NORTH COAST TERRESTRIAL ECOSYSTEM MAPPING

(LANDSCAPE UNITS: KAIEN, QUOTOON, SCOTIA, BROWN, KUMEALON, HEVENOR)

EXPANDED LEGEND

Prepared for:

Corey Erwin

Ministry Contract Monitor

Corey.Erwin@gov.bc.ca

Prepared by:

Ecora

Resource Group Ltd.

218-1884 Spall Road

Kelowna, BC, V1Y 4R1

250-469-9757

March 31, 2013

CWHvh2

BGC: CWHvh2	**Site Series:** 01	**Name:** CwHw - Salal	**Map Code:** HS

Concept Description
Zonal sites representative of regional climate; typically occur on gentle to moderate slopes (occasionally steep) on middle, level, and upper slope positions; shallow to moderately deep, moderately well to imperfectly drained soils associated with morainal, organic (folisol), and marine parent materials; more prominent on poor bedrock type as it can occur on steep terrain; relatively open and scrubby forests with Cw-Yc-Hw (Pl-Ss) canopy; productivity low to moderate; more prevalent in areas of poor bedrock type where the unit can carry on up steeper slopes.

Characteristic Vegetation
Tree: redcedar, western hemlock, yellow-cedar, (shore pine, Sitka spruce)
Shrub: Salal, false azalea, red huckleberry, Alaska blueberry
Herb: deer fern, bunchberry
Moss/lichen: step moss, lanky moss

BGC: CWHvh2	**Site Series:** 02	**Name:** PlYc - Rhacomitrium	**Map Code:** LR

Concept Description
Occurs only on the most exposed rock knolls and ridge crests that have very thin, poorly developed soils; open and stunt Pl-Yc forests; productivity very poor; uncommon and small in size, rare in low land area; very rare in high relief area; more prevalent in areas of poor bedrock type

Characteristic Vegetation
Tree: yellow cedar, redcedar, western hemlock (shore pine)
Shrub: salal, false azalea, red huckleberry, (Alaskan blueberry)
Herb: deer fern, bunchberry, (twinflower, skunk cabbage)
Moss/lichen: lanky moss, step moss, (Oregon beaked-moss, common green peat-moss)

BGC: CWHvh2	**Site Series:** 03	**Name:** CwYc - Salal	**Map Code**: RS

Concept Description
Occurs on slightly dry to fresh sites, typically occur on gentle to moderate (occasionally steep) slopes on a range of crests, upper slope positions; also occurs on bedrock knobs. Xeric to subxeric soil moisture with poor to medium nutrient regime. Stands have poor productivity with relatively open canopy (20-40%). uncommon and small in size, rare to uncommon in both low land area and high relief area; more prevalent in areas of poor bedrock type

Characteristic Vegetation
Tree: yellow cedar, redcedar, western hemlock, shore pine
Shrub: salal, false azalea, red huckleberry
Herb: deer fern**,** bunchberry, twinflower, (crowberry)
Moss/lichen: step moss, lanky moss (reindeer lichens, Oregon beaked-moss, common green peat-moss, peat-moss spp.)

BGC: CWHvh2	**Site Series:** 04	**Name:** HwSs - Lanky moss	**Map Code:** HM

Concept Description
Freely drained sites of mostly mid to upper slope position with steep slopes on colluvial and morainal parent materials; Cw-Hw (Ss-Ba) with good to moderate productivity; similar to zonal ecosystems but with less salal and yellow cedar, no shore pine, and better productivity; often above 06 on steep slopes and above 01 where slope becomes more gentle; can be coarse FG or Ft or Cb where slopes could be gentle; In areas of nutrient rich and medium bedrock types, the 04 would dominate over the 05; as slope increases (>30%) 01 is replaced by 04; maintained in part by history of natural colluvium disturbance

Characteristic Vegetation
Tree: redcedar, western hemlock, (yellow cedar, amabilis fir)
Shrub: salal, false azalea, red huckleberry
Herb: deer fern**,** bunchberry, twinflower
Moss/lichen: lanky moss, large leafy moss, step moss

BGC: CWHvh2	**Site Series:** 05	**Name:** CwSs - Sword fern	**Map Code:** RF

Concept Description
Base rich bedrock controlled type; this rich forest type occurs on fresh soils that have developed over base-rich bedrock (metamorphics and limestone). Productivity is moderately good to very good, reflecting rich soils and free drainage; usually steep upper to mid slope; rarely occurring on low land areas; mostly restricted to Schists/Gneiss and limestone with small chance of occurrence on Gneissic Diorite

Characteristic Vegetation
Tree: Western hemlock, Sitka spruce, Western red cedar
Shrub: false azalea, red huckleberry
Herb: sword fern, deer fern (spiny wood fern, false lily of the valley)
Moss/lichen: lanky moss, oregon beaked moss

BGC: CWHvh2	**Site Series:** 06	**Name:** CwSs - Foamflower	**Map Code:** SF

Concept Description
Typically mid to lower slope positions on steep colluvium slopes; rarely occur on low land areas; moderately well to imperfectly drained soils with deep to moderately deep (occasionally shallow) morainal, fluvial, and colluvium parent materials; Hw, Cw (SS, Ba) canopy with good productivity; can also be associated with smaller creek/drainage tracks; can occur on all bedrock types but more prevalent on richer bedrock types

