

Taseko Prosperity Gold-Copper Project

Appendix 5-5-E

BGxh3

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
JR	Rocky Mountain Juniper - Rabbitbrush	BGxh3	00
<p>Structural stage: 3 This grassland occurs on steep (>65%) east-facing slopes with eroded regosolic soils that are typically calcareous. Exposed mineral soil dominates on these sites (70-90% cover) and vegetation is limited to widely scattered bluebunch wheatgrass clumps, pasture sage, pulse milk-vetch and pale comandra. Widely scattered Rocky Mountain juniper, rabbitbrush96, saskatoon, big sagebrush and occasional small Douglas-fir trees are also usually present. Mosses and lichens are virtually absent. This unit is very uncommon occurring in widely distributed small patches near the Fraser River. Due to limited access, most sites are undisturbed.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		Insert picture here	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p> <p>Slope (%):</p> <p>Aspect:</p> <p>Soil Moisture Regime:</p> <p>Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
SC	Big Sagebrush – Prickly-pear Cactus	BGxh3	00
<p>Structural stage: 3 This grassland ecosystem occurs on hot, dry locations close to the Fraser River. It is frequently found on gently sloping benches and terraces, or shallow soils over bedrock where soils are stable. Moisture status is very xeric to subxeric. Scattered big sagebrush is common, and distinguished by patches of prickly-pear cactus. Other plants include bluebunch wheatgrass, junegrass, pussytoes, pasture sage, northern fairy-candelabra and lemonweed. This unit is common within the BGxh3; often occurring as smaller patches within a matrix of larger ecosystem units such as BGxh3 / Big sagebrush – Bluebunch wheatgrass. Due to easy access, many sites are partially disturbed by grazing, and in some cases, by recreational vehicles.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
SS	Big Sagebrush – Sand dropseed – Needle and thread grass	BGxh3	00
Structural stage: 3		Status: RED	
<p>This grassland ecosystem occurs on exposed slopes with warm aspects close to the Fraser River in the transmission corridor. Soils are typically sandy textured and the moisture regime is xeric to subxeric. Total plant cover and diversity are low and typical species include scattered big sagebrush, sand-dropseed grass, widely scattered bluebunch wheatgrass, needle-and-thread grass, junegrass, lemonweed and cut-leaved anemone. Lichens and mosses are absent. This unit is very uncommon; occurring in widely distributed small patches on eroding slopes, banks, small and localized sand dunes. The majority of these grasslands are undisturbed due to poor access.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:			
Slope position: Slope (%): Aspect:			
Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
WA	Bluebunch wheatgrass – Round-leaved Alumroot	BGxh3	00
<p>Structural stage: 2 This grassland ecosystem is found in the transmission corridor RSA on steep slopes with cool (north and northeast) aspects close to the Fraser River. Late seral and climax vegetation is dominated by abundant and vigorous bluebunch wheatgrass. A well-developed litter layer typically occurs between the bunchgrass and exposed mineral soil is minimal. Common plant species include junegrass and a relatively high diversity of forbs (including pussytoes, yarrow, northern fairy-candelabra, salsify, round-leaved alumroot, spike-like goldenrod, mariposa lily, western blue flax, old man’s whiskers, woolly groundsel and cut-leaved anemone). The cryptogam layer is typically well developed and fills nearly all available space (30-90% cover) between vascular plants. This layer is dominated by several <i>Cladonia</i> spp. and includes some <i>Tortula</i> sp., <i>Diploschistes muscorum</i>, <i>Gimmia</i> sp. and scattered pelt lichens. Several lichens such as <i>Psora</i> spp. and <i>Collema</i> sp. are rarely present on these and other north aspect sites. This unit can be distinguished from steep E and NW slopes (BGxh3/01) by a much greater diversity of herbs and less big sagebrush. Also, round-leaved alumroot, old man’s whiskers, woolly groundsel, and spike-like goldenrod are more common on these sites. This unit is uncommon; occurring in fairly widely distributed small patches on cool, steep slopes. Due to poor access to these sites, most remain undisturbed.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p> <p>Common Terrain Types:</p> <ul style="list-style-type: none"> • <p>Slope position:</p> <p>Slope (%):</p> <p>Aspect:</p> <p>Soil Moisture Regime:</p> <p>Soil Nutrient Regime:</p>		<p>Insert picture here</p>	

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
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WS / also mapped as WD (eroded phase)	Bluebunch wheatgrass – Pasture sage	BGxh3	00
Structural stage: 2			
<p>This is a widespread, common grassland ecosystem that occurs on steep, eroded slopes, usually with a warm or hot aspect, on both sides of the Fraser River, often in gullies. Due to the steep slopes, soil surfaces are generally unstable and eroding, resulting in exposed soil. This ecosystem has many of the same plant species that occur in other units, but the abundance and composition of the vegetation varies depending on the degree of active surface erosion. The vegetation is typically dominated by widely spaced clumps of bluebunch wheatgrass and pasture sage. Other plant species include sand dropseed grass, needle-and-thread grass, pussytoes, junegrass and large-fruited desert-parsley. Total cover of mosses and lichens is low. This grassland was mapped in the transmission corridor and access road areas. While it is a common grassland type, patch size tends to be small, and localized to steep slopes with warm aspects. Most disturbances result from natural soil erosion processes.</p>			
List of mapped units:			
SITE INFORMATION			
Common Terrain Types:			
•			
Slope position:			
Slope (%):			
Aspect: South and west			
Soil Moisture Regime:			
Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
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SW	Bluebunch wheatgrass – Big sagebrush	BGxh3	01
Structural stage 2, 3		Status: RED	
<p>This grassland ecosystem occurs on level to moderate slopes on all aspects on hot, lower elevations immediately adjacent to both banks of the Fraser River. Soil textures are predominantly fine sandy to loamy. Vegetation cover is dominated by vigorous, well-spaced clumps of bluebunch wheatgrass. Big sagebrush is also abundant on sites that have not recently been burned. Other common plant species include junegrass, pussytoes, pasture sage, prickly pear cactus, northern fairy-candelabra and lemonweed. Total plant cover is moderate to high but generally made up of relatively few species. Lichens, mosses and blue-green algae form a well-developed crust in the spaces between vascular plants. This crust includes low covers of mosses (such as <i>Tortula</i> sp. and <i>Hypnum</i> sp.) and a well-developed lichen component dominated by <i>Cladonia cariosa</i>, <i>C. pyxidata</i> and <i>C. symphicarpa</i> with lesser amount of <i>C. chlorophaea</i>, <i>C. gracilis</i> and <i>C. phyllophora</i>. Pelt lichens (including <i>Peltigera didactyla</i>, <i>P. canina</i>, <i>P. ponojensis</i> and <i>P. rufescens</i>) are most common on steep east and steep northerly slopes. In addition, seral lichens (<i>Diploshisties muscorum</i>, <i>Psora</i> spp., <i>Caloplaca</i> sp. and <i>Collema</i> spp.) are present with low cover. South and west hot aspects usually have lower covers of bluebunch wheatgrass and are slower to recover from disturbance than steep east and northwest aspects. This grassland was only mapped in the transmission corridor RSA, where it occurs as large areas of rangeland. On the east side of the Fraser River, the most common disturbance in this grassland type is cattle grazing, whereas on the west side these ecosystems are relatively inaccessible and largely undisturbed.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types: Terraces, fans			
•			
Slope position:			
Slope (%):			
Aspect:			
Soil Moisture Regime:			
Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
DJ	Douglas fir – Rocky Mountain juniper	BGxh3	02
<p>Structural stage: 6 In the project area, this forested site series occurs on north-facing slopes in gullies on the east side of the Fraser River. Soils are fine to medium textured, typically with few coarse fragments. Most of the soil surface is vegetated; usually less than 20% of the mineral soil surface is exposed. The forest canopy is open to moderately closed (10-40% cover) and dominated by Douglas-fir with scattered Rocky Mountain juniper. The undergrowth is dominated by well-spaced bluebunch wheatgrass with few herbs. Mosses, particularly <i>Hylocomium splendens</i>, dominate the nearly continuous (70-85%) moss and lichen layer. Pelt lichens (especially <i>Peltigera rufescens</i> and <i>P. canina</i>) are present.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>	<p>Lower to upper</p>		
<p>Slope (%):</p>	<p>> 15%</p>		
<p>Aspect:</p>	<p>North</p>		
<p>Soil Moisture Regime:</p>	<p>2-4</p>		
<p>Soil Nutrient Regime:</p>	<p>medium</p>		

BGxw2

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
AS	Trembling aspen – Snowberry - Kentucky Bluegrass	BGxw2	06
<p>Structural stages: 4, 5, 6 Occurs in broad, moist depressions within a matrix of zonal grasslands. These medium-sized sites occur throughout the range of the BGxw2 but are uncommon. Vegetation consists of mature stands of trembling aspen and a dense shrub layer of snowberry, wood rose and occasionally some saskatoon. Because of thick buildup of deciduous leaf litter, the herbaceous vegetation is usually sparse. It often includes Kentucky bluegrass, pinegrass, scattered forbs and occasionally very low moss cover. Young dense stands of this site series are often very shrubby with few herbs or mosses. The wettest sites in this site series frequently have pussy willow and sedges in addition to the above species.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%):</p>			
<p>Aspect:</p>			
<p>Soil Moisture Regime:</p>			
<p>Soil Nutrient Regime:</p>			

Site Unit Symbol DM	Site Unit Name Fd – Douglas maple	BGC BGxw2	Site Series Number 05
<p>Structural stage: 6 These are dry to slightly moist sites occurring on steep east-facing slopes, mostly on the west side of the Fraser River. DM often occurs on the vegetated portions of east facing or cool aspect bouldery talus slopes. The tree cover consists of scattered Douglas-fir with Douglas maple in gaps and close to the conifers. Other vegetation includes scattered clumps of bluebunch wheatgrass, and a low cover of other herbaceous species such as pasture sage, junegrass, pussytoes and Holboell's rockcress.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types: Talus slopes •</p>			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol DP	Site Unit Name Fd – Pinegrass – Red-stemmed feathermoss	BGC BGxw2	Site Series Number 04
<p>Structural stage: 6 Site modifiers: k, w</p> <p>Occurs on gently sloping north aspects with intermittent seepage, primarily at lower slope positions. These sites are small to medium in size and generally limited to elevations above 850m. They often occur downslope of site series /03. Douglas-fir canopy usually covers about 30% of the surface. The undergrowth consists of scattered shrubs (including snowberry and rose) and a nearly continuous cover of pinegrass and mosses, particularly red-stemmed feathermoss. Some sites have Kentucky bluegrass, slender wheatgrass and a scattering of pelt lichens. This unit can be distinguished from other forested units by the presence of pinegrass.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
DJ	Fd – Rocky mountain juniper - Bluebunch wheatgrass	BGxw2	03
<p>Structural stages: 5, 6 Occurs on steep, northwest, north, and northeast aspects. These sites are generally steeper than those of the /02 Site Series. This site series is characterized by moderate to high cover of Douglas-fir (20-80%) with occasional Rocky Mountain juniper and snowberry. Scattered bluebunch wheatgrass, forbs and a well developed moss layer are usually present. This unit can be distinguished from site series /02 by the presence of step moss and red-stemmed feather moss and from site series /04 by the lack of pinegrass and presence of step moss. The abundance of bluebunch wheatgrass varies with Douglas-fir canopy closure; sites with open forest canopies have more bluebunch wheatgrass. Slender wheatgrass replaces bluebunch wheatgrass on some mesic sites.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol PW	Site Unit Name Pasture sage – Bluebunch wheatgrass	BGC BGxw2	Site Series Number 00
<p>Structural stage: This is a widespread, common grassland ecosystem that occurs on steep, eroded slopes, usually with a warm or hot aspect, on both sides of the Fraser River, often in gullies. Due to the steep slopes, soil surfaces are generally unstable and eroding, resulting in exposed soil. This ecosystem has many of the same plant species that occur in other units, but the abundance and composition of the vegetation varies depending on the degree of active surface erosion. The vegetation is typically dominated by widely spaced clumps of bluebunch wheatgrass and pasture sage. Other plant species include sand dropseed grass, needle-and-thread grass, pussytoes, junegrass and large-fruited desert-parsley. Total cover of mosses and lichens is low. This grassland was mapped in the transmission corridor and access road areas. While it is a common grassland type, patch size tends to be small, and localized to steep slopes with warm aspects. Most disturbances result from natural soil erosion processes.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol SP	Site Unit Name Big sagebrush – Bluebunch wheatgrass	BGC BGxw2	Site Series Number 00
<p>Structural stages: 2, 3</p> <p>This grassland ecosystem occurs on level to moderate slopes on all aspects on hot, lower elevations immediately adjacent to both banks of the Fraser River. Soil textures are predominantly fine sandy to loamy. Vegetation cover is dominated by vigorous, well-spaced clumps of bluebunch wheatgrass. Big sagebrush is also abundant on sites that have not recently been burned. Other common plant species include junegrass, pussytoes, pasture sage, prickly pear cactus, northern fairy-candelabra and lemonweed. Total plant cover is moderate to high but generally made up of relatively few species. Lichens, mosses and blue-green algae form a well-developed crust in the spaces between vascular plants. This crust includes low covers of mosses (such as <i>Tortula</i> sp. and <i>Hypnum</i> sp.) and a well-developed lichen component dominated by <i>Cladonia cariosa</i>, <i>C. pyxidata</i> and <i>C. symphicarpa</i> with lesser amount of <i>C. chlorophaea</i>, <i>C. gracilis</i> and <i>C. phyllophora</i>. Pelt lichens (including <i>Peltigera didactyla</i>, <i>P. canina</i>, <i>P. ponojensis</i> and <i>P. rufescens</i>) are most common on steep east and steep northerly slopes. In addition, seral lichens (<i>Diploshisties muscorum</i>, <i>Psora</i> spp., <i>Caloplaca</i> sp. and <i>Collema</i> spp.) are present with low cover. South and west hot aspects usually have lower covers of bluebunch wheatgrass and are slower to recover from disturbance than steep east and northwest aspects. This grassland was only mapped in the transmission corridor RSA, where it occurs as large areas of rangeland. On the east side of the Fraser River, the most common disturbance in this grassland type is cattle grazing, whereas on the west side these ecosystems are relatively inaccessible and largely undisturbed.</p>		<p>Status: RED</p>	
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol WO	Site Unit Name Bluebunch wheatgrass – Nodding onion	BGC BGxw2	Site Series Number 00
<p>Structural stage: 2 This grassland ecosystem occurs on moderately to steeply sloping north and northeast aspects close to the Fraser River, often occurs upslope of forested Douglas-fir stands. Bluebunch wheatgrass is the dominant forb, but a variety of other herbaceous species are also present. These sites typically lack needle-and-thread grass. The lichen community is well developed in the areas between grass bunches (60-75% cover) and is usually dominated by <i>Cladonia pyxidata</i>, <i>C. symphicarpa</i>, and <i>C. cariosa</i>. Species of <i>Psora</i> and <i>Collema</i> are sometimes present with low cover. Exposed mineral soil typically occupies less than 10% of these sites. This grassland is common, typically occurring as small patches within a forested matrix and was only mapped in the transmission corridor mapping area. The examples of this grassland that were sampled were relatively undisturbed.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
PL	Short-awned porcupinegrass - Lemonweed	BGxw2	00
<p>Structural stage: 2 This unit is found in the transmission corridor on warm aspects close to the Fraser River where it occurs in moist, very shallow depressions and shallow swales where runoff accumulates on hillsides. Snow often lies later in these shallow depressions than on surrounding areas. These sites are generally very small (often <100 m2) but are very common and widely distributed in the BGxw2. They typically occur as inclusions within a matrix of other grasslands ecosystems. Plant communities are dominated by a dense cover of short-awned porcupinegrass (50-85%). A thick litter layer is usually present. Vegetation also includes occasional bluebunch wheatgrass, junegrass and pasture sage, as well as a scattering of several forbs (including lemonweed, salsify, yarrow, pussytoes and sagebrush mariposa lily). Lichen cover is generally low (1-30%), due to the thick, matted grass litter covering the ground. Dominant lichen species include <i>Cladonia</i> spp. (<i>C. cariosa</i>, <i>C. pyxidata</i>, <i>C. chlorophaea</i>, <i>C. gracilis</i>, and <i>C. macrophylla</i>) and occasionally a few pelt lichen clumps. The area of exposed soil is usually less than 5%. This unit is common within the subzone, often occurring as small patches within a matrix of larger units such as BGxh3 / Big sagebrush – Bluebunch wheatgrass. Due to easy access, many sites are disturbed by grazing and sometimes by recreational vehicles.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>	<p>Insert picture here</p>		

