

Appendix 7.9 Vegetation

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Appendix 7.9-1

Wolverine Project Species List 2005

Appendix 7.9-1 Wolverine Project Species List 2005

| Latin Name | Common Name | Form |
|---|-----------------------------------|------|
| Vascular | | |
| Forbs | | |
| <i>Achillea millefolium</i> L. | common yarrow | Forb |
| <i>Aconitum delphiniifolium</i> DC. | monkshood | Forb |
| <i>Anemone narcissiflora</i> L. | Narcissus thimble-weed | Forb |
| <i>Anemone parviflora</i> Michx. | small wood anemone | Forb |
| <i>Anemone richardsonii</i> Hook. | yellow anemone | Forb |
| <i>Anemone</i> sp. L. | anemone species | Forb |
| <i>Antennaria</i> sp. Gaertn. | pussytoes species | Forb |
| <i>Arnica angustifolia</i> Vahl. | alpine arnica | Forb |
| <i>Arnica cordifolia</i> Hook. | heart-leaved arnica | Forb |
| <i>Arnica lessingii</i> Greene | Lessing's arnica | Forb |
| <i>Arnica</i> sp. L. | arnica species | Forb |
| <i>Artemisia arctica</i> Less. | boreal sagebrush | Forb |
| <i>Artemisia tilesii</i> Ledeb. | Herriot's sagewort | Forb |
| <i>Aster</i> sp. L. | aster species | Forb |
| <i>Campanula lasiocarpa</i> Cham. | Alaska harebell | Forb |
| <i>Cardamine pratensis</i> L. | meadow bitter cress, lady's smock | Forb |
| <i>Cerastium arvense</i> L. | field mouse-ear chickweed | Forb |
| <i>Chrysosplenium tetrandrum</i> (Lund) Th. Fries | green saxifrage | Forb |
| <i>Comandra umbellata</i> (L.) Nutt. | bastard toadflax | Forb |
| <i>Cornus canadensis</i> L. | bunchberry | Forb |
| <i>Delphinium bicolor</i> Nutt. | low larkspur | Forb |
| <i>Delphinium glaucum</i> S. Wats | tall larkspur | Forb |
| <i>Epilobium angustifolium</i> L. | common fireweed | Forb |
| <i>Epilobium ciliatum</i> Raf. | northern willowherb | Forb |
| <i>Epilobium davuricum</i> Fisch. | | Forb |
| <i>Epilobium latifolium</i> L. | broad-leaved willowherb | Forb |
| <i>Epilobium palustre</i> L. | marsh willowherb | Forb |
| <i>Epilobium</i> sp. L. | willowherb species | Forb |
| <i>Equisetum arvense</i> L. | common horsetail | Forb |
| <i>Equisetum scirpoides</i> Michx. | dwarf scouring-rush | Forb |
| <i>Equisetum sylvaticum</i> L. | wood horsetail | Forb |
| <i>Erigeron humilis</i> Graham | purple fleabane | Forb |
| <i>Galium trifidum</i> L. | bedstraw | Forb |
| <i>Gentiana glauca</i> Pallas | alpine gentian | Forb |
| <i>Gentiana prostrata</i> Haenke | moss gentian | Forb |
| <i>Gentiana</i> sp. Pall. | felwort species | Forb |
| <i>Gentianella amarella</i> (L.) Boerner | felwort | Forb |
| <i>Geum aleppicum</i> Jacq. | yellow avens | Forb |
| <i>Hedysarum alpinum</i> L. | alpine hedysarum, liquorice root | Forb |
| <i>Heracleum lanatum</i> Michx. | cow parsnip | Forb |
| <i>Hippuris vulgaris</i> L. | common mare's-tail | Forb |
| <i>Huperzia selago</i> (L.) Bernh. ex Schrank & Mart. | mountain club-moss | Forb |
| <i>Lupinus arcticus</i> S. Wats. | arctic lupine | Forb |
| <i>Lycopodium alpinum</i> L. | alpine club-moss | Forb |
| <i>Lycopodium clavatum</i> L. | running club-moss | Forb |
| <i>Lycopodium complanatum</i> L. | Ground-cedar | Forb |

| Latin Name | Common Name | Form |
|--|-----------------------------|------|
| <i>Lycopodium</i> sp. | | Forb |
| <i>Menyanthes trifoliata</i> L. | buckbean | Forb |
| <i>Mertensia paniculata</i> (Ait.) G. Don | tall lungwort, bluebell | Forb |
| <i>Moneses uniflora</i> (L.) A. Gray | one-flowered wintergreen | Forb |
| <i>Montia sarmentosa</i> (C.A. Mey.) Robins. | | Forb |
| <i>Myosotis alpestris</i> Schm. | forget-me-not | Forb |
| <i>Orthilia secunda</i> (L.) House | one-sided wintergreen | Forb |
| <i>Oxyria digyna</i> (L.) Hill | mountain sorrel | Forb |
| <i>Parnassia fimbriata</i> Koenig | fringed grass-of-parnassus | Forb |
| <i>Parnassia kotzebuei</i> Cham. & Schlect. | small grass-of-parnassus | Forb |
| <i>Parnassia palustris</i> L. | northern grass-of-parnassus | Forb |
| <i>Pedicularis labradorica</i> Wirsing | Labrador lousewort | Forb |
| <i>Pedicularis langsdorfii</i> Fisch. ex Stev. | | Forb |
| <i>Pedicularis</i> sp. L. | lousewort species | Forb |
| <i>Petasites frigidus</i> (L.) Fries | | Forb |
| <i>Petasites sagittatus</i> (Pursh) A. Gray | arrow-leaved coltsfoot | Forb |
| <i>Polemonium acutiflorum</i> Willd. ex Roemer & J.A. Schultes | tall Jacob's ladder | Forb |
| <i>Polemonium boreale</i> Adams | northern Jacob's ladder | Forb |
| <i>Polemonium</i> sp. L. | Jacob's ladder species | Forb |
| <i>Polygonum viviparum</i> L. | alpine bistort | Forb |
| <i>Potentilla gracilis</i> Dougl. ex Hook. | graceful cinquefoil | Forb |
| <i>Potentilla nivea</i> L. | snow cinquefoil | Forb |
| <i>Potentilla palustris</i> (L.) Scop. | marsh cinquefoil | Forb |
| <i>Potentilla</i> sp. L. | cinquefoil species | Forb |
| <i>Potentilla tridentata</i> Ait. | three-toothed cinquefoil | Forb |
| <i>Potentilla uniflora</i> Ledeb. | one-flowered cinquefoil | Forb |
| <i>Pyrola asarifolia</i> Michx. | pink wintergreen | Forb |
| <i>Pyrola chlorantha</i> Sw. | green wintergreen | Forb |
| <i>Pyrola grandiflora</i> Radius | Arctic wintergreen | Forb |
| <i>Pyrola</i> sp. L. | wintergreen species | Forb |
| <i>Ranunculus eschscholtzii</i> Schlecht. | mountain buttercup | Forb |
| <i>Ranunculus lapponicus</i> L. | Lapland buttercup | Forb |
| <i>Ranunculus pygmaeus</i> Wahlenb. | dwarf buttercup | Forb |
| <i>Ranunculus</i> sp. L. | buttercup species | Forb |
| <i>Rorippa palustris</i> (L.) Besser | yellow cress | Forb |
| <i>Rubus arcticus</i> L. | dwarf raspberry | Forb |
| <i>Rubus chamaemorus</i> L. | cloudberry | Forb |
| <i>Rubus pubescens</i> Raf. | dwarf raspberry | Forb |
| <i>Saxifraga ferruginea</i> Graham | saxifrage | Forb |
| <i>Saxifraga lyallii</i> Engl. | red-stemmed saxifrage | Forb |
| <i>Saxifraga nelsoniana</i> D. Don | heartleaf saxifrage | Forb |
| <i>Saxifraga reflexa</i> Hook. | Yukon saxifrage | Forb |
| <i>Saxifraga rivularis</i> L. s.l. | brook saxifrage | Forb |
| <i>Saxifraga</i> sp. L. | saxifrage species | Forb |
| <i>Saxifraga tricuspidata</i> Rottb. | three-toothed saxifrage | Forb |
| <i>Sedum rosea</i> (L.) Scop. ssp <i>integrifolium</i> (Raf.) Hulten | roseroot stoncrop | Forb |
| <i>Sedum</i> sp. L. | stoncrop species | Forb |
| <i>Senecio</i> sp. L. | groundsel species | Forb |
| <i>Senecio lugens</i> Richards. | black-tipped groundsel | Forb |
| <i>Senecio triangularis</i> Hook. | arrow-leaved groundsel | Forb |
| <i>Sibbaldia procumbens</i> L. | sibbaldia | Forb |
| <i>Silene acaulis</i> (L.) Jacq. | moss champion | Forb |

| Latin Name | Common Name | Form |
|---|--|-----------|
| <i>Solidago multiradiata</i> Ait. | alpine goldenrod | Forb |
| <i>Solidago</i> sp. L. | goldenrod species | Forb |
| <i>Stellaria longifolia</i> Muhl. ex Willd. | long-leaved chickweed | Forb |
| <i>Stellaria</i> sp. L. | chickweed species | Forb |
| <i>Taraxacum ceratophorum</i> (Ledeb.) DC. | northern dandelion | Forb |
| <i>Thalictrum sparsiflorum</i> Turcz. ex Fisch. & C.A. Mey. | flat-fruited meadow rue | Forb |
| <i>Valeriana dioica</i> L. | northern valerian | Forb |
| <i>Valeriana sitchensis</i> Bong. | sitka valerian | Forb |
| <i>Veratrum viride</i> Ait. ssp. <i>eschscholtzii</i> (Gray) A. & D. Love | hellebore | Forb |
| <i>Veronica wormskjoldii</i> Roem & Schult. | alpine speedwell | Forb |
| Graminoids | | |
| <i>Agrostis scabra</i> Willd. | rough hair grass | Graminoid |
| <i>Arctagrostis latifolia</i> (R. Br.) Griseb. | polar grass | Graminoid |
| <i>Calamagrostis canadensis</i> (Michx.) Beauv. | bluejoint reed-grass | Graminoid |
| <i>Calamagrostis rubescens</i> Buckl. | pine reed grass | Graminoid |
| <i>Calamagrostis</i> sp. Adans. | reed-grass species | Graminoid |
| <i>Carex aquatilis</i> Wahlenb. | water sedge | Graminoid |
| <i>Carex brunnescens</i> (Pers.) Poir. | brownish sedge | Graminoid |
| <i>Carex canescens</i> L. | grey sedge | Graminoid |
| <i>Carex disperma</i> Dewey | two-seeded sedge | Graminoid |
| <i>Carex limosa</i> L. | shore sedge | Graminoid |
| <i>Carex podocarpa</i> R. Br. | graceful mountain sedge | Graminoid |
| <i>Carex saxitalis</i> L. | russet sedge | Graminoid |
| <i>Carex</i> sp. L. | sedge species | Graminoid |
| <i>Carex tenuiflora</i> Wahlenb. | sparse-leaved sedge | Graminoid |
| <i>Carex utriculata</i> Boott | small bottle sedge | Graminoid |
| <i>Danthonia intermedia</i> Vasey | Vasey oat grass | Graminoid |
| <i>Festuca altaica</i> Trin. | northern rough fescue | Graminoid |
| <i>Festuca</i> sp. L. | fescue | Graminoid |
| <i>Glyceria pulchella</i> (Nash) K. Schum. | graceful manna grass | Graminoid |
| <i>Hierochloa alpina</i> (Sw. ex Willd.) Roemer & J.A. Schultes ssp. <i>alpina</i> (Sw. ex Willd.) Roemer & J.A. Schultes | alpine holy grass | Graminoid |
| <i>Juncus alpinoarticulatus</i> Chaix | alpine rush | Graminoid |
| <i>Juncus castaneus</i> Smith | chestnut rush | Graminoid |
| <i>Juncus drummondii</i> E. Meyer | Drummond's rush | Graminoid |
| <i>Luzula arcuata</i> (Wahl.) Sw. | curved alpine woodrush | Graminoid |
| <i>Luzula parviflora</i> (Ehrh.) Desv. | small-flowered woodrush | Graminoid |
| <i>Luzula</i> sp. DC. | wood-rush species | Graminoid |
| <i>Phleum alpinum</i> L. | alpine timothy | Graminoid |
| <i>Phleum pratense</i> L. | timothy | Graminoid |
| <i>Poa juncifolia</i> Scribn. | alkali bluegrass | Graminoid |
| <i>Poa</i> sp. L. | bluegrass species | Graminoid |
| <i>Trisetum spicatum</i> (L.) Richter | spike trisetum | Graminoid |
| Trees/Shrubs | | |
| <i>Abies lasiocarpa</i> (Hook.) Nutt | alpine fir | Tree |
| <i>Alnus crispa</i> (Ait.) Pursh | green Alder | Shrub |
| <i>Arctostaphylos rubra</i> (Rehder & Wils.) Fern. | alpine bearberry | Shrub |
| <i>Arctostaphylos uva-ursi</i> (L.) Spreng. | common bearberry | Shrub |
| <i>Betula glandulosa</i> Michx. | bog birch | Shrub |
| <i>Cassiope tetragona</i> (L.) D. Don | white mountain-heather, Arctic white heather | Shrub |