Characteristic Vegetation
Tree: western redcedar, western hemlock, amabilis fir
Shrub: false azalea, red huckleberry, alaskan blueberry
Herb: deer fern, spiny wood fern, sword fern, foamflower, bunchberry
Moss/lichen: lanky moss, step moss, large leafy moss

BGC: CWHvh2	**Site Series:** 07	**Name:** CwSs - Devil's club	**Map Code:** SD

Concept Description
Represents very productive forests found on seepage sites typically at lower and toe slopes; subhygric to hygric soil moisture with rich soil nutrient regime; common in seepage sites; lower to toe slope of high relief area; seepage sites with long slope above; Hw-Cw canopy with abundant Ba-Ss of very productive forests; generally localized in lowland areas of poor bedrock types to some riparian sites; occurs on all bedrock types but more prevalent on Gneissic Diorite and Schists/Gneiss bedrock types

Characteristic Vegetation
Tree: western hemlock, redcedar, amabilis fir, Sitka spruce, (red alder)
Shrub: devil's club, salmonberry, red huckleberry, (false azalea)
Herb: deer fern, spiny wood fern, sword fern, oak fern, lady fern, foamflower
Moss/lichen: lanky moss, step moss, large leafy moss

BGC: CWHvh2	**Site Series:** 08	**Name:** Ss - Lily-of-the-valley	**Map Code:** SL

Concept Description
Productive forested ecosystems on high fluvial benches that experience occasional flooding and are on active floodplains of larger rivers; mesic to hygric soil moisture with rich to very rich soil nutrient regime; typically located in poorly drained ecosystems, flowing water, and back channels; canopy is dominated by Ss and Hw and have a canopy closure between 40 and 60%; forest floors are approximately between 10 and 15 cm.

Characteristic Vegetation
Tree: Sitka spruce, western hemlock, amabilis fir (redcedar, red alder)
Shrub: Devil's club, Alaskan blueberry, false azalea (salmonberry, red huckleberry)
Herb: false lily-of-the-valley, spiny wood fern, foamflower, lady fern (deer fern, stream violet, enchanter's nightshade)
Moss/lichen: lanky moss, step moss, large leafy moss, coastal leafy moss

BGC: CWHvh2	**Site Series:** 09	**Name:** Ss - Trisetum	**Map Code:** ST

Concept Description
Forested sites on middle fluvial bench forested ecosystem on active floodplains of larger rivers; mesic to hygric soil moisture with rich to very rich soil nutrient regime; tend to experience prolonged elevated water tables during the growing season; mixed Ss-Hw and Dr canopy.

Characteristic Vegetation
Tree: Sitka spruce, western hemlock, red alder
Shrub: western hemlock, Sitka spruce
Herb: false lily-of-the-valley, three-leaved foamflower, hairy wildrye, Alaska oniongrass, nodding trisetum
Moss/lichen: step moss, lanky moss, Oregon beaked moss, alligator liverwort, stiff-leaved haircap moss, (common green sphagnum, palm tree moss, coastal leafy moss)

BGC: CWHvh2	**Site Series:** 10	**Name:** Dr - Lily-of-the-valley	**Map Code:** AL

Concept Description
Forested ecosystem on active floodplain of larger rivers on low fluvial bench riparian sites that experience prolonged annual flooding; mesic to hygric soil moisture with rich to very rich soil nutrient regime; predominantly Dr forest and minor Ss

Characteristic Vegetation
Tree: red alder, Sitka spruce
Shrub: salmonberry
Herb: false-lily-of-the-valley, nodding trisetum, lady fern, skunk cabbage
Moss/lichen: large leafy moss, shiny liverwort, palm tree moss, alligator liverwort, coastal leafy moss

BGC: CWHvh2	**Site Series:** 11	**Name:** CwYc - Goldthread	**Map Code:** YG

Concept Description
Bog forests; can be found in all slope positions (bedrock controlled) but most prevalent in areas of gentle relief; often near none-forested wetland with gentle to moderate slope or convex topography adjacent to non-treed wetland or bog woodlands; mostly common on areas of poor bedrock types where the unit can extend to steeper slopes than in richer rock areas. Soil moisture regime 5-6 with B-C nutrient regime; scrubby Cw-Yc-Hw-Pl forests with low productivity

Characteristic Vegetation
Tree: yellow cedar, red cedar, western hemlock, shore pine, (mountain hemlock)
Shrub: salal, false azalea, red huckleberry
Herb: deer fern, bunchberry, skunk cabbage, sedge spp., goldthread, pacific reed grass, Indian hellebore
Moss/lichen: lanky moss, step moss, peat-moss spp. common green sphagnum

BGC: CWHvh2	**Site Series:** 12	**Name:** PlYc - Sphagnum	**Map Code:** LS

Concept Description
Bog woodland forests; typically occur on flat, very gentle or depressional slope positions; soil moisture regime 6-7 with A-B soil nutrient regime; Pl (Yc, Cw) dominated canopy on organic soil; very open and non-productive; often associated with none-treed wetland on level topography

Characteristic Vegetation
Tree: yellow cedar, shore pine, western redcedar (mountain hemlock)
Shrub: labrador tea, salal, sweet gale false azalea, oval-leaved blueberry, red huckleberry
Herb: sedge spp., crowberry, tufted club rush, deer fern, goldthread, bunchberry, western bog-laurel
Moss/lichen: lanky moss, step moss, peat-moss spp., (reindeer lichens, common green sphagnum)