Site Unit Symbol WN	Site Unit Name Bluebunch wheatgrass – Needle-and-thread grass	BGC BGxw2	Site Series Number 00
<p>Structural stage: 2</p> <p>This grassland ecosystem occurs on level and gently rolling sites above 880m the transmission corridor RSA in areas close to the Fraser River where it occurs. It differs from the BGxh3 / Big sagebrush-Bluebunch wheatgrass, having more vigorous bluebunch wheatgrass, sparse or absent needle-and-thread grass, brittle prickly-pear cactus and western blue flax and the greater abundance of forbs. It is transitional to the IDFx grasslands. Other forbs include pussytoes, northern wormwood, nodding onion, yarrow, spike-like goldenrod, trailing fleabane, yellow owl-clover, round-leaved alumroot, sagebrush mariposa lily, woolly groundsel, death camas and lance-leaved stonecrop. Lichens are common, including a greater diversity of pelt lichens (especially <i>Peltigera rufescens</i>, <i>Peltigera didactyla</i> and <i>Peltigera ponojensis</i>). The area of exposed, soil is generally less than 15%. This unit is common within the BGxw2, often occurring in large contiguous patches. Due to easy access, most sites are at least partially disturbed by livestock and sometimes off road vehicles.</p>		<p>Status: BLUE</p>	
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>	<p>Insert picture here</p>		

ESSFxv2

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
AC	BI – Arnica – Cladonia	ESSFxv2	01
Structural stage: 7		Site Modifier: h	
<p>This site series is the predominant one of the ESSFxv2. It is most common on mid slope positions but also extends to upper and lower slope positions and level sites. Subalpine fir and Engelmann spruce are climax species but, due to past wildfires and slow rates of succession in this cold, dry climate, most natural mature stands are dominated by lodgepole pine. The undergrowth vegetation has a sparse shrub layer and a low to moderate cover of low forbs, principally heart-leaved arnica, grouseberry, and arctic lupine. Several other herbaceous species are present but have very low cover values. The moss/lichen layer is relatively sparse and primarily <i>Dicranum</i> mosses and <i>Cladonia</i> lichens.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:			
•			
Slope position:			
Slope (%):			
Aspect:			
Soil Moisture Regime:			
Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
LJ	BIPa – Juniper – Cladonia	ESSFvx2	02
<p>Structural stages: 6, 7 These ecosystems are typically found on ridges and upper slopes with shallow soils containing high amounts of coarse fragments. Mature forest is dominated by open Lodgepole pine stands, sometimes accompanied by whitebark pine, and an understory of subalpine fir. The undergrowth vegetation is sparse and typically includes scattered common juniper and kinnikinnick, a few low herbs such as pussytoes and spotted saxifrage. Abundant lichen cover includes Stereocaulon, Peltigera and Cladonia species.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
JK	BIPa – Kinnikinnick	ESSF xv2	03
<p>Structural stage: 6 These units are found on moderate to steep south and southwest aspects, where bare mineral soil and exposed bedrock are commonplace. Mature forest canopy is very open and comprised of lodgepole and whitebark pine, with young trembling aspen shoots sprouting sporadically. The shrub layer is dominated by hardy common juniper and soopolallie. Although the herb layer is moderately diverse, herbaceous cover consists primarily of kinnikinnick, northern and spike-like goldenrods, and various grasses. Cladonia and Peltigera dominate the moss layer.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol LP	Site Unit Name BIPa – Juniper – Kinnikinnick	BGC ESSFxv2	Site Series Number 04
<p>Structural stage: 6 These ecosystems are most often associated with moderately to steep warm, somewhat dry slopes, although occasionally found on gentle slopes on all aspects near the southern limits of the ESSFxv2. The mature forest canopy is closed and dominated by lodgepole pine or rarely by subalpine fir. Shrub diversity is low and varies from 1 to 20%, exclusive of the more extensive tree regeneration, which is mostly lodgepole pine, subalpine fir, and occasional whitebark pine. The principal shrubs are prickly rose, common juniper, and soopolallie. Herb layer diversity is predominantly high and typically includes pussytoes, wild strawberry, dwarf blueberry, kinnikinnick, pinegrass, northwestern sedge, twinflower, and goldenrod. Lichens (mostly subalpine species and pelt lichens) typically dominate the moss/lichen layer, although red-stemmed feathermoss is occasionally abundant. The presence of prickly rose, pinegrass, and kinnikinnick distinguishes this site series from other near-mesic site series</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
FL	BI – Lousewort – Glow moss	ESSFxv2	07
<p>Structural stage: 6 Found on gentle to moderately sloping mid to toe slope positions where soils are moistened by intermittent or persistent seepage. It is most common on north- or east-facing cool, damp slopes. The mature forest canopy is a moderately closed mixture of mostly Engelmann spruce, with subalpine fir, and lodgepole pine. Juniper, shrubby subalpine fir and willows make up a sporadic shrub layer. A well-developed cover of low to moderate-height herbaceous species including; heart-leaved arnica, one-sided wintergreen, arctic lupine, and bracted lousewort. Moss cover is nearly continuous and includes moist- and wet-site species such as glow moss and <i>Drepanocladus</i> species.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol FH	Site Unit Name BI – Horsetail – Glow moss	BGC ESSFxv2	Site Series Number 08
<p>Structural stage: 6 FH ecosystems are found on wet lower and toe slope positions, and in depressions with near-surface water tables with gleyed or strongly mottled soils. The forest canopy is well spaced and dominated by lodgepole pine and Engelmann spruce. Shrub cover is sparse and includes scattered willows, subalpine fir, common juniper, and black twinberry. These sites are distinguished from other wet sites by a high cover of common horsetail. Other characteristic herbs include bluejoint, pink wintergreen, arrow-leaved groundsel, western meadowrue, globeflower, and dwarf scouring-rush. The moss/lichen layer is typically dominated by <i>Drepanocladus</i> species, glow moss, sphagnum moss, and golden fuzzy fen moss.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol SW	Site Unit Name Se – Trapper’s tea – Glow moss	BGC ESSFxv2	Site Series Number 09
<p>Structural stage: 6 The SW ecosystems occupy lower slopes and slight depressions where persistent, slow-moving subsurface seepage is common, where the water table remains near the soil surface throughout the growing season. The surface of the site is hummocky. The mature forest canopy is relatively open and dominated by Engelmann spruce with scattered subalpine fir. Trees establish primarily on raised microsites. Trapper’s tea is abundant and forms the dominant cover in the shrub layer. Herb cover is relatively sparse and consists of species characteristic of mesic sites, such as bunchberry and twinflower, on the tops of hummocks and species of wetter sites, such as horsetail, coltsfoot, and cow parsnip, in small depressions. The moss layer is nearly continuous and dominated by glow moss and sphagnum moss.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol HM	Site Unit Name Se – Willow – Glow moss	BGC ESSFxv2	Site Series Number 10
<p>Structural stage: 6 Found on lower and toe slope positions with a near-surface water table or abundant near surface seepage water. The HM sites frequently occur in cold air drainages. The mature forest canopy is open and most commonly dominated by Engelmann spruce but occasionally by lodgepole pine. Scattered subalpine fir and Engelmann spruce occur in the understory, primarily on raised microsites. These sites are distinguished from the ESSFxv2/07 by a well-developed shrub layer dominated by willows and scrub birch. Wet-site forbs dominate the moderately well developed herb layer and include common horsetail, dwarf scouring rush, western meadowrue, arrow-leaved groundsel, sedges, and coltsfoot. The moss/lichen layer covers most of the surface and consists primarily of glow moss, golden fuzzy fen moss, and leafy mosses.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol FB	Site Unit Name Water sedge – Beaked sedge	BGC ESSFxv2	Site Series Number Wf01
<p>Structural stages: 2, 3 These sedge wetlands are often extremely homogenous. Beaked sedge with water sedge form continuous cover, often up to 80%. Bluejoint and slimstem reedgrass are noticeably scattered throughout. Shrubs are very sparse, having less than 5% cover. They are low and hidden by the sedges and include grey-leaved and Barclay’s willows and scrub birch. Sickie moss may form a cover of up to 20% but moss cover is often not well developed.</p> <p>These herbaceous fens occur in level depressions where organic blankets have built up. The deposits are fibrisols with fibrimor humus development. Drainage is imperfect to very poor and the soil moisture of these sites varies both spatially and seasonally.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol GS	Site Unit Name Grey-leaved willow – Glow moss	BGC ESSFxv2	Site Series Number Sco2
<p>Structural stage: 3a These shrub-carr units occur in colder and wetter sites, and consist of Grey-leaved willow and scrub birch growing on elevated mounds. The herb layer is diverse, with kinnikinnick, aster, fireweed, strawberry, meadowrue and marsh valerian. This is also accompanied by a well-developed moss layer of glow moss and marsh thread-moss.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol FR	Site Unit Name BI – Rhododendron - Crowberry	BGC ESSFxv2	Site Series Number 06
<p>Structural stage: 7 This unit occurs on mid and upper slope positions with north- and east-facing aspects. Elevations are predominantly below 1800 m. The mature forest canopy is closed and dominated by lodgepole pine or subalpine fir and can include whitebark pine and Engelmann spruce. The undergrowth includes a well-developed shrub layer of abundant white-flowered rhododendron and frequent black huckleberry. Common herbs include grouseberry, crowberry, and heart-leaved arnica. The moss/ lichen layer is most commonly dominated by high cover of feathermosses. The high cover of white-flowered rhododendron distinguishes this site series from similar sites in the ESSFxv2.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
WB	Scrub birch – Water sedge fen	ESSFxv2	Wf02
Structural stage: 3			
<p>These peatland fens are one of the most common wetlands in the central interior. They are often the dominant component of large peatlands, with fluctuating water tables and hummocky terrain where shrubs grow on organic microsites. Scrub birch and bog willow dominate the raised hummocks, with beaked and water sedge and marsh cinquefoil abundant in the herb layer. Common hook moss and fuzzy hypnum are the dominant moss species and can cover large areas.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types: •			
Slope position: Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:			

