

Appendix 1. Small Mammals in the Muskwa-Kechika Management Area

This list includes only species actually recorded (museum specimens and observational records from published and unpublished sources) in the Muskwa-Kechika Management Area. Small mammals that probably occur in the MKMA but have not been verified from actual documented records are listed in Appendix 2. Scientific names, English common names, and species codes are based on the RIC standards (Ministry of Environment, Lands and Parks 2000).

ORDER INSECTIVORA: Insectivores

FAMILY SORICIDAE: Shrews

| | |
|-----------------------------------|-----------------------------|
| <i>Sorex cinereus</i> Kerr | Common Shrew (M-SOCI) |
| <i>Sorex hoyi</i> Baird | Pygmy Shrew (M-SOHO) |
| <i>Sorex monticolus</i> Merriam | Dusky Shrew (M-SOMO) |
| <i>Sorex palustris</i> Richardson | Common Water Shrew (M-SOPA) |

ORDER CHIROPTERA: Bats

FAMILY VESPERTILIONIDAE: Vespertilionid Bats

| | |
|------------------------------------|------------------------------|
| <i>Myotis lucifugus</i> (Le Conte) | Little Brown Myotis (M-MYLU) |
|------------------------------------|------------------------------|

ORDER LAGOMORPHA: Lagomorphs

FAMILY LEPORIDAE: Hares and Rabbits

| | |
|----------------------------------|------------------------|
| <i>Lepus americanus</i> Erxleben | Snowshoe Hare (M-LEAM) |
|----------------------------------|------------------------|

ORDER RODENTIA: Rodents

FAMILY SCIURIDAE: Squirrels

| | |
|---|-----------------------------------|
| <i>Glaucomys sabrinus</i> (Shaw) | Northern Flying Squirrel (M-GLSA) |
| <i>Marmota caligata</i> (Eschscholtz) | Hoary Marmot (M-MACA) |
| <i>Marmota monax</i> (Linnaeus) | Woodchuck (M-MAMO) |
| <i>Spermophilus parryii</i> (Richardson) | Arctic Ground Squirrel (M-SPPA) |
| <i>Tamias minimus</i> Bachman | Least Chipmunk (M-TAMI) |
| <i>Tamiasciurus hudsonicus</i> (Erxleben) | Red Squirrel (M-TAHU) |

FAMILY CASTORIDAE: Beavers

| | |
|-------------------------------|-----------------|
| <i>Castor canadensis</i> Kuhl | Beaver (M-CACA) |
|-------------------------------|-----------------|

FAMILY MURIDAE: Murids

SUBFAMILY ARVICOLINAE: Voles and Lemmings

| | |
|--|-----------------------------------|
| <i>Clethrionomys gapperi</i> (Vigors) | Southern Red-backed Vole (M-CLGA) |
| <i>Clethrionomys rutilus</i> (Pallas) | Northern red-backed Vole (M-CLRU) |
| <i>Lemmus trimucronatus</i> (Richardson) | Brown Lemming (M-LETR) |
| <i>Microtus longicaudus</i> (Merriam) | Long-tailed Vole (M-MILO) |
| <i>Microtus pennsylvanicus</i> (Ord) | Meadow Vole (M-MIPE) |
| <i>Ondatra zibethicus</i> (Linnaeus) | Muskrat (M-ONZI) |
| <i>Phenacomys intermedius</i> Merriam | Heather Vole (M-PHIN) |

SUBFAMILY SIGMODONTINAE: New World Rats and Mice

Neotoma cinerea (Ord) Bushy-tailed Woodrat (M-NECI)
Peromyscus maniculatus (Wagner) Deer Mouse (M-PEMA)

FAMILY DIPODIDAE: Jumping Mice and Jerboas

Zapus hudsonius (Zimmermann) Meadow Jumping Mouse (M-ZAHU)
Zapus princeps J.A. Allen Western Jumping Mouse (M-ZAPR)

FAMILY ERETHIZONTIDAE: New World Porcupines

Erethizon dorsatum (Linnaeus) Porcupine (M-ERDO)

Appendix 2. Hypothetical Small Mammals in the Muskwa-Kechika Management Area

This list includes 11 small mammals that potentially occur in the MKMA but have not been verified from actual documented records. Scientific names, English common names, and species codes are based on the RIC standards (Ministry of Environment, Lands and Parks 2000).