BGC: CWHvh2	**Site Series:** 13	**Name:** CwSs - Skunk cabbage	**Map Code:** RC

Concept Description
Swamp forests; typically occur on toe, level, depression slope positions and often associated with fluvial materials; soil moisture 6-7 with C-D nutrient regimes; mostly organic over fluvial; Cw, Hw, Yc, Ss (Pl, Ba) forests; productivity ranges from poor to good; occurs on all bedrock types

Characteristic Vegetation
Tree: western redcedar, yellow cedar, shore pine, western hemlock, (mountain hemlock)
Shrub: salal, false azalea, red huckleberry, (labrador tea)
Herb: skunk cabbage, goldthread, deer fern, sedge spp., bunchberry
Moss/lichen: step moss, lanky moss, shiny liverwort, common green peat-moss

BGC: CWHvh2	**Site Series:** 14	**Name:** Ss - Salal	**Map Code:** SS

Concept Description
Windswept Ss, Cw, Hw forests with dense salal understory on shoreline; typically occur on rocky coastal headlands where high winds and saltspray create wind-sculpted tree canopies; moderately well to imperfectly drained soils associated with shallow organic (folisol) parent materials.

Characteristic Vegetation
Tree: sitka spruce, redcedar, western hemlock
Shrub: salal
Herb: false lily-of-the-valley, deer fern
Moss/lichen: Oregon beaked-moss, lanky moss, step moss

CWHvm1

BGC: CWHvm1	**Site Series:** 01	**Name:** HwBa – Blueberry	**Map Code:** AB

Concept Description
Zonal ecosystem; soil moisture 3-4 with B-C soil nutrient regime; typically occurs on shallow to moderately deep, well to moderately well drained soils associated with morainal, organic (folisol) and colluvial parent materials; mid to upper slope position; gentle to very steep; Hw-Ba forests of moderately productive

Characteristic Vegetation
Tree: western hemlock, amabilis fir western redcedar
Shrub: alaskan blueberry, salal
Herb: deer fern, bunchberry, five leaved bramble
Moss/lichen: lanky moss, step moss

BGC: CWHvm1	**Site Series:** 02	**Name:** HwPl - Cladina	**Map Code:** LC

Concept Description
Dry ecosystem; very exposed bedrock with very thin soil; mostly upper to crest; soil moisture regime 0-1 with A-B soil nutrient regime; very open and stunted forests of Hw, Cw, and Pl; often found on bedrock humps surrounded by open bogs or bog woodlands

Characteristic Vegetation
Tree: shore pine, western redcedar, western hemlock
Shrub: salal, alaskan blueberry
Herb: deer fern, crowberry
Moss/lichen: rock moss, reindeer lichens, red-stemmed feathermoss, step moss

BGC: CWHvm1	**Site Series:** 03	**Name:** HwCw - Salal	**Map Code:** HS

Concept Description
bedrock outcrops with thin soil of rapid drainage; soil moisture 1-2 with A-C nutrient regime; occur on gentle to steep slopes on a range of crests, upper, and middle slope positions; shallow morainal and colluvial parent materials; moderately stocked Hw-Cw forests with poorer productivity than zonal ecosystem

Characteristic Vegetation
Tree: western hemlock, redcedar, (shore pine, amabilis fir)
Shrub: salal, Alaskan blueberry
Herb: deer fern**,** bunchberry
Moss/lichen: step moss, lanky moss, Oregon beaked moss

BGC: CWHvm1	**Site Series:** 04	**Name:** CwHw – Sword fern	**Map Code:** RS

Concept Description
The unit is very rare; restricted to rich bedrock types (i.e., Schists/Gneiss, to less extent Gneissic Diorite); typically occurs on steep and upper colluvium slopes. Hw-Cw (SsBa) canopy with moderate (to high) productivity.

Characteristic Vegetation
Tree: western hemlock, Sitka spruce, western red cedar
Shrub: alaskan blueberry
Herb: sword fern, spiny wood fern, oak fern
Moss/lichen: lanky moss, Oregon beaked moss, step moss, and leafy moss

BGC: CWHvm1	**Site Series:** 05	**Name:** BaCw - Foamflower	**Map Code:** AF

Concept Description
Productive ecosystems; soil moisture regime 3-4 and D-E nutrient regime; typically occurs in mid to lower slopes; soils associated with deep to moderately deep morainal, fluvial, marine, and occasionally colluvial parent materials; gentle to moderate on shorter slopes and steep on longer slopes; highly productive forests with Hw-Ba-Ss-Cw canopy

Characteristic Vegetation
Tree: western hemlock, amabilis fir, western redcedar, Sitka spruce
Shrub: alaskan blueberry, salmonberry, devil's club
Herb: spiny wood fern, deer fern, oak fern, foam flower, lady fern
Moss/lichen: lanky moss, step moss, Oregon beaked moss, leafy moss

BGC: CWHvm1	**Site Series:** 06	**Name:** HwBa - Deer fern	**Map Code:** HD

Concept Description
Typically occurs on gentle to moderately steep slopes on middle, lower, and level slope positions; concave topography, particularly on shallow soils; imperfectly to poorly drained soils associated with shallow to moderately deep, morainal, organic (folisol), and marine parent materials; commonly intermixed with zonal ecosystems; Hw-Cw-Ba (Ss) with significant more Cw than mesic forests