IDFdk3

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
AR	Trembling Aspen-Prickly Rose	IDFdk3/IDFdk4/IDFxm/SBPSxc	00
<p>Structural stages: 4, 5, 6 Occurs in slightly moist to moist depressions on forest edges or adjacent to grasslands. These medium-sized sites occur throughout the subzone but are uncommon. Vegetation consists of mature stands of trembling aspen and a dense shrub layer of snowberry, wood rose and occasionally saskatoon and soopollalie. The herb layer is well developed including aster, meadowrue, pinegrass and other forbs. Moss cover is low. Young dense stands of this site series are often very shrubby with few herbs or mosses. The wettest sites in this site series frequently have pussy willow and sedges in addition to the above species.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol DK	Site Unit Name Fd – Juniper – Kinnikinnick	BGC IDFdk3	Site Series Number 02
Structural stages: 5, 6, 7		Status: RED	
<p>The DK unit is found on dry, moderate to steep south though west-facing warm aspect slopes on the eastern side of the Fraser River, with sandy, well-drained soils. Exposed soil is commonplace. Douglas-fir dominates the open canopy forest, with stunted aspen often present. Tree regeneration is sparse and located in shaded sites away from large Douglas fir. Shrubs include dry-site indicators such as common juniper, birch-leaved spirea, prickly rose, saskatoon, and soopollalie. Spreading dogbane and kinnikinnick dominate the herb layer, and are accompanied by nodding onion, spike-like goldenrod, creamy peavine, Rocky Mountain fescue and pinegrass. Moss is sparse and consists of Cladonia lichens and <i>Polytrichum</i> mosses.</p> <p>This ecological community is considered imperiled (S2) and is red-listed in BC (CDC 2006). Federally, this community is not listed. This community was sampled during the TEM fieldwork and is present within the transmission corridor but not within the minesite or access road LSAs. It occurs as small patches on hill crests and steep slopes, often within a matrix of other forest types. Due to their location and the forested buffers, these sites are relatively undisturbed.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:			
•			
Slope position:			
Slope (%):			
Aspect:			
Soil Moisture Regime:			
Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
DJ	Fd – Juniper – Peltigera	IDFdk3	03
Structural stages: 5, 6, 7		Status: BLUE	
<p>This ecosystem type occurs on upper and crest slope positions with very thin (<25 cm) soils east of the Fraser River. Bedrock is commonly exposed but pockets of deeper soil are also present. These ecosystems are typically very small, but are distributed throughout the IDFdk3. Small Douglas-fir and lodgepole pine typically dominate the canopy, which is open or closed depending on the amount of exposed bedrock. The undergrowth is sparse and dominated by common juniper, dryland forbs and grasses, and lichens. Pinegrass cover is sparse.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:			
Slope position: Slope (%): Aspect:			
Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol DM	Site Unit Name Fd – Feathermoss – Step moss	BGC IDFdk3	Site Series Number 05
<p>Structural stages: 5, 6, 7 Status: BLUE</p> <p>This ecosystem typically occurs on moderate to steep north-facing slopes with sand or loamy soils and occasionally on gentler slopes with sandy soils. These sites are fairly common on the east of the Fraser River but are generally small in area, needing cooler aspects to develop. The forest canopy is relatively closed, and dominated by Douglas-fir and a few lodgepole pines. Douglas-fir regeneration is often dense. The undergrowth is dominated by mosses (primarily step moss and red-stemmed feathermoss) and typically has few vascular plants other than scattered pinegrass, showy aster, and twinflower. Shrubs are scarce, but mosses are abundant on the forest floor.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol DP	Site Unit Name Fd – Pinegrass – Aster	BGC IDFdk3	Site Series Number 06
<p>Structural stage: 6 Occurs on moderately steep (15-45%) south-facing slopes with deep loamy soils. The mature forest canopy is dominated by multi-sized Douglas-fir trees with relatively little lodgepole pine. Large Douglas-fir trees and snags are common. Douglas-fir regeneration typically occurs in dense clumps associated with past disturbance or rotting wood. The undergrowth is dominated by a nearly continuous cover of pinegrass, kinnikinnick, and red-stemmed feathermoss. Abundant kinnikinnick distinguishes these sites from those of the unlogged /01 site series. (Kinnikinnick often increases following logging on /01 sites.)</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol LP	Site Unit Name FdPI – Pinegrass – Feathermoss	BGC IDFdk3	Site Series Number 01
<p>Structural stages: 4, 5, 6, 7 Site Modifier: w</p> <p>This site series dominates the IDFdk3, occupying approximately 85-90% of the landscape. These sites are generally level to gently sloping, and vegetated by Douglas-fir (climax) or lodgepole pine (seral) forests. Small trembling aspen stands occur locally. The Douglas-fir stands are typically multi-aged and multi-storied with abundant, usually patchy Douglas-fir regeneration. Pine stands are typically uniform-aged with little pine regeneration but sparse to dense Douglas-fir regeneration. The undergrowth vegetation of both forests is dominated by pinegrass and mosses, especially red-stemmed feathermoss. Only scattered shrubs are present. The proportion of pine stands on the landscape generally increases at higher elevations and in the relatively dry southern portions of the IDFdk3.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol SH	Site Unit Name Sxw – Horsetail – Glow moss	BGC IDFdk3	Site Series Number 09/Ws07
<p>Structural stages: 4, 5, 7 Occurs on wet toe slope positions and depressions, often adjacent to wetlands or streams. A water table is typically near the surface and soils are usually gleyed. The forest canopy is usually dominated by large, widely spaced white spruce trees, often growing on raised microsites. The undergrowth has abundant common horsetail or meadow horsetail. Other wet-site species that are more abundant in this site series include nodding wood-reed, palmate coltsfoot, soft-leaved sedge and glow moss. Some sites in this series are forested wetlands.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol AF	Site Unit Name Nuttall's alkaligrass – Foxtail barley	BGC IDFdk3/IDFdk4	Site Series Number Gs02
Structural stage: 2		Status: RED	
<p>These alkaline grassland ecosystems may have standing water during spring freshet, but become dry by mid-summer. The rich mineral soils have little organic accumulation and are strongly carbonated, but do not possess a solonetzic horizon. Salt crusts can be easy to spot when the soil surfaces become dry. This grassland has low species diversity and low total cover (usually less than 50%) due to high salinity. Nuttall's alkaligrass is usually present and other characteristic species include alkali saltgrass, foxtail barley, seablite, northern mannagrass, and Nevada bulrush. This ecosystem was been mapped in both the transmission corridor and access road areas. Due to the specialized soil conditions required, it only occurs as small patches adjacent to small wetlands. Livestock are attracted to these grasslands for watering and for use as mineral licks. As a result they are typically disturbed by extensive cattle trampling.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:			
• Slope position: Slope (%): Aspect:			
Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
BK	Scrub birch – Kinnikinnick - Shrub-carr	IDFdk3/IDFdk4/MSxv/SBPSxc	Sc01
<p>Structural stage: 3 The BK site, scrub-carr ecosystem is found in cold, dry zones in frost prone basins that have moist, cold substrates. Mounding is typical with shrubs growing on dry, organic microsites in the hummocky terrain. Soils are typically fine-textured and have thin organic horizons. Subsurface water is common in the spring, but they are generally dry for most of the year. These ecosystems have a high diversity of flora, and the shrub layer is dominated by scrub birch, short-fruited and grey-leaved willows. Kinnikinnick and matmuhly grass dominate the herb layer, as well as field sedge, wild strawberry, Baltic rush, yarrow, and showy pussytoes. The mosses are generally poorly developed.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol BU	Site Unit Name Great bulrush	BGC IDFdk3/IDFdk4/SBPSxc	Site Series Number Wm06 (marsh)
Structural stage: 2		Status: BLUE	
<p>These deep marshes usually surround shallow open water and are permanently inundated. The soil is a mixture of fine-textured mineral sediments and organic material 0 to over 25 cm, with shells sometimes present. Surfaces are often carbonated, and nutrient regime is eutrophic (rich). The dominant plant species is the great bulrush, while other plants may include greater bladderwort, duckweed and water smartweed. A narrow band of sedge fen or Baltic rush often borders the edge of the marsh.</p> <p>The "Great Bulrush deep marsh" is considered vulnerable (S3) in BC and is blue-listed (CDC 2006), but not listed federally. It was sampled during the TEM fieldwork and is present within the transmission corridor and access road, but not found in the minesite LSA. Deep marshes vary in patch size from very small to up to five or ten hectares. They are dependant on an unmodified hydrology. They are good examples east of Big Creek. The most common disturbances are natural, namely beavers, although livestock trampling does occur on the edge of some marshes.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types: •			
Slope position: Slope (%):			
Aspect: Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol BW	Site Unit Name Water sedge – Beaked sedge Fen	BGC IDFdk3/IDFdk4	Site Series Number Wf01 (fen)
<p>Structural stage: 2</p> <p>These fen ecosystems are inundated (up to 40 cm) in early growing season, but standing water usually disappears by mid-August. Soil organic accumulations are usually greater than 50 cm over mineral soil. Mineral rich subsurface layers may be present. Organic materials are frequently carbonated. Nutrient regime is permesotrophic to eutrophic; soil moisture is subhydic to hydric with very poor drainage. These fens are sometimes managed for hay. A continuous cover of beaked sedge and water sedge characterizes this ecosystem. The fens are usually a mixture in which either species may be the dominant or, less frequently, one species occurs in pure stands. Northern mannagrass may be present in wetter microsites. Hook mosses are common (<i>Drepanocladus</i> spp.). Aquatic species such as buttercups, water-milfoil, bladderwort, duckweed and water smartweed may also be present. These fens are common, and can be small pocket wetlands or up to several hectares in size.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol SW	Site Unit Name Scrub birch – Water sedge fen	BGC IDFdk3/IDFdk4/SBPSxc	Site Series Number Wf02 (fen)
<p>Structural stage: 2 These peatland fens are one of the most common wetlands in the central interior. They are often the dominant component of large peatlands, with fluctuating water tables and hummocky terrain where shrubs grow on organic microsites. Scrub birch and bog willow dominate the raised hummocks, with beaked and water sedge and marsh cinquefoil abundant in the herb layer. Common hook moss and fuzzy hypnum are the dominant moss species and can cover large areas.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol RM	Site Unit Name Baltic rush	BGC IDFdk3/IDFdk4/SBPSxc	Site Series Number Wm07
Structural stage: 2 Common in the Chilcotin Plateau, the Baltic rush saline meadows & marshes are found in alkaline or saline depressions that have seasonally fluctuating water tables, and are in contained basins with little to no recharge. The soils are fine textured with ~10cm organic surface, which remain damp most of the year, and have salt/alkali crust when dry. These are attractive to wildlife as mineral licks. Baltic rush dominates, with marsh cinquefoil, field sedge, and Nuttall's alkaligrass secondary, with greater diversity and abundance on drier sites.		Status: BLUE	
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types: •			
Slope position:			
Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
TS	MacCalla's willow – Beaked sedge or Tall willows / Sartwell's sedge	IDFdk3/IDFdk4/IDFxm/SBPSxc	Ws05
Structural stages: 3a, 3b		Status: BLUE	
<p>These ecosystems receive surface and subsurface seepage water from small creeks or wetlands, bringing nutrients and sediments. Standing water is shallow (<20 cm) and usually absent by mid-season. Soils are usually saturated near the surface throughout the growing season. Organic accumulations are absent to thick (0 to over 10 cm). Plant diversity is high including white spruce, willows, sedges, wintergreen, bedstraw, aster, mannagrass, bluejoint and mosses. Species of willow and sedges will vary between locations. Plant cover and ecosystem structure is also quite variable depending on frequency and severity of flooding. Water sedge, beaked sedge, and Sartwell's sedge are usually present in wet depressions. Other plants may include grey-leaved willow, tea-leaved willow, Mackenzie's willow, MacCalla's willow, slimstem reedgrass, glow moss, sickle moss, leafy mosses. This swamp association may cover 100% of a wetland, or it may be interspersed with Beaked sedge – Water sedge fens.</p> <p>The Tall willows / Sartwell's sedge community is considered vulnerable (S3) in BC and is blue-listed (CDC 2006). Federally, this community is not listed. This community was sampled during fieldwork and is present within the transmission corridor and access road but not in the minesite. This ecosystem occurs in small patches or bands adjacent to seepage water, streams or wetlands. It is most frequently found in the IDFdk4 and, although uncommon, is widely distributed across the landscape. Most sites appear relatively undisturbed. This ecosystem type depends on unmodified moisture inputs (hydrology).</p>			
List of mapped units: Dominant plant species include			
SITE INFORMATION		Insert picture here	
Common Terrain Types: •			
Slope position:			
Slope (%):			
Aspect:			
Soil Moisture Regime:			
Soil Nutrient Regime:			

Site Unit Symbol CT	Site Unit Name Cattail Marsh	BGC IDFdk3/IDFdk4	Site Series Number Wm05
Structural Stage: 2			
<p>These marsh ecosystems usually occur in very small patches at the edge of small streams, ponds, or lakes. Most are deep marshes that are permanently inundated although small seasonal cattail marshes also occur. Cattail is the dominant emergent vegetation although other aquatic plants are also present. Other vegetation may be rooted in floating mats of moss. A cattail marsh may cover 95% of a wetland with a narrow border of shrubs, or there may only be a few clumps of cattail within an area of shallow open water.</p>			
List of mapped units: Dominant plant species include			
SITE INFORMATION		Insert picture here	
Common Terrain Types: •			
Slope position: Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
DW	Fd – Bluebunch wheatgrass - Needlegrass	IDFdk3	04
<p>Structural stages: 4, 5, 6, 7 Status: BLUE</p> <p>Occurs on very steep (>45%) south- and west-facing slopes with loamy soils. These hot, dry ecosystems are uncommon, but do occur on steep slopes in gullies and old glacial meltwater channels on the east side of the Fraser River. The forest canopy is open and dominated by multi-sized Douglas-fir, often with several large snags. Douglas-fir regeneration is sparse and occurs primarily in shaded areas but not directly beneath the canopy of large trees. Stunted aspen trees are common. The undergrowth includes a moderate cover of common juniper, bluebunch wheatgrass, and spreading needlegrass. Moss cover is sparse. Abundant bluebunch wheatgrass and sparse pinegrass distinguish these from other IDFdk3 sites.</p> <p>This ecosystem type is considered vulnerable (S3) and is blue-listed in BC (CDC 2006), but not listed federally. This community was sampled during the TEM fieldwork and is present within the transmission corridor LSA, but not in the minesite or access road.</p> <p>The Douglas-fir / bluebunch wheatgrass / stiff needlegrass unit is uncommon, given that the IDFdk3 does not have many steep south facing forested slopes within the mapping area. Patch size is therefore small, and locations are sparsely distributed. The primary disturbance is forest harvesting and grazing.</p>			
<p>List of mapped units: Dominant plant species include</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
OW	Yellow pond-lily – Robbin’s pondweed	IDFdK3/IDFdK4/IDFxm/MSxv/SBPSxc	00
<p>Structural stage: 2 Open water ecosystems have a year – round presence of water, although in summer some will almost dry out. Intermittent ponds/wetlands are not considered open water. This ecosystem usually occurs in 30-120cm of water. Vegetation cover is low 5 - 30%. Yellow pond lily and Robin’s pondweed, duckweed, milfoils and other aquatic vegetation can be found on or just beneath the surface.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
WP	Bluebunch wheatgrass – Pasture sage	IDFdk3/dk4/IDFxm	00
<p>Structural stage: 2 This is a widespread, common grassland ecosystem that occurs on steep, eroded slopes, usually with a warm or hot aspect, on both sides of the Fraser River, often in gullies. Due to the steep slopes, soil surfaces are generally unstable and eroding, resulting in exposed soil. This ecosystem has many of the same plant species that occur in other units, but the abundance and composition of the vegetation varies depending on the degree of active surface erosion. The vegetation is typically dominated by widely spaced clumps of bluebunch wheatgrass and pasture sage. Other plant species include sand dropseed grass, needle-and-thread grass, pussytoes, junegrass and large-fruited desert-parsley. Total cover of mosses and lichens is low. This grassland was mapped in the transmission corridor and access road areas. While it is a common grassland type, patch size tends to be small, and localized to steep slopes with warm aspects. Most disturbances result from natural soil erosion processes.</p>			
<p>List of mapped units: Dominant plant species include</p>			
<p>SITE INFORMATION</p> <p>Common Terrain Types:</p> <ul style="list-style-type: none"> • <p>Slope position: Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>		<p>Insert picture here</p>	