ORDER INSECTIVORA: Insectivores

FAMILY SORICIDAE: Shrews

Sorex arcticus Kerr Black-backed Shrew (M-SOAR)

ORDER CHIROPTERA: Bats

FAMILY VESPERTILIONIDAE: Vespertilionid Bats

Eptesicus fuscus (Palisot de Beauvois) Big Brown Bat (M-EPFU)

Lasiurus cinereus (Palisot de Beauvois) Hoary Bat (M-LACI)

Lasionycteris noctivagans (Le Conte) Silver-haired Bat (M-LANO)

Myotis californicus (Audubon & Bachman) California Myotis (M-MYCA)

Myotis evotis (H. Allen) Western Long-eared Myotis (M-MYEV)

Myotis septentrionalis (Trouessart) Northern Long-eared Myotis (M-MYSE)

Myotis volans (H. Allen) Long-legged Myotis (M-MYVO)

ORDER LAGOMORPHA: Lagomorphs

FAMILY OCHOTONIDAE: Pikas

Ochtona collaris (Nelson) Collared Pika (M-OCCO)

ORDER RODENTIA: Rodents

FAMILY MURIDAE: Murids

SUBFAMILY ARVICOLINAE: Voles and Lemmings

Microtus oeconomus (Pallas) Tundra Vole (M-MIOE)

Synaptomys borealis (Richardson) Northern Bog Lemming (M-SYBO)

Appendix 3. Summary of locality records by species within Ecosections in the Muskwa-Kechika Management Area

In cases where two rows are found for the same species the row for which AREA = mkama indicates locality records from within the MKMA. If the AREA column is blank, locality records are from Ecosections represented within the MKMA.