Characteristic Vegetation
Tree: western hemlock, redcedar, amabilis fir (Sitka spruce)
Shrub: salal, alaskan blueberry, (salmonberry)
Herb: deer fern, bunchberry, (spiny wood fern, five leaved bramble, goldthread)

Moss/lichen: lanky moss, step moss, (leafy moss, common green sphagnum)

BGC: CWHvm1	**Site Series:** 07	**Name:** BaCw– Salmonberry	**Map Code:** AS

Concept Description
Typically occur on gentle to steep slopes on lower and level slope positions and in the lower portions of draws; rich nutrient regime with SMR 5-6; imperfectly to poorly drained soils associated with moderately deep to deep fluvial, morainal, marine, and occasionally colluvial parent materials; common along lower slopes and valley bottoms in glaciated valleys; productive forest type

Characteristic Vegetation
Tree: western hemlock, redcedar, amabilis fir
Shrub: salmonberry, (salal, red huckleberry, Alaskan blueberry, false azalea, Devil's club, red elderberry)
Herb: deer fern, spiny wood fern, sword fern (lady fern, skunk cabbage, foamflower, twisted stalk)
Moss/lichen: lanky moss, (step moss, Oregon beaked-moss, large leafy moss)

BGC: CWHvm1	**Site Series:** 08	**Name:** BaSs – Devil's club	**Map Code:** AD

Concept Description
Productive ecosystem; common on colluvial seepage slopes; soil moisture 5-6 with D-E nutrient regime, lower-toe slope with significant slope length above; also common on draws and on fluvial parent material; highly productive forests with Hw-Ba-Ss canopy

Characteristic Vegetation
Tree: western hemlock, amabilis fir, sitka spruce (western redcedar)
Shrub: Devil's club, alaskan blueberry, salmon berry
Herb: spiny wood fern, oak fern, foamflowers, bunchberry
Moss/lichen: lanky moss, leafy moss, step moss

BGC: CWHvm1	**Site Series:** 09	**Name:** Ss – Salmonberry	**Map Code:** SS

Concept Description
Forested ecosystems on high bench alluvial floodplains; mostly common on valley bottom adjacent to major rivers; typically occur in complex with more active floodplain ecosystems, poorly drained ecosystems, back channels, and flowing water; soils derived from fluvial parent materials

Characteristic Vegetation
Tree: Sitka spruce, western hemlock, amabilis fir, (red alder, redcedar)
Shrub: Devil's club, red-osier dogwood, salmonberry, (red huckleberry, Alaskan blueberry)
Herb: lady fern, foamflower, sword fern, (spiny wood fern, oak fern, deer fern, bunch berry)
Moss/lichen: leafy moss, lanky moss, (step moss)

BGC: CWHvm1	**Site Series:** 12	**Name:** CwYc – Goldthread	**Map Code:** YG

Concept Description
Bog forest; typically occur on flat or gentle slopes on level, lower, depressional, and middle slope positions; 6-7 soil moisture regime and B soil nutrient regime; poorly drained soils associated with shallow to moderately deep, organic and morainal parent materials; typically located in concave topography, particularly on shallow soils

Characteristic Vegetation
Tree: western hemlock, western redcedar, (Sitka spruce, yellow cedar)
Shrub: alaskan blueberry
Herb: fern-leaved goldthread, bunchberry, five-leaved bramble, deer fern
Moss/lichen: lanky moss, common green sphagnum, step moss

BGC: CWHvm1	**Site Series:** 13	**Name:** Pl-Sphagnum	**Map Code:** LS

Concept Description
Bog woodland ecosystems are localized depressional sites with deep organic soil; soil moisture regime 7 with A-B soil nutrient regime; typically occur on flat or very gentle slopes on level or depressional slope positions; very open and scrubby Pl-Cw canopy with very poor productivity; often adjacent to or intermixed with non-treed bogs

Characteristic Vegetation
Tree: western redcedar, shore pine (western hemlock, yellow cedar)
Shrub: salal, labrador tea
Herb: bunchberry, deer fern, five-leaved bramble, fern-leaved goldthread
Moss/lichen: lanky moss, common green sphagnum, step moss

BGC: CWHvm1	**Site Series:** 14	**Name:** CwSs – Skunk cabbage	**Map Code:** RC

Concept Description
Swamp forest; typically occur on flat or gentle slopes on level, lower, and depressional slope positions; soil moisture 6-7 with C-D nutrient regime. generally have mineral rich water input; downslope of 07/08; Cw-Hw-Ss canopy of relatively open, low to moderate productivity; the unit is similar to bog forest (12) ecosystems except it has more skunk cabbage and shallower water table; in riparian areas, the unit is richer and better aerated, and feature more rich indicator species and better productivity.