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
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WY	Bluebunch wheatgrass - Yarrow	IDFd3/IDFxm	00
<p>Structural stage: 2 This grassland ecosystem occurs on slightly cooler gentle northern or eastern slopes, often as the continuation of a grassland that occurs on the warmer side of the hill. Due to the cooler aspect, tree encroachment is common, suggesting that this grassland type is fire-dependent. Common plant species include bluebunch wheatgrass, arrow-leaved balsamroot, northern sweet-vetch, needle-and-thread grass, blue wildrye, Kentucky bluegrass, showy daisy, common sweetgrass, timber milk-vetch, dandelion, and field chickweed. Mosses and lichens are uncommon. This grassland was mapped in the transmission corridor and access road. This common grassland occurs as small localized patches on south aspects and has been mapped in the both the transmission corridor and access road areas. Some of these grassland areas have been disturbed by cattle grazing.</p>			
<p>List of mapped units: Dominant plant species include</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

IDFdk4

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
LP	FdPI – Pinegrass – Feathermoss	IDFdk4	01
<p>Structural stages: 3, 3a, 4, 5, 6, 7 This ecosystem type dominates the IDFdk4 landscape. These sites are generally level to gently sloping, and vegetated by Douglas-fir (climax) or lodgepole pine (seral) forests. Small trembling aspen stands occur locally. The Douglas-fir stands are typically multi-aged with abundant, usually patchy Douglas-fir regeneration. Pine stands are typically uniform-aged with little pine regeneration but variable amounts of Douglas-fir regeneration. Pinegrass, mosses, lichens, and kinnikinnick dominate the undergrowth vegetation of both forests. Only scattered shrubs are present.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
DJ	Fd – Juniper – Saskatoon	IDFdk4	03
Structural stage: 6		Status: BLUE	
<p>Occurs on moderate to steep south- or west-facing slopes on well-drained soils. These are warm, very dry sites. The forest canopy is typically very open, patchy, and dominated by multi-sized Douglas-fir. Large standing dead trees are often present. Tree regeneration occurs primarily in the shade of, but not in the rainshadow directly beneath, canopy trees. The undergrowth is dominated by saskatoon, a variety of dry-land herbaceous plants, and lichens. Moss cover is sparse, and exposed mineral soil is common. They are often transitional to grasslands and other dry ecosystems.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:			
•			
Slope position:			
Slope (%):			
Aspect:			
Soil Moisture Regime:			
Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
DS	Fd – Juniper – Pasture sage	IDFdk4	04
Structural stage: 2		Status: BLUE	
<p>The DS units are found on steep south- or west-facing warm slopes, but have loam- or silt-textured soils, rather than the typical coarse fragmented, colluvial sites, allowing more moisture and nutrients to be absorbed. Forest canopy and tree regeneration layers are patchy and open with multi-sized Douglas fir prevailing. The undergrowth has a greater cover of common juniper, Rocky Mountain juniper, and grasses; but a lower cover of lichens.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:			
•			
Slope position: Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol DW	Site Unit Name Fd – Bluebunch wheatgrass – Pinegrass	BGC IDFdk4	Site Series Number 05
Structural stages: 4, 5, 6, 7		Status: BLUE	
<p>Occurs on moderate-gradient (15-30%) south- to southwest-facing slopes and some steep west-facing slopes. The forest canopy is nearly continuous, dominated by Douglas-fir. This species is also the primary tree to regenerate, although often sparse. The undergrowth is dominated by bluebunch wheatgrass, pinegrass, and kinnikinnick. These sites are most common at lower elevations on the Chilcotin Plateau close to the IDFxM subzone.</p>			
<p>This ecological community is considered vulnerable (S3) and is blue-listed in BC (CDC 2006). Federally, this community is not listed. This community was sampled during the TEM fieldwork and is present within the transmission corridor LSA. This community was not found in the minesite LSA or access road. The Douglas-fir / bluebunch wheatgrass / pinegrass unit is uncommon, given that the IDFdk4 tends to have gentle and undulating slopes. Steep south facing forested slopes in this subzone are not common in the project area. Patch size is therefore small, and locations are sparsely distributed. The primary disturbance is forest harvesting.</p>			
List of mapped units:			
SITE INFORMATION			
Common Terrain Types:			
•			
Slope position:			
Slope (%):			
Aspect:			
Soil Moisture Regime:			
Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
LC	PI – Kinnikinnick – Cladonia	IDFdk4	06
<p>Structural stages: 3a, 3b, 4, 5, 6, 7 Site Modifier: k, w</p> <p>Occurs on sandy gravelly fluvial terraces, most common near the lower elevation limits of the IDFdk4. The forest canopy is dominated by lodgepole pine, and the undergrowth by kinnikinnick and lichens. Douglas-fir is uncommon in the forest canopy but is often scattered in the regeneration layer. Lodgepole pine is the most abundant species of tree regeneration. Uncommon in the study area.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol DM	Site Unit Name Fd – Feathermoss – Step moss	BGC IDFdk4	Site Series Number 07
<p>Structural stages: 4, 5, 6, 7 Site Modifier: k Status: BLUE</p> <p>Occurs on steep (>30%) north- or east-facing slopes, which receive little direct solar radiation. Snow persists longer than on other sites. The canopy is relatively closed, and is dominated by Douglas-fir. A carpet of feather mosses with relatively few vascular plants dominates the undergrowth. The unit is most common in the rolling topography close to Big Creek.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol SS	Site Unit Name Sxw – Scrub birch – Feathermoss	BGC IDFdk4	Site Series Number 08
<p>Structural stages: 3a, 3b, 4, 5, 6, 7 Site Modifier: k, w</p> <p>Typically occurs on lower slope positions at the edge of cold air accumulation basins occupied by non-forested wetlands or shrub-carrs. Surface soils are often moist, but a water table is usually not within 50 cm of the surface. The canopy is moderately open and dominated by hybrid white spruce and lodgepole pine. The undergrowth is distinguished by the presence of scrub birch and willows, primarily grey-leaved willow.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect: Soil Moisture Regime:</p>			
<p>Soil Nutrient Regime:</p>			

Site Unit Symbol SF	Site Unit Name Sxw – Feathermoss – Brachythecium	BGC IDFdk4	Site Series Number 09
Structural stages: 3, 4, 5, 6, 7		Status: BLUE	
<p>Occurs on moist lower and toe slopes, often along stream channels such as in the Big Creek area. It generally does not occur adjacent to non-forested wetlands and shrub-carrs. The forest canopy is moderately closed, and dominated by hybrid white spruce, with scattered Douglas-fir, lodgepole pine, and aspen. The undergrowth is diverse and distinguished by abundant pinegrass, palmate coltsfoot, and star-flowered false Solomon’s seal. Dominant mosses are feathermoss and ragged mosses (<i>Brachythecium</i> spp.)</p> <p>This ecosystem is considered vulnerable (S3) and is blue-listed in BC (CDC 2006), but not listed federally. It was sampled during the TEM fieldwork and is present within the transmission corridor LSA. This community was not found in the minesite or access road. It often occurs as narrow, linear bands along creeks, often less than ten meters wide. Disturbance is generally low, although cattle activity may occur occasionally.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types: •			
Slope position: Slope (%):			
Aspect: Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
SH	Sxw – Horsetail – Glow moss	IDFdk4	10
<p>Structural stages: 4, 5, 6, 7 Occurs on wet toe slope positions and depressions where a water table is within 50 cm of the surface. Many sites are forested wetlands. The forest canopy is moderately closed to open, and dominated by hybrid white spruce. The undergrowth contains a variety of shrubs and wet-site herbaceous species. These sites are distinguished by abundant common horsetail.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
DT	Dandelion – Timber oat-grass	IDFdk4/SBPSxc	00
Structural stage: 2			
<p>These mesic to moist grassland ecosystems are dominated by dandelion and a variety of grasses including timber oatgrass, brome, and Wheeler’s bluegrass. Yarrow and field chickweed are usually common. These sites occur along roads or adjacent to buildings where cattle use is high. They occur as fairly small patches on flat or gently sloping areas. These grasslands were mapped in the transmission corridor and access road areas.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:			
•			
Slope position:			
Slope (%):			
Aspect:			
Soil Moisture Regime:			
Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
RS	Baltic rush - Field sedge meadow	IDFdk4/SBPSxc	00/Gs03
Structural stage: 2		Status: BLUE	
<p>Also simply called “Field Sedge”, these moist grassland ecosystems typically occur adjacent to wetlands in seasonally flooded and slightly alkaline depressions, and on slightly raised edges around ponds, marshes or fens. Patches of scrub birch shrub-carrs often occur between field sedge meadows and the forest edge. Field sedge (<i>Carex praegracilis</i>) is common on these sites as is Baltic rush, silverweed, tufted hairgrass and foxtail barley. Soils are fine textured. These ecosystems are blue-listed by the provincial CDC. This grassland type occurs as small to medium sized patches surrounding wetlands or moist areas, and was only mapped in the access road area. Cattle grazing is common.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	

Common Terrain Types: <ul style="list-style-type: none">•	
Slope position:	
Slope (%):	
Aspect:	
Soil Moisture Regime: Soil Nutrient Regime:	

Site Unit Symbol GA	Site Unit Name Grass – Larged-leaved avens	BGC IDFdk4/MSxv/SBPSxc	Site Series Number 00
<p>Structural stage: 2 These moist grassland ecosystems are found in rich, silty soils along creeks in pockets of cold air drainage that discourage tree regeneration. Grasses include blue wild-rye, slender-stem wheatgrass, fringed brome, Kentucky bluegrass, and several others. Herbs include wild strawberry, fireweed, Sitka burnet, sheep sorrel, western dock, small-flowered penstemon, marsh valerian, dandelion, large-leaved avens, blue delphinium and western meadowrue. In wetter areas sedges may occur. Mineral soils are fine-textured silty loam fluvial deposits with few coarse fragments. Drainage is imperfect to poor and soils are often gleyed. Some excellent examples of this grassland type have been mapped in the transmission corridor and access road mapping areas. They occur as pocket grasslands where soil, moisture regime, and microclimate are suitable. They receive some grazing from cattle, and do have some introduced plants but, due to rich soils and soil moisture, they rebound quickly from disturbance. They occur close to running water and are sensitive to changes in stream hydrology.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol NR	Site Unit Name Spreading needlegrass – Baltic rush	BGC IDFdk4/IDFxm	Site Series Number 00
Structural stage: 2		Status: BLUE	
<p>This grassland ecosystem occurs in broad depressions, toe slopes, and moisture receiving sites adjacent to wet meadows or wetlands. Parent materials are typically morainal in origin, but may be glaciofluvial or localized lacustrine deposits. Extensive grazing in places has resulted in an increase in cultivated and weedy plants such as Kentucky bluegrass and smooth brome. Less disturbed sites have a good cover of spreading needlegrass and Baltic rush. Other characteristic plant species include meadow salsify, slender wheatgrass, small-flowered penstemon, graceful cinquefoil and sweetgrass. Scattered low shrubs include prairie rose, saskatoon and snowberry. Cover of lichens is variable but ordinarily consists of a few <i>Cladonia</i> species and pelt lichens. Spreading needlegrass - Baltic rush was mapped in the transmission corridor and access road RSAs. This grassland is common, and patches can be up to several hectares in size. The most common disturbance is cattle grazing.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types: •			
Slope position:			
Slope (%):			
Aspect:			
Soil Moisture Regime:			
Soil Nutrient Regime:			

Site Unit Symbol WB	Site Unit Name Bluebunch wheatgrass – Balsamroot	BGC IDFdk4	Site Series Number 00
<p>Structural stage: 2 Site Modifiers: k, r, s, w Status: RED</p> <p>This grassland ecosystem occurs on gently to moderately sloping, mesic to submesic sites, primarily on south -and west-facing aspects from mid- to upper-slope positions. Parent materials are often aeolian veneers over morainal blankets or veneers. Undisturbed sites are dominated by bluebunch wheatgrass and a diverse array of grasses, forbs and lichens. Scattered, old Douglas-fir trees are common closer to forest edges. Dominant plant species include bluebunch wheatgrass, arrow-leaved balsamroot, northern sweet-vetch and <i>Cladonia cariosa</i>. Associate species can include needle-and-thread grass, junegrass, pasture sage, spike-like goldenrod, showy daisy, meadow salsify, field chickweed, <i>Collema</i> spp. and rusty steppe moss. Bluebunch wheatgrass - Balsamroot was only mapped in the transmission corridor RSA, where it is usually found within a matrix of, or in proximity to, forested stands. Most of these grassland types that were sample were undisturbed or had light grazing.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
CW	Ct – Wood rose – Mountain alder floodplain	IDFdk4	Fm01
<p>Structural stage: 6</p> <p>This is a mid-bench active floodplain ecosystem unit occurring on sandy or gravelly materials next to streams and rivers with short flood durations followed by subsurface moisture. Cottonwood is very common, as is interior white spruce. Other common plants include red-osier dogwood, snowberry, alder, highbush cranberry, prickly rose, twinberry, grasses, horsetails, blue wildrye, and showy aster.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%):</p>			
<p>Aspect:</p>			
<p>Soil Moisture Regime:</p>			
<p>Soil Nutrient Regime:</p>			

