



Pre-Permitting Environmental / Socio-Economic Data Report Series

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# Report Series N- Terrestrial Wildlife and Habitats

## Report N-7 Terrestrial Mammal Tables 2004-2007

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*Preliminary data. Do not cite or quote.*

The Pebble Partnership is providing environmental and socio-economic baseline data collected to inform the development of the Pebble Project to state and federal agencies, project stakeholders and the general public prior to project permitting as part of its commitment to full and open disclosure.

A comprehensive Environmental Baseline Document (EBD) will subsequently be prepared and appended to future project permit applications. The EBD will also be made publicly available when complete.

Collected for the Pebble Partnership by:



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TABLE N-7.1  
Species and Numbers of Mammals Recorded during Wildlife Surveys, Mine Study Area, 2004-2007

| Survey Type   | Year         | Date         | Brown Bear   | Caribou    | Moose        | Wolf     | Wolverine |          |
|---|--------------|--------------|--------------|------------|--------------|----------|-----------|----------|
| Transect Surveys  | 2004         | April 12     | 0            | 0          | 0            | 0        | 0         |          |
|   |              | May 21       | 5            | 30         | 0            | 0        | 0         |          |
|   |              | July 1       | 6            | 9,963      | 0            | 0        | 0         |          |
|   |              | Oct. 20      | 4            | 4          | 3            | 1        | 0         |          |
|   |              | Nov. 29-30   | 0            | 0          | 0            | 0        | 0         |          |
|   |              |              | <b>TOTAL</b> | <b>15</b>  | <b>9,997</b> | <b>3</b> | <b>1</b>  | <b>0</b> |
|   | 2005         | March 29     | 0            | 0          | 0            | 0        | 0         |          |
|   |              | May 9        | 4            | 0          | 2            | 0        | 0         |          |
|   |              | May 25       | 6            | 1          | 1            | 0        | 0         |          |
|   |              | June 29      | 2            | 0          | 0            | 0        | 0         |          |
|   |              | July 21      | 2            | 16         | 0            | 0        | 0         |          |
|   |              | Oct. 10      | 5            | 0          | 0            | 0        | 0         |          |
|   |              | Dec 12       | 0            | 146        | 1            | 0        | 0         |          |
|   |              |              | <b>TOTAL</b> | <b>19</b>  | <b>163</b>   | <b>4</b> | <b>0</b>  | <b>0</b> |
|   | 2006         | May 24       | 1            | 0          | 1            | 0        | 0         |          |
|   |              | June 28      | 18           | 5,039      | 0            | 0        | 0         |          |
|   |              | July 14      | 1            | 1          | 2            | 0        | 0         |          |
|   |              | Dec. 1-2     | 0            | 0          | 2            | 0        | 0         |          |
|   |              |              | <b>TOTAL</b> | <b>20</b>  | <b>5,040</b> | <b>5</b> | <b>0</b>  | <b>0</b> |
|   | 2007         | June 27      | 10           | 2,132      | 0            | 0        | 0         |          |
| July 16-17  |              | 6            | 45           | 0          | 0            | 0        |           |          |
| <b>TOTAL</b>  |              | <b>16</b>    | <b>2,177</b> | <b>0</b>   | <b>0</b>     | <b>0</b> |           |          |
| Stream/Den Survey                                       | 2004         | Aug. 18-19   | 16           | 6          | 0            | 0        | 0         |          |
| Den Checks  | 2005         | May 11-12    | 3            | 0          | 0            | 0        | 0         |          |
|   |              | Aug. 29-30   | 4            | 10         | 0            | 0        | 0         |          |
|   | 2006         | May 8-9      | 4            | 0          | 0            | 0        | 0         |          |
|   | <b>TOTAL</b> | <b>11</b>    | <b>10</b>    | <b>0</b>   | <b>0</b>     | <b>0</b> |           |          |
| Beaver Survey   | 2005         | October 9    | 5            | 0          | 3            | 0        | 0         |          |
| Incidental Observations (during other wildlife surveys) | 2004         | April        | 0            | 3          | 0            | 1        | 0         |          |
|   |              | May          | 0            | 5          | 0            | 0        | 0         |          |
|   |              | June         | 5            | 65         | 0            | 1        | 1         |          |
|   |              | July         | 3            | 0          | 0            | 1        | 0         |          |
|   |              | September    | 21           | 0          | 0            | 6        | 0         |          |
|   |              | October      | 10           | 0          | 0            | 0        | 0         |          |
|   |              |              | <b>TOTAL</b> | <b>39</b>  | <b>73</b>    | <b>0</b> | <b>9</b>  | <b>1</b> |
|   | 2005         | May          | 4            | 6          | 19           | 0        | 0         |          |
|   |              | June         | 14           | 15         | 2            | 0        | 0         |          |
|   |              | July         | 21           | 0          | 0            | 0        | 1         |          |
|   |              | August       | 19           | 22         | 1            | 1        | 0         |          |
|   |              | September    | 5            | 0          | 0            | 0        | 0         |          |
|   |              | October      | 6            | 100        | 3            | 0        | 0         |          |
|   |              | <b>TOTAL</b> | <b>69</b>    | <b>143</b> | <b>25</b>    | <b>1</b> | <b>1</b>  |          |