| Group | GENUS | SPECIES | AREA | Total Records | Cassiar Ranges | Eastern Muskwa Ranges | Hyland Highland | Kechika Mtns. | Liard Plain | Misinchinka Ranges | Muskwa Foothills | Peace Foothills | Southern Boreal Plateau | Western Muskwa Ranges |
|------------|---------------|----------------|-------|---------------|----------------|-----------------------|-----------------|---------------|-------------|--------------------|------------------|-----------------|-------------------------|-----------------------|
| BATS | LASIONYCTERIS | NOCTIVAGANS | | 1 | | | | | | | | | 1 | |
| BATS | MYOTIS | LUCIFUGUS | | 6 | | | | | 6 | | | | | |
| BATS | MYOTIS | LUCIFUGUS | mkama | 38 | | 37 | 1 | | | | | | | |
| INSECTIVOR | SOREX | CINEREUS | | 74 | 11 | | 8 | | 7 | | | | 47 | |
| INSECTIVOR | SOREX | CINEREUS | mkama | 32 | | 3 | 12 | | 17 | | | | | |
| INSECTIVOR | SOREX | HOYI | | 2 | 1 | | 1 | | | | | | | |
| INSECTIVOR | SOREX | MONTICOLUS | | 44 | 10 | | 1 | | 8 | | | | 24 | |
| INSECTIVOR | SOREX | MONTICOLUS | mkama | 44 | | 2 | 2 | | 26 | | 10 | 4 | | |
| INSECTIVOR | SOREX | PALUSTRIS | | 13 | 4 | | | | 7 | | | | 2 | |
| INSECTIVOR | SOREX | PALUSTRIS | mkama | 6 | | 1 | | | 2 | | 3 | | | |
| LAGOMORPH | LEPUS | AMERICANUS | | 12 | 3 | | 1 | | 1 | 4 | | 1 | 2 | |
| LAGOMORPH | LEPUS | AMERICANUS | mkama | 1 | 1 | | | | | | | | | |
| RODENT | CASTOR | CANADENSIS | | 10 | 2 | | | | 4 | | | | 4 | |
| RODENT | CASTOR | CANADENSIS | mkama | 2 | | | | | | | 2 | | | |
| RODENT | CLETHRIONOMYS | GAPPERI | | 9 | 1 | | | | | 7 | | | | |
| RODENT | CLETHRIONOMYS | GAPPERI | mkama | 37 | | 6 | | | | | 27 | 4 | | |
| RODENT | CLETHRIONOMYS | RUTILUS | | 136 | 14 | | 10 | | | | | | 112 | |
| RODENT | CLETHRIONOMYS | RUTILUS | mkama | 32 | | 15 | | | | | 17 | | | |
| RODENT | ERETHIZON | DORSATUM | | 3 | 1 | | | | | | | | 2 | |
| RODENT | ERETHIZON | DORSATUM | mkama | 2 | 1 | | | | | | 1 | | | |
| RODENT | GLAUCOMYS | SABRINUS | | 4 | | | 2 | | | | | 2 | | |
| RODENT | GLAUCOMYS | SABRINUS | mkama | 6 | | 6 | | | | | | | | |
| RODENT | LEMMUS | TRIMUCRONATUS | | 23 | 5 | | | | | 6 | | | 8 | 4 |
| RODENT | LEMMUS | TRIMUCRONATUS | mkama | 34 | | 25 | | | | | 2 | 7 | | |
| RODENT | MARMOTA | CALIGATA | | 70 | 9 | | | 1 | | 5 | | | 54 | 1 |
| RODENT | MARMOTA | CALIGATA | mkama | 7 | 1 | 1 | | 1 | | | 1 | 3 | | |
| RODENT | MARMOTA | MONAX | | 10 | 1 | | 7 | | 2 | | | | | |
| RODENT | MARMOTA | MONAX | mkama | 1 | | | 1 | | | | | | | |
| RODENT | MICROTUS | LONGICAUDUS | | 109 | 16 | | 38 | | 10 | | | | 44 | 1 |
| RODENT | MICROTUS | LONGICAUDUS | mkama | 54 | | 9 | 4 | | | | 41 | | | |
| RODENT | MICROTUS | OECONOMUS | | 40 | 34 | | | | | | | | 6 | |
| RODENT | MICROTUS | PENNSYLVANICUS | | 199 | 47 | | 53 | 1 | 24 | 4 | | | 70 | |
| RODENT | MICROTUS | PENNSYLVANICUS | mkama | 77 | | 39 | 5 | 1 | | | 21 | 11 | | |
| RODENT | MUS | MUSCULUS | | 2 | | | | | | | | | 2 | |
| RODENT | NEOTOMA | CINEREA | | 16 | 4 | | 2 | | | | | | 10 | |
| RODENT | NEOTOMA | CINEREA | mkama | 13 | | 12 | | | | | 1 | | | |

| | | | | | | | | | | | | | | |
|--------|--------------|--------------|-------|-------------|------------|------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| RODENT | ONDATRA | ZIBETHICUS | | 3 | 2 | | | | | 1 | | | | |
| RODENT | ONDATRA | ZIBETHICUS | mkama | 10 | | | | | | | 10 | | | |
| RODENT | PEROMYSCUS | MANICULATUS | | 298 | 44 | | 174 | | 26 | | | | 52 | 2 |
| RODENT | PEROMYSCUS | MANICULATUS | mkama | 118 | | 52 | 6 | | | | 60 | | | |
| RODENT | PHENACOMYS | INTERMEDIUS | | 34 | 3 | | | | | | | | 30 | |
| RODENT | PHENACOMYS | INTERMEDIUS | mkama | 2 | 1 | 1 | | | | | | | | |
| RODENT | SPERMOPHILUS | PARRYII | | 70 | 34 | | | | | | | | | 36 |
| RODENT | SPERMOPHILUS | PARRYII | mkama | 2 | 2 | | | | | | | | | |
| RODENT | SYNAPTOMYS | BOREALIS | | 22 | 14 | | | | | | | | | 8 |
| RODENT | TAMIAS | MINIMUS | | 44 | 19 | | 1 | 1 | 6 | 2 | | | | 14 |
| RODENT | TAMIAS | MINIMUS | mkama | 30 | 2 | 7 | 1 | 1 | | | 17 | 2 | | |
| RODENT | TAMIASCIURUS | HUDSONICUS | | 65 | 21 | | 8 | | 4 | 6 | | 4 | 20 | 1 |
| RODENT | TAMIASCIURUS | HUDSONICUS | mkama | 42 | 1 | 17 | | | | | 22 | 2 | | |
| RODENT | ZAPUS | HUDSONIUS | | 19 | | | 11 | | 6 | | | | | 2 |
| RODENT | ZAPUS | HUDSONIUS | Mkama | 2 | | 1 | 1 | | | | | | | |
| RODENT | ZAPUS | PRINCEPS | | 37 | 4 | | | | | | | | | 32 |
| RODENT | ZAPUS | PRINCEPS | Mkama | 17 | | 1 | | | | | 10 | 6 | | |
| | | TOTAL | | 2146 | 446 | 236 | 354 | 14 | 154 | 35 | 251 | 46 | 593 | 10 |