Site Unit Symbol DB	Site Unit Name Drummond's willow – Water sedge fen	BGC IDFdk4/IDFxm/SBPSxc	Site Series Number Ws04
<p>Structural stage: 3b Tall shrubs of Drummond's, grey-leaved and tea-leaved willows separate these wetlands from other shrub fens identified. Isolated pine and spruce saplings may occur. Black twinberry, black gooseberry and scrub birch will be scattered as low shrubs. Herbs vary in species from site to site but can include leafy aster, field mint, Sitka burnet, meadowrue, violets, fireweed and large leaved avens. Beaked and water sedge can also be common. The moss layer is poorly developed or absent.</p> <p>These ecosystems are limited to streamside locations on fluvial deposits. The sites are level to very gently sloping in toe positions. Drainage is imperfect but flooding occurs and soils are regosols. Rich nutrient conditions are reflected in mull humus forms.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol NP	Site Unit Name Spreading needlegrass – Pussytoes	BGC IDFdk4/IDFxm	Site Series Number 00
Structural stage: 2		Status: BLUE	
<p>This grassland ecosystem was mapped in the transmission corridor where it often occurs as large contiguous patches. It is found on nearly level to gently sloping sites, not far from forest edges. Due to the windbreak effect and shading created by the forest, snow accumulation and duration of snow cover is generally greater than on drier site series. Vegetation of these sites is dominated by a nearly continuous cover of spreading needlegrass with abundant grass litter. Herbs such as small-flowered penstemon are scattered throughout the community, with cryptograms forming a crust between grass clumps. The lichen community is dominated by <i>Cladonia pyxidata</i> and <i>C. cariosa</i> but a wide variety of other <i>Cladonia</i> spp. and <i>Peltigera</i> spp. are also present. On some sites, short-awned porcupine grass is mixed with the spreading needlegrass. It was only mapped in the transmission corridor RSA. The patch size of this grassland type is typically large, with a wide distribution throughout the IDFxm subzone. Disturbance is incurred by grazing cattle and horses. In spite of grazing, many of these grasslands are healthy due to appropriate grazing levels and a lower risk of soil erosion.</p>			
List of mapped units:			
SITE INFORMATION			
Common Terrain Types: •			
Slope position: Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol RM	Site Unit Name Baltic Rush	BGC IDFdk4	Site Series Number Wm07
<p>Structural stage: 2 Common in the Chilcotin Plateau, the Baltic rush saline meadows & marshes are found in alkaline or saline depressions that have seasonally fluctuating water tables, and are in contained basins with little to no recharge. The soils are fine textured with ~10cm organic surface, which remain damp most of the year, and have salt/alkali crust when dry. These are attractive to wildlife as mineral licks. Baltic rush dominates, with marsh cinquefoil, field sedge, and Nuttall's alkaligrass secondary, with greater diversity and abundance on drier sites.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>			
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

IDFxm

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
DP	Fd – Pinegrass – Feathermoss	IDFxm	01
<p>Structural stages: 3, 4, 5, 6, 7</p> <p>This is the most extensive site series of the IDFxm, occupying in the order of 30-40% of the landscape. Sites are generally level to moderately sloping, with medium-textured soils. Douglas-fir dominates the forest canopy and tree regeneration layers of nearly all stands. Small trembling aspen stands occur occasionally within the Douglas-fir forest matrix and at the transition between these forests and the many types of grassland that occur within the IDFxm. The Douglas-fir stands have a moderately closed canopy and are single- to multi-storied, depending on the history of wildfires that have destroyed small but not larger stems. Tree regeneration is generally less dense than in the IDFdk3 or IDFdk4. The undergrowth contains a sparse to moderate cover of shrubs, several grass species (some are also common in the open grasslands), and several low-growing, dry-land forb species. Moss cover is typically patchy.</p>		<p>Site Modifiers: k</p>	
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p> <p>Slope (%):</p> <p>Aspect:</p> <p>Soil Moisture Regime:</p> <p>Soil Nutrient Regime:</p>			

Site Unit Symbol DJ	Site Unit Name Fd – Juniper – Cladonia	BGC IDFxm	Site Series Number 03
Structural stages: 5, 6		Status: RED	
<p>This site series includes level to gently sloping sites with sandy soils of glaciofluvial origin in upland areas above the Fraser River. Soils are gravelly or sandy and have a subxeric to submesic moisture status and very poor to poor nutrient status. In contrast to other IDFxm site series, lodgepole pine is common and typically dominates the forest canopy. Douglas-fir is the principal species of tree regeneration but lodgepole pine is often found canopy gaps. Kinnikinnick, common juniper, and lichens dominate the undergrowth. Grasses (e.g. fescues) are always present but not abundant. These sites are uncommon. Abundant lodgepole pine and kinnikinnick and relatively little grass cover distinguishes the mature vegetation of these sites.</p> <p>This ecological community is considered imperiled (S2) and is red-listed in BC (CDC 2006). Federally, this community is not listed. This community was sampled during the TEM fieldwork and is present within the transmission corridor LSA. This community was not found in the minesite or access road. It occurs as small patches, and has a sparse distribution within the mapping area.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types: •			
Slope position:			
Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol DM	Site Unit Name Fd – Feathermoss – Step moss	BGC IDFxm	Site Series Number 05
<p>Structural stages: 5, 7 Site Modifiers: k Status: BLUE</p> <p>Occurs on steep (>35%) north- and east-facing slopes. The mature forest canopy is moderately closed and dominated by Douglas-fir. Tree regeneration is denser than in other site series. A carpet of mosses, primarily step-moss and red-stemmed feathermoss, dominates the undergrowth. Vascular plant species such as bluebunch wheatgrass, pinegrass, and showy aster are typically present but with low cover. Principal shrubs are birch-leaved spirea and prickly rose.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol DR	Site Unit Name Fd – Ricegrass – Feathermoss	BGC IDFxm	Site Series Number 06
Structural stages: 4, 7		Status: BLUE	
<p>This unit includes sites only slightly more moist than zonal sites. They occur at the base of short slopes where seepage volumes are small and infrequent, in shallow depressions on level to gently sloping areas, and in old meltwater channels. The forest canopy is moderately closed and, as a result, the density of stems in tree regeneration layers is usually less than on zonal sites. The undergrowth is typically dominated by prickly rose, rough-leaved ricegrass, twinflower, and pinegrass. Mosses cover most of the soil surface. The Douglas-fir / red-stemmed feathermoss / step moss ecosystem is considered vulnerable (S3) and is blue-listed in BC (CDC 2006). Federally, this community is also listed as vulnerable (S3). This community was sampled during the TEM fieldwork and is present within the transmission corridor but not in the minesite or access road. These ecological communities are quite common, given the appropriate aspect and length of slope. Depending on the size of the area within a north aspect, patch sizes can vary from medium size to large. The primary disturbance is forest harvesting.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types: •			
Slope position:			
Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol RS	Site Unit Name Fd – Prickly rose – Sarsaparilla	BGC IDFxm	Site Series Number 07
<p>Structural stages: 4, 6, 7 Site Modifiers: k Status: RED</p> <p>These occur primarily at the base of longer north-facing slopes where seepage water is present following spring snowmelt and after heavy summer rains but not during most of the growing season. The Douglas-fir dominated forest canopy is moderately closed and often contains paper birch. The sparse to moderately dense tree regeneration is primarily Douglas-fir, often with paper birch. A moderate density of shrubs and several moist-site forbs occur in the undergrowth. The abundance of Douglas maple, northern gooseberry, violets, and wild sarsaparilla distinguishes these sites from the other site series.</p> <p>This ecosystem type is considered imperiled (S2) in BC and is red-listed (CDC 2006). Federally, this community is not listed. This community was sampled during the TEM fieldwork and is present within the transmission corridor. This community was not found in the minesite or access road. Due to the relatively dry climate of the IDFxm, the right combination of soil moisture, slope and aspect for this ecosystem doesn't happen often, so its occurrences are infrequent. Information on disturbance is presently unavailable.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol SS	Site Unit Name Sxw – Snowberry – Prickly rose	BGC IDFxm	Site Series Number 08
Structural stages: 4, 5, 6, 7		Status: RED	
<p>Occurs on moist to wet, lower and toe slope sites that receive seepage water during most of the growing season. They are often associated with intermittent or permanent streams. The forest canopy is moderately closed and dominated by hybrid white spruce. The undergrowth includes a moderate cover of shrubs, including common snowberry and black twinberry, and several moist- to wet-site forbs such as twinflower, star-flowered false Solomon’s-seal, and sweet-scented bedstraw. The moss layer is dominated by red-stemmed feather moss and step moss but, in contrast to drier sites, leafy mosses are also present. These sites are rare, small in area, and act as buffer areas adjacent to small streams.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:			
Slope position: Slope (%): Aspect:			
Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol SH	Site Unit Name Sxw – Horsetail	BGC IDFxm	Site Series Number 09
<p>Structural stages: 4, 5, 6 Includes the wettest forested sites of the IDFxm. They occur at the toe of slopes and in depressions where a water table is near the surface. These sites often occur at the edge of non-forested wetlands and on low terraces of larger streams. The forest canopy is dominated by hybrid white spruce and is often patchy. The undergrowth is shrubby and contains several moist-to wet-site herbaceous species such as common horsetail, common mitrewort, and trailing raspberry. Abundant horsetail distinguishes the vegetation of these sites.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
GR	Alkali saltgrass – Nuttall’s alkaligrass	IDFxm	Gs01
Structural stage: 2		Status: RED	
<p>These uncommon saline meadows occur on the edges of small pothole wetlands and shallow lakes where evaporation accumulates salts. Early season flooding is followed by surface drying, occasionally leaving a distinct salt crust. Only salt tolerant plants are found such as alkali saltgrass, alkali cordgrass, seablite, tufted white prairie aster, Sandberg’s bluegrass, foxtail barley, Nuttall’s alkaligrass, field sedge and Baltic rush. Soils are fine-textured and imperfectly drained.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types: •			
Slope position: Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
AN	Trembling aspen – needlegrass – old mans whiskers	IDFxm	00
Structural stage: 6		Status: RED	
<p>This unit is dominated by a canopy of young to mature trembling aspen, punctuated by widely spaced (often) old Douglas-fir trees. The canopy is fairly open, providing light for the vigorous herb layer that includes wild blue ryegrass, twinflower, star-flowered false Solomon’s-seal, spreading needlegrass, old man’s whiskers, and sweet-scented bedstraw. A moderate cover of shrubs occurs, including common snowberry, Rocky Mt. juniper, and kinnikinnick. The moss and lichen layer is not well developed. The trembling aspen/spreading needle grass-old man’s whiskers ecological community was only observed once in the transmission corridor, located as a patch within large, upland needlegrass grassland. The aspen stand is larger than 1 hectare, and should be avoided in the construction of the transmission corridor. A larger island of similar vegetation composition occurs in the same meadow, although it is outside of the transmission line buffer. Currently the proposed transmission line passes directly through this Red-listed community. Only one example of this ecological community was mapped, and had light to moderate livestock disturbance.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:			
•			
Slope position:			
Slope (%):			
Aspect:			
Soil Moisture Regime:			
Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
NG	Spreading needlegrass – sticky purple geranium	IDFxm	00
<p>Structural stage: 2 This grassland ecosystem occurs in shallow depressions and swales within a matrix of drier grassland sites on the higher benches and upland areas close to the Fraser River (transmission corridor RSA). These sites are relatively moist in the spring due to late-lying snow and accumulation of snow meltwater. Late seral vegetation of this site series is dominated by a continuous cover of spreading needlegrass with some short-awned porcupinegrass and a wide variety of herbs. The vegetation is distinguished by the presence of sticky purple geranium. Lichens (mostly <i>Cladonia</i> spp. with some pelt lichens) and mosses (mostly <i>Brachythecium</i> sp.) cover areas between plants below the grass litter. This unit is common within the subzone, occurring as small patches within a matrix of larger grasslands such as IDFxm / Spreading needlegrass - pussytoes. Most of these areas are actively used for cattle grazing, but grasslands in the IDFxm are generally in relatively good condition.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position:</p>			
<p>Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
PP	Short-awned porcupine grass - pussytoes	IDFxm	00
Structural stage: 2		Status: RED	
<p>This grassland ecosystem occurs on level to gentle slopes benches and terraces above the Fraser River. Soils are typically deep, medium textured, often with a capping of aeolian (wind-blown) soil and moisture status is mesic to submesic. A dense cover of short-awned porcupine grass with abundant grass litter is typical. Other plants include scattered bluebunch wheatgrass, junegrass, lemonweed, salsify, yarrow, pussytoes, pasture sage and sagebrush mariposa lily. Lichen cover is generally low, due to the thick, matted grass litter covering the ground. This unit is uncommon within the subzone, often occurring as small patches. Due to unstable soils, this grassland is susceptible to disturbance.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:			
•			
Slope position: Slope (%): Aspect: Soil Moisture Regime: Soil Nutrient Regime:			

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
SM	Water sedge – beaked sedge marsh	IDFxm	Wm01
Structural stage: 2			
<p>This type of marsh occurs on sites that are inundated by shallow waters. Standing water is usually present throughout the growing season, but some examples become almost dry in late summer. Situations include lake margins, floodplains, flooded beaver ponds, and basins. Plant cover is dominated by water sedge and beaked sedge with scattered herbs, aquatic plants and mosses.</p>			
List of mapped units:			

SITE INFORMATION	
Common Terrain Types: •	Insert picture here
Slope position:	
Slope (%):	
Aspect:	
Soil Moisture Regime:	
Soil Nutrient Regime:	

