 | 397 | 0.8476  | 0.1499 | 0.0025 | 399 | 1.0000  | 0.0000 |  | 393 | 0.9389   | 0.0611 | 0.0000 |
| South Unimak, 1996-3 | 396 | 0.8510  | 0.1490 | 0.0000 | 398 | 0.9975  | 0.0025 |  | 397 | 0.9232   | 0.0756 | 0.0013 |
| Shumagin, 1994-1     | 389 | 0.8535  | 0.1465 | 0.0000 | 397 | 0.9912  | 0.0088 |  | 393 | 0.9249   | 0.0751 | 0.0000 |
| Shumagin, 1994-2     | 398 | 0.8693  | 0.1281 | 0.0025 | 399 | 0.9962  | 0.0038 |  | 390 | 0.9436   | 0.0551 | 0.0013 |
| Shumagin, 1994-3     | 395 | 0.8380  | 0.1570 | 0.0051 | 397 | 0.9987  | 0.0013 |  | 396 | 0.9470   | 0.0530 | 0.0000 |
| Shumagin, 1995-1     | 395 | 0.8367  | 0.1633 | 0.0000 | 398 | 1.0000  | 0.0000 |  | 396 | 0.9394   | 0.0581 | 0.0025 |
| Shumagin, 1995-2     | 385 | 0.8545  | 0.1442 | 0.0013 | 394 | 0.9975  | 0.0025 |  | 394 | 0.9086   | 0.0888 | 0.0025 |
| Shumagin, 1995-3     | 344 | 0.8808  | 0.1163 | 0.0029 | 350 | 0.9986  | 0.0014 |  | 346 | 0.9003   | 0.0983 | 0.0014 |
| Shumagin, 1996-1     | 397 | 0.8703  | 0.1297 | 0.0000 | 398 | 1.0000  | 0.0000 |  | 391 | 0.9373   | 0.0614 | 0.0013 |
| Shumagin, 1996-2     | 393 | 0.8651  | 0.1323 | 0.0025 | 398 | 0.9950  | 0.0050 |  | 394 | 0.9277   | 0.0698 | 0.0025 |
| Shumagin, 1996-3     | 393 | 0.8830  | 0.1158 | 0.0013 | 399 | 0.9975  | 0.0025 |  | 396 | 0.9268   | 0.0732 | 0.0000 |

| Fishery              | N   | sMDH-B1.2* |        |        |          | N   | mMEP-2* |        |  | N   | sMEP-1* |        |  |
|----------------------|-----|------------|--------|--------|----------|-----|---------|--------|--|-----|---------|--------|--|
|                      |     | 100        | 72     | 50     | fast>110 |     | 100     | 122    |  |     | 100     | 90     |  |
| South Unimak, 1993-1 | 394 | 0.9911     | 0.0063 | 0.0013 | 0.0013   | 392 | 0.7985  | 0.2015 |  | 393 | 0.9936  | 0.0064 |  |
| South Unimak, 1993-2 | 399 | 0.9831     | 0.0081 | 0.0025 | 0.0063   | 395 | 0.8127  | 0.1873 |  | 398 | 0.9950  | 0.0050 |  |
| South Unimak, 1994-1 | 398 | 0.9893     | 0.0094 | 0.0006 | 0.0006   | 387 | 0.7972  | 0.2028 |  | 395 | 0.9975  | 0.0025 |  |