Characteristic Vegetation
Tree: western redcedar, western hemlock, Sitka spruce, (yellow cedar, red alder, amabilis fir)
Shrub: salal, alaskan blueberry, salmonberry (stint current)
Herb: skunk cabbage, deer fern, bunchberry, five-leaved bramble, fern-leaved goldthread
Moss/lichen: lanky moss, step moss (common green sphagnum, leafy moss, Oregon beaked moss)

BGC: CWHvm1	**Site Series:** 00	**Name:** CwHw-Fern Bluffs	**Map Code:** RM

Concept Description
Forested bluffs and cliffs; influenced by extreme microsite variation such as ledges and crevices, and occasional surface seepage. Sites are restricted due to shallow soils and generally occur on very thin colluvial and organic material; 1-5 soil moisture regime and B-C soil nutrient regime

Characteristic Vegetation
Tree: western hemlock, western redcedar, (amabilis fir, yellow cedar)
Shrub: no data available
Herb: no data available
Moss/lichen: no data available

CWHvm2

BGC: CWHvm2	**Site Series:** 01	**Name:** HwBa - Blueberry	**Map Code:** AB

Concept Description
Zonal sites representing regional climate; soil moisture regime 3-4 with A-C soil nutrient regime; typically occur on shallow to moderately deep, well to moderately well drained soils associated with morainal, organic (folisol) and colluvial parent materials; diversified but relatively open canopy of Hw-Ba-Hm-Yc-Cw with moderate productivity

Characteristic Vegetation
Tree: western hemlock, amabilis fir, mountain hemlock, yellow cedar, western red cedar
Shrub: alaskan blueberry, salal
Herb: five-leaved bramble, deer fern, rose twistedstalk
Moss/lichen: lanky moss, step moss, pipecleaner moss

BGC: CWHvm2	**Site Series:** 02	**Name:** HwPl - Cladina	**Map Code:** LC

Concept Description
bedrock outcrop site with very thin soils (10-30 cm); soil moisture regime 0-1 with A-B soil nutrient regime; open stunted forests of Pl-Hm-Fd-Yc-Hw; often surrounded by sloping bogs on ridge crests.

Characteristic Vegetation
Tree: yellow cedar, shore pine, mountain hemlock
Shrub: salal, false azalea, copperbush, Alaskan blueberry, oval-leaved blueberry
Herb: crowberry, pink mountain-heather
Moss/lichen: reindeer and clad lichens, red-stemmed feathermoss (step moss, pipecleaner moss, lanky moss)

BGC: CWHvm2	**Site Series:** 03	**Name:** HwCw - Salal	**Map Code:** HS

Concept Description
Drier and forested ecosystems occurring on ridge top or upper slope; soil moisture regime 1-2 with A-B soil nutrient regimes; some bedrock outcrops; thin soil with rapid drainage; Hw-Cw-Yc canopy with moderately stocked but poorly growth trees; scrub forests intermixed with rock cliff are often grouped into this unit

Characteristic Vegetation
Tree: western hemlock, western redcedar, yellow cedar, (amabilis fir)
Shrub: salal, Alaskan blueberry, oval-leaved blueberry
Herb: deer fir, bunchberry
Moss/lichen: lanky moss, step moss, pipecleaner moss, red-stemmed feather moss

BGC: CWHvm2	**Site Series:** 05	**Name:** BaCw - Foamflower	**Map Code:** AB

Concept Description
Typically occur on gentle to moderately steep slopes on middle, lower slope positions; upper to lower on colluvial steep slopes and fluvial fans with seepage influence; soil moisture regime 3-4 with D-E soil nutrient regime; Hw-Ba-Cw with good productivity

Characteristic Vegetation
Tree: western hemlock, amabilis fir, sitka spruce, western redcedar, mountain hemlock
Shrub: alaskan blueberry, (salmonberry)
Herb: spiny wood fern, five leaved bramble, rosy twistedstalk, seer fern, foam flowers, oak fern
Moss/lichen: lanky moss, step moss, pipecleaner moss, leafy moss, common green sphagnum

BGC: CWHvm2	**Site Series:** 06	**Name:** HwBa - Deer fern	**Map Code:** HD

Concept Description
Typically occur on gentle to moderately steep slopes on middle, lower, and level slope positions; mid to lower slope below mesic sites (01); Hw-Cw-Yc-Ba (Hm) forests with moderate growth; Yc and Cw are more abundant than upper slope 01. It is often intermixed with 01 and can be intermixed with 09 on some lower but gentle slopes.

Characteristic Vegetation
Tree: western redcedar, western hemlock, Sitka spruce, (yellow cedar, yellow cedar, red alder, amabilis fir)
Shrub: salal, Alaskan blueberry, salmonberry (stink current)
Herb: skunk cabbage, deer fern, bunchberry, five-leaved bramble, fern-leaved goldthread
Moss/lichen: lanky moss, step moss (common green sphagnum, leafy moss, Oregon beaked moss)

BGC: CWHvm2	**Site Series:** 08	**Name:** BaSs - Devil's club	**Map Code:** AD

Concept Description
Typically occur on mid to lower slope positions; colluvial (steep) and fluvial materials (gully seepage bank and bottom); 5-6 soil moisture regime and D-E soil nutrient regime; Hw-Ba-Cw codominate with very good productivity; above 11 units; sites are mostly on colluvial parent material

Characteristic Vegetation
Tree: western hemlock, western redcedar, amabilis fir, (Sitka spruce)
Shrub: devil's club, Alaskan blueberry, salmonberry
Herb: foamflower, lady fern, spiny wood fern
Moss/lichen: step moss, lanky moss, leafy moss