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
CR	Cottonwood-Dogwood Mid-bench FP	IDFxm	Fm01
<p>Structural stage: 6 This is a mid-bench active floodplain ecosystem unit occurring on sandy or gravelly materials next to streams and rivers with short flood durations followed by subsurface moisture. Cottonwood is very common, as is interior white spruce. Other common plants include red-osier dogwood, snowberry, alder, highbush cranberry, prickly rose, twinberry, grasses, horsetails, blue wildrye, and showy aster.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types: •			
Slope position:			
Slope (%):			
Aspect:			
Soil Moisture Regime:			
Soil Nutrient Regime:			

MSxv

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
GK	PI – Grouseberry – Kinnikinnick	MSxv	04
Structural stages: 4, 5, 6, 7		Site Modifiers: h, k, r, s, v, w	
<p>These submesic forests have crown closure of pine of less than 30%. Subalpine fir, spruce and pine all occur in the shrub layer. The usual shrubs, common juniper, soopolallie and prickly rose are patchy. Mature forests have quite a diverse herb layer with kinnikinnick being dominant. Twinflower, fireweed, heart-leaved arnica, and bunchberry all occur. <i>Cladonia</i>, freckled lichen and <i>Dicranum</i> dominate the bryophyte layer. Crown closure and species composition does not change significantly in the younger stands.</p> <p>These submesic ecosystems mainly occur on convex crest and upper slope positions where drainage is rapid to well-drained. Gradients vary from level to 10% and aspect is varied. Soils have developed on deep morainal or fluvio-glacial material and are brunisolic grey luvisols or orthic dystric brunisols. Texture varies from a silty to sandy loam with a coarse fragment content that varies from 20 to 80%.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:	Mv, Mb		
Slope position:	upper, mid, crest		
Slope (%):	5-30		
Aspect:	all		
Soil Moisture Regime:	submesic (mesic)		
Soil Nutrient Regime:	poor-rich		

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
LG	PI – Grouseberry Feathermoss	MSxv/SBPSxc	01
Structural stages: 3, 4, 5, 6, 7		Site Modifiers: h, k, s, v, w	
<p>Mature mesic forests are dominated by white spruce and only have a minor component of pine and subalpine fir. Crown closure varies from 20 to 40%. Spruce and fir are also in the shrub layer. Common juniper, prickly rose and soopolallie are always present as scattered low shrubs. Black twinberry and willow can also be present. The herb layer in these mature, mesic forests is varied and lush. Twinflower and grouseberry are often abundant while others such as pinegrass, wild strawberry, fireweed, heart-leaved arnica and showy aster are always present. Bunchberry, bracted lousewort, one-sided wintergreen, kinnikinnick, meadowrue, arctic lupine, columbine, northern bedstraw, yarrow and sweet coltsfoot may occur and in some sites are abundant. Bryophytes in these mature forests form a carpet. Red-stemmed feathermoss and Dicranum are most common but glow moss and step moss can be locally abundant. <i>Cladonia</i> spp. and pelt lichens are not as plentiful as mosses.</p> <p>Younger stands are dominated by pine but the understorey tree species include pine, spruce and subalpine fir. Crown closure may be slightly higher than in the older stands but remains less than 50%. Shrubs are sparse and similar to the mature forests. Herbs are somewhat less lush and varied but the species remain the same. The bryophyte layer is dominated by red-stemmed feathermoss and <i>Dicranum</i> species but freckled lichen, <i>Cladonia</i> species and dog lichen are significant and there is often a very sparse cover of <i>Stereocaulon</i> sp.</p> <p>Mesic ecosystems occur on flat to gentle gradients on all aspects of upper to lower morainal slopes. Soils have a silty to sandy loam texture with varying percentages of coarse fragments. They are well to moderately well drained with hemimor or humimor humus types at the surface. Brunisolic grey luvisols are the most common soils.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types: Mb, Mv			
Slope position:	mid, level		
Slope (%):	<30		
Aspect:	All		
Soil Moisture Regime:	Mesic (submesic)		
Soil Nutrient Regime:	Poor - rich		

Site Unit Symbol LK	Site Unit Name PI – Kinnikinnick – Cladonia	BGC MSxv	Site Series Number 03
<p>Structural stages: 3, 4, 5, 6, 7 Site Modifiers: c, d, s, v, w</p> <p>These very open dry sites usually only have pine in the tree canopy which has crown closure of less than 15%. Common juniper and soopolallie form the scattered low shrub layer and prickly rose can also be very sparse. Kinnikinnick and pine grass have significant cover but other species are less consistent and sparse. These may include lance-leaved stonecrop, twinflower, Rocky Mountain butterweed and timber milk vetch. Crustose lichens dominate the bryophyte layer and mosses are absent. At least 30% of the ground is not vegetated but covered by rocks and mineral soil.</p> <p>In younger stands isolated trembling aspen occurs while saskatoon and Rocky Mountain juniper are scattered.</p> <p>These sites are limited to areas of shallow soils over bedrock. Slopes range from level to moderately steep with a neutral to warm aspect. They are convex, upper slope and crest positions where drainage is rapid to well-drained. Soils have developed on weathered bedrock or thin morainal veneers. There is no humus development, coarse fragment content is greater than 30% and soil texture is a silty to sandy loam. Regosols, regosolic brunisols and brunisolic grey luvisols occur on these sites.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p>	<p>Mb, Mv</p>		
<p>Slope position:</p>	<p>Crest, upper</p>		
<p>Slope (%):</p>	<p>10 – 30</p>		
<p>Aspect:</p>	<p>All but primarily SE, S, SW, W</p>		
<p>Soil Moisture Regime:</p>	<p>Xeric, subxeric</p>		
<p>Soil Nutrient Regime:</p>	<p>Poor - rich</p>		

Site Unit Symbol LT	Site Unit Name PI – Trapper’s tea – Crowberry	BGC MSxv	Site Series Number 05
<p>Structural stage: 3, 4, 5, 6, 7 Status: RED</p> <p>This site series typically occurs on gentle north and easterly slope positions. Soils are loamy and similar to mesic sites. Pine dominates the open tree canopy in mature sites while spruce is very minor. Trapper’s tea is abundant in the shrub layer together with pine regeneration. Other shrubs are scattered and include black twinberry, prickly rose, soopollalie, willow, common juniper and white rhododendron. The herb layer is varied but grouseberry, crowberry, and twinflower are most abundant. Others include bunchberry, bracted lousewort, fireweed, yarrow, mountain heather, northwestern sedge and showy aster. The moss and lichen layer is well developed and is dominated by red-stemmed feathermoss, curly heron’s bill moss, Cladonia species, and freckled lichen. The community is considered imperiled (S2) and is red-listed in BC (CDC 2006), but not listed federally. It was sampled during the TEM fieldwork and is present within the minesite LSA, but not in the transmission corridor or access road. These ecosystems are small in area and uncommon, but widely distributed across the subzone in suitable locations. Due to the general lack of access in the MSxv, disturbance is low. Forest harvesting would be the major threat.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p>	<p>Mb</p>		
<p>Slope position:</p>	<p>mid</p>		
<p>Slope (%):</p>	<p><30</p>		
<p>Aspect:</p>	<p>NW, N, NE, E</p>		
<p>Soil Moisture Regime:</p>	<p>Mesic</p>		
<p>Soil Nutrient Regime:</p>	<p>Poor - regime</p>		

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
SC	Sxw – Crowberry – Knight’s plume	MSxv	06
Structural stages: 3, 4, 5, 6, 7			
<p>Spruce dominates the mature, open tree canopy. Willow and black twinberry are common in the shrub layer. Subalpine fir is present as regeneration. Herbs reflect the moister conditions of this ecosystem and include sweet coltsfoot, common horsetail, and meadowrue. Other more ubiquitous species include twinflower, bracted lousewort, northern bedstraw, arctic lupine, yarrow, bunchberry, wild strawberry, heart-leaved arnica, fireweed, and pine grass. Mosses such as glow moss, heron’s bill moss and red-stemmed feathermoss dominate the bryophyte layer. Pelt lichens and reindeer lichens are scattered.</p> <p>Younger stands have pine in the tree canopy mixed with spruce. Other species are similar to mature stands. These moist ecosystems occur on level to gentle gradients in the mid to lower slope position on generally warm aspects of morainal deposits. They develop in the moister depressions on the gentle slopes. Soils are often similar to those on mesic sites and are orthic luvisols as well as brunisolic grey luvisols.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:	Mb		
Slope position:	mid, lower, toe		
Slope (%):	<20		
Aspect:	All		
Soil Moisture Regime:	Subhygric (mesic)		
Soil Nutrient Regime:	Medium – very rich		

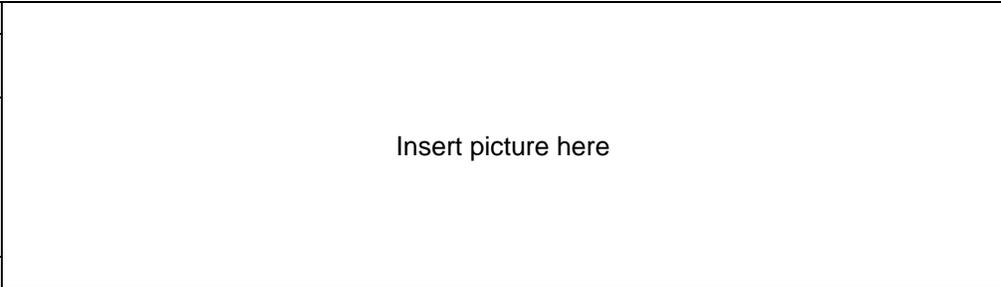
Site Unit Symbol SG	Site Unit Name Sxw – Crowberry – Glowmoss	BGC MSxv	Site Series Number 07
Structural stages: 3, 4, 5, 6, 7		Site Modifiers: h, k, p	
<p>Mature stands have an open canopy of spruce with scattered pine trees. The understory regeneration is spruce with isolated sub-alpine fir. Scrub birch and willows dominate the shrub layer that can also include scattered black twinberry, soopolallie, common juniper and Labrador tea. Herbs are similar to the SC ecosystems but sweet coltsfoot and common horsetail are more abundant while grouseberry and crowberry are rather sparse. Mosses form a thick carpet with glow moss being the dominant and heron's bill moss being common, lichens, such as reindeer, and pelt are sparse.</p> <p>These ecosystems are on level to gently sloping sites usually adjacent to wetlands where drainage is imperfect to poor. Soils are gleysols with a high coarse fragment content in a sandy to silty-clay loam matrix.</p>			
List of mapped units:			
SITE INFORMATION			
Common Terrain Types: Mb		Insert picture here	
Slope position:	Lower, toe, depression		
Slope (%):	0 – 10 (20)		
Aspect:	All		
Soil Moisture Regime:	Subhygric (hygric)		
Soil Nutrient Regime:	Poor (medium)		

Site Unit Symbol	Site Unit Name	BGC	Site Series Number														
SH	Sxw – Horsetail – Crowberry	MSxv	08														
<p>Structural stages: 3, 4, 5, 6, 7</p> <p>These very open canopy spruce stands occur in the hygric position on the edatopic grid. They occur adjacent to willow wetlands and are transitional from wetland to closed forest. They have a shrub layer of willow with minor components of scrub birch, black twinberry, prickly rose and Labrador tea. Common horsetail and sedges separate this ecosystem from slightly drier ones. Other herbs include bluejoint reedgrass, slimstem reedgrass, sweet coltsfoot, mitrewort, fireweed, nagoonberry, twinflower, grass-of-parnassus, Sitka burnet, and rein orchid. Mosses are abundant and are dominated by sphagnum, glow moss and leafy mosses. These ecosystems occur on level to depressional sites where organic materials have accumulated. Drainage is poor and mesisols have developed. Mesimor humus forms occur.</p>																	
<p>List of mapped units:</p>																	
<table border="1"> <thead> <tr> <th colspan="2" data-bbox="289 695 562 719">SITE INFORMATION</th> </tr> </thead> <tbody> <tr> <td data-bbox="289 727 625 751">Common Terrain Types:</td> <td data-bbox="636 727 905 751">Mb, Ov</td> </tr> <tr> <td data-bbox="289 784 499 816">Slope position:</td> <td data-bbox="636 784 821 816">Toe/depression</td> </tr> <tr> <td data-bbox="289 824 436 849">Slope (%):</td> <td data-bbox="636 824 674 849"><5</td> </tr> <tr> <td data-bbox="289 857 401 881">Aspect:</td> <td data-bbox="636 857 674 881">N/A</td> </tr> <tr> <td data-bbox="289 889 583 914">Soil Moisture Regime:</td> <td data-bbox="636 889 842 914">Hygric, subhygric</td> </tr> <tr> <td data-bbox="289 922 583 946">Soil Nutrient Regime:</td> <td data-bbox="636 922 821 946">Poor – very rich</td> </tr> </tbody> </table> <div data-bbox="915 695 1906 971" style="text-align: center; padding: 20px;"> <p>Insert picture here</p> </div>				SITE INFORMATION		Common Terrain Types:	Mb, Ov	Slope position:	Toe/depression	Slope (%):	<5	Aspect:	N/A	Soil Moisture Regime:	Hygric, subhygric	Soil Nutrient Regime:	Poor – very rich
SITE INFORMATION																	
Common Terrain Types:	Mb, Ov																
Slope position:	Toe/depression																
Slope (%):	<5																
Aspect:	N/A																
Soil Moisture Regime:	Hygric, subhygric																
Soil Nutrient Regime:	Poor – very rich																