| Latin Name | Common Name | Form |
|--|----------------------------------|-----------|
| <i>Dryas integrifolia</i> M. Vahl | mountain avens | Shrub |
| <i>Empetrum nigrum</i> L. | crowberry | Shrub |
| <i>Juniperus communis</i> L. | ground juniper | Shrub |
| <i>Kalmia polifolia</i> Wang. s.l. | bog-laurel | Shrub |
| <i>Larix laricina</i> (Du Roi) K. Koch | tamarack | Tree |
| <i>Ledum decumbens</i> (Ait.) Lodd. | northern Labrador tea | Shrub |
| <i>Ledum groenlandicum</i> Oeder | common Labrador tea | Shrub |
| <i>Linnaea borealis</i> L. | twinline | Shrub |
| <i>Oxycoccus microcarpus</i> Turcz. | bog cranberry | Shrub |
| <i>Picea glauca</i> (Moench) Voss | white spruce | Tree |
| <i>Picea mariana</i> (Mill.) B.S.P. | black spruce | Tree |
| <i>Pinus contorta</i> Loudon | lodgepole pine | Tree |
| <i>Populus tremuloides</i> Michx. | trembling aspen | Tree |
| <i>Populus balsamifera ssp. balsamifera</i> L. | balsam poplar | Tree |
| <i>Potentilla fruticosa</i> L. | shrubby cinquefoil | Shrub |
| <i>Ribes hudsonianum</i> Richards. | northern black currant | Shrub |
| <i>Rosa acicularis</i> Lindl. | prickly rose | Shrub |
| <i>Salix alaxensis</i> (Anderss.) Cov. | Alaska willow | Shrub |
| <i>Salix arbusculoides</i> Anderss. | shrubby willow | Shrub |
| <i>Salix arctica</i> Pallas | Arctic willow | Shrub |
| <i>Salix barclayi</i> Anderss. | Barclay's willow | Shrub |
| <i>Salix commutata</i> Bebb | changeable willow | Shrub |
| <i>Salix discolor</i> Muhl. | pussy willow | Shrub |
| <i>Salix glauca</i> L. | smooth willow, blue-green willow | Shrub |
| <i>Salix lanata</i> L. | woolly willow | Shrub |
| <i>Salix monticola</i> Bebb. | mountain willow | Shrub |
| <i>Salix myrtilifolia</i> Anderss. | myrtle-leaved willow | Shrub |
| <i>Salix planifolia</i> Pursh | flat-leaved willow | Shrub |
| <i>Salix polaris</i> Wahlenb. | snowbed willow | Shrub |
| <i>Salix reticulata</i> L. | snow willow | Shrub |
| <i>Salix sp.</i> L. | willow species | Shrub |
| <i>Shepherdia canadensis</i> (L.) Nutt | Canada buffaloberry | Shrub |
| <i>Vaccinium caespitosum</i> Michx. | dwarf bilberry | Shrub |
| <i>Vaccinium uliginosum</i> L. | bog bilberry | Shrub |
| <i>Vaccinium vitis-idaea</i> L. | bog cranberry | Shrub |
| <i>Viburnum edule</i> (Michx.) Raf. | low-bush cranberry | Shrub |
| Non-Vascular | | |
| Mosses & Liverworts | | |
| <i>Abietinella abietina</i> (Hedw.) Fleisch. | fir tree moss | Moss |
| <i>Aulacomnium palustre</i> (Hedw.) | glow moss | Moss |
| <i>Aulacomnium turgidum</i> (Wahlenb.) | Arctic glow moss | Moss |
| <i>Brachythecium sp.</i> | ragged moss | Moss |
| <i>Barbilophozia lycopodioides</i> (Wallr.) Loeske | subalpine liverwort | Liverwort |
| <i>Barbula sp.</i> Hedw. | screw moss species | Moss |
| <i>Calliergon stramineum</i> (Brid.) Kindb. | water moss | Moss |
| <i>Dicranum scoparium</i> Hedw. | stork's bill moss | Moss |
| <i>Dicranum sp.</i> | stork's bill moss species | Moss |
| <i>Drepanocladus aduncus</i> (Hedw.) Warnst. | Swamp moss | Moss |
| <i>Hylocomium splendens</i> (Hedw.) B.S.G. | stair-step moss | Moss |
| <i>Marchantia polymorpha</i> L. | Green-tongue liverwort | Liverwort |
| <i>Pleurozium schreberi</i> (Brid.) Mitt. | Schreber's moss | Moss |
| <i>Pohlia wahlenbergii</i> (Web. & Mohr) Andr. | moss | Moss |

| Latin Name | Common Name | Form |
|--|--------------------------|--------|
| <i>Polytrichum juniperinum</i> Hedw. | hair-cap moss | Moss |
| <i>Polytrichum</i> sp. Hedw. | hair-cap moss species | Moss |
| <i>Racomitrium lanuginosum</i> (Hedw.) Brid. | hoary rock moss | Moss |
| <i>Rhizomnium</i> sp. | leafy moss | Moss |
| <i>Sphagnum angustifolium</i> (Russ.) Tolf. L. | peat moss species | Moss |
| <i>Sphagnum</i> sp. L. | peat moss species | Moss |
| <i>Tomenthypnum nitens</i> (Hedw.) Loeske | golden fuzzy fen moss | Moss |
| Lichens | | |
| <i>Alectoria ochroleuca</i> (Hoffm.) Mass. | green witch's hair | Lichen |
| <i>Bryoria</i> sp. Brodo and D. D. Hawksw. | horsehair lichen species | Lichen |
| <i>Cetraria ericetorum</i> Opiz | Iceland moss | Lichen |
| <i>Cetraria islandica</i> (L.) Ach. | Iceland moss | Lichen |
| <i>Cetraria cucullata</i> Ach. | furled paperdoll | Lichen |
| <i>Cetraria nivalis</i> Ach. | ragged paperdoll | Lichen |
| <i>Cetraria</i> sp. Ach. | Iceland moss species | Lichen |
| <i>Chrysothrix candelaris</i> (L.) Laundon | | Lichen |
| <i>Cladina mitis</i> (Sandst.) Hustich. | green reindeer lichen | Lichen |
| <i>Cladina rangiferina</i> (L.) Nyl. | grey reindeer lichen | Lichen |
| <i>Cladina stellaris</i> (Opiz) Brodo | reindeer lichen | Lichen |
| <i>Cladina</i> sp. | reindeer lichen species | Lichen |
| <i>Cladonia cornuta</i> (L.) Hoffm. | pioneer soldiers | Lichen |
| <i>Cladonia ecmocyna</i> Leighton | orange-footed soldiers | Lichen |
| <i>Cladonia gracilis</i> (L.) Willd. | black-footed soldiers | Lichen |
| <i>Cladonia</i> sp. Hill ex P. Browne | club lichen species | Lichen |
| <i>Dactylina arctica</i> (Richardson) Nyl. | Arctic fingers | Lichen |
| <i>Dactylina ramulosa</i> (Hook.) Tuck. | frosted fingers | Lichen |
| <i>Masonhalea richardsonii</i> (Hook.) Karnef. | Arctic tumbleweed | Lichen |
| <i>Nephroma arcticum</i> (L.) Torss. | green paw | Lichen |
| <i>Nephroma expallidum</i> (Nyl.) Nyl. | alpine paw | Lichen |
| <i>Peltigera aphthosa</i> (L.) Willd. | freckle pelt | Lichen |
| <i>Peltigera canina</i> (L.) Willd. | dog pelt | Lichen |
| <i>Peltigera malacea</i> (Ach.) Funck | apple pelt | Lichen |
| <i>Peltigera leucophlebia</i> | freckle pelt | Lichen |
| <i>Peltigera</i> sp. | pelt lichen | Lichen |
| <i>Solorina crocea</i> (L.) Ach. | chocolate chip lichen | Lichen |
| <i>Stereocaulon pashale</i> . Hoffm. | foam lichen | Lichen |
| <i>Stereocaulon</i> sp. Hoffm. | foam lichen species | Lichen |
| <i>Umbilicaria</i> sp. | rock tripe | Lichen |

Appendix 7.9-2

Wolverine Project TEM Expanded Legend

Appendix 7.9-2 Wolverine Project TEM Expanded Legend

| Forested Ecosystems | | | | | | | | | |
|----------------------------|--------------------------|---|--|----------|------------|-------------|-------------------|------------|--------------------------|
| Veg Type Code ¹ | Veg Type Name | Strata | Veg Type Description | Map Code | Tree cover | Shrub cover | Berry Shrub Cover | Herb Cover | Terrestrial Lichen Cover |
| V16, V10 | Open subalpine forest | Trees Shrubs Herbs Mosses Lichens | The most stable forest type of the Subalpine zone; grades to krummholz at high elevations and fir-white spruce forests at low elevations. Overstory dominated by subalpine-fir with occasional spruce. Well developed shrub layer of scrub birch, crowberry, and lingonberry. Scattered bunchberry Abundant cover of feathermosses Reindeer lichens are common with moderate covers. | SF | M | M | L | L | M |
| V17, V11 | Open white spruce forest | Trees Shrubs Herbs Mosses Lichens | Uncommon in the study area found on rich slopes and alluvial fans in the Boreal Highland zone Overstory dominated by white spruce with subalpine-fir and black spruce as codominants. Well developed shrub layer of tall willows, crowberry, rose, and lingonberry Moderate cover of herbs, such as bunchberry, twinflower, and bluebells; Equisetum species are often present. Abundant cover of feathermosses Low cover of terrestrial lichens, but usually present | PC | M | M | M | M | L |
| V18, V19, V23, V113 | Open black spruce forest | | Very common forest unit found on medium to poor sites in the Boreal Lowland and Highland zones | BS | M | M | M-H | M | M-H |

| | | | | | | | | | |
|-----|-----------------------------------|---|---|----|---|---|---|---|---|
| | | Trees Shrubs Herbs Mosses Lichens | Overstory dominated by black spruce with subalpine-fir as a codominant (occasional white spruce and pine) Well developed shrub layer of scrub birch, Labrador tea, and lingonberry Low cover Either dominated by feathermoss (V18) or sphagnum (V19) or lichens (V113) moisture shedding sites often have high cover of Cladina spp. (V18 & V113), esp. at higher elevations | | | | | | |
| V21 | Open lodgepole pine-spruce forest | Trees Shrubs Herbs Mosses Lichens | Common forest unit found on shallow well-drained soils in the Boreal Lowland and Highland zones Overstory dominated by lodgepole pine with white and black spruce as codominants. Well developed shrub layer of scrub birch, Labrador tea, and lingonberry Very low cover of herbs Hair-cap mosses are well represented - Polytrichum spp. and Dicranum spp. Fruticose lichens are common and well represented - Cladina spp., Cladonia spp., and Stereocaulon sp. | LS | M | M | M | L | M |
| V22 | Open lodgepole pine forest | Trees Shrubs Herbs Mosses Lichens | Uncommon forest unit found on shallow well-drained soils in the Boreal Lowland and Highland zones Overstory dominated by lodgepole pine. Moderate to low cover of scrub birch and dwarf shrubs like crowberry Scattered herbs are present but cover less than 5% of strata Hair-cap mosses are well represented - Polytrichum spp. and Dicranum spp. Fruticose and foliose lichens dominate the ground cover - Cladina spp., Cladonia spp., Peltigera spp., and | LP | M | M | L | L | H |

| | | | | | | | | | |
|------------------|---|---|---|----------|------------|-------------|-------------------|------------|--------------------------|
| | | | Stereocaulon sp. | | | | | | |
| V33 | Open lodgepole pine-aspen forest | Trees Shrubs Herbs Mosses Lichens | Uncommon forest unit restricted to the Boreal Lowland on well drained sites, often as a maturing edaphic climax Overstory dominated by lodgepole pine with aspen as a codominant Moderate cover of scrub birch and willows with dwarf shrubs like bog blueberry, kinnikinnick, and lingonberry Scattered herbs are present but cover less than 5% of strata Hair-cap mosses are well represented - Polytrichum spp. and Dicranum spp. Fruticose lichens are common and well represented - Cladina spp., Cladonia spp., and Stereocaulon sp. | LT | M | M | M | L | M |
| V30, V35, V6 | Open trembling aspen-spruce (pine) forest | Trees Shrubs Herbs Mosses Lichens | Uncommon forest unit restricted to the Boreal Lowland on south-facing slopes Overstory dominated by aspen with white spruce and lodgepole pine as codominants Moderate cover of willows with dwarf shrubs like bog blueberry, twinflower, kinnikinnick, and lingonberry Scattered herbs are present but cover less than 10% of strata Feather mosses and hair-cap mosses are well represented Fruticose and foliose lichens are moderately well represented - Cladina spp., Cladonia spp., and Peltigera spp. | TS | H | M | H | L | M |
| Shrub Ecosystems | | | | | | | | | |
| Veg Type Code | Veg Type Name | Strata | Veg Type Description | Map Code | Tree cover | Shrub cover | Berry Shrub Cover | Herb Cover | Terrestrial Lichen Cover |

| | | | | | | | | | |
|------------------|--------------------------------------|---|---|--|-----------------------|-------------------|-------------------|-------------------|-------------------|
| V101, V102, V106 | Scrub birch medium/tall shrub | <p>Shrubs</p> <p>Herbs</p> <p>Mosses</p> <p>Lichens</p> | <p>Mid elevation to subalpine scrub birch units in response to forest fire at lower elevations and poor moisture regimes at high elevations</p> <p>High cover of scrub birch with minor components of willows (V101), Labrador tea (V102) and dwarf shrubs like crowberry, bog blueberry, and lingonberry (V106).</p> <p>Low cover of herbs are present but increase with moisture. Altai fescue (V106) and bluejoint reedgrass (V101) can be well represented</p> <p>Moderate to high cover of feather mosses and hair-cap mosses can be present, especially on deeper soils.</p> <p>Fruticose lichens dominate the shallow soil sites, but decrease to low covers on deeper soils - Cladonia spp., Cladonia spp., Stereocaulon sp., and Cetraria spp.</p> | DB | nil | H | L | L | H |
| V105, V108 | Willow-scrub birch medium/tall shrub | <p>Shrubs</p> <p>Herbs</p> <p>Mosses</p> | <p>Low to high elevation shrub unit occupying gentle to moderately steep upland sites</p> <p>High cover of willows with moderate cover of scrub birch. Structural stages vary from tall shrubs at lower elevations and dwarf shrubs in the subalpine.</p> <p>Herbs are well represented with forbs like bunchberry, bluebells, buttercups, and asters (V105). But moderate covers of grasses and sedges can also occur (V108).</p> <p>Moderate covers of feathermosses on upland sites (V108) and brown mosses and peat mosses on lowland sites (V105).</p> | WD WDx - very dry south facing slopes | <p>nil</p> <p>nil</p> | <p>H</p> <p>H</p> | <p>L</p> <p>M</p> | <p>M</p> <p>M</p> | <p>L</p> <p>M</p> |