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TABLE N-7.2

Number of Large-mammal Groups Seen by Front Observer Only, Rear Observer Only, and Both Observers during Double-count Aerial Transect Surveys, Mine Study Area, June-July 2007

| <b>Observer</b> | <b>Caribou<sup>a</sup></b> | <b>Brown Bear</b> | <b>Total</b> |
|-----------------|----------------------------|-------------------|--------------|
| Front only      | 1                          | 2                 | <b>3</b>     |
| Rear only       | 2                          | 2                 | <b>4</b>     |
| Both            | 1                          | 2                 | <b>3</b>     |
| <b>TOTAL</b>    | <b>4</b>                   | <b>6</b>          | <b>10</b>    |

a. One large group of caribou was omitted because of its high probability of detection.

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TABLE N-7.3

Species and Numbers of Mammals Recorded during Wildlife Surveys, Transportation Corridor, Bristol Bay Drainages, 2004-2006

| Survey Type   | Year         | Date       | Brown Bear | Black Bear | Moose     | Caribou  | Coyote   | Wolf     | Wolverine |
|---|--------------|------------|------------|------------|-----------|----------|----------|----------|-----------|
| Fixed-wing Surveys                                      | 2004         | April 12   | 0          | 0          | 3         | 0        | 0        | 0        | 0         |
|   |              | May 21     | 1          | 0          | 6         | 0        | 0        | 0        | 0         |
|   |              | June 30    | 0          | 1          | 0         | 0        | 0        | 0        | 0         |
|   |              | Oct. 20-21 | 0          | 0          | 3         | 0        | 0        | 0        | 0         |
|   |              | Nov. 30    | 0          | 0          | 0         | 0        | 0        | 0        | 0         |
|   | <b>TOTAL</b> |            | <b>1</b>   | <b>1</b>   | <b>12</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>  |
|   | 2005         | Mar. 29-30 | 0          | 0          | 10        | 0        | 0        | 0        | 0         |
|   |              | May 9-10   | 0          | 0          | 1         | 0        | 0        | 0        | 0         |
|   |              | May 24-25  | 0          | 0          | 4         | 0        | 0        | 0        | 0         |
|   |              | June 28-29 | 2          | 2          | 0         | 0        | 0        | 0        | 0         |
|   |              | October 11 | 1          | 0          | 5         | 0        | 1        | 0        | 0         |
|   |              | Dec. 12-13 | 0          | 0          | 4         | 0        | 0        | 0        | 0         |
|   | <b>TOTAL</b> |            | <b>3</b>   | <b>2</b>   | <b>24</b> | <b>0</b> | <b>1</b> | <b>0</b> | <b>0</b>  |
|   | 2006         | Dec. 2     | 0          | 0          | 27        | 0        | 0        | 0        | 0         |
| Stream/Den Survey                                       | 2004         | Aug. 18-20 | 15         | 0          | 0         | 0        | 0        | 0        | 0         |