BGC: CWHvm2	**Site Series:** 09	**Name:** CwYc - Goldthread	**Map Code:** YG

Concept Description
Bog forest; typically on gentle to level terrain; 5-6 soil moisture regime and A-C soil nutrient regime; scrubby forests of Yc-Hw-Hm-Cw-Ba with poor productivity; 09 can be found on steeper slopes at higher elevations or on very poor bedrock types; may intermix with 10 on gentle slopes and 11 on depressions; often a dense understory of coniferous revegetation and a very open crown closure (20-40%); 09 is distinguished from 06 site as it is less productive, there is skunk cabbage, and the soils are wet organic

Characteristic Vegetation
Tree: yellow-cedar, western hemlock, mountain hemlock, redcedar, (amabilis fir)
Shrub: Alaskan blueberry, salal, oval-leafed blueberry, Labrador tea, false azalea, red huckleberry
Herb: deer fern, goldthread, five-leaved bramble, skunk cabbage, (devil's club, Indian hellebore)
Moss/lichen: lanky moss, common green sphagnum, step moss, (red-stemmed feathermoss, leafy moss)

BGC: CWHvm2	**Site Series:** 10	**Name:** Pl - Sphagnum	**Map Code:** LS

Concept Description
Bog woodland forest; usually adjacent to non-treed wetland (gentle slopes or broad ridge crests with bedrock induced moisture pooling); subhydric soil moisture regime and A-B soil nutrient regime; very open and scrubby forests of Yc-Hw-Hm-Cw-Ba with poor productivity on peaty organic soil

Characteristic Vegetation
Tree: yellow-cedar, western hemlock, mountain hemlock, redcedar, (amabilis fir, shore pine)
Shrub: Alaskan blueberry, oval-leafed blueberry, Labrador tea, false azalea, red huckleberry
Herb: deer fern, goldthread, five-leaved bramble, skunk cabbage, deer-cabbage, (Indian hellebore)
Moss/lichen: lanky moss, common green sphagnum, step moss, leafy moss, shiny liverwort

BGC: CWHvm2	**Site Series:** 11	**Name:** CwYc - Skunk cabbage	**Map Code:** RC

Concept Description
Swamp forest; typically on lower to gentle toe slope position and depressions with organic soil; Hw-Yc-Hm-Cw-Ba canopy with moderate to poor productivity; usually found in wet places with significant fresh water influence (fluvial); often below 07/08 unit; 7 soil moisture regime and C-E soil nutrient regime

Characteristic Vegetation
Tree: yellow cedar, western hemlock, mountain hemlock, western redcedar, (amabilis fir)
Shrub: salal, Alaskan blueberry, oval-leaved blueberry, salmonberry, red huckleberry
Herb: skunk cabbage, deer fern, five-leaved bramble, foamflower, goldthread, lady fern, Indian hellebore, deer-cabbage
Moss/lichen: lanky moss, step moss, common green sphagnum, leafy moss

BGC: CWHvm2	**Site Series:** 00	**Name:** CwHw-Fern Bluffs	**Map Code:** RM

Concept Description
Forested bluffs and cliffs; influenced by extreme microsite variation such as ledges and crevices, and occasional surface seepage. Sites are restricted due to shallow soils and generally occur on very thin colluvial and organic material; 1-5 soil moisture regime and B-C soil nutrient regime

Characteristic Vegetation
Tree: western hemlock, western redcedar, (amabilis fir, yellow cedar)
Shrub: no data
Herb: no data
Moss/lichen: no data

MHwh1

BGC: MHwh1	**Site Series:** 01	**Name:** HmSs - Blueberry	**Map Code:** MB

Concept Description
Mid slope to crest slope position, gentle to steep topography; scrubby forests and often dense Hm-Hw-Yc (Ss) with poor to low productivity; 2-4 soil moisture regime and A-C soil nutrient regime; sites occur on colluvial parent material and soils are well to moderately well drained; forests are dense with poor productivity

Characteristic Vegetation
Tree: mountain hemlock, western hemlock, yellow-cedar, (sitka spruce)
Shrub: Alaskan blueberry, oval-leafed blueberry
Herb: (goldthread)
Moss/lichen: lanky moss, step moss, leafy liverwort, (heron's bill mosses, common green sphagnum, pipecleaner moss)

BGC: MHwh1	**Site Series:** 02	**Name:** HmYc - Mountain-heather	**Map Code:**MM

Concept Description
Upper slope and crest slope position, typically occurring amongst exposed bedrock on thin organic layers and on hummocky bedrock benches (associated with wet swales amongst bedrock humps); forests have very poor productivity and have an open canopy of Hm-Yc (Cw; Ba) which are less than 10 m in height; 0-2 soil moisture regime and A-C soil nutrient regime

Characteristic Vegetation
Tree: mountain hemlock, redcedar, yellow-cedar, (amabilis fir)
Shrub: Alaskan blueberry, oval-leafed blueberry
Herb: white mountain-heather, Alaskan mountain-heather, pink mountain-heather, partridgefoot, Pacific reedgrass, (bunchberry, five-leaved bramble, Indian hellebore)
Moss/lichen: heron's-bill mosses, lanky moss, red-stemmed feathermoss, (leafy moss)