| | | Lichens | Varying covers of fruticose and foliose lichens, increasing with elevation and dryer conditions. | | | | | | |
|---|--------------------------|---------|---|-------------------------------|------------|-------------|-------------------|------------|--------------------------|
| V104 | Willow medium/tall shrub | Shrubs | Low to mid elevation willow unit found in riparian and upland sites High cover of various willow species with minor components of scrub birch and dwarf shrubs. Structural stages vary from tall shrubs at lower elevations and dwarf shrubs in the subalpine. | WT | nil | H | L | M | L |
| | | Herbs | Vary from high covers near riparian areas to moderate covers on upland slopes. | WTy - moist riparian thickets | nil | H | L | H | L |
| | | Mosses | Moderate covers of feathermosses on upland sites (WT) and brown mosses, swamp mosses, and peat mosses on lowland sites (WTy). | | | | | | |
| | | Lichens | Low lichen cover in riparian situations, increasing to moderate covers in upland sites. | | | | | | |
| Dwarf Shrub, Herb, Grass, and Lichen Ecosystems | | | | | | | | | |
| Veg Type Code | Veg Type Name | Strata | Veg Type Description | Map Code | Tree cover | Shrub cover | Berry Shrub Cover | Herb Cover | Terrestrial Lichen Cover |
| V206, V203, V205 | Wet sedge herb | Shrubs | Lower elevation wet meadows Sparse willows and scrub birch can be present | SH | nil | L | L | H | L |
| | | Herbs | Dominated by high covers of sedges and grasses with minor components of rich forbs. | | | | | | |
| | | Mosses | Rich moss layers usually exist with brown mosses, swamp mosses and peat mosses. | | | | | | |
| | | Lichens | Very low to nil cover | | | | | | |
| V213, V200, V201, V202, V212 | Mesic mixed herb | | Highly variable map unit representing mesic and submesic meadows at mid to high elevations | MH | nil | L | L | H | L-M |

| | | | | | | | | | |
|------------------|---|---------|---|----|-----|---|-----|---|---|
| | | Shrubs | Sparse willows and scrub birch can be present | | | | | | |
| | | Herbs | Dominated by high covers of grasses and herbs like alтай fescue and sagewort (V212); bluejoint reedgrass and Jacob's ladder (V202); or a combination of grasses and rich forbs like buttercups and asters (V213) | | | | | | |
| | | Mosses | Moderate covers of moss usually exist with feathermosses and hair-cap mosses dominating. | | | | | | |
| | | Lichens | Low lichen cover in mesic sites (V202) with moderate covers of fruticose species in dryer grass dominated sites (V200, V201, V212, V213) | | | | | | |
| V107, V115, V119 | Heather-avens dwarf shrub | Shrubs | Alpine and Subalpine zones in crest positions | AS | nil | M | L | L | H |
| | | Herbs | Moderate cover to high of dwarf shrubs like white heather and crowberry (V115); or avens and prostrate willows (V107) | | | | | | |
| | | Mosses | Moderate to low covers of varying forbs, grasses, and sedges. | | | | | | |
| | | Lichens | Moderate covers of moss usually exist with feathermosses and hair-cap mosses dominating. Well developed lichen covers exist with an array of Cladina spp., Cladonia spp., Cetraria spp., Dactylina spp. and Alectoria ochroleuca | | | | | | |
| V300, V302 | Alectoria-cladina-cetraria fruticose lichen | Shrubs | Restricted to alpine ridges and plateaus with shallow soils dominated by lichens and mosses. | AC | nil | L | nil | L | H |
| | | Herbs | Very low cover of dwarf shrubs may occur like white heather (V302); or prostrate willows (V300) Low covers of grasses and sedges are | | | | | | |

| | | | | | | | | | |
|--|--|---------|--|--|--|--|--|--|--|
| | | Mosses | intermixed with mosses and lichens Moderate covers of moss usually exist with feathermosses and hair-cap mosses dominating. Dominated by fruticose lichens with an array of Cladina spp., Cladonia spp., Cetraria spp., Dactylina spp., Masonhalea richardsonii, and Alectoria ochroleuca. | | | | | | |
| | | Lichens | | | | | | | |

| Approximate cover percentages | | |
|-------------------------------|----------|---------|
| Strata | Class | % range |
| Trees | high | >20 |
| | moderate | 5-20 |
| | low | <5 |
| Shrubs | high | >50 |
| | moderate | 10-50 |
| | low | <10 |
| Herbs | high | >50 |
| | moderate | 10-50 |
| | low | <10 |
| Mosses | high | >50 |
| | moderate | 10-50 |
| | low | <10 |
| Lichens | high | >50 |
| | moderate | 10-50 |
| | low | <10 |

| Arboreal Lichen Class | | |
|-----------------------|--|---------------|
| 0 | | 0grams |
| 1 | | >0-5grams |
| 2 | | >5-50grams |
| 3 | | >50-250grams |
| 4 | | >250-625grams |
| 5 | | >625grams |

| Berry Shrub Species | |
|------------------------------------|--|
| | rating |
| <i>Arctostaphylos uva-ursi</i> | |
| <i>Arctostaphylos rubra/alpina</i> | High = >5 species and >30% cover |
| <i>Empetrum nigrum</i> | |
| <i>Ribes spp.</i> | |
| <i>Shepherdia canadensis</i> | Mod. = 2-5 species and 10- 30% cover |
| <i>Vaccinium uliginosum</i> | |
| <i>Vaccinium vitis-idaea</i> | |
| <i>Vaccinium oxycoccus</i> | Low = <2 species and <10% cover |
| <i>Vaccinium caespitosum</i> | |
| <i>Viburnum edule</i> | |

Appendix 7.9-3 Rare Plant Field Survey Summary

Appendix 7.9-3 Rare Plant Field Survey Summary

| Site Number | Primary Vegetation Type | Secondary Vegetation type | Comments |
|-------------|---------------------------------------|---------------------------|--|
| DS01 | v206 | v104 | |
| DS02 | Sinkhole | v19 | |
| DS03 | unique hill | v30 | |
| DS04 | v206 | v104 | |
| DS05 | v23 | | |
| DS06 | v11 | | |
| DS07 | v101 | | |
| DS08 | v119 | | |
| DS09 | v19 | | |
| DS10 | Alpine Creek | v104 | |
| DS11 | v115 | | |
| DS12 | Alpine creek seeping back into ground | v213 | |
| DS13 | Ponds in Alpine valley bottom | v202 | |
| DS14 | Knoll in bottom of valley | v101 | |
| DS15 | v101 | | |
| DS16 | v104 | | |
| DS17 | v101 | | |
| DS18 | Creek in borrow pit area | v104 | |
| DS19 | v202 | | |
| DS20 | v10 | | |
| DS21 | v101 | | |
| DS22 | v201 | | Potentially unique community Fescue/danthonia |
| DS23 | v203 | | |
| DS24 | v200 | | Rare plant location = Arnica angustifolia var. tomentosa |
| DS25 | Small draw in alpine | v200 | |
| DS26 | Alpine creek/stream | | |
| DS27 | Tree sized willow stands | v202 | Potential Unique 7m Salix alaskensis |
| DS28 | v101 | | |
| DS29 | v16 | | |
| DS30 | v101 | | |
| DS31 | v205 | | |
| DS32 | v6 | | |
| DS33 | Beaver pond – old | v104 | |
| DS34 | v11 | | |
| DS35 | v17 | | |

Appendix 7.9-4 Yukon Rare Plants

Appendix 7.9-4 Yukon Rare Plants

| Family | Latin | Common | Global | Subnational |
|------------------|---|----------------------------------|--------|-------------|
| Apiaceae | <i>Podistera yukonensis</i> Marthias & Const. | Yukon Woodroot | G1G2 | S1 |
| Apiaceae | <i>Zizia aptera</i> (Gray) Fern. | Meadow Parsnip | G5 | S1 |
| Asteraceae | <i>Artemisia arctica</i> Less. ssp. <i>comata</i> (Rydb.) Hultén | Hairy Boreal Sagewort | G5TNR | S1 |
| Asteraceae | <i>Artemisia laciniata</i> Willd. | Siberian Wormwood | G5 | S1 |
| Asteraceae | <i>Artemisia rupestris</i> L. ssp. <i>woodii</i> L. Neilson | Rock Wormwood | G3?T2 | S2 |
| Asteraceae | <i>Aster laevis</i> L. ssp. <i>geyeri</i> (A. Gray) Piper | Smooth Aster | G5T5 | S1 |
| Asteraceae | <i>Erigeron ochroleucus</i> Nutt. | Linear-leaved Daisy | G5 | S1 |
| Asteraceae | <i>Erigeron yukonensis</i> Rydb. | Yukon Fleabane | G2G4 | S2 |
| Asteraceae | <i>Senecio sheldonensis</i> A.E. Porsild | Mount Sheldon Butterweed | G2G3 | S2 |
| Asteraceae | <i>Taraxacum carneocoloratum</i> A. Nels. | Pink Dandelion | G3Q | S1 |
| Boraginaceae | <i>Cynoglossum boreale</i> Fern. | Northern Wild Comfrey | G4G5 | S1 |
| Brassicaceae | <i>Draba densifolia</i> Nutt. | Dense-leaved Whitlow-grass | G5 | S1 |
| Brassicaceae | <i>Draba kluanei</i> G.A. Mulligan | Kluane Park Whitlow-grass | G1 | S1 |
| Brassicaceae | <i>Draba murrayi</i> G.A. Mulligan | Murray's Whitlow-grass | G2 | S1 |
| Brassicaceae | <i>Draba ventosa</i> Gray | Wind River Draba | G3 | S1 |
| Brassicaceae | <i>Draba yukonensis</i> A.E. Porsild | Yukon Draba | GH | SH |
| Caryophyllaceae | <i>Silene uralensis</i> (Rupr.) Bocquet ssp. <i>ogilviensis</i> (Porsild) Brunton | Ogilvie Nodding Champion | G4T1 | S1 |
| Chenopodiaceae | <i>Chenopodium salinum</i> Standley | Rocky Mountain Goosefoot | G5T4 | S1 |
| Cyperaceae | <i>Carex anthoxanthea</i> Presl | Yellow-flowered Sedge | G5 | SH |
| Cyperaceae | <i>Carex hoodii</i> Boott | Hood's Sedge | G5 | SR |
| Cyperaceae | <i>Carex sabulosa</i> Turcz. | Baikal Sedge | G5 | S2 |
| Dryopteridaceae | <i>Polystichum kruckebergii</i> W.H. Wagner | Kruckeberg's Holly Fern | G4 | S1 |
| Elatinaceae | <i>Elatine triandra</i> Schk. sl | Waterwort | G5 | S1 |
| Fabaceae | <i>Oxytropis arctica</i> R. Br. var. <i>murrayi</i> (Yursev) S.Welsh | Arctic Locoweed | GU | S1 |
| Fabaceae | <i>Oxytropis mertensiana</i> Turcz. | Merten's Locoweed | G4 | S1 |
| Hippuriaceae | <i>Hippuris tetraphylla</i> L. f. | Four-leaf Mare's-tail | G5 | S1 |
| Orchidaceae | <i>Malaxis paludosa</i> (L.) Sw. | Bog Adder's-mouth Orchid | G4 | S1 |
| Papaveraceae | <i>Papaver gorodkovii</i> Tolmatchew & V.V. Petrovsky | Russian Poppy | G3 | S1 |
| Poaceae | <i>Koeleria asiatica</i> Domin | Oriental Koeler's Grass | G4 | S2 |
| Poaceae | <i>Muhlenbergia mexicana</i> (L.) Trin. | Wirestem Muhly | G5 | SH |
| Poaceae | <i>Puccinellia hauptiana</i> (Krecz.) Kitagawa | Spreading Alkaligrass | G5T3T4 | S1 |
| Polygonaceae | <i>Eriogonum flavum</i> Nutt. var. <i>aquilinum</i> Reveal | Umbrella Plant, Yellow Buckwheat | G5T2 | S1 |
| Polygonaceae | <i>Rumex beringensis</i> Jurtzev & Petrovsky | Bering Sea Dock | G3 | S1 |
| Portulacaceae | <i>Claytonia ogilviensis</i> McNeill | Ogilvie Mountain Springbeauty | G1 | S1 |
| Portulacaceae | <i>Lewisia pygmaea</i> (Gray) Robins. | Alpine Bitter-root | G5 | S1 |
| Potamogetonaceae | <i>Potamogeton subsibiricus</i> Hagstr. | Yenisei River Pondweed | G3 | S1 |
| Primulaceae | <i>Douglasia alaskana</i> (Cov. & Standley) Kelso | Alaskan Fairy-candelabra | G2G3 | S1 |
| Ranunculaceae | <i>Ranunculus turneri</i> Greene | Turner's Buttercup | G2Q | S2 |
| Ruppiaceae | <i>Ruppia spiralis</i> L. | Spiral Ditch-grass | G5 | S1 |
| Salicaceae | <i>Salicornia borealis</i> Wolfe & Jefferies | Boreal Saltwort | G1G3 | S1 |