| South Unimak, 1994-2 | 395 | 0.9829     | 0.0120 | 0.0038 | 0.0013   | 396 | 0.7778  | 0.2222 |  | 397 | 0.9975  | 0.0025 |  |
| South Unimak, 1994-3 | 398 | 0.9893     | 0.0082 | 0.0019 | 0.0006   | 394 | 0.8160  | 0.1840 |  | 397 | 0.9962  | 0.0038 |  |
| South Unimak, 1995-1 | 400 | 0.9881     | 0.0056 | 0.0056 | 0.0006   | 398 | 0.7688  | 0.2312 |  | 399 | 0.9962  | 0.0038 |  |
| South Unimak, 1995-2 | 400 | 0.9869     | 0.0081 | 0.0044 | 0.0006   | 400 | 0.7950  | 0.2050 |  | 400 | 0.9975  | 0.0025 |  |
| South Unimak, 1995-3 | 397 | 0.9824     | 0.0113 | 0.0044 | 0.0019   | 396 | 0.7790  | 0.2210 |  | 396 | 0.9937  | 0.0063 |  |
| South Unimak, 1996-1 | 399 | 0.9875     | 0.0088 | 0.0031 | 0.0006   | 399 | 0.8233  | 0.1767 |  | 399 | 0.9887  | 0.0113 |  |
| South Unimak, 1996-2 | 398 | 0.9893     | 0.0069 | 0.0038 | 0.0000   | 398 | 0.8216  | 0.1784 |  | 399 | 0.9950  | 0.0050 |  |
| South Unimak, 1996-3 | 397 | 0.9798     | 0.0088 | 0.0076 | 0.0038   | 398 | 0.8367  | 0.1633 |  | 398 | 0.9962  | 0.0038 |  |
| Shumagin, 1994-1     | 398 | 0.9874     | 0.0063 | 0.0050 | 0.0013   | 386 | 0.8122  | 0.1878 |  | 392 | 0.9987  | 0.0013 |  |
| Shumagin, 1994-2     | 399 | 0.9856     | 0.0113 | 0.0025 | 0.0006   | 397 | 0.8174  | 0.1826 |  | 398 | 0.9937  | 0.0063 |  |
| Shumagin, 1994-3     | 396 | 0.9899     | 0.0076 | 0.0025 | 0.0000   | 396 | 0.8131  | 0.1869 |  | 397 | 0.9937  | 0.0063 |  |
| Shumagin, 1995-1     | 398 | 0.9893     | 0.0075 | 0.0031 | 0.0000   | 396 | 0.7790  | 0.2210 |  | 397 | 0.9962  | 0.0038 |  |
| Shumagin, 1995-2     | 394 | 0.9892     | 0.0063 | 0.0044 | 0.0000   | 391 | 0.7954  | 0.2046 |  | 392 | 0.9923  | 0.0077 |  |
| Shumagin, 1995-3     | 350 | 0.9743     | 0.0129 | 0.0107 | 0.0021   | 346 | 0.8642  | 0.1358 |  | 349 | 0.9928  | 0.0072 |  |
| Shumagin, 1996-1     | 398 | 0.9862     | 0.0088 | 0.0013 | 0.0038   | 391 | 0.7852  | 0.2148 |  | 398 | 0.9962  | 0.0038 |  |
| Shumagin, 1996-2     | 398 | 0.9837     | 0.0113 | 0.0038 | 0.0013   | 394 | 0.7957  | 0.2043 |  | 395 | 0.9962  | 0.0038 |  |
| Shumagin, 1996-3     | 399 | 0.9875     | 0.0075 | 0.0038 | 0.0013   | 396 | 0.8081  | 0.1919 |  | 399 | 0.9937  | 0.0063 |  |