Site Unit Symbol ST	Site Unit Name Sxw - Labrador tea - Willow	BGC MSxv	Site Series Number 09
<p>Structural stage: 5</p> <p>These very open canopy spruce stands do not fit the description of either site series very well but occur in the hygric position on the edatopic grid. They have a shrub layer of willow with minor components of scrub birch, black twinberry, prickly rose and Labrador tea. Common horsetail and sedges separate this ecosystem from slightly drier ones. Other herbs include bluejoint, <i>Cala stricta</i>, sweet coltsfoot, mitrewort, fireweed, Nagoonberry, twinflower, grass of Parnassus, Sitka burnet, and rein orchid. Mosses are abundant and are dominated by sphagnum, glow moss and leafy mosses.</p> <p>These ecosystems occur on level to depressional sites where organic material have accumulated. Drainage is poor and mesisols have developed. Mesimor humus forms occur. They occur adjacent to willow wetlands and are transitional from wetland to closed forest.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p>	<p>Ov, Mb</p>		
<p>Slope position:</p>	<p>level/depression</p>		
<p>Slope (%):</p>	<p><5</p>		
<p>Aspect:</p>	<p>N/A</p>		
<p>Soil Moisture Regime:</p>	<p>Hygric, subhygric</p>		
<p>Soil Nutrient Regime:</p>	<p>Poor – rich</p>		

Site Unit Symbol BF	Site Unit Name Water sedge – Beaked sedge	BGC MSxv/SBPSxc	Site Series Number Wf01
<p>Structural stage: 2b These sedge wetlands are often extremely homogenous. Beaked sedge with water sedge form continuous cover, often up to 80%. Bluejoint reedgrass is noticeably scattered throughout. Shrubs are very sparse, having less than 5% cover. They are low and hidden by the sedges and include grey-leaved willow and scrub birch. Arrow-leaved coltsfoot is often scattered throughout. Moss cover is moderately well developed and is composed of glow moss, <i>Drepanocladus</i> spp. and <i>Calliergon</i> spp. These herbaceous fens occur in level depressions where organic blankets have built up. The deposits are fibrisols with fibrimor humus development. Drainage is imperfect to very poor and the soil moisture of these sites varies both spatially and seasonally.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p>	<p>Ob, Op</p>		
<p>Slope position:</p>	<p>Depression, level</p>		
<p>Slope (%):</p>	<p>0</p>		
<p>Aspect:</p>	<p>999</p>		
<p>Soil Moisture Regime:</p>	<p>subhydric - hydric</p>		
<p>Soil Nutrient Regime:</p>	<p>Medium - rich</p>		

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
JK	Juniper – Kinnikinnick	MSxv/SBPSxc	00
Structural stage: 3		Site modifiers: v	
<p>These dry grassland ecosystems usually occur on crest positions and warm aspect slopes of the fluvio-glacial kames and eskers that dot the landscape as well as steep warm slopes of morainal or colluvial deposits. Slopes vary from 5% on crests to up to 65% on the warm aspect slopes. Soils are well drained with some coarse fragments but little humus development. Kinnikinnick is always present, covering at least 20% of the ground on these dry slopes. An average of 25% of the ground surface is non-vegetated and consists of bare mineral soil and rocks. Grasses are usually dominant but vary in their composition. Bluebunch and slender wheatgrass are consistently present while pinegrass, junegrass or needlegrass species may also be quite abundant. Common juniper is usually scattered as are small shrubby aspen saplings. Nodding onion is often scattered while other herbs are sparse and vary from site to site and may include pussytoes, old man’s whiskers, locoweed, showy Jacob’s ladder and wild strawberry. This unit was mapped in all three mapping areas. It occurs as small patches on warm aspects adjacent to forested areas. The majority of these dry ecosystems remain undisturbed due to poor access.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:	Mv, Cv		
Slope position:	crest, upper slope		
Slope (%):	10-30		
Aspect:	999		
Soil Moisture Regime:	subxeric - submesic		
Soil Nutrient Regime:	poor - medium		

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
YL	Yellow pond-lily – Robbin’s pondweed	MSxv	00
<p>Structural stage: 2c Yellow pond-lily ecosystems have a year – round presence of water. Intermittent ponds/wetlands are not considered open water. This ecosystem usually occurs in 30-120cm of water. Vegetation cover is low 5 - 30%. Yellow pond lily and Robin’s pondweed, duckweed, milfoils and other aquatic vegetation can be found on or just beneath the surface.</p>			
<p>List of mapped units:</p>			
SITE INFORMATION			
Common Terrain Types:	na		
Slope position:	Depression		
Slope (%):	0		
Aspect:	999		
Soil Moisture Regime:	aquic		
Soil Nutrient Regime:	na		

Site Unit Symbol WM	Site Unit Name Grey – leaved willow – Glow moss	BGC MSxv	Site Series Number Sc02
<p>Structural stage: 3a Grey-leaved willow and scrub birch form a dense shrub layer that is about one to two metres in height. Cover is usually greater than 60%. Other shrubs, such as Barclay’s willow, hoary willow may have sparse cover. In some sites black twinberry, prickly rose and short-fruited willow are scattered. The odd spruce or pine sapling may occur. Beaked sedge and water sedge are usually present but are significantly less abundant (< 30% cover) than in the sedge wetlands. Other herbaceous species are very diverse but individual cover is low. Coltsfoot, both arrow-leaved and sweet, occurs most consistently while asters, northern gentian, meadowrue, large-leaved avens, yarrow, wild strawberry, graceful cinquefoil and marsh valerian commonly occur. Moss cover is often rather insignificant with glow moss, followed by fuzzy golden moss, being the most common species. In some sites it forms a thick carpet.</p> <p>Shrub carrs occur in lower slope and level positions on gentle slopes on any aspect. Drainage is imperfect to poor and soils are usually gleysols with an organic veneer. Soils are loams with a high coarse fragment. Humus forms are humimors and hemimors.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p>	<p>Op, Ob</p>		
<p>Slope position:</p>	<p>level</p>		
<p>Slope (%):</p>	<p>0</p>		
<p>Aspect:</p>	<p>999</p>		
<p>Soil Moisture Regime:</p>	<p>subhygric - hydric</p>		
<p>Soil Nutrient Regime:</p>	<p>Medium - rich</p>		

Site Unit Symbol WS	Site Unit Name Willow – Scrub birch – Sedge fen	BGC MSxv/IDFdk4	Site Series Number Wf04
<p>Structural stage: 3a Barclay’s willow, grey-leaved willow, and scrub birch are the most common low shrubs in this wetland. Sedges, usually dominated by water and beaked sedges, form a dense cover of greater than 60%. In some sites the shrubs were lower than the sedges while in others they were up to one metre in height and very noticeable. Bluejoint reedgrass is quite common and scattered herbs may include large-leaved avens, coltsfoot and Sitka burnet but herb diversity and coverage is much lower than in the shrub carr (WM). There is a thick moss cover dominated by glow moss, golden fuzzy and <i>Drepanocladus</i> spp.</p> <p>In one or two sites sphagnum mosses were common but other species indicators of bog conditions such as Labrador tea, western bog-laurel, crowberry and bog cranberry were either very sparse or lacking and these sites have been mapped as WS. Spruce in the tree and shrub layers form a noticeable but sparse component at a few sites but the total tree species cover is always less than 10% in total. The remaining vegetation remains unchanged although sedge coverage is somewhat reduced. These wet, organic sites are not identified as forested site series and are included in the WS.</p> <p>Shrub fens occur on organic blankets or veneers in depressional areas. Slopes are negligible, drainage is poor to very poor and the surface is always wet. The organic materials are usually fibrisols with fibrimor humus at the surface.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p>	<p>Op, Ob</p>		
<p>Slope position:</p>	<p>Depression, level</p>		
<p>Slope (%):</p>	<p>0</p>		
<p>Aspect:</p>	<p>999</p>		
<p>Soil Moisture Regime:</p>	<p>subhygric - hydric</p>		
<p>Soil Nutrient Regime:</p>	<p>Medium - rich</p>		

Site Unit Symbol BW	Site Unit Name Scrub birch – water sedge fen	BGC MSxv/SBPSxc	Site Series Number Wf02
<p>Structural stage: 2b</p> <p>These peatland fens are one of the most common wetlands in the central interior. They are often the dominant component of large peatlands, with fluctuating water tables and hummocky terrain where shrubs grow on organic microsites. Scrub birch and bog willow dominate the raised hummocks, with beaked and water sedge and marsh cinquefoil abundant in the herb layer. Common hook moss and fuzzy hypnum are the dominant moss species and can cover large areas.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
Common Terrain Types:	Op, Ob		
Slope position:	Depression, level		
Slope (%):	0		
Aspect:	999		
Soil Moisture Regime:	subhydric - hydric		
Soil Nutrient Regime:	Medium - rich		

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
MS	Shore sedge – buckbean – hook moss	MSxv	Wf08
Structural stage: 2		Status: BLUE	
<p>These bogs are found below 1600m and are components of larger acidic peatlands, accounting for the wettest, central parts of the complex. The soils are deep mesisols =>5m, and the water table is usually at or near the surface, but open water is uncommon. They are typically grounded, saturated peat bogs or floating mats in some circumstances. These sites are acidic, constantly saturated and lacking oxygen. Hardy species such as shore sedge dominate these sites, with sundew, buckbean, and bog-laurel accompanying in abundant to sparse coverage. Poor-fen, magallanic, and common brown peat moss from either a continuous or hummocky landscape pattern.</p>			
List of mapped units:			
SITE INFORMATION			
Common Terrain Types: Op, Ob		Insert picture here	
Slope position:	Depression, level		
Slope (%):	0		
Aspect:	999		
Soil Moisture Regime:	subhydric - hydric		
Soil Nutrient Regime:	Medium - rich		

Site Unit Symbol WJ	Site Unit Name Bluebunch wheatgrass – Junegrass	BGC MSxv	Site Series Number 00
<p>Structural stage: 2 These grassland ecosystems have developed on weathered basalt outcrops where soil development is minimal and humus is non-existent. These crest position sites are xeric or sub-xeric with rapid drainage. Soil textures are a sandy clay loams with a high percentage of coarse fragments. Vegetation often covers less than 50% of the ground. Bluebunch wheatgrass and junegrass are consistently present, although cover is low. Dwarf shrubs include common juniper and kinnikinnick. Flowering herbs are sparse but include saxifrages, yarrow, cut-leaf daisy, pinegrass, Jacob's ladder, <i>Astragalus miser</i>, goldenrod, <i>Carex concinna</i> and rosy, field and Nuttall's pussytoes. Lichens and compact selaginella are also common. <i>Cladonia</i> species can be common while crustose lichens and rusty steppe moss are scattered. This unit was only mapped in the minesite area, and occurs as small patches on localized rock outcrops and crest positions adjacent to forested areas. Disturbances are low due to remoteness and poor access.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p>	<p>Cv, Dx, Mv</p>		
<p>Slope position:</p>	<p>Depression, level</p>		
<p>Slope (%):</p>	<p>20-29</p>		
<p>Aspect:</p>	<p>south</p>		
<p>Soil Moisture Regime:</p>	<p>xeric - submesic</p>		
<p>Soil Nutrient Regime:</p>	<p>poor - medium</p>		

SBPSmk

Site Unit Symbol FA	Site Unit Name Fd – Pinegrass – Aster	BGC SBPSmk	Site Series Number 03
<p>Structural stage: 7 Occurs on mid to upper slope positions of steep (>35%) south-facing slopes. Douglas-fir is common on these sites, probably because summer frost is relatively infrequent. The mature forest canopy is typically open and patchy and dominated by Douglas-fir trees of a range of sizes and ages. Large veteran trees are common. Douglas-fir also dominates tree regeneration layers. The undergrowth vegetation typically has a moderate to high cover of pinegrass and showy aster. Scattered low shrubs are present, especially common juniper and birch-leaved spirea. Cover of mosses and lichens is relatively sparse, and exposed mineral soil is common. Douglas-fir dominance of the canopy and regeneration layers and the absence of a well-developed moss layer distinguish the vegetation of these sites.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol LP	Site Unit Name PI – Pinegrass – Arnica	BGC SBPSmk	Site Series Number 01
<p>Structural stage: 7 Dominates the SBPSmk landscape. These sites are generally level to gently sloping and vegetated by even-aged lodgepole pine forests with sparse densities of lodgepole pine, hybrid white spruce, and rarely subalpine fir regeneration. Douglas-fir is occasionally present in the canopy and regeneration layers. Stands occur as a patchwork of age classes and densities, depending upon fire history. Small aspen stands occur locally. The undergrowth is dominated by pinegrass, bunchberry, twinflower, and a thick carpet of feathermosses (especially red-stemmed feathermoss). Shrubs (especially prickly rose, birch-leaved spirea, and black huckleberry) are common but mostly less than 30 cm tall.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

Site Unit Symbol ST	Site Unit Name Sxw – Twinberry	BGC SBPSmk	Site Series Number 06
<p>Structural stage: 7 This is the most common site series of the SBPSmk that is wetter than /01 sites. It occurs on lower and toe slope positions and on broad, level areas with poorly developed drainage systems. These sites have relatively cold soils and frequent summer frost beneath canopy openings. The mature forest canopy is dominated by hybrid white spruce or a mixture of lodgepole pine and spruce. Subalpine fir is often present, especially in tree regeneration layers with spruce. Several forbs are present but pinegrass cover is sparse. Low shrubs have a moderate cover and include black twinberry, prickly rose, and highbush–cranberry. The undergrowth vegetation is distinguished by black twinberry, common mitrewort, trailing raspberry, and palmate coltsfoot, and by the absence of common horsetail, soft-leaved sedge, and scrub birch.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p> <ul style="list-style-type: none"> • 			
<p>Slope position: Slope (%): Aspect:</p>			
<p>Soil Moisture Regime: Soil Nutrient Regime:</p>			