| Family | Latin | Common | Global | Subnational |
|-----------------|---|---------------------------------------|--------|-------------|
| Salicaceae | <i>Salix raupii</i> Argus | Raup's Willow | G2 | S1 |
| Saxifragaceae | <i>Saxifraga spicata</i> D. Don | Spiked Saxifrage | G3G4 | S1 |
| Anacardiaceae | <i>Toxicodendron rydbergii</i> (Small ex Rydb.) Erskine | Western Poison Ivy | G5 | S1 |
| Apiaceae | <i>Podistera macounii</i> (Coul. & Rose) Mathias & Const. | Macoun's Woodroot | G4 | S2S3 |
| Araliaceae | <i>Oplopanax horridus</i> (Sm.) T. & G. ex Miq. | Devil's Club | G4G5 | S2 |
| Aspleniaceae | <i>Asplenium trichomanes-ramosum</i> L. | Green Spleenwort | G5 | S1 |
| Asteraceae | <i>Anaphalis margaritacea</i> (L.) Benth. & Hook. | Pearly Everlasting | G5 | S1 |
| Asteraceae | <i>Arnica mollis</i> Hook. | Hairy Arnica | G4 | S2 |
| Asteraceae | <i>Arnica parryi</i> Gray ssp. <i>parryi</i> | Parry's Arnica or Nodding Leopardbane | G5 | S1 |
| Asteraceae | <i>Artemisia globularia</i> Cham. ex Bess. | Boreal Wormwood | G3 | S2 |
| Asteraceae | <i>Artemisia michauxiana</i> Bess. | Michaux's Mugwort | G4G5 | S1 |
| Asteraceae | <i>Aster brachyactis</i> Blake | Alkali Rayless Aster | G5 | S1 |
| Asteraceae | <i>Aster yukonensis</i> Cronq. | Yukon Aster | G3 | S1S2 |
| Asteraceae | <i>Cirsium foliosum</i> (Hook.) DC. | Leafy Thistle | G5 | S2 |
| Asteraceae | <i>Erigeron philadelphicus</i> L. | Philadelphia Fleabane | G5 | S2 |
| Asteraceae | <i>Saussurea americana</i> DC. | - | G5 | S1 |
| Asteraceae | <i>Stenotus macleanii</i> (Brandege) Heller | Northern Mock Goldenweed | G2 | S2 |
| Balsaminaceae | <i>Impatiens</i> cf. <i>aurella</i> | Spotted Touch-me-not | G5 | S1 |
| Boraginaceae | <i>Eritrichium chamissonis</i> DC. | Arctic-Alpine Forget-me-not | G5T3? | S1 |
| Boraginaceae | <i>Eritrichium splendens</i> Kearney | Showy Forget-me-not | G3G4 | S2 |
| Brassicaceae | <i>Aphragmus eschscholtzianus</i> Andrz. | Aleutian-cress | G3 | S1S2 |
| Brassicaceae | <i>Draba ruaxes</i> Payson & St. John | Coast Mountain Draba | G3 | S2 |
| Brassicaceae | <i>Draba scotteri</i> G.A. Mulligan | Scotter's Whitlow-grass | G2G3 | S2S3 |
| Brassicaceae | <i>Draba stenopetala</i> Trautv. | Star-flowered Draba | G3G4 | S2 |
| Brassicaceae | <i>Smelowskia borealis</i> (Greene) Drury & Rollins ssp. <i>jordalii</i> (Drury & Rollins) Cody | Northern Smelowskia | G5T3T4 | S1 |
| Brassicaceae | <i>Thellungiella salsuginea</i> (Pall.) O.E. Schulz. | Saltwater Cress | G4G5 | S2 |
| Brassicaceae | <i>Thlaspi arcticum</i> A.E. Porsild | Arctic Pennycress | G3 | S2 |
| Campanulaceae | <i>Campanula rotundifolia</i> L. sens. lat. | Harebell | G5 | S2 |
| Caprifoliaceae | <i>Lonicera dioica</i> L. var. <i>glaucescens</i> (Rydb.) Butters | Glaucous-leaved Honeysuckle | G4G5 | S2 |
| Caprifoliaceae | <i>Sambucus racemosa</i> L. ssp. <i>pubens</i> (Michx.) House | - | G5T5 | S2 |
| Caryophyllaceae | <i>Arenaria longipedunculata</i> Hultén | Low Sandwort | G3Q | S2 |
| Caryophyllaceae | <i>Silene uralensis</i> (Rupr.) Bocquet ssp. <i>porsildii</i> (Porsild) Brunton | Large-seeded Nodding Champion | G4 | S1 |
| Caryophyllaceae | <i>Silene williamsii</i> Britt. | Williams' Champion | G3 | S2 |
| Caryophyllaceae | <i>Stellaria alaskana</i> Hultén | Alaska Starwort | G3 | S1 |
| Caryophyllaceae | <i>Stellaria dicranoides</i> (Cham. & Schlecht.) Fenzl | Matted Starwort | G3 | S1 |
| Chenopodiaceae | <i>Atriplex subspicata</i> (Nutt.) Rydb. | Saline Orache | G5 | S1 |
| Chenopodiaceae | <i>Chenopodium simplex</i> (Torrey) Raf. | Maple-leaf Goosefoot | G5 | S1 |
| Chenopodiaceae | <i>Corispermum ochotense</i> Ignatov var. <i>alaskanum</i> Mosyakin | Russian Bugseed | G3G4T2 | S2 |
| Chenopodiaceae | <i>Krascheninnikovia lanata</i> (Pursh) A.D.J. Meeuse & Smit | Winterfat | G5 | S1 |
| Chenopodiaceae | <i>Suaeda calceoliformis</i> (Hook.) Moq. | Seablite | G4G5 | S2 |
| Crassulaceae | <i>Crassula aquatica</i> (L.) Schoeni. | Pygmyweed | G5 | S1 |

| Family | Latin | Common | Global | Subnational |
|-----------------|--|-----------------------------|--------|-------------|
| Cyperaceae | <i>Blysmopsis rufa</i> (Hudson) Oteng-Yeboah | Red-bulrush | G5 | S1 |
| Cyperaceae | <i>Carex circinata</i> C.A. Mey. | Coiled Sedge | G4 | SR |
| Cyperaceae | <i>Carex flava</i> L. | Yellow Sedge | G5 | S1 |
| Cyperaceae | <i>Carex nigricans</i> C.A. Mey. | Black Alpine Sedge | G5 | S1 |
| Cyperaceae | <i>Carex oligosperma</i> Michx. | Few-seed Sedge | G4G5 | S1 |
| Cyperaceae | <i>Trichophorum pumilum</i> (Vahl) Schinz & Thell. | Rolland's Bulrush | G4 | S2 |
| Dryopteriaceae | <i>Athyrium americanum</i> (Butters) Maxon | American Alpine Lady Fern | G4G5 | S1 |
| Dryopteriaceae | <i>Matteuccia struthiopteris</i> (L.) Todaro var. <i>pennsylvanica</i> (Willd.) Morton | Ostrich Fern | G5T? | S2 |
| Dryopteriaceae | <i>Polystichum lonchitis</i> (L.) Roth | Northern Hollyfern | G5 | S1 |
| Dryopteriaceae | <i>Woodsia scopulina</i> D.C. Eat. | Mountain Cliff Fern | G5 | S1 |
| Ericaceae | <i>Cassiope mertensiana</i> (Bong.) D. Don | White Mountain Heather | G5 | S1 |
| Fabaceae | <i>Astragalus robbinsii</i> (Oakes) A. Gray | Robbin's Milk-vetch | G5T2T3 | S2 |
| Fabaceae | <i>Lathyrus japonicus</i> Willd. sens. lat. | Beach Pea | G5 | S1 |
| Fabaceae | <i>Lathyrus ochroleucus</i> Hook. | Cream-flowered Peavine | G4 | S2 |
| Fabaceae | <i>Lupinus nootkatensis</i> Donn | Nootka Lupine | G5 | S1S2 |
| Fabaceae | <i>Oxytropis arctica</i> R.Br. var. <i>arctica</i> | Arctic Locoweed | G4 | S1 |
| Gentianaceae | <i>Swertia perennis</i> L. | Felwort | G5 | S1 |
| Hippuriaceae | <i>Hippuris montana</i> Ledeb. | Mountain Mare's-tail | G4 | S1 |
| Hydrophyllaceae | <i>Phacelia mollis</i> Macbride | MacBrides's Phacelia | G2G3 | S2 |
| Iridaceae | <i>Iris setosa</i> Pallas ssp. <i>interior</i> (Anders.) Hultén | Wild Iris | G5T? | S1 |
| Juncaceae | <i>Juncus stygius</i> L. ssp. <i>americanus</i> (Buch.) Hultén | Bog Rush | G5T5 | S2 |
| Lamiaceae | <i>Prunella vulgaris</i> L. ssp. <i>lanceolata</i> (Bart.) Hultén | Self-heal | G5 | S1 |
| Liliaceae | <i>Fritillaria camschatcensis</i> (L.) Ker-Gawl. | Kamchatka Lily | G5 | S1 |
| Lycopodiaceae | <i>Diphasiastrum sitchense</i> (Rupr.) Holub | Sitka Club-moss | G5 | S1 |
| Lycopodiaceae | <i>Lycopodium dendroideum</i> Michx. | Ground-pine | G5 | S1 |
| Najaceae | <i>Najas flexilis</i> (Willd.) Rostk. & Schmidt | Wavy Waternymph | G5 | S1 |
| Onagraceae | <i>Circaea alpina</i> L. ssp. <i>alpina</i> | Enchanter's Nightshade | G5T5 | S2 |
| Ophioglossaceae | <i>Botrychium virginianum</i> (L.) Sw. var. <i>europaeum</i> Angstr. | Rattlesnake Fern | G5T5 | S2 |
| Orchidaceae | <i>Coeloglossum viride</i> (L.) Hartm. ssp. <i>bracteatum</i> (Muhl.) Hultén | Bracted Green Orchid | G5T5 | S2 |
| Orchidaceae | <i>Cypridium parviflorum</i> (Salisb.) var. <i>maskasin</i> (Farwell) Sheviak | Small Yellow Lady's-slipper | G5T5 | S2 |
| Orchidaceae | <i>Cypridium guttatum</i> Sw. | Spotted Lady's-slipper | G5 | S2 |
| Orchidaceae | <i>Platanthera orbiculata</i> (Pursh) Lindl. | Round-leaved Rein-orchid | G5 | S2 |
| Papaveraceae | <i>Papaver alboroseum</i> Hultén | Pale Poppy | G3G4 | S1 |
| Papaveraceae | <i>Papaver walpolei</i> Porsild | Walpole's Poppy | G3 | S2 |
| Plantaginaceae | <i>Plantago maritima</i> L. sens. lat. | Seaside Plantain | G5 | S1 |
| Poaceae | <i>Agrostis humilis</i> Vasey | Alpine Bent Grass | G4 | S1 |
| Poaceae | <i>Bromus richardsonii</i> Link | Richardson's Brome | GNR | S1 |
| Poaceae | <i>Colpodium vahlianum</i> (Liebm.) Nevski | Vahl's Alkali Grass | G4 | S1 |
| Poaceae | <i>Danthonia spicata</i> (L.) Beauv. | | G5 | S1 |
| Poaceae | <i>Hierochloë pauciflora</i> R. Br. | Arctic Holy Sweet Grass | G4G5 | S1 |
| Poaceae | <i>Muhlenbergia glomerata</i> (Willd.) Trin. | Marsh Muhly | G4 | S1 |
| Poaceae | <i>Phippsia algida</i> (Soland.) R. Br. | Ice Grass | G4G5 | S2 |
| Poaceae | <i>Scolochloa festucacea</i> (Willd.) Link | Spangletop | G5 | S1 |
| Poaceae | <i>Sphenopholis intermedia</i> (Rydb.) Rydb. | Slender Wedgegrass | G5 | S1 |

| Family | Latin | Common | Global | Subnational |
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| Poaceae | <i>Torreyochloa pauciflora</i> (Presl) Church | Weak False Manna | G5 | S1 |
| Poaceae | <i>Trisetum sibiricum</i> Rupr. ssp. <i>litorale</i> (Rupr.) Roshev. | Siberian Trisetum | G5T4Q | S1 |
| Poaceae | <i>Trisetum sibiricum</i> Rupr. ssp. <i>sibiricum</i> | Siberian Trisetum | G5T? | S1 |
| Polygonaceae | <i>Polygonum douglasii</i> Greene ssp. <i>douglasii</i> | Douglas' Knotweed | G5T5 | S1 |
| Polygonaceae | <i>Rumex acetosa</i> L. ssp. <i>alpestris</i> (Scop.) A. Löve | Green Sorrel | G5T5 | S1 |
| Polypodiaceae | <i>Polypodium sibiricum</i> Siplivinsij | Siberian Polypody | G5 | S1 |
| Portulacaceae | <i>Claytonia megarhiza</i> (A. Gray) Parry | Alpine Springbeauty | G4? | S1 |
| Portulacaceae | <i>Montia fontana</i> L. | Blinks | G5 | S1 |
| Potamogetonaceae | <i>Potamogeton obtusifolius</i> Mertens & Koch | Blunt-leaved Pondweed | G5 | S1 |
| Potamogetonaceae | <i>Potamogeton strictifolius</i> A. Benn. | Stiff-leaved Pondweed | G5 | S1 |
| Primulaceae | <i>Trientalis borealis</i> Raf. ssp. <i>latifolia</i> (Hook.) Hultén | Broad-leaved Starflower | G5T5 | S1 |
| Pteridaceae | <i>Cryptogramma stelleri</i> (Gmel.) Prantl | Slender Rock-brake | G5 | S2 |
| Pyrolaceae | <i>Chimaphila umbellata</i> (L.) Bart. ssp. <i>occidentalis</i> (Rydb.) Hultén | Prince's Pine | G4 | S1 |
| Rosaceae | <i>Aruncus dioicus</i> (Walt.) Fern. var. <i>acuminatus</i> (Rydb.) Rydb. ex Hara | Goatsbeard | G5T? | S1 |
| Rosaceae | <i>Geum triflorum</i> Pursh | Prairie-smoke | G4G5 | S1 |
| Rosaceae | <i>Rubus pedatus</i> J.E. Sm. | Five-leaf Dwarf Bramble | G5 | S1 |
| Salicaceae | <i>Salix maccalliana</i> Rowlee | MacCalla's Willow | G5 | S1 |
| Santalaceae | <i>Comandra umbellata</i> (L.) Nutt. ssp. <i>pallida</i> (A. DC.) Piehl | Pale Comandra | G4T4 | S1 |
| Saxifragaceae | <i>Mitella pentandra</i> Hook. | Five-stamen Mitrewort | G5 | S2 |
| Saxifragaceae | <i>Ribes laxiflorum</i> Pursh | Trailing Black Currant | G4 | S1 |
| Saxifragaceae | <i>Saxifraga bronchialis</i> L. ssp. <i>codyana</i> (Zhmylev) Cody | Spotted Saxifrage | G5 | S2 |
| Saxifragaceae | <i>Saxifraga eschscholtzii</i> Sternb. | Cushion Saxifrage | G4 | S2 |
| Scheuchzeriaceae | <i>Scheuchzeria palustris</i> L. ssp. <i>americana</i> (Fern.) Hultén | Scheuchzeria | G5T5 | S2S3 |
| Scrophulariaceae | <i>Castilleja parviflora</i> Bong. | Small-flowered Paintbrush | G5 | S2 |
| Scrophulariaceae | <i>Collinsia parviflora</i> Dougl. | Blue-eyed Mary | G5 | S2 |
| Scrophulariaceae | <i>Orthocarpus luteus</i> Nutt. | Yellow Owl-clover | G5 | S1 |
| Scrophulariaceae | <i>Pedicularis groenlandica</i> Retz. | Elephant-head Lousewort | G4G5 | S2 |
| Thelypteridaceae | <i>Phegopteris connectilis</i> (Michx.) Watt | Narrow Beech Fern | G5 | S1 |
| Utricaceae | <i>Parietaria pensylvanica</i> Muhl. | Pellitory | G5 | S1 |
| Violaceae | <i>Viola biflora</i> L. | Arctic Yellow Violet | G5T3 | S1 |
| Violaceae | <i>Viola nephrophylla</i> Greene | Northern bog Violet | G5 | S1 |
| Violaceae | <i>Viola selkirkii</i> Pursh ex Goldie | Selkirk's Violet | G5 | S1 |
| Zannichelliaceae | <i>Zannichellia palustris</i> L. | Horned Pondweed | G5 | S1 |
| Alismataceae | <i>Alisma trivale</i> Pursh | Water Plantain | G5T5 | S1 |
| Alismataceae | <i>Sagittaria cuneata</i> Sheld. | Arum-leaved Arrowhead | G5 | S2 |
| Apiaceae | <i>Angelica lucida</i> L. | Seacoast Angelica | G5 | S2 |
| Apiaceae | <i>Cicuta bulbifera</i> L. | Bulbous Water-hemlock | G5 | S2 |
| Apiaceae | <i>Sium suave</i> Walt. | Hemlock Water-parsnip | G5 | S2 |
| Araliaceae | <i>Aralia nudicaulis</i> L. | Wild Sarsaparilla | G5 | S2S3 |
| Asteraceae | <i>Artemisia dracuncululus</i> L. | Tarragon | G5 | S2 |
| Asteraceae | <i>Artemisia glomerata</i> Ledeb. | Pacific Alpine Wormwood | G4 | S2 |
| Asteraceae | <i>Aster borealis</i> Lindl. | Boreal or Rush Aster | G5 | S2S3 |
| Asteraceae | <i>Aster ciliolatus</i> Lindl. var. <i>cilolatus</i> | Fringed Aster | G5 | S2 |