BGC: MHwh1	**Site Series:** 04	**Name:** HmYc – Goldthread	**Map Code:** YG

Concept Description
Mid to upper slope position; gentle to moderate slopes; Yc and Hm canopy with very low productivity; vegetation is scrubbier than 01 but often intermixed; subhygric soil moisture regime and A-C soil nutrient regime; soils are imperfectly (to poorly) drained and have mostly colluvial parent materials

Characteristic Vegetation
Tree: yellow-cedar, mountain hemlock, (western hemlock, redcedar)
Shrub: Alaskan blueberry, oval-leafed blueberry
Herb: white mountain-heather, Pacific reedgrass, goldthread, (Alaskan mountain-heather, bunchberry, five-leaved bramble)
Moss/lichen: lanky moss, leafy liverwort, pipecleaner moss, (step moss, leafy mosses, common green sphagnum)

BGC: MHwh1	**Site Series:** 05	**Name:** YcHm – Twistedstalk	**Map Code:** YT

Concept Description
Mid to lower slope position; mostly steep slope with constant seepage; Yc-Hm and Ss canopy with highest productivity in MH (still only moderate productivity); subhygric soil moisture and D-E soil nutrient regime; understory shrub vegetation is floristically similar to zonal sites

Characteristic Vegetation
Tree: yellow-cedar, mountain hemlock, Sitka spruce
Shrub: Alaskan blueberry, oval-leafed blueberry
Herb: Pacific reedgrass, five-leaved bramble, twistedstalks, (bunchberry, goldthread, Indian hellebore)
Moss/lichen: lanky moss, leafy liverwort, leafy mosses, (step moss, heron's-bill mosses, common green sphagnum)

BGC: MHwh1	**Site Series:** 06	**Name:** HmYc - Deer cabbage	**Map Code:** MD

Concept Description
Typically on broad ridge crest and upper gentle slopes (<30%); mostly bedrock induced soil moisture pooling with thin soil; Hm-Yc (Ss, Hw) with very low productivity; often found above 08 unit; hygric soil moisture and A-C soil nutrient regime; soils are poorly aerated and are poorly drained

Characteristic Vegetation
Tree: yellow-cedar, mountain hemlock, (Sitka spruce, western hemlock)
Shrub: oval-leaved blueberry
Herb: deer-cabbage, Indian hellebore, Pacific reedgrass, (Alaskan mountain-heather, bunchberry, goldthread, five-leaved bramble, twistedstalks, sedge species)
Moss/lichen: lanky moss, step moss, pipecleaner moss, (leafy mosses, shiny liverwort, leafy liverwort)

BGC: MHwh1	**Site Series:** 07	**Name:** YcHm - Hellebore	**Map Code:** YH

Concept Description
Intermixed with other wet units on broad crest and gentle upper slope OR below 05 on steep mid to lower slopes; due to excessive moisture, Hm-Yc, (Ss, Hw) canopy with low productivity; hygric soil moisture and D-E soil nutrient regime

Characteristic Vegetation
Tree: yellow-cedar, mountain hemlock, (Sitka spruce, western hemlock)
Shrub: Alaskan blueberry, oval-leafed blueberry, (copperbush)
Herb: Indian hellebore, (Pacific reedgrass, Alaskan mountain-heather, bunchberry, goldthread, five-leaved bramble, twistedstalks, white-marsh marigold, deer-cabbage)
Moss/lichen: lanky moss, step moss, leafy liverwort, pipecleaner moss, (heron's-bill moss, red-stemmed feathermoss, shiny liverwort)

BGC: MHwh1	**Site Series:** 08	**Name:** HmYc – Sphagnum	**Map Code:** YS

Concept Description
Bog forest/woodlands; level crest or depression; open and very scrubby Hm-Yc (Hm, Ss) with very poor productivity; often upper slope and/or adjacent to non-forested wetland but down slope of 06 ecosystem; hygric soil moisture regime and A-B soil nutrient regime; forest canopy is very open with 20-30% crown closure

Characteristic Vegetation
Tree: yellow-cedar, mountain hemlock, (western hemlock, amabilis fir)
Shrub: oval-leafed blueberry, copperbush
Herb: white mountain-heather, Alaskan mountain-heather, pink mountain-heather, goldthread, five-leaved bramble, skunk cabbage, (bunchberry, twistedstalks, white marsh-marigold)
Moss/lichen: lanky moss, sphagnums, heron's-bill mosses, step moss, red-stemmed feathermoss, leafy mosses, (pipecleaner moss)

BGC: MHwh1	**Site Series:** 09	**Name:** YcHm - Skunk cabbage	**Map Code:** YC

Concept Description
Swamp forest/woodlands; mid-lower-toe slope position or in depressions on level sites; soils are poorly drained and are associated with organic or occasionally morainal parent materials; open and shrubby Yc-Hm-Hw-Ba forests with poor productivity; hygric soil moisture and C-E soil nutrient regime

Characteristic Vegetation
Tree: yellow-cedar, mountain hemlock, western hemlock, amabilis fir
Shrub: Alaskan blueberry, oval-leafed blueberry, copperbush
Herb: bunchberry, skunk cabbage, sedges, leatherleaf saxifrage, (pink mountain-heather, five-leaved bramble, Indian hellebore, twistedstalks, white-marsh marigold, Sitka valerian, sticky false asphodel)
Moss/lichen: leafy mosses, common green sphagnum, pipecleaner moss, (heron's-bill moss)