Appendix 4. Summary of locality records by species within biogeoclimatic units in the Muskwa-Kechika Management Area

In cases where two rows are found for the same species the row for which AREA = mkama indicates locality records from within the MKMA. If the AREA column is blank, locality records are from biogeoclimatic units represented within the MKMA.

| Group | GENUS | SPECIES | Area | Total Record | AT p | BWBSdk 1 | BWBSdk 2 | BWBSmw 1 | BWBSmw 2 | BWBSwk 2 | ESSFmv 2 | ESSFmv 4 | SWB mk | SWB unr |
|------------|---------------|-----------------|-------|--------------|------|----------|----------|----------|----------|----------|----------|----------|--------|---------|
| Bats | EPTESICUS | FUSCUS | | 6 | | | | | 6 | | | | | |
| Bats | LASIONYCTERIS | NOCTIVAGANS | | 5 | | | | | 4 | | | | 1 | |
| Bats | MYOTIS | KEENII | | 1 | | 1 | | | | | | | | |
| Bats | MYOTIS | LUCIFUGUS | | 91 | 2 | 22 | 6 | | 34 | | | | | 27 |
| Bats | MYOTIS | LUCIFUGUS | mkama | 38 | | | 1 | | | | | | 37 | |
| Bats | MYOTIS | SEPTENTRIONALIS | | 1 | | | | | 1 | | | | | |
| Bats | MYOTIS | VOLANS | | 2 | | 2 | | | | | | | | |
| Insectivor | SOREX | | | 4 | 2 | | | | | 1 | | | | 1 |
| Insectivor | SOREX | ARCTICUS | | 37 | | | | | 28 | 9 | | | | |
| Insectivor | SOREX | CINEREUS | | 250 | 33 | 50 | 15 | | 6 | 49 | 1 | | | 97 |
| Insectivor | SOREX | CINEREUS | mkama | 34 | | | 29 | | | 1 | | | 3 | |
| Insectivor | SOREX | HOYI | | 8 | | 2 | 1 | | 1 | 4 | | | | |
| Insectivor | SOREX | MONTICOLUS | | 227 | 67 | 37 | 9 | | 9 | 31 | 1 | | | 73 |
| Insectivor | SOREX | MONTICOLUS | mkama | 44 | 4 | | 28 | | | | | | 12 | |
| Insectivor | SOREX | PALUSTRIS | | 35 | 9 | 8 | 7 | | 2 | 3 | | | | 6 |
| Insectivor | SOREX | PALUSTRIS | mkama | 6 | | | 2 | | | | | | 4 | |
| Insectivor | SOREX | TUNDRENSIS | | 5 | 3 | | | | | | | | | 2 |
| Lagomorph | LEPUS | AMERICANUS | | 93 | | 52 | 2 | | 18 | 6 | 8 | | 1 | 6 |
| Lagomorph | LEPUS | AMERICANUS | mkama | 1 | | | | | | | | | | 1 |
| Lagomorph | OCHOTONA | COLLARIS | | 40 | 33 | 2 | | | | | | | | 5 |
| Rodent | CASTOR | CANADENSIS | | 23 | 3 | 1 | 2 | | 3 | 5 | 1 | | 1 | 7 |
| Rodent | CASTOR | CANADENSIS | mkama | 2 | | | | | | | | | 2 | |
| Rodent | CLETHRIONOMYS | GAPPERI | | 376 | 106 | 1 | | | 65 | 195 | 7 | 1 | 1 | |
| Rodent | CLETHRIONOMYS | GAPPERI | mkama | 40 | 6 | | | | | 3 | | | 31 | |
| Rodent | CLETHRIONOMYS | RUTILUS | | 151 | 18 | 46 | 5 | | | 10 | | | | 72 |
| Rodent | CLETHRIONOMYS | RUTILUS | mkama | 37 | 4 | | | | | 8 | | | 25 | |
| Rodent | ERETHIZON | DORSATUM | | 14 | 4 | 3 | | | 3 | | 1 | | 1 | 2 |
| Rodent | ERETHIZON | DORSATUM | mkama | 2 | | | | | | | | | 1 | 1 |
| Rodent | GLAUCOMYS | SABRINUS | | 19 | 7 | 1 | 1 | | 8 | 2 | | | | |
| Rodent | GLAUCOMYS | SABRINUS | mkama | 6 | 6 | | | | | | | | | |
| Rodent | LEMMUS | TRIMUCRONATUS | | 91 | 24 | 34 | | | 7 | 1 | | | 2 | 7 |
| Rodent | LEMMUS | TRIMUCRONATUS | mkama | 34 | 9 | | | | | | | | 25 | 16 |
| Rodent | MARMOTA | CALIGATA | | 106 | 81 | 1 | | | 1 | | 1 | | 1 | 6 |
| Rodent | MARMOTA | CALIGATA | mkama | 7 | 4 | 1 | | | | | | | 1 | 1 |
| Rodent | MARMOTA | MONAX | | 24 | | 5 | 4 | | 11 | 3 | | | | 1 |
| Rodent | MARMOTA | MONAX | mkama | 1 | | | 1 | | | | | | | |
| Rodent | MICROTUS | LONGICAUDUS | | 272 | 78 | 139 | 22 | | 1 | 5 | | 1 | 1 | 25 |