| Family | Latin | Common | Global | Subnational |
|------------------|---|---|--------|-------------|
| Asteraceae | <i>Aster modestus</i> Lindl. | Western Bog Aster | G5 | S2 |
| Asteraceae | <i>Bidens cernua</i> L. | Nodding Beggarticks | G5 | S2 |
| Asteraceae | <i>Erigeron compositus</i> Pursh var. <i>discoideus</i> Gray | Cutleaf Fleabane | G5T2 | S1 |
| Asteraceae | <i>Erigeron peregrinus</i> (Pursh) Greene ssp. <i>callianthemus</i> (Greene) Cronq. | Subalpine Fleabane | G5T5 | S1 |
| Asteraceae | <i>Erigeron peregrinus</i> (Pursh) Greene ssp. <i>peregrinus</i> | Subalpine Fleabane | G5T5 | S2 |
| Asteraceae | <i>Hieracium albiflorum</i> Hook. | White Hawkweed | G5 | S1 |
| Asteraceae | <i>Lactuca biennis</i> (Moench.) Fern. | Tall Blue Lettuce | G5 | S1 |
| Boraginaceae | <i>Mertensia paniculata</i> (Ait.) G. Don var. <i>alaskana</i> (Britt.) Williams | Alaskan Tall Bluebells | G5T? | S2 |
| Brassicaceae | <i>Arabis glabra</i> (L.) Bernh. | Tower Mustard | G5 | S1 |
| Brassicaceae | <i>Braya glabella</i> Richards. ssp. <i>purpurascens</i> (R. Br.) Cody | Smooth Northern Rockcress or Purple Braya | G4G5 | S2 |
| Brassicaceae | <i>Draba kananaskis</i> G.A. Mulligan | Longstalk Whitlow-grass | G1Q | S1 |
| Brassicaceae | <i>Draba lonchocarpa</i> Rydb. var. <i>vestita</i> O.E. Schulz | Lance-fruited Draba | G4T3 | S1 |
| Brassicaceae | <i>Erysimum angustatum</i> Rydb. | Sand-dune Wallflower | G2 | S2 |
| Brassicaceae | <i>Subularia aquatica</i> L. ssp. <i>americana</i> Mulligan & Calder | Awlwort | G5T5 | S2S3 |
| Caryophyllaceae | <i>Dianthus repens</i> Willd. | Carnation | G5 | S2 |
| Caryophyllaceae | <i>Stellaria umbellata</i> Turcz. | Umbellate Starwort | G5 | S1 |
| Ceratophyllaceae | <i>Ceratophyllum demersum</i> L. | Common Coontail or Hornwort | G5 | S2 |
| Cyperaceae | <i>Carex bebbii</i> (Bailey) Fern. | Bebb's sedge | G5 | S2S3 |
| Cyperaceae | <i>Carex bicolor</i> All. | Two-coloured Sedge | G5 | S2 |
| Cyperaceae | <i>Carex deweyana</i> Schw. var. <i>deweyana</i> | Dewey's Sedge | G5 | S2 |
| Cyperaceae | <i>Carex eburnea</i> Boott | Bristle-leaf Sedge | G5 | S2S3 |
| Cyperaceae | <i>Carex lasiocarpa</i> Ehrh. ssp. <i>americana</i> (Fern.) Hultén | Woolly-fruit Sedge or Slender Sedge | G5 | S2 |
| Cyperaceae | <i>Carex laxa</i> Wahlenb. | Weak Sedge | G5 | S1 |
| Cyperaceae | <i>Carex lenticularis</i> Michx. var. <i>dolia</i> (M.E. Jones) L.A. Standley | Enander's Sedge | G5T3Q | S1 |
| Cyperaceae | <i>Carex lenticularis</i> Michx. var. <i>lipocarpa</i> (Holm) L.A. Standley | Kellogg's Sedge | G5T? | S1 |
| Cyperaceae | <i>Carex macrochaeta</i> C.A. Meyer | Large-awned Sedge | G5 | S2 |
| Cyperaceae | <i>Carex norvegica</i> Retz. | Closed-head Sedge | G5 | S1 |
| Cyperaceae | <i>Carex pauciflora</i> Lightfoot | Few-flowered Sedge | G5 | S1 |
| Cyperaceae | <i>Carex peckii</i> Howe | Peck's Sedge | G4G5 | S1 |
| Cyperaceae | <i>Carex spectabilis</i> Dewey | Showy Sedge | G5 | S1 |
| Cyperaceae | <i>Carex sychnocephala</i> Carey | Many-headed Sedge | G4 | S2 |
| Cyperaceae | <i>Carex viridula</i> Michx. ssp. <i>viridula</i> | Green Sedge | G5? | S2 |
| Cyperaceae | <i>Carex williamsii</i> Britt. | William's Sedge | G4 | S2S3 |
| Cyperaceae | <i>Eriophorum gracile</i> Koch | Slender Cotton-grass | G5 | S1 |
| Cyperaceae | <i>Eriophorum viridi-carinatum</i> (Engelm.) Fern. | Green Keeled Cotton-grass | G5 | S2 |
| Cyperaceae | <i>Scirpus microcarpus</i> Presl | Small-flowered Bulrush | G5 | S2S3 |
| Dryopteriaceae | <i>Athyrium filix-femina</i> (L.) Roth var. <i>cyclosorum</i> (Ledeb.) Moore | Lady Fern | G5T5 | S2S3 |
| Dryopteriaceae | <i>Dryopteris carthusiana</i> (Vill.) H.P.Fuchs | Spinulose Wood Fern | G5 | S2 |
| Dryopteriaceae | <i>Dryopteris expansa</i> (Presl) Fraser-Jenkins & Jermy | Northern Wood Fern | G5 | S2S3 |
| Dryopteriaceae | <i>Woodsia ilvensis</i> (L.) R. Br. | Rusty Cliff Fern | G5 | S1 |
| Ericaceae | <i>Harrimanella stelleriana</i> (Pallas) Coville | Alaskan Mountain-heather | G4G5 | S2 |

| Family | Latin | Common | Global | Subnational |
|------------------|---|----------------------------------|--------|-------------|
| Ericaceae | <i>Vaccinium membranaceum</i> Dougl. | Tall Blueberry | G5 | S2 |
| Ericaceae | <i>Vaccinium ovalifolium</i> J.E. Smith | Oval-leaved Blueberry | G5 | S2 |
| Fabaceae | <i>Astragalus adsurgens</i> Pall. ssp. <i>robustior</i> (Hook.) Welsh | Standing Milk-vetch | G5T5 | S1 |
| Fabaceae | <i>Oxytropis nigrescens</i> (Pallas) Fisch. ex DC. var. <i>lonchopoda</i> Barneby | Blackish Locoweed | G5T1 | S1 |
| Fabaceae | <i>Oxytropis sericea</i> Nutt. ssp. <i>spicata</i> (Hook.) Cody | Silky Locoweed | G5T3T4 | S2 |
| Fabaceae | <i>Vicia americana</i> Muhl. ex Willd. | American Vetch | G5 | S2 |
| Geraniaceae | <i>Geranium richardsonii</i> Fisch. & Trautv. | Richardson's Geranium | G5 | S2 |
| Iridaceae | <i>Sisyrinchium montanum</i> Greene | Mountain Blue-eyed Grass | G5 | S2 |
| Juncaceae | <i>Juncus nodosus</i> L. | Tuberous Rush | G5 | S2S3 |
| Lentibulariaceae | <i>Pinguicula vulgaris</i> L. ssp. <i>macroceras</i> (Link.) Calder & Taylor | Large-headed Butterwort | G5T4 | S1 |
| Onagraceae | <i>Epilobium davuricum</i> Fisch. ex Hornem. | Northern Swamp Willowherb | G5 | S2 |
| Ophioglossaceae | <i>Botrychium lanceolatum</i> (Gmel.) Angstr. var. <i>lanceolatum</i> | Lance-leaf Moonwort | G5T4 | S2 |
| Ophioglossaceae | <i>Botrychium multifidum</i> (Gmel.) Rupr. var. <i>multifidum</i> | Leathery Grape Fern | G5 | S1 |
| Ophioglossaceae | <i>Botrychium pinnatum</i> St. John | Northwestern or Boreal Moonwort | G5 | S2S3 |
| Orchidaceae | <i>Platanthera stricta</i> Lindl. | Slender Bog Orchid | G5 | S1 |
| Plumbaginaceae | <i>Armeria maritima</i> (Mill.) Willd. ssp. <i>arctica</i> (Cham.) Hultén | Arctic Thrift or Sea-Pink | G5T5 | S2 |
| Poaceae | <i>Agrostis exarata</i> Trin. | Spike Redtop | G5 | S2S3 |
| Poaceae | <i>Calamagrostis deschampsoides</i> Trin. | Circumpolar Reedgrass | G5 | S1 |
| Poaceae | <i>Cinna latifolia</i> (Trev.) Griseb. | Nodding Wood-Reed | G5 | S2S3 |
| Poaceae | <i>Elymus alaskanus</i> (Scribn. & Merr.) A. Löve ssp. <i>borealis</i> (Turcz.) Löve & Löve | Alaskan Wild Rye | G5T5 | S2 |
| Poaceae | <i>Helictotrichon hookeri</i> (Scribn.) Henrard | Spike-oat | G5 | S2 |
| Poaceae | <i>Hordeum brachyantherum</i> Nevski | Meadow Barley | G5 | S2 |
| Poaceae | <i>Koeleria macrantha</i> (Ledeb.) Schultes | Junegrass | G5 | S2 |
| Poaceae | <i>Poa cusickii</i> Vasey | Cusick's Bluegrass | G5 | S2 |
| Poaceae | <i>Schizachne purpurascens</i> (Torr.) Swallen | False Melic | G5 | S2S3 |
| Polygonaceae | <i>Polygonum lapathifolium</i> L. sens. lat. | Willow Weed | G5 | S2 |
| Portulacaceae | <i>Montia bostockii</i> (Porsild) Welsh | Bostock's Montia | G3 | S2S3 |
| Potamogetonaceae | <i>Potamogeton foliosus</i> Raf. | Closed-leaved Pondweed | G5 | S2 |
| Primulaceae | <i>Dodecatheon pulchellum</i> (Raf.) Merr. var. <i>pulchellum</i> | Few-flowered Shooting Star | G5 | S2 |
| Primulaceae | <i>Glaux maritima</i> L. ssp. <i>maritima</i> | Sea Milkwort | G5T5 | S2 |
| Primulaceae | <i>Lysimachia thyrsoflora</i> L. | Tufted Loosestrife | G5 | S2 |
| Primulaceae | <i>Primula borealis</i> Duby | Slender Primrose | G5 | S2 |
| Primulaceae | <i>Primula egaliksensis</i> Wormsk. | Greenland Primrose | G4 | S2S3 |
| Primulaceae | <i>Primula mistassinica</i> Michx. | Bird's-eye Primrose | G5 | S2 |
| Pteridaceae | <i>Cryptogramma crista</i> (L.) R. Br. var. <i>acrostichoides</i> (R. Br.) C.B. Clarke | Mountain-parsley | G4T4 | S2 |
| Pteridaceae | <i>Cryptogramma crista</i> (L.) R. Br. var. <i>sitchensis</i> (Rupr.) C. Chr. | Sitka Parsley Fern or Rock-brake | G4T? | S1S2 |
| Ranunculaceae | <i>Anemone multiceps</i> (Greene) Standl. | Porcupine River Thimbleweed | G? | S2 |
| Ranunculaceae | <i>Aquilegia formosa</i> Fisch. ex DC. var. <i>formosa</i> | Western Columbine | G5 | S2 |
| Ranunculaceae | <i>Caltha leptosepala</i> DC. | Mountain Marsh-marigold | G5 | S2 |
| Ranunculaceae | <i>Delphinium brachycentrum</i> Ledeb. | America, E to NF and S to S U.S. | G5 | S1 |
| Ranunculaceae | <i>Ranunculus gelidus</i> Karel. & Kiril. ssp. | Arctic Buttercup | G4G5 | S2 |