| Den Checks  | 2005         | May 11-12  | 0          | 0          | 1         | 0        | 0        | 0        | 0         |
|   |              | Aug. 29-30 | 1          | 0          | 0         | 0        | 0        | 0        | 0         |
|   | <b>TOTAL</b> |            | <b>1</b>   | <b>0</b>   | <b>1</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>  |
| Beaver Survey   | 2006         | Oct. 16-17 | 0          | 0          | 0         | 0        | 0        | 0        | 0         |
| Incidental Observations (during other wildlife surveys) | 2004         | April      | 1          | 0          | 2         | 0        | 0        | 0        | 0         |
|   |              | May        | 0          | 0          | 2         | 0        | 0        | 0        | 0         |
|   |              | June       | 0          | 0          | 0         | 1        | 0        | 0        | 0         |
|   |              | September  | 1          | 0          | 1         | 0        | 0        | 0        | 0         |
|   |              | October    | 0          | 0          | 4         | 0        | 1        | 0        | 0         |
|   | <b>TOTAL</b> |            | <b>2</b>   | <b>0</b>   | <b>9</b>  | <b>1</b> | <b>1</b> | <b>0</b> | <b>0</b>  |
|   | 2005         | April      | 0          | 0          | 3         | 0        | 0        | 1        | 0         |
|   |              | May        | 8          | 2          | 13        | 0        | 1        | 0        | 1         |
|   |              | June       | 4          | 0          | 2         | 0        | 0        | 0        | 0         |
|   |              | July       | 15         | 1          | 2         | 0        | 0        | 0        | 0         |
|   |              | August     | 18         | 2          | 1         | 0        | 0        | 1        | 0         |
|   |              | September  | 10         | 0          | 2         | 0        | 0        | 0        | 0         |
|   |              | October    | 0          | 0          | 7         | 0        | 0        | 0        | 0         |
| <b>TOTAL</b>  |              | <b>55</b>  | <b>5</b>   | <b>30</b>  | <b>0</b>  | <b>1</b> | <b>2</b> | <b>1</b> |           |

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TABLE N-7.4

Number of Large-mammal Groups Seen by Front Observer Only, Rear Observer Only, and Both Observers during Double-count Aerial Transect Surveys, Transportation Corridor, Bristol Bay Drainages, March-October 2005

| <b>Observer</b> | <b>Moose</b> | <b>Brown Bear</b> | <b>Black Bear</b> | <b>Total</b> |
|-----------------|--------------|-------------------|-------------------|--------------|
| Front only      | 5            | 2                 | 0                 | <b>7</b>     |
| Rear only       | 4            | 0                 | 0                 | <b>4</b>     |
| Both            | 2            | 2                 | 0                 | <b>4</b>     |
| <b>TOTAL</b>    | <b>11</b>    | <b>4</b>          | <b>0</b>          | <b>15</b>    |

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TABLE N-7.5  
Regional List of Mammal Species, Bristol Bay Drainages