## Appendix 4. Continued.

| Fishery              | N   | MPI*   |        |        |        | N   | PEPA*  |        |        |
|----------------------|-----|--------|--------|--------|--------|-----|--------|--------|--------|
|                      |     | 100    | 94     | 110    | 80     |     | 100    | 90     | 113    |
| South Unimak, 1993-1 | 392 | 0.8967 | 0.1033 | 0.0000 | 0.0000 | 391 | 1.0000 | 0.0000 | 0.0000 |
| South Unimak, 1993-2 | 397 | 0.8778 | 0.1196 | 0.0000 | 0.0025 | 398 | 0.9975 | 0.0013 | 0.0013 |
| South Unimak, 1994-1 | 396 | 0.8990 | 0.0997 | 0.0013 | 0.0000 | 398 | 0.9975 | 0.0013 | 0.0013 |
| South Unimak, 1994-2 | 395 | 0.8873 | 0.1127 | 0.0000 | 0.0000 | 397 | 0.9987 | 0.0000 | 0.0013 |
| South Unimak, 1994-3 | 395 | 0.9101 | 0.0899 | 0.0000 | 0.0000 | 397 | 1.0000 | 0.0000 | 0.0000 |
| South Unimak, 1995-1 | 399 | 0.8922 | 0.1065 | 0.0000 | 0.0013 | 398 | 0.9987 | 0.0000 | 0.0013 |
| South Unimak, 1995-2 | 399 | 0.8872 | 0.1115 | 0.0013 | 0.0000 | 400 | 0.9988 | 0.0000 | 0.0012 |
| South Unimak, 1995-3 | 396 | 0.8939 | 0.1035 | 0.0025 | 0.0000 | 396 | 1.0000 | 0.0000 | 0.0000 |
| South Unimak, 1996-1 | 399 | 0.8985 | 0.0990 | 0.0013 | 0.0013 | 399 | 1.0000 | 0.0000 | 0.0000 |
| South Unimak, 1996-2 | 398 | 0.9146 | 0.0854 | 0.0000 | 0.0000 | 398 | 1.0000 | 0.0000 | 0.0000 |
| South Unimak, 1996-3 | 398 | 0.8995 | 0.1005 | 0.0000 | 0.0000 | 398 | 1.0000 | 0.0000 | 0.0000 |
| Shumagin, 1994-1     | 398 | 0.9070 | 0.0905 | 0.0013 | 0.0013 | 398 | 0.9987 | 0.0013 | 0.0000 |
| Shumagin, 1994-2     | 397 | 0.9068 | 0.0919 | 0.0013 | 0.0000 | 399 | 1.0000 | 0.0000 | 0.0000 |
| Shumagin, 1994-3     | 397 | 0.8967 | 0.1033 | 0.0000 | 0.0000 | 395 | 0.9987 | 0.0013 | 0.0000 |
| Shumagin, 1995-1     | 398 | 0.8945 | 0.1055 | 0.0000 | 0.0000 | 398 | 0.9975 | 0.0013 | 0.0013 |
| Shumagin, 1995-2     | 394 | 0.8832 | 0.1168 | 0.0000 | 0.0000 | 395 | 1.0000 | 0.0000 | 0.0000 |
| Shumagin, 1995-3     | 349 | 0.9298 | 0.0688 | 0.0014 | 0.0000 | 349 | 1.0000 | 0.0000 | 0.0000 |
| Shumagin, 1996-1     | 398 | 0.9133 | 0.0867 | 0.0000 | 0.0000 | 398 | 1.0000 | 0.0000 | 0.0000 |
| Shumagin, 1996-2     | 396 | 0.9116 | 0.0884 | 0.0000 | 0.0000 | 398 | 0.9987 | 0.0000 | 0.0013 |
| Shumagin, 1996-3     | 398 | 0.8882 | 0.1106 | 0.0013 | 0.0000 | 395 | 0.9949 | 0.0038 | 0.0013 |

| Fishery              | N   | PEPB-1* |        |        |        |        | N   | PGDH*  |        |        |        |
|----------------------|-----|---------|--------|--------|--------|--------|-----|--------|--------|--------|--------|