| | | | | | | | | | | | | | | |
|--------|--------------|----------------|--------------|-------------|-------------|-------------|------------|------------|------------|-----------|----------|----------|------------|------------|
| Rodent | MICROTUS | LONGICAUDUS | mkama | 55 | 4 | | 4 | | 30 | | | | 17 | |
| Rodent | MICROTUS | OECONOMUS | | 20 | 20 | | | | | | | | | |
| Rodent | MICROTUS | PENNSYLVANICUS | | 613 | 57 | 98 | 37 | 89 | 230 | 26 | | | 1 | 75 |
| Rodent | MICROTUS | PENNSYLVANICUS | mkama | 79 | 18 | 1 | 5 | | 4 | | | | 51 | |
| Rodent | MUS | MUSCULUS | | 7 | | 5 | | 2 | | | | | | |
| Rodent | NEOTOMA | CINEREA | | 106 | 9 | 64 | 1 | 23 | 2 | | | 1 | | 6 |
| Rodent | NEOTOMA | CINEREA | mkama | 13 | 7 | | | | | | | | | 6 |
| Rodent | ONDATRA | ZIBETHICUS | | 14 | | 3 | | 10 | | | | | 1 | |
| Rodent | ONDATRA | ZIBETHICUS | mkama | 10 | | | | | | | | | 10 | |
| Rodent | PEROMYSCUS | MANICULATUS | | 827 | 18 | 564 | 97 | 53 | 59 | 8 | 2 | 1 | 1 | 24 |
| Rodent | PEROMYSCUS | MANICULATUS | mkama | 129 | 20 | | 6 | | 56 | | | | 47 | |
| Rodent | PHENACOMYS | INTERMEDIUS | | 81 | 38 | 13 | | 7 | 11 | | | | | 12 |
| Rodent | PHENACOMYS | INTERMEDIUS | mkama | 2 | 1 | | | | | | | | 1 | |
| Rodent | SPERMOPHILUS | PARRYII | | 102 | 13 | 55 | | | | | | | | 34 |
| Rodent | SPERMOPHILUS | PARRYII | mkama | 2 | 1 | | | | | | | | | 1 |
| Rodent | SYNAPTOMYS | BOREALIS | | 57 | 31 | 3 | | 5 | 8 | | | | | 10 |
| Rodent | TAMIAS | AMOENUS | | 47 | 47 | | | | | | | | | |
| Rodent | TAMIAS | MINIMUS | | 203 | 45 | 80 | 3 | 23 | 31 | 9 | 1 | | 1 | 10 |
| Rodent | TAMIAS | MINIMUS | mkama | 31 | 5 | | 1 | | 7 | | | 1 | 15 | 2 |
| Rodent | TAMIASCIURUS | HUDSONICUS | | 224 | 27 | 97 | 6 | 39 | 25 | 9 | 1 | 1 | | 19 |
| Rodent | TAMIASCIURUS | HUDSONICUS | mkama | 42 | 12 | | | | 3 | | | | 26 | 1 |
| Rodent | TAMIASCIURUS | HUDSONICUS | | 1 | | | | | 1 | | | | | |
| Rodent | ZAPUS | HUDSONIUS | | 56 | | 9 | 8 | 14 | 24 | | | | | 1 |
| Rodent | ZAPUS | HUDSONIUS | mkama | 2 | | | 1 | | | | | | 1 | |
| Rodent | ZAPUS | PRINCEPS | | 121 | 30 | 63 | | 9 | | | 1 | | 1 | 17 |
| Rodent | ZAPUS | PRINCEPS | mkama | 17 | 6 | | | | | | | | 11 | |
| | | | TOTAL | 5361 | 1082 | 1509 | 312 | 482 | 827 | 71 | 8 | 8 | 351 | 711 |