| Order                    | Family           | Genus            | Species                          | Common Name                 |
|--------------------------|------------------|------------------|----------------------------------|-----------------------------|
| INSECTIVORA              | Soricidae        | <i>Sorex</i>     | <i>cinereus</i>                  | Common Shrew                |
|                          |                  |                  | <i>hoyi</i>                      | Pygmy Shrew                 |
|                          |                  |                  | <i>monticolus</i>                | Dusky Shrew; Montane Shrew  |
|                          |                  |                  | <i>palustris</i>                 | Water Shrew                 |
|                          |                  |                  | <i>tundrensis</i>                | Tundra Shrew                |
|                          |                  |                  | <i>yukonicus</i>                 | Tiny Shrew                  |
| CHIROPTERA               | Vespertilionidae | <i>Myotis</i>    | <i>lucifugus</i>                 | Little Brown Bat            |
| CARNIVORA                | Canidae          | <i>Canis</i>     | <i>latrans</i>                   | Coyote                      |
|                          |                  |                  | <i>lupus</i>                     | Gray Wolf                   |
|                          |                  |                  | <i>Vulpes vulpes</i>             | Red Fox                     |
|                          | Felidae          | <i>Lynx</i>      | <i>canadensis</i>                | Lynx                        |
|                          | Mustelidae       | <i>Lontra</i>    | <i>canadensis</i>                | River Otter                 |
|                          |                  |                  | <i>Gulo gulo</i>                 | Wolverine                   |
|                          |                  |                  | <i>Martes americana</i>          | Marten                      |
|                          |                  |                  | <i>Mustela erminea</i>           | Short-tailed Weasel, Ermine |
|                          |                  |                  | <i>nivalis</i>                   | Least Weasel                |
|                          |                  |                  | <i>Neovison vison</i>            | Mink                        |
|                          | Phocidae         | <i>Phoca</i>     | <i>vitulina</i>                  | Harbor Seal                 |
|                          | Ursidae          | <i>Ursus</i>     | <i>americanus</i>                | Black Bear                  |
|                          |                  |                  | <i>arctos</i>                    | Brown Bear                  |
|                          | ARTIODACTYLA     | Cervidae         | <i>Alces</i>                     | <i>alces</i>                |
| <i>Rangifer tarandus</i> |                  |                  |                                  | Caribou                     |
| Bovidae                  |                  | <i>Ovis</i>      | <i>dalli</i>                     | Dall's Sheep                |
| RODENTIA                 | Sciuridae        | <i>Marmota</i>   | <i>caligata</i>                  | Hoary Marmot                |
|                          |                  |                  | <i>Spermophilus parryii</i>      | Arctic Ground Squirrel      |
|                          |                  |                  | <i>Tamiasciurus hudsonicus</i>   | Red Squirrel                |
|                          | Castoridae       | <i>Castor</i>    | <i>canadensis</i>                | Beaver                      |
|                          | Dipodidae        | <i>Zapus</i>     | <i>hudsonius</i>                 | Meadow Jumping Mouse        |
|                          | Muridae          | <i>Myodes</i>    | <i>rutilus</i>                   | Northern Red-backed Vole    |
|                          |                  |                  | <i>Dicrostonyx groenlandicus</i> | Collared Lemming            |
|                          |                  |                  | <i>Lemmus trimucronatus</i>      | Brown Lemming               |
|                          |                  |                  | <i>Microtus miurus</i>           | Singing Vole                |
|                          |                  |                  | <i>oeconomus</i>                 | Tundra Vole                 |
|                          |                  |                  | <i>pennsylvanicus</i>            | Meadow Vole                 |
|                          |                  |                  | <i>Ondatra zibethicus</i>        | Muskrat                     |
|                          |                  |                  | <i>Synaptomys borealis</i>       | Northern Bog Lemming        |
|                          | Erethizontidae   | <i>Erethizon</i> | <i>dorsatum</i>                  | Porcupine                   |
| LAGOMORPHA               | Ochotonidae      | <i>Ochotona</i>  | <i>collaris</i>                  | Collared Pika               |
|                          | Leporidae        | <i>Lepus</i>     | <i>americanus</i>                | Snowshoe Hare               |
|                          |                  |                  | <i>othus</i>                     | Tundra Hare, Alaska Hare    |

Sources: Osgood (1904), Cahalane (1959), Cook and MacDonald (2004a, 2004b), Jacobsen (2004), MacDonald and Cook (2007).

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