|                      |     | -100    | -146   | -126   | -127   | -72    |     | 100    | 88     | 106    | 95     |
| South Unimak, 1993-1 | 391 | 0.8926  | 0.0588 | 0.0448 | 0.0038 | 0.0000 | 394 | 0.9797 | 0.0203 | 0.0000 | 0.0000 |
| South Unimak, 1993-2 | 396 | 0.8649  | 0.0631 | 0.0707 | 0.0013 | 0.0000 | 398 | 0.9824 | 0.0176 | 0.0000 | 0.0000 |
| South Unimak, 1994-1 | 394 | 0.8744  | 0.0698 | 0.0508 | 0.0038 | 0.0013 | 397 | 0.9710 | 0.0277 | 0.0013 | 0.0000 |
| South Unimak, 1994-2 | 391 | 0.8772  | 0.0780 | 0.0435 | 0.0013 | 0.0000 | 397 | 0.9710 | 0.0290 | 0.0000 | 0.0000 |
| South Unimak, 1994-3 | 396 | 0.8687  | 0.0657 | 0.0631 | 0.0025 | 0.0000 | 399 | 0.9724 | 0.0276 | 0.0000 | 0.0000 |
| South Unimak, 1995-1 | 396 | 0.8914  | 0.0669 | 0.0391 | 0.0025 | 0.0000 | 399 | 0.9724 | 0.0276 | 0.0000 | 0.0000 |
| South Unimak, 1995-2 | 394 | 0.8756  | 0.0584 | 0.0647 | 0.0013 | 0.0000 | 400 | 0.9700 | 0.0300 | 0.0000 | 0.0000 |
| South Unimak, 1995-3 | 393 | 0.8562  | 0.0789 | 0.0636 | 0.0013 | 0.0000 | 397 | 0.9698 | 0.0302 | 0.0000 | 0.0000 |
| South Unimak, 1996-1 | 396 | 0.8409  | 0.0821 | 0.0732 | 0.0038 | 0.0000 | 399 | 0.9774 | 0.0226 | 0.0000 | 0.0000 |
| South Unimak, 1996-2 | 393 | 0.8588  | 0.0789 | 0.0585 | 0.0038 | 0.0000 | 399 | 0.9812 | 0.0188 | 0.0000 | 0.0000 |
| South Unimak, 1996-3 | 390 | 0.8231  | 0.1026 | 0.0654 | 0.0077 | 0.0013 | 398 | 0.9812 | 0.0176 | 0.0013 | 0.0000 |
| Shumagin, 1994-1     | 389 | 0.8728  | 0.0758 | 0.0437 | 0.0064 | 0.0013 | 398 | 0.9673 | 0.0327 | 0.0000 | 0.0000 |
| Shumagin, 1994-2     | 395 | 0.8456  | 0.0696 | 0.0759 | 0.0089 | 0.0000 | 397 | 0.9736 | 0.0264 | 0.0000 | 0.0000 |
| Shumagin, 1994-3     | 384 | 0.8698  | 0.0729 | 0.0521 | 0.0039 | 0.0013 | 397 | 0.9748 | 0.0252 | 0.0000 | 0.0000 |
| Shumagin, 1995-1     | 388 | 0.8943  | 0.0606 | 0.0374 | 0.0064 | 0.0013 | 398 | 0.9611 | 0.0389 | 0.0000 | 0.0000 |
| Shumagin, 1995-2     | 387 | 0.8450  | 0.0775 | 0.0749 | 0.0013 | 0.0013 | 394 | 0.9810 | 0.0190 | 0.0000 | 0.0000 |
| Shumagin, 1995-3     | 344 | 0.8110  | 0.0727 | 0.1134 | 0.0029 | 0.0000 | 350 | 0.9800 | 0.0186 | 0.0014 | 0.0000 |
| Shumagin, 1996-1     | 391 | 0.8645  | 0.0665 | 0.0639 | 0.0051 | 0.0000 | 398 | 0.9837 | 0.0163 | 0.0000 | 0.0000 |
| Shumagin, 1996-2     | 395 | 0.8367  | 0.0709 | 0.0861 | 0.0063 | 0.0000 | 398 | 0.9724 | 0.0264 | 0.0000 | 0.0013 |
| Shumagin, 1996-3     | 395 | 0.8278  | 0.0987 | 0.0671 | 0.0063 | 0.0000 | 399 | 0.9799 | 0.0201 | 0.0000 | 0.0000 |

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