SBPSxc

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
LC	PI – Kinnikinnick – Cladonia	SBPSxc	02
Structural stages: 3, 4, 5, 6, 7		Site Modifiers: k, r, s, w	
<p>This site series includes all sites that are drier than average. The typical phase is limited to steep south and south-west facing slopes and crest positions where soils are deep. Slopes are gentle in crest positions while gradients can reach 70% on warm aspect upper slopes. Surficial materials are morainal in origin. Soils are rapidly to well drained with a sandy loam texture. There is little humus development.</p> <p>These pine stands, on gentle crest positions, are usually very open in mature stands but can have a dense canopy of up to 60% in the young pole-sapling stage. Fire has been the main source of disturbance. There are very scattered occurrences of subalpine fir and spruce in the shrub layers of some of these stands. Shrub cover of common juniper, prickly rose and soopolallie is quite sparse but juniper may be more common than in the mesic sites. Herbs are scattered and are the same as in the mesic sites although cover of kinnikinnick is greater while that of pinegrass is generally less. The lack of moss in the bryophyte layer indicates the drier conditions of these submesic ecosystems. <i>Cladonia</i>, and pelt lichens are particularly abundant while reindeer and <i>Stereocaulon</i> species are more scattered.</p> <p>LCw3 occurs on steep warm slopes where fire has been a frequent source of disturbance and a tree canopy is lacking, the flora is significantly different to that described above. Aspen is often dominant in the shrub layer with scattered pine, prickly rose and soopolallie. Rocky mountain juniper, Saskatoon berry and wolf willow also occur on these warm slopes. Grasses are the most noticeable ground cover. Bluebunch wheatgrass, pinegrass, and purple reedgrass may all be locally abundant. Flowering herbs can be diverse but with very low cover. These include kinnikinnick, northern bedstraw, yarrow, nodding onion, pussy toes, cut-leaved anemone, spreading dogbane, draba, spike-like goldenrod, small-flowered penstemmon, shrubby penstemmon, and daisy.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:	Mv, Mx, Cv		
Slope position:	Crest – mid, level		
Slope (%):	All (mostly >15)		
Aspect:	All		
Soil Moisture Regime:	Xeric – submesic		
Soil Nutrient Regime:	Very poor - rich		

Site Unit Symbol LK	Site Unit Name PI – Kinnikinnick – Feathermoss	BGC SBPSxc	Site Series Number 01
Structural stages: 3, 4, 5, 6, 7		Site Modifiers: c, k, s, v, w	
<p>Forests are dominated by lodgepole pine but minor amounts of hybrid spruce, and in the younger stands, trembling aspen occur. Crown closure is often only about 15% but increase to 40 or 50% in some stands. Pine regenerates well in the understory and is often the most abundant species in the shrub layer. Spruce and subalpine fir are scattered. Low shrubs are not usually abundant but always include common juniper, soopolallie, prickly rose and sometimes willow. Pinegrass is always present in these mesic sites. It is sometimes rather patchy while on other sites it forms a lush swath beneath the rather open tree canopy. Here it can be up to 50% ground cover. Flowering herbs are always present but they are not particularly diverse. Heart-leaved arnica, twinflower, fireweed, wild strawberry, yarrow and kinnikinnick commonly occur. Pinegrass and kinnikinnick are the most abundant ground cover. Bryophytes are common but lichens are more abundant and diverse than mosses. <i>Cladonia</i> and <i>Cladina</i> species are dominant. <i>Peltigera</i> and <i>Stereocaulon</i> are more scattered. Red-stemmed feather moss and <i>Dicranum</i> species are rather sparse.</p> <p>Species do not appear to change significantly from young forests to older forests. Crown closure tends to be rather open in all seral stages.</p> <p>These forests occur throughout the area on gentle, mid to lower slopes of all aspects. The surficial material is a morainal blanket or veneer. Soils are well to moderately drained Brunisolic Grey Luvisols or Orthic Dystric Brunisols with a silt loam texture and varying amounts of coarse fragments that can reach 85%. A hemimor humus type is usual.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types: Mb, Mv, FG			
Slope position:	Level, mid, lower		
Slope (%):	0 – 30		
Aspect:	All		
Soil Moisture Regime:	Submesic – mesic		
Soil Nutrient Regime:	Poor - rich		

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
SB	Sxw – Scrub birch – Fen moss	SBPSxc	03
<p>Structural stage: 3, 4, 5, 6, 7</p> <p>Spruce forms the tree canopy in the older stands of this site series while pine is more common in the young stands. Disturbance has been caused by fire. There is little regeneration of tree species in the understorey but scrub birch and Bebb’s willow form quite a dense shrub layer. Other shrubs of more mesic sites such as common juniper, prickly rose and soopolallie are present in small amounts. Herbs are quite varied but they are not abundant. Northern bedstraw, wild strawberry, fireweed, yarrow, meadowrue, paintbrush, twinflower, nagoonberry, cut-leaved anemone, showy aster, kinnikinnick and coltsfoot are scattered. Glow moss is abundant while <i>Dicranum</i> species and pelt lichens are sparse.</p> <p>This ecosystem develops on level to very gentle slopes adjacent to shrubby or herbaceous wetlands in lower slope and toe positions where soil conditions are moister than average. Drainage is imperfect to poor and gleysols have developed as a result. The surficial material is morainal or fluvio-glacial and soils have a high coarse fragment content but a silt clay texture.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p>	<p>Mb, FG</p>		
<p>Slope position:</p>	<p>Lower, toe, depression</p>		
<p>Slope (%):</p>	<p>0 – 10</p>		
<p>Aspect:</p>	<p>All</p>		
<p>Soil Moisture Regime:</p>	<p>Subhygric</p>		
<p>Soil Nutrient Regime:</p>	<p>Poor</p>		

Site Unit Symbol SF	Site Unit Name Sxw – Scrub birch – Feathermoss	BGC SBPSxc	Site Series Number 04
<p>Structural stages : 4, 5, 6, 7 Occurs on lower and toe slope positions, most commonly at the perimeter of herbaceous wetlands and occasionally as a narrow zone upslope of the SBPSxc /03. Growing-season frost is probably less common than in /03 sites. The mature forest canopy is typically closed, and dominated by white spruce and lodgepole pine. Spruce regeneration is common. The undergrowth vegetation is characterized by a moderate cover of low shrubs and a relatively rich variety of forbs. Abundant coltsfoot and black twinberry, but little or no common horsetail or scrub birch, distinguishes the vegetation. Shrub cover is generally less than in the /03 site series.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p>	<p>Mb, Ov, FG</p>		
<p>Slope position:</p>	<p>Lower, toe</p>		
<p>Slope (%):</p>	<p>0 – 25</p>		
<p>Aspect:</p>	<p>All</p>		
<p>Soil Moisture Regime:</p>	<p>Subhygric</p>		
<p>Soil Nutrient Regime:</p>	<p>Medium, rich</p>		

Site Unit Symbol SM	Site Unit Name Sxw – Horsetail – Meadowrue	BGC SBPSxc	Site Series Number 06
Structural stages: 3, 4, 5, 6		Status: BLUE	
<p>These ecosystems occur as narrow bands of forest in wet sites adjacent to stream channels or in moist depressions. Seepage water is almost continuous and the soils are nutrient rich. Spruce, balsam poplar and lodgepole pine all occur in the main tree canopy. Trembling aspen can occur also in the understory. Shrubs are sparse but include black twinberry, high-bush cranberry, rose and soopollalie. Herbs are abundant and lush, with a 30% cover of meadowrue. Baneberry, common horsetail, star-flowered false Solomon’s seal, and cow-parsnip are common. Other herbs include arctic lupine, bracted lousewort, northern bedstraw and trailing raspberry.</p> <p>This ecological community is considered vulnerable (S3) and is blue-listed in BC (CDC 2006), but not listed Federally. This community was sampled during the TEM fieldwork and is present within the transmission corridor and access road, but not in the minesite LSA. This distribution of this plant community is very restricted within this subzone, with patch sizes being small and linear. Due to the presence of nearby water, the understory plants are often damaged by livestock.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:	Ov, Ob		
Slope position:	Lower, toe, depression		
Slope (%):	0 – 15		
Aspect:	All		
Soil Moisture Regime:	Subhygric, hygric		
Soil Nutrient Regime:	Rich, very rich		

Site Unit Symbol SH	Site Unit Name Sxw – Horsetail – Glow moss	BGC SBPSxc	Site Series Number 05
<p>Structural stages: 3, 4, 5, 6, 7 These moist ecosystems have a very open canopy of spruce with a dense layer of green alder beneath. Other shrubs, black twinberry, prickly rose and black gooseberry are sparse. Herbs are lush and indicative of moist conditions. Common horsetail, sedges and grasses dominate. Other herbs include aster, kidney-leaved violet, small bedstraw, and dandelion. The bryophyte layer includes leafy mosses and palm moss but it is not well developed.</p> <p>These moist sites are very limited in occurrence. They occur in depressional areas where the water table is at or closes to the surface. Slightly drier hummocks alternate with wet depressions in sites observed.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>			
<p>Common Terrain Types: Ov, Ob</p>		<p>Insert picture here</p>	
<p>Slope position:</p>	<p>(lower) toe, depression</p>		
<p>Slope (%):</p>	<p>0 – 10</p>		
<p>Aspect:</p>	<p>All</p>		
<p>Soil Moisture Regime:</p>	<p>Subhygric, hygric</p>		
<p>Soil Nutrient Regime:</p>	<p>Poor – rich</p>		

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
WM	Grey-leaved willow – Glow moss	SBPSxc	Sc02
<p>Structural stage: 3a Grey-leaved willow and scrub birch form a dense shrub layer that is about one to two metres in height. Cover is usually greater than 60%. Other shrubs, such as Barclay's willow, hoary willow may have sparse cover. In some sites black twinberry, prickly rose and short-fruited willow are scattered. The odd spruce or pine sapling may occur. Beaked sedge and water sedge are usually present but are significantly less abundant (< 30% cover) than in the sedge wetlands. Other herbaceous species are very diverse but individual cover is low. Coltsfoot, both arrow-leaved and sweet, occurs most consistently while asters, northern gentian, meadowrue, large-leaved avens, yarrow, wild strawberry, graceful cinquefoil and marsh valerian commonly occur. Moss cover is often rather insignificant with glow moss, followed by fuzzy golden moss, being the most common species. In some sites it forms a thick carpet.</p> <p>Shrub carrs occur in lower slope and level positions on gentle slopes on any aspect. Drainage is imperfect to poor and soils are usually gleysols with an organic veneer. Soils are loams with a high coarse fragment. Humus forms are humimors and hemimors.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:	Op, Ob, Ov		
Slope position:	Level, lower		
Slope (%):	0 - 2		
Aspect:	999		
Soil Moisture Regime:	subhygric - subhydric		
Soil Nutrient Regime:	Poor – rich		

Site Unit Symbol WW	Site Unit Name Willow – Scrub birch – Sedge fen	BGC SBPSxc	Site Series Number Wf04
<p>Structural stage: 3a Barclay’s willow, grey-leaved willow, and scrub birch are the most common low shrubs in this wetland. Sedges, usually dominated by water and beaked sedges, form a dense cover of greater than 60%. In some sites the shrubs were lower than the sedges while in others they were up to one metre in height and very noticeable. Bluejoint reedgrass is quite common and scattered herbs may include large-leaved avens, coltsfoot and Sitka burnet but herb diversity and coverage is much lower than in the shrub carr (WM). There is a thick moss cover dominated by glow moss, golden fuzzy and <i>Drepanocladus</i> spp.</p> <p>In one or two sites sphagnum mosses were common but other species indicators of bog conditions such as Labrador tea, western bog-laurel, crowberry and bog cranberry were either very sparse or lacking and these sites have been mapped as WS. Spruce in the tree and shrub layers form a noticeable but sparse component at a few sites but the total tree species cover is always less than 10% in total. The remaining vegetation remains unchanged although sedge coverage is somewhat reduced. These wet, organic sites are not identified as forested site series and are included in the WS.</p> <p>Shrub fens occur on organic blankets or veneers in depressional areas. Slopes are negligible, drainage is poor to very poor and the surface is always wet. The organic materials are usually fibrisols with fibrimor humus at the surface.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p>	<p>Op, Ob</p>		
<p>Slope position:</p>	<p>Depression, level</p>		
<p>Slope (%):</p>	<p>0</p>		
<p>Aspect:</p>	<p>999</p>		
<p>Soil Moisture Regime:</p>	<p>subhydric - hydric</p>		
<p>Soil Nutrient Regime:</p>	<p>Medium - rich</p>		

Site Unit Symbol	Site Unit Name	BGC	Site Series Number
BM	Beaked sedge – water sedge marsh	SBPSxc	Wm01
Structural stage: 2b			
<p>This type of marsh occurs on sites that are inundated by shallow waters. Standing water is usually present throughout the growing season, but some examples become almost dry in late summer. Situations include lake margins, floodplains, flooded beaver ponds, and basins. Plant cover is dominated by water sedge and beaked sedge with scattered herbs, aquatic plants and mosses.</p>			
List of mapped units:			
SITE INFORMATION		Insert picture here	
Common Terrain Types:	Op, Ob		
Slope position:	Depression, level		
Slope (%):	0		
Aspect:	999		
Soil Moisture Regime:	subhydric - hydric		
Soil Nutrient Regime:	Medium - rich		

Site Unit Symbol DS	Site Unit Name Drummond's willow - Sedge swamp	BGC SBPSxc	Site Series Number Ws04
<p>Structural stage: 3b</p> <p>Tall shrubs of Drummond's, grey-leaved and tea-leaved willows separate these wetlands from other shrub fens identified. Isolated pine and spruce saplings may occur. Black twinberry, black gooseberry and scrub birch will be scattered as low shrubs. Herbs vary in species from site to site but can include leafy aster, field mint, Sitka burnet, meadowrue, violets, fireweed and large leaved avens. Beaked and water sedge can also be common. The moss layer is poorly developed or absent.</p> <p>These ecosystems are limited to streamside locations on fluvial deposits. The sites are level to very gently sloping in toe positions. Drainage is imperfect but flooding occurs and soils are regosols. Rich nutrient conditions are reflected in mull humus forms.</p>			
<p>List of mapped units:</p>			
<p>SITE INFORMATION</p>		<p>Insert picture here</p>	
<p>Common Terrain Types:</p>	<p>Fv, Fp, Ov</p>		
<p>Slope position:</p>	<p>Depression, level</p>		
<p>Slope (%):</p>	<p>0</p>		
<p>Aspect:</p>	<p>999</p>		
<p>Soil Moisture Regime:</p>	<p>subhydric - hydric</p>		
<p>Soil Nutrient Regime:</p>	<p>Medium - rich</p>		