| Family | Latin | Common | Global | Subnational |
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| | <i>grayi</i> (Britt.) Hultén | | | |
| Ranunculaceae | <i>Ranunculus occidentalis</i> Nutt. var. <i>brevistylis</i> Greene | Western Buttercup | G5T5 | S2 |
| Ranunculaceae | <i>Ranunculus pallasii</i> Schlecht. | Pallas' Buttercup | G5 | S2 |
| Rosaceae | <i>Potentilla pulchella</i> R. Br. | Pretty Cinquefoil | G4G5 | S2 |
| Rosaceae | <i>Rubus arcticus</i> L. ssp. <i>stellatus</i> (J.E. Sm.) Boivin | Beringian Nagoonberry | G5T4 | S2 |
| Rosaceae | <i>Sorbus sitchensis</i> Roemer | Sitka Mountain-ash | G5 | S1 |
| Salicaceae | <i>Salix brachycarpa</i> Nutt. ssp. <i>brachycarpa</i> | Small-fruit Willow | G5T5 | S2 |
| Salicaceae | <i>Salix ovalifolia</i> Trautv. var. <i>arctolitoralis</i> (Hultén) Argus | Arctic Seashore Willow | G5T3T4 | S2 |
| Salicaceae | <i>Salix ovalifolia</i> Trautv. var. <i>ovalifolia</i> | Oval-leaf Willow | G5T5 | S2 |
| Salicaceae | <i>Salix pedicellaris</i> Pursh | Bog Willow | G5 | S2 |
| Salicaceae | <i>Salix prolixa</i> Anderss.. | Mackenzie Willow | G5 | S1 |
| Salicaceae | <i>Salix pyrifolia</i> Anderss. | Balsam willow | G5 | S2 |
| Salicaceae | <i>Salix rotundifolia</i> Trautv. ssp. <i>rotundifolia</i> | Round-leaved Willow | G5T5 | S2 |
| Saxifragaceae | <i>Saxifraga foliolosa</i> R. Br. | Leafy-stem Saxifrage | G5 | S2S3 |
| Scrophulariaceae | <i>Castilleja miniata</i> Dougl. ex Hook. | Common Red Paintbrush | G4G5 | S2 |
| Scrophulariaceae | <i>Limosella aquatica</i> L. | Awlwort | G5 | S2S3 |
| Scrophulariaceae | <i>Pedicularis macrodonta</i> Richards. | Muskeg Lousewort | G4Q | S1 |
| Typhaceae | <i>Typha latifolia</i> L. | Common Cattail | G5 | S2 |
| Violaceae | <i>Viola canadensis</i> L. ssp. <i>rydbergii</i> (Greene) House | Canada Violet | G5T5 | S2S3 |
| Violaceae | <i>Viola langsdorfii</i> (Regel) Fisch. | Langdorf's Violet | G4 | S2 |
| Apiaceae | <i>Cicuta maculata</i> L. var. <i>angustifolia</i> Hook. | Spotted Water-hemlock | G5T5 | S2 |
| Asteraceae | <i>Antennaria howellii</i> Greene ssp. <i>canadensis</i> (Greene) Bayer | Field Pussytoes | G4G5T5 | S1 |
| Asteraceae | <i>Antennaria howellii</i> Greene ssp. <i>howellii</i> | Howell's Pussytoes | G4G5T4 | S1 |
| Asteraceae | <i>Antennaria media</i> Greene | Dark or Rocky Mountain Pussytoes | G5 | S2 |
| Asteraceae | <i>Antennaria microphylla</i> Rydb. | White or Small-leaf Pussytoes | G5 | S2 |
| Asteraceae | <i>Arnica angustifolia</i> Vahl ssp. <i>tomentosa</i> (J.M. Macoun) Douglas & Ruyle-Douglas | Alpine Arnica | G5T5 | S1 |
| Asteraceae | <i>Arnica chamissonis</i> Less. ssp. <i>incana</i> (Gray) Maguire | Meadow Arnica or Leafy Leopardbane | G5T? | S2 |
| Asteraceae | <i>Erigeron porsildii</i> Nesom & Murray | Large-flowered Daisy | G5T4 | S2S3 |
| Asteraceae | <i>Tanacetum bipinnatum</i> (L.) Schultz-Bip ssp. <i>bipinnatum</i> | Dune Tansy | G5T4T5 | S1 |
| Betulaceae | <i>Alnus crispa</i> (Drylander ex Ait.) Pursh ssp. <i>sinuata</i> (Regel) Hultén | Sitka Alder | G5T5 | S2 |
| Betulaceae | <i>Betula pumila</i> L. var. <i>glandulifera</i> Regel | Low Birch | G5T5 | S2 |
| Boraginaceae | <i>Mertensia maritima</i> (L.) S.F. Gray | Sea Lungwort | G5 | S2 |
| Brassicaceae | <i>Alyssum obovatum</i> (C.A. Meyer) Turcz. | American Madwort | G5? | S2S3 |
| Brassicaceae | <i>Arabis boivinii</i> G.A. Mulligan | Boivin's Rockcress | G1 | S1 |
| Brassicaceae | <i>Arabis codyi</i> G.A. Mulligan | Cody's Rockcress | G1G2Q | S1 |
| Brassicaceae | <i>Arabis drepanoloba</i> Greene | Soldier Rockcress | G4? | S1 |
| Brassicaceae | <i>Arabis eschscholtziana</i> Andrz. | Eschscholtz's Rockcress | G4G5 | S1S2 |
| Brassicaceae | <i>Arabis exilis</i> A. Nels. | Slender Rockcress | G4G5 | S2 |
| Brassicaceae | <i>Arabis lemmonii</i> S.Wats. | Lemmon's Rockcress | G5 | S1 |
| Brassicaceae | <i>Arabis lignifera</i> A. Nels. | Woody-branched Rockcress | G5 | S1 |
| Brassicaceae | <i>Arabis media</i> N. Busch | Arctic Rockcress | G? | S2 |

| Family | Latin | Common | Global | Subnational |
|------------------|--|------------------------------|--------------|-------------|
| Brassicaceae | <i>Arabis murrayi</i> G.A. Mulligan | Murray's Rockcress | G3 | S1 |
| Brassicaceae | <i>Arabis nuttallii</i> Robins. | | G5 | S2 |
| Brassicaceae | <i>Arabis sparsiflora</i> Nutt. var. <i>columbiana</i> (Macoun) Rollins | Elegant Rockcress | G5T2T4 | S1 |
| Brassicaceae | <i>Draba nemorosa</i> L. var. <i>leiocarpa</i> Lindbl. | Wood Whitlow-grass | G5T? | S2S3 |
| Brassicaceae | <i>Draba porsildii</i> G.A. Mulligan | Porsild's Draba | G3G4 | S2 |
| Caprifoliaceae | <i>Linnaea borealis</i> L. ssp. <i>borealis</i> | Twinflower | G5T5 | S1 |
| Caryophyllaceae | <i>Honckenya peploides</i> (L.) Ehrh. Var. <i>diffusa</i> (Hornem.) Mattf. | Seabeach-sandwort | G5 | S2 |
| Caryophyllaceae | <i>Sagina nivalis</i> (Lindbl.) Fries | Snow Pearlwort | G5 | S2S3 |
| Caryophyllaceae | <i>Sagina saginoides</i> (L.) Karst | Arctic Pearlwort | G5 | S2S3 |
| Caryophyllaceae | <i>Stellaria humifusa</i> Rottb. | Salt Marsh Starwort | G5 | S2 |
| Chenopodiaceae | <i>Chenopodium leptophyllum</i> (Moquin-Tandon) Nutt. ex. S. Wats. | Narrow-leaved Goosefoot | G5 | S2 |
| Cyperaceae | <i>Carex arcta</i> Boott | Northern Clustered Sedge | G5 | S2 |
| Cyperaceae | <i>Carex buxbaumii</i> Wahlenb. | Buxbaum's or Brown Bog Sedge | G5 | S2 |
| Cyperaceae | <i>Carex glareosa</i> Wahlenb. | Lesser Saltmarsh Sedge | G4G5 | S2 |
| Cyperaceae | <i>Carex heleonastes</i> L. f. | Hudson Bay Sedge | G4 | S1 |
| Cyperaceae | <i>Carex holostoma</i> Drej. | Arctic Marsh Sedge | G3G4 | S1 |
| Cyperaceae | <i>Carex interior</i> Bailey | Inland Sedge | G5 | S1 |
| Cyperaceae | <i>Carex krausei</i> Boeckel. | Krause's Sedge | G5 | S2 |
| Cyperaceae | <i>Carex livida</i> Willd. | Pale Sedge | G5 | S2S3 |
| Cyperaceae | <i>Carex pachystachya</i> Cham. | Thick-headed Sedge | G5 | S1S2 |
| Cyperaceae | <i>Carex phaeocephala</i> Piper | Dunhead Sedge | G4 | S2S3 |
| Cyperaceae | <i>Carex praegracilis</i> Boott | Clustered Field Sedge | G5 | S2S3 |
| Cyperaceae | <i>Carex prairea</i> Dewey ex A.W. Wood | Prairie Sedge | G5? | S1 |
| Cyperaceae | <i>Carex rostrata</i> Stokes | Swollen-beaked Sedge | G5 | S2 |
| Cyperaceae | <i>Carex sartwellii</i> Dewey var. <i>sartwellii</i> | Sartwell's sedge | G4G5T4 T5 | S1 |
| Cyperaceae | <i>Carex siccata</i> Dewey | Hay sedge | G5 | S1 |
| Cyperaceae | <i>Carex stylosa</i> C.A. Meyer | Long-styled Sedge | G5 | S2 |
| Cyperaceae | <i>Carex ursina</i> Dewey | Bear Sedge | G4G5 | S2 |
| Cyperaceae | <i>Eleocharis uniglumis</i> (Link) Hultén | One-glume Spike-rush | G5 | S2 |
| Cyperaceae | <i>Schoenoplectus taberaemontanii</i> (K.C. Gmel.) Palla | Soft-stemmed Bulrush | G5 | S1S2 |
| Dryopteridaceae | <i>Gymnocarpium jessoense</i> (Koidz.) Koidz. ssp. <i>parvulum</i> Sarvela | Nahanni Oak Fern | G5T4 | S2S3 |
| Ericaceae | <i>Phyllodoce glanduliflora</i> (Hook.) Cov. | Yellow Mountain Heather | G5 | S2S3 |
| Isoetaceae | <i>Isoetes echinospora</i> Dur. | Bristle-like Quillwort | G5 | S1 |
| Isoetaceae | <i>Isoetes maritima</i> Underw. | Maritime Quillwort | G5 | S1 |
| Juncaceae | <i>Juncus triglumis</i> L. ssp. <i>triglumis</i> | Three-flowered Rush | G5 | S1 |
| Juncaceae | <i>Luzula groenlandica</i> Böcher | Greenland Wood-rush | G4 | S1 |
| Juncaceae | <i>Luzula wahlenbergii</i> Rupr. | Wahlenberg's Wood-rush | G5 | S2 |
| Lamiaceae | <i>Scutellaria galericulata</i> L. var. <i>pubescens</i> Benth. | Marsh Skullcap | G5T4 | S2S3 |
| Lentibulariaceae | <i>Utricularia minor</i> L. | - | G5 | S2S3 |
| Liliaceae | <i>Triantha glutinosa</i> (Michx.) Baker | Sticky False Asphodel | G5T4 | S2S3 |
| Onagraceae | <i>Epilobium arcticum</i> Samuelss. | Arctic Willowherb | G5? | S2 |
| Onagraceae | <i>Epilobium clavatum</i> Trel. | Club-fruited Willowherb | G5 | S1 |
| Ophioglossaceae | <i>Botrychium ascendens</i> W.H. Wagner | Upward-lobed Moonwort | G2G3 | SR |
| Ophioglossaceae | <i>Botrychium hesperium</i> (Maxon & | Western Moonwort | G3G4 | S1 |