Appendix 5. Summary of locality records by species within protected areas in the Muskwa-Kechika Management Area

| Group | GENUS | SPECIES | Total Records | Graham Laurier | Liard R. Corridor | Liard R. Hotsprings | Muncho L. | N. Rocky Mtns. | Redfern - Keily | Stone Mtn. |
|------------|---------------|----------------|---------------|----------------|-------------------|---------------------|-----------|----------------|-----------------|------------|
| BATS | MYOTIS | LUCIFUGUS | 38 | | 1 | | 37 | | | |
| INSECTIVOR | SOREX | CINEREUS | 3 | | 2 | | 1 | | | |
| INSECTIVOR | SOREX | MONTICOLUS | 6 | | | | 2 | | | 4 |
| RODENTS | CASTOR | CANADENSIS | 2 | | | | | | 2 | |
| RODENTS | CLETHRIONOMYS | GAPPERI | 15 | | | | | 1 | 14 | |
| RODENTS | CLETHRIONOMYS | RUTILUS | 20 | | | 3 | 2 | 2 | | 13 |
| RODENTS | LEMMUS | TRIMUCRONATUS | 2 | 2 | | | | | | |
| RODENTS | MARMOTA | CALIGATA | 2 | 2 | | | | | | |
| RODENTS | MICROTUS | LONGICAUDUS | 16 | | 1 | | 4 | | | 11 |
| RODENTS | MICROTUS | PENNSYLVANICUS | 23 | | 2 | 5 | 9 | 2 | 3 | 2 |
| RODENTS | NEOTOMA | CINEREA | 7 | | | | | 5 | | 2 |
| RODENTS | ONDATRA | ZIBETHICUS | 7 | | | | | | 7 | |
| RODENTS | PEROMYSCUS | MANICULATUS | 56 | | 8 | | 22 | | 6 | 20 |
| RODENTS | TAMIAS | MINIMUS | 11 | 5 | | | 2 | 3 | | 1 |
| RODENTS | TAMIASCIURUS | HUDSONICUS | 23 | | | | 1 | 6 | 8 | 8 |
| RODENTS | ZAPUS | HUDSONIUS | 2 | | | 1 | 1 | | | |
| RODENTS | ZAPUS | PRINCEPS | 3 | | | | | 1 | | 2 |
| | | TOTAL | 236 | 9 | 14 | 9 | 81 | 20 | 42 | 61 |

Protected areas with no mammal records not listed in Table.