| Family | Latin | Common | Global | Subnational |
|-----------------|--|----------------------------|--------|-------------|
| | Claussen) W.H. Wagner & Lellinger | | | |
| Ophioglossaceae | Botrychium lineare W.H. Wagner | Linear-leaf Moonwort | G1 | S1 |
| Ophioglossaceae | Botrychium spathulatum W.H. Wagner | Spoon-leaf Moonwort | G3 | S1S2 |
| Ophioglossaceae | Botrychium tunux Stensvold & Farrar | Tunux's Moonwort | G1 | S1 |
| Ophioglossaceae | Botrychium yaaxudakeit Stensvold & Farrar | Yaax Uda Keit's Moonwort | GNR | S1 |
| Papaveraceae | Papaver radicum Rottb. ssp. radicum | Arctic Poppy | G5T5 | S1 |
| Poaceae | Agrostis filiculmis M.E. Jones | Clubbed Bent Grass | G4G5 | S1 |
| Poaceae | Agrostis mertensii Trin. ssp. mertensii | Red Bent Grass | G5 | S2S3 |
| Poaceae | Dupontia fisheri R. Br. sl | Fisher's Tundra Grass | G5 | S2 |
| Poaceae | Festuca hyperborea Holm ex Frederiksen | Northern Fescue | G3G4Q | S1 |
| Poaceae | Festuca minutiflora Rydb. | Little Fescue | G5 | S1S2 |
| Poaceae | Festuca saximontana Rydb. var. purpusiana (Saint-Yves) Frederiksen & Pavlick | Rocky Mountain Fescue | G5T5 | S2 |
| Poaceae | Glyceria borealis (Nash) Batchelder | Northern Manna Grass | G5 | S2 |
| Poaceae | Muhlenbergia richardsonii (Trin.) Rydb. | Mat Muhly | G5 | S2 |
| Poaceae | Oryzopsis asperifolia Michx. | Rough-leaved Ricegrass | G5 | S1 |
| Poaceae | Poa abbreviata R. Br. ssp. abbreviata | Northern Bluegrass | G5T5 | S1 |
| Poaceae | Poa abbreviata R. Br. ssp. pattersonii (Vasey) A. & D. Löve & Kapoor | Northern Bluegrass | G5T5 | S1 |
| Poaceae | Poa interior Rydb. | Interior Bluegrass | G? | S2 |
| Poaceae | Poa pseudoabbreviata Roshev. | Polar Bluegrass | G4 | S1 |
| Poaceae | Puccinellia agrostidea Th. Sor. | Boreal Alkaligrass | G2G4 | S1 |
| Poaceae | Puccinellia angustata (R. Br.) Rand & Redf. | Northern Alkaligrass | G4Q | S1 |
| Poaceae | Puccinellia arctica (Hook.) Fern. & Weath. | Arctic Alkaligrass | G2Q | S1 |
| Poaceae | Puccinellia phryganodes (Trin.) Scribn. & Merr. | Creeping Alkaligrass | G5 | S2 |
| Poaceae | Puccinellia vaginata (Lange) Fern. & Weath. | Arctic Tussock Alkaligrass | G4 | S2 |
| Poaceae | Stipa nelsonii Scribn. ssp. dorei Barkworth & Maze | Columbia Needlegrass | G5T5 | S2 |
| Poaceae | Stipa richardsonii Link | Spreading Needlegrass | G5 | S2 |
| Polygonaceae | Koenigia islandica L. | Island Purselane | G4 | S2 |
| Primulaceae | Primula eximia Greene | Arctic Primrose | G5 | S2S3 |
| Primulaceae | Primula nutans Georgi | Siberian Primrose | G5 | S2S3 |
| Ranunculaceae | Caltha natans Pallas ex Georgi | Floating Marsh-marigold | G4G5 | S2 |
| Rosaceae | Potentilla bimundorum Sojak | Stag-horn Cinquefoil | G5 | S2 |
| Rosaceae | Potentilla bipinnatifida Dougl. ex Hook. | Bipinnate Cinquefoil | G4G5 | S2 |
| Rosaceae | Potentilla ovina J.M. Macoun | Sheep Cinquefoil | G4 | S1 |
| Rosaceae | Rosa woodsii Lindl. | Prairie Rose | G5 | S2 |
| Salicaceae | Salix arctophila Cockerell | Northern Willow | G5 | S2 |
| Salicaceae | Salix candida Flügge | Sage Willow | G5 | S2 |
| Salicaceae | Salix lucida Muhl. ssp. caudata (Nuttall) E. Murray | Tail-leaf Willow | G5T? | S1 |
| Asteraceae | Arnica amplexicaulis Nutt. | Streambank Arnica | G4 | S1 |
| Asteraceae | Matricaria ambigua (Ledeb.) Kryl. | Seashore Chamomile | G5 | S1 |
| Cyperaceae | Carex albonigra Mack. | Two-tone Sedge | G4 | S2 |
| Cyperaceae | Carex lapponica O.F. Lang | Lapland Sedge | G4G5Q | S2 |
| Cyperaceae | Carex marina Dewey | Sea Sedge | G4 | S2 |

| Family | Latin | Common | Global | Subnational |
|---------------------------------------|--|------------------------|---------------|--------------------|
| Cyperaceae | <i>Carex parryana</i> Dewey | Parry's Sedge | G3G4 | S2S3 |
| Cyperaceae | <i>Carex subspathacea</i> Wormskj. ex Hornem. | Hoppner's Sedge | G4 | S2 |
| Poaceae | <i>Glyceria striata</i> (Lam.) Hitchc. var. <i>striata</i> (Scribn.) Fern. | Fowl Manna Grass | G5T5 | S2S3 |
| Portulacaceae | <i>Montia scammaniana</i> (Hultén) Welsh | Scamman's Springbeauty | G3G4 | S2S3 |
| Rubiaceae | <i>Galium brandegei</i> Gray | Three-petal Bedstraw | G4G5Q | S1Q |
| Asteraceae | <i>Arnica diversifolia</i> Greene | Diverse Arnica | G5 | S1 |
| Asteraceae | <i>Chrysanthemum arcticum</i> L. ssp. <i>polare</i> Hultén | Arctic Daisy | G4T? | S1 |
| Brassicaceae | <i>Descurainia pinnata</i> (Walter) Britt. ssp. <i>nelsonii</i> (Rydb.) Detling. | Western Tansy Mustard | G5TU? | S2 |
| | | | | |
| Compiled by B.A. Bennett June 8, 2005 | | | | |

Appendix 7.9-5 Background Vegetation Metal Levels

Vegetation Metals Sampling Sites

Appendix 7.9-5 Background Vegetation Metal Levels

Vegetation Metals Sampling Sites

| Plot # and Sample # | Plot Type | Bio Zone | Veg Type Code | Veg Type Description | Willow/Cladina Metal Sample | Se Analysis | Hg Analysis |
|--|---------------|-----------------|-----------------|--|-----------------------------|-------------|-------------|
| WZ01 | ground | Boreal Lowland | V30 | Open trembling aspen-spruce (pine) forest | Y/Y | test – yes | test – yes |
| WZ03 | ground-visual | Boreal Lowland | V206 | Wet sedge herb | Y/N | test – yes | test – yes |
| WZ05 | ground | Boreal Highland | V113a | Black spruce-shrub brich medium/tall shrub | Y/Y | test – yes | test – yes |
| WZ08 | ground-visual | Boreal Highland | V33 | Open lodgepole pine-aspen forest | Y/Y | test – yes | test – yes |
| WZ10 | ground-visual | Subalpine | V104c | Willow medium/tall shrub | Y/Y | test – yes | test – yes |
| WZ18 | ground | Subalpine | V106 | Shrub birch dwarf shrub | Y/Y | test – yes | test – yes |
| WZ22 | ground | Subalpine | V104b | Willow medium/tall shrub | Y/N | test – yes | test – yes |
| WZ25 | ground-visual | Subalpine | V115 | White heather dwarf shrub | Y/Y | test – yes | test – yes |
| WZ26 | ground-visual | Subalpine | V105a | Willow-shrub birch medium/tall shrub | Y/N | test – yes | test – yes |
| WZ27 | ground-visual | Subalpine | V105c | Willow-shrub birch medium/tall shrub | Y/N | test – yes | test – yes |
| WZ32 | ground-visual | Subalpine | V104a | Willow medium/tall shrub | Y/N | test – yes | test – yes |
| WZ36 | ground-visual | Boreal Highland | V19b | Open black spruce forest (organic soil) | Y/Y | test – yes | test – yes |
| WZ39 | ground | Subalpine | V105b-dry-south | Willow-shrub birch medium/tall shrub | Y/Y | test – yes | test – yes |
| WZ44 | ground | Subalpine | V104b | Willow medium/tall shrub | Y/N | test – yes | test – yes |
| WZ64 | ground-visual | Boreal Highland | V19b | Open black spruce forest (organic soil) | Y/Y | test – yes | test – yes |
| DS34 | ground | Boreal Highland | V17 | Open white spruce forest | Y/N | test – yes | test – yes |
| A standard scan using ICP-MS was requested that will include Se at appropriate detection limits. | | | | | | | |
| This will include approx. 26 or so other elements. Also requested Hg, is analysed by a different method. | | | | | | | |
| The samples were analyzed unwashed. | | | | | | | |

Results of Vegetation Metals Testing

Analysis Report



CANTEST LTD.

REPORT ON: Analysis of Tissue Samples
REPORTED TO: AXYS Environmental Consulting Ltd.
PO Box 2219
2045 Mills Road West
Sidney, BC
V8L 3S8

Professional
Analytical
Services

4606 Canada Way
Burnaby, B.C.
V5G 1K5

Fax: 604 731 2386

Tel: 604 734 7276

1 800 665 8566

Att'n: Ms. Sherry Fortais

NUMBER OF SAMPLES: 16

REPORT DATE: September 8, 2005

DATE SUBMITTED: August 16, 2005

GROUP NUMBER: 60816082

SAMPLE TYPE: Vegetable

NOTE: Results contained in this report refer only to the testing of samples submitted.

TEST METHODS:

Mercury in Tissue - samples were digested using a nitric acid-hydrogen peroxide digestion procedure based on EPA Method 200.3. Analysis was performed using Cold Vapour Atomic Absorption Spectrophotometry or Cold Vapour Atomic Fluorescence Spectrophotometry.

Metals in Tissue - samples were digested using a nitric acid-hydrogen peroxide digestion procedure based on EPA Method 200.3. Analysis was performed using Inductively Coupled Argon Plasma Spectroscopy (ICP), ICP Mass Spectrometry (ICP/MS), or Atomic Absorption techniques.

TEST RESULTS:

(See following pages)

CANTEST LTD.

Richard S. Jornitz
Supervisor, Inorganic Testing

Page 1 of 5



REPORTED TO: AXYS Environmental Consulting Ltd.



REPORT DATE: September 8, 2005

GROUP NUMBER: 60816082

Metals Analysis in Tissue

| CLIENT SAMPLE IDENTIFICATION: | | WZ01 | WZ03 | WZ05 | WZ08 | DETECTION LIMIT |
|-------------------------------|------|-----------|-----------|-----------|-----------|-----------------|
| CANTEST ID: | | 508160300 | 508160302 | 508160303 | 508160304 | |
| Aluminum | Al | 139 | 7.9 | 50.9 | 77.0 | 0.5 |
| Antimony | Sb | < | < | < | < | 0.1 |
| Arsenic | As | < | 0.2 | < | < | 0.1 |
| Barium | Ba | 40.6 | 30.9 | 41.4 | 28.5 | 0.1 |
| Beryllium | Be | < | < | < | < | 0.02 |
| Boron | B | 10 | 33 | 8 | 10 | 2 |
| Cadmium | Cd | 0.33 | 17.6 | 0.90 | 1.06 | 0.02 |
| Calcium | Ca | 2730 | 11700 | 7460 | 7620 | 1 |
| Chromium | Cr | < | < | < | < | 0.1 |
| Cobalt | Co | 0.1 | < | 0.1 | 0.1 | 0.1 |
| Copper | Cu | 1.9 | 4.4 | 2.9 | 2.9 | 0.1 |
| Iron | Fe | 185 | 69 | 95 | 128 | 5 |
| Lead | Pb | 0.4 | 0.2 | 0.4 | 0.2 | 0.1 |
| Magnesium | Mg | 343 | 3990 | 2510 | 990 | 0.5 |
| Manganese | Mn | 83.6 | 197 | 122 | 55.5 | 0.1 |
| Mercury | Hg | 0.020 | < | 0.015 | 0.014 | 0.01 |
| Molybdenum | Mo | 0.3 | 0.5 | 0.2 | 0.1 | 0.1 |
| Nickel | Ni | 0.6 | 3.8 | 0.9 | 1.1 | 0.1 |
| Phosphorus | PO4 | 1570 | 20000 | 2170 | 2260 | 0.5 |
| Potassium | K | 1140 | 9860 | 4330 | 3700 | 1 |
| Selenium | Se | < | 3.3 | < | < | 0.2 |
| Silicon | SiO2 | 162 | 173 | 357 | 223 | 10 |
| Silver | Ag | 0.06 | 0.01 | 0.02 | 0.02 | 0.01 |
| Sodium | Na | 89 | 12 | 25 | 20 | 1 |
| Strontium | Sr | 7.63 | 43.9 | 24.3 | 12.2 | 0.05 |
| Tellurium | Te | < | < | < | < | 0.1 |
| Thallium | Tl | < | < | < | < | 0.02 |
| Tin | Sn | < | < | 0.2 | < | 0.1 |
| Titanium | Ti | 2.7 | 3.0 | 2.3 | 6.7 | 0.3 |
| Uranium | U | < | < | < | < | 0.04 |
| Vanadium | V | < | < | < | < | 0.5 |
| Zinc | Zn | 17.8 | 811 | 84.2 | 50.6 | 0.5 |
| Zirconium | Zr | < | < | < | < | 3 |

Results expressed as micrograms per gram, dry basis ($\mu\text{g/g}$)

< = Less than detection limit



REPORTED TO: AXYS Environmental Consulting Ltd.



REPORT DATE: September 8, 2005

GROUP NUMBER: 60816082

Metals Analysis in Tissue

| CLIENT SAMPLE IDENTIFICATION: | | WZ01 | WZ03 | WZ05 | WZ08 | DETECTION LIMIT |
|-------------------------------|------|-----------|-----------|-----------|-----------|-----------------|
| CANTEST ID: | | 508160300 | 508160302 | 508160303 | 508160304 | |
| Aluminum | Al | 139 | 7.9 | 50.9 | 77.0 | 0.5 |
| Antimony | Sb | < | < | < | < | 0.1 |
| Arsenic | As | < | 0.2 | < | < | 0.1 |
| Barium | Ba | 40.6 | 30.9 | 41.4 | 28.5 | 0.1 |
| Beryllium | Be | < | < | < | < | 0.02 |
| Boron | B | 10 | 33 | 8 | 10 | 2 |
| Cadmium | Cd | 0.33 | 17.6 | 0.90 | 1.06 | 0.02 |
| Calcium | Ca | 2730 | 11700 | 7460 | 7620 | 1 |
| Chromium | Cr | < | < | < | < | 0.1 |
| Cobalt | Co | 0.1 | < | 0.1 | 0.1 | 0.1 |
| Copper | Cu | 1.9 | 4.4 | 2.9 | 2.9 | 0.1 |
| Iron | Fe | 185 | 69 | 95 | 128 | 5 |
| Lead | Pb | 0.4 | 0.2 | 0.4 | 0.2 | 0.1 |
| Magnesium | Mg | 343 | 3990 | 2510 | 990 | 0.5 |
| Manganese | Mn | 83.6 | 197 | 122 | 55.5 | 0.1 |
| Mercury | Hg | 0.020 | < | 0.015 | 0.014 | 0.01 |
| Molybdenum | Mo | 0.3 | 0.5 | 0.2 | 0.1 | 0.1 |
| Nickel | Ni | 0.6 | 3.8 | 0.9 | 1.1 | 0.1 |
| Phosphorus | PO4 | 1570 | 20000 | 2170 | 2260 | 0.5 |
| Potassium | K | 1140 | 9860 | 4330 | 3700 | 1 |
| Selenium | Se | < | 3.3 | < | < | 0.2 |
| Silicon | SiO2 | 162 | 173 | 357 | 223 | 10 |
| Silver | Ag | 0.06 | 0.01 | 0.02 | 0.02 | 0.01 |
| Sodium | Na | 89 | 12 | 25 | 20 | 1 |
| Strontium | Sr | 7.63 | 43.9 | 24.3 | 12.2 | 0.05 |
| Tellurium | Te | < | < | < | < | 0.1 |
| Thallium | Tl | < | < | < | < | 0.02 |
| Tin | Sn | < | < | 0.2 | < | 0.1 |
| Titanium | Ti | 2.7 | 3.0 | 2.3 | 6.7 | 0.3 |
| Uranium | U | < | < | < | < | 0.04 |
| Vanadium | V | < | < | < | < | 0.5 |
| Zinc | Zn | 17.8 | 811 | 84.2 | 50.6 | 0.5 |
| Zirconium | Zr | < | < | < | < | 3 |

Results expressed as micrograms per gram, dry basis ($\mu\text{g/g}$)

< = Less than detection limit



REPORTED TO: AXYS Environmental Consulting Ltd.



REPORT DATE: September 8, 2005

GROUP NUMBER: 60816082

Metals Analysis in Tissue

| CLIENT SAMPLE IDENTIFICATION: | | WZ10 | WZ18 | WZ22 | WZ25 | DETECTION LIMIT |
|-------------------------------|------|-----------|-----------|-----------|-----------|-----------------|
| CANTEST ID: | | 508160305 | 508160306 | 508160307 | 508160308 | |
| Aluminum | Al | 75.7 | 25.5 | 6.2 | 182 | 0.5 |
| Antimony | Sb | < | < | < | < | 0.1 |
| Arsenic | As | < | < | < | < | 0.1 |
| Barium | Ba | 31.5 | 41.8 | 11.9 | 38.5 | 0.1 |
| Beryllium | Be | < | < | < | < | 0.02 |
| Boron | B | 5 | 6 | 7 | 3 | 2 |
| Cadmium | Cd | 1.44 | 2.90 | 2.04 | 0.51 | 0.02 |
| Calcium | Ca | 4570 | 4480 | 8320 | 3020 | 1 |
| Chromium | Cr | < | < | < | < | 0.1 |
| Cobalt | Co | 1.5 | 0.2 | 0.9 | 0.8 | 0.1 |
| Copper | Cu | 4.4 | 29.6 | 7.1 | 3.0 | 0.1 |
| Iron | Fe | 101 | 68 | 66 | 110 | 5 |
| Lead | Pb | 0.4 | 4.1 | 0.1 | 0.4 | 0.1 |
| Magnesium | Mg | 1930 | 2370 | 2970 | 1130 | 0.5 |
| Manganese | Mn | 459 | 514 | 357 | 221 | 0.1 |
| Mercury | Hg | 0.020 | 0.018 | < | 0.018 | 0.01 |
| Molybdenum | Mo | < | 0.2 | 0.1 | 0.1 | 0.1 |
| Nickel | Ni | 1.3 | 2.3 | 2.3 | 2.9 | 0.1 |
| Phosphorus | PO4 | 4070 | 6520 | 7310 | 4910 | 0.5 |
| Potassium | K | 3340 | 4060 | 7980 | 3550 | 1 |
| Selenium | Se | < | < | < | < | 0.2 |
| Silicon | SiO2 | 237 | 277 | 134 | 286 | 10 |
| Silver | Ag | 0.01 | 0.03 | 0.01 | 0.01 | 0.01 |
| Sodium | Na | 24 | 17 | 9 | 11 | 1 |
| Strontium | Sr | 11.8 | 20.0 | 14.5 | 15.1 | 0.05 |
| Tellurium | Te | < | < | < | < | 0.1 |
| Thallium | Tl | < | < | < | < | 0.02 |
| Tin | Sn | < | < | < | < | 0.1 |
| Titanium | Ti | 3.9 | 1.8 | 1.2 | 4.6 | 0.3 |
| Uranium | U | < | < | < | < | 0.04 |
| Vanadium | V | < | < | < | < | 0.5 |
| Zinc | Zn | 130 | 132 | 168 | 58.2 | 0.5 |
| Zirconium | Zr | < | < | < | < | 3 |

Results expressed as micrograms per gram, dry basis ($\mu\text{g/g}$)

< = Less than detection limit



REPORTED TO: AXYS Environmental Consulting Ltd.



REPORT DATE: September 8, 2005

GROUP NUMBER: 60816082

Metals Analysis in Tissue

| CLIENT SAMPLE IDENTIFICATION: | | WZ26 | WZ27 | WZ32 | WZ36 | DETECTION LIMIT |
|-------------------------------|------|-----------|-----------|-----------|-----------|-----------------|
| CANTEST ID: | | 508160309 | 508160310 | 508160311 | 508160312 | |
| Aluminum | Al | 10.0 | 11.8 | 16.4 | 34.4 | 0.5 |
| Antimony | Sb | < | < | < | < | 0.1 |
| Arsenic | As | < | < | < | < | 0.1 |
| Barium | Ba | 30.3 | 7.8 | 38.8 | 20.1 | 0.1 |
| Beryllium | Be | < | < | < | < | 0.02 |
| Boron | B | 6 | 30 | 8 | 8 | 2 |
| Cadmium | Cd | 1.93 | 0.84 | 12.4 | 4.82 | 0.02 |
| Calcium | Ca | 10700 | 12500 | 10800 | 9890 | 1 |
| Chromium | Cr | < | < | < | < | 0.1 |
| Cobalt | Co | 2.7 | 0.7 | < | 0.2 | 0.1 |
| Copper | Cu | 5.3 | 3.9 | 4.8 | 3.6 | 0.1 |
| Iron | Fe | 64 | 73 | 91 | 83 | 5 |
| Lead | Pb | 0.3 | 0.1 | 0.1 | 0.3 | 0.1 |
| Magnesium | Mg | 3600 | 5270 | 1330 | 2820 | 0.5 |
| Manganese | Mn | 163 | 107 | 117 | 268 | 0.1 |
| Mercury | Hg | < | < | < | 0.014 | 0.01 |
| Molybdenum | Mo | < | 0.2 | 0.1 | 0.3 | 0.1 |
| Nickel | Ni | 3.9 | 1.1 | 4.0 | 1.2 | 0.1 |
| Phosphorus | PO4 | 8820 | 9130 | 7090 | 2520 | 0.5 |
| Potassium | K | 9450 | 12900 | 7250 | 4140 | 1 |
| Selenium | Se | < | < | 0.5 | 0.8 | 0.2 |
| Silicon | SiO2 | 139 | 205 | 144 | 263 | 10 |
| Silver | Ag | 0.01 | < | < | 0.02 | 0.01 |
| Sodium | Na | 9 | 5 | 4 | 7 | 1 |
| Strontium | Sr | 21.8 | 8.90 | 26.8 | 30.5 | 0.05 |
| Tellurium | Te | < | < | < | < | 0.1 |
| Thallium | Tl | < | < | < | < | 0.02 |
| Tin | Sn | < | 0.1 | < | 0.1 | 0.1 |
| Titanium | Ti | 1.4 | 1.5 | 2.1 | 1.8 | 0.3 |
| Uranium | U | < | < | < | < | 0.04 |
| Vanadium | V | < | < | < | < | 0.5 |
| Zinc | Zn | 80.8 | 54.7 | 557 | 287 | 0.5 |
| Zirconium | Zr | < | < | < | < | 3 |

Results expressed as micrograms per gram, dry basis ($\mu\text{g/g}$)

< = Less than detection limit



REPORTED TO: AXYS Environmental Consulting Ltd.



REPORT DATE: September 8, 2005

GROUP NUMBER: 60816082

Metals Analysis in Tissue

| CLIENT SAMPLE IDENTIFICATION: | | WZ39 | WZ44 | WZ64 | DS34 | DETECTION LIMIT |
|-------------------------------|------|-----------|-----------|-----------|-----------|-----------------|
| CANTEST ID: | | 508160313 | 508160314 | 508160315 | 508160316 | |
| Aluminum | Al | 59.5 | 8.7 | 13.6 | 5.9 | 0.5 |
| Antimony | Sb | < | < | < | < | 0.1 |
| Arsenic | As | < | < | < | < | 0.1 |
| Barium | Ba | 45.5 | 67.0 | 17.6 | 25.7 | 0.1 |
| Beryllium | Be | < | < | < | < | 0.02 |
| Boron | B | 4 | 6 | 10 | 19 | 2 |
| Cadmium | Cd | 0.79 | 2.23 | 5.59 | 1.52 | 0.02 |
| Calcium | Ca | 6020 | 17500 | 7170 | 13200 | 1 |
| Chromium | Cr | < | < | < | < | 0.1 |
| Cobalt | Co | 1.5 | 0.3 | 0.1 | 0.3 | 0.1 |
| Copper | Cu | 4.0 | 7.4 | 3.2 | 6.3 | 0.1 |
| Iron | Fe | 107 | 82 | 90 | 90 | 5 |
| Lead | Pb | 0.2 | 0.1 | < | < | 0.1 |
| Magnesium | Mg | 2570 | 1980 | 2170 | 2740 | 0.5 |
| Manganese | Mn | 369 | 213 | 414 | 229 | 0.1 |
| Mercury | Hg | 0.011 | < | < | < | 0.01 |
| Molybdenum | Mo | 0.1 | 0.3 | 0.3 | 0.4 | 0.1 |
| Nickel | Ni | 3.6 | 3.1 | 1.9 | 2.8 | 0.1 |
| Phosphorus | PO4 | 5750 | 8180 | 3380 | 7220 | 0.5 |
| Potassium | K | 5510 | 12200 | 6250 | 16800 | 1 |
| Selenium | Se | < | < | < | 0.2 | 0.2 |
| Silicon | SiO2 | 266 | 143 | 177 | 177 | 10 |
| Silver | Ag | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 |
| Sodium | Na | 15 | 5 | 5 | 6 | 1 |
| Strontium | Sr | 29.9 | 17.1 | 18.7 | 38.9 | 0.05 |
| Tellurium | Te | < | < | < | < | 0.1 |
| Thallium | Tl | < | < | < | < | 0.02 |
| Tin | Sn | < | < | < | < | 0.1 |
| Titanium | Ti | 4.1 | 1.4 | 1.6 | 1.3 | 0.3 |
| Uranium | U | < | < | < | < | 0.04 |
| Vanadium | V | < | < | < | < | 0.5 |
| Zinc | Zn | 42.7 | 117 | 238 | 140 | 0.5 |
| Zirconium | Zr | < | < | < | < | 3 |

Results expressed as micrograms per gram, dry basis ($\mu\text{g/g}$)

< = Less than detection limit



Appendix 7.9-6 Forest Mensuration Data

Appendix 7.9-6 Forest Mensuration Data

| Yukon Zinc - Wolverine Lake Forest Mensuration Data | | | | | | | | |
|---|----------|----------------------------|----------|------------|-----------|------------------|-----------------|-----------|
| Plot# | Veg Type | Species | DBH (cm) | Height (m) | Age (yrs) | Structural Stage | Bioclimate zone | Mapped as |
| WZ01 | V30 | <i>Pinus contorta</i> | 16cm | 12m | <80 | 5 | BOL | LT6 |
| WZ01 | V30 | <i>Populus tremuloides</i> | 14cm | 10m | <80 | 5 | BOL | LT6 |
| WZ20 | V16 | <i>Abies lasiocarpa</i> | 15cm | 7m | >80 | 3b | SUB | SF6 |
| WZ31 | V102 | <i>Abies lasiocarpa</i> | 34cm | 21m | >80 | 6 | SUB | SF6/DB3a |
| WZ33 | V16 | <i>Abies lasiocarpa</i> | 20cm | 14m | >80 | 6 | BOH | SF6 |
| WZ34 | V101 | <i>Abies lasiocarpa</i> | 18cm | 15m | >80 | 6 | BOH | SF6/DB3a |
| WZ35 | V102 | <i>Picea glauca</i> | 22cm | 16m | >80 | 6 | BOH | SF6/DB3a |
| WZ36 | V19 | <i>Picea mariana</i> | 12cm | 8m | >80 | 6 | BOH | BS6 |
| WZ37 | V16 | <i>Abies lasiocarpa</i> | 20cm | 16m | >80 | 6 | BOH | SF6 |
| WZ40 | V104 | <i>Picea glauca</i> | 25cm | 25m | >80 | 6 | BOH | WTy3b |
| WZ47 | V16 | <i>Abies lasiocarpa</i> | 23.5cm | 20m | 67 | 6 | SUB | SF6 |
| WZ47 | V16 | <i>Abies lasiocarpa</i> | 55cm | NA | >140 | 7 | SUB | SF6 |
| WZ52 | V18 | <i>Abies lasiocarpa</i> | 14cm | 12m | >80 | 6 | SUB | BS6 |
| WZ53 | V113 | <i>Abies lasiocarpa</i> | 17cm | 12m | >80 | 6 | SUB | BS6 |
| WZ59 | V105 | <i>Picea glauca</i> | 14cm | 15m | >80 | 3b | SUB | WD3b |
| WZ60 | V17 | <i>Picea glauca</i> | 44cm | 32m | 150 | 7 | SUB | PC6 |
| WZ61 | V22 | <i>Pinus contorta</i> | 15cm | 13m | >80 | 6 | BOH | LP6 |
| WZ62 | V30 | <i>Picea glauca</i> | 16cm | 18m | >80 | 6 | BOH | TS6 |
| WZ62 | V30 | <i>Populus tremuloides</i> | 15cm | 17m | <80 | 5 | BOH | TS6 |
| DS03 | V30 | <i>Populus tremuloides</i> | NA | 15m | <80 | 5 | BOH | TS6 |
| DS32 | V6 | <i>Picea glauca</i> | 36cm | 24m | >140 | 7 | BOH | TS6 |
| DS32 | V6 | <i>Populus tremuloides</i> | 16cm | 18m | <80 | 5 | BOH | TS6 |
| DS34 | V11 | <i>Picea glauca</i> | 35cm | 26m | 180 | 7 | BOH | PC6 |
| DS35 | V17 | <i>Picea glauca</i> | 23cm | 18m | 85 | 6 | BOH | PC6 |