BGC: MHwh1	**Site Series:** 00	**Name:** YC-Rhacomitrium bluffs	**Map Code:** YR

Concept Description
Scrubby forested bluffs or cliffs with extremely rocky steep slopes (>100%); influenced by extreme microsite variation such as ledges and crevices, and occasional surface seepage. Sites are restricted due to shallow soils and generally occur on very thin colluvial and organic material; 1-5 soil moisture regime and B-C soil nutrient regime

Characteristic Vegetation
Tree: yellow-cedar, mountain hemlock
Shrub: no data
Herb: no data
Moss/lichen: no data

MHmm1

BGC: MHmm1	**Site Series:** 01	**Name:** HmBa - Blueberry	**Map Code:** MB

Concept Description
Upper to mid slope position; mostly steep colluvium slopes; poor to moderately productive Hm-Ba (Yc, Hw) forests; 2-4 soil moisture regime and A-C soil nutrient regime

Characteristic Vegetation
Tree: mountain hemlock, amabilis fir, (subalpine fir, western hemlock)
Shrub: Alaskan blueberry, oval-leaved blueberry, black huckleberry, (false azalea)
Herb: five-leaved bramble
Moss/lichen: pipecleaner moss, heron's-bill mosses, red-stemmed feathermoss, (lanky moss, step moss, leafy liverworts)

BGC: MHmm1	**Site Series:** 02	**Name:** HmBa - Mountain-heather	**Map Code:**MM

Concept Description
Ridge crest and upper slope position; exposed rock knolls; open and scrubby Hm-Ba-Hw forests with very poor productivity; 0-1 soil moisture regime and A-C soil nutrient regime

Characteristic Vegetation
Tree: mountain hemlock, amabilis fir, (subalpine fir, yellow-cedar, western hemlock)
Shrub: false azalea, black huckleberry, Alaskan blueberry, copperbush, (oval-leaved blueberry)
Herb: five-leaved bramble, (pink mountain-heather)
Moss/lichen: pipecleaner moss, heron's-bill mosses, (leafy liverworts, lanky moss, red-stemmed feathermoss)

BGC: MHmm1	**Site Series:** 03	**Name:** BaHm - Oak fern	**Map Code:** MO

Concept Description
Mid to lower slope position; moderate to steep colluviums; most productive ecosystem of the BGC unit; Ba, Hm, Yc, (Hw) canopy; 2-4 soil moisture regime and D-E soil nutrient regime

Characteristic Vegetation
Tree: subalpine fir, mountain hemlock, amabilis fir, (western hemlock)
Shrub: oval-leaved blueberry, (black huckleberry, Alaskan blueberry, copperbush, devil's club, false azalea)
Herb: Sitka valerian, (rosy twistedstalk, oak fern, one-leaved foamflower, lady fern, five-leaved bramble, bunchberry)
Moss/lichen: pipecleaner moss, leafy liverworts, red-stemmed feathermoss, lanky moss, step moss, (heron's-bill mosses)

BGC: MHmm1	**Site Series:** 04	**Name:** HmBa - Bramble	**Map Code:** AB

Concept Description
Mid to upper slope position; steep seepage slopes; often down slope of 01 with greater influence of surface seepage; poor to moderate productivity of Hm-Ba (Yc, Hw) canopy; 5 soil moisture regime and A-C soil nutrient regime

Characteristic Vegetation
Tree: mountain hemlock, amabilis fir, (subalpine fir, western hemlock)
Shrub: Alaskan blueberry, false azalea, black huckleberry, oval-leaved blueberry
Herb: five-leaved bramble, (rosy twistedstalk, bunchberry, one-leaved foamflower)
Moss/lichen: pipecleaner moss, heron's-bill mosses, (red-stemmed feathermoss, lanky moss, step moss, leafy mosses)

BGC: MHmm1	**Site Series:** 05	**Name:** BaHm - Twistedstalk	**Map Code:** MT

Concept Description
Lower seepage slopes; often below 03; Hm-Ba (Yc, Hw) canopy with poor productivity than 03 due to excessive moisture; 5 soil moisture regime and D-E soil nutrient regime

Characteristic Vegetation
Tree: amabilis fir, mountain hemlock, (subalpine fir, yellow-cedar, western hemlock)
Shrub: black huckleberry, Alaskan blueberry, (oval-leaved blueberry, false azalea)
Herb: rosy twistedstalk, five-leaved bramble, Indian hellebore, (oak fern, one-leaved foamflower)
Moss/lichen: pipecleaner moss, heron's-bill mosses, (leafy liverworts, leafy mosses)

BGC: MHmm1	**Site Series:** 06	**Name:** HmYc - Deer cabbage	**Map Code:** MD

Concept Description
Broad ridge crest and gentle slopes and depressions; bedrock induced moisture pooling; very scrubby forests of Hm-Yc-Ba with very poor productivity; often up to 08 slope; 6 soil moisture regime and A-C soil nutrient regime

Characteristic Vegetation
Tree: mountain hemlock, amabilis fir, (yellow-cedar)
Shrub: Alaskan blueberry, oval-leaved blueberry, (false azalea, copperbush, black huckleberry)
Herb: deer-cabbage, five-leaved bramble, rosy twistedstalk, (bunchberry)
Moss/lichen: lanky moss, (pipecleaner moss, heron's-bill mosses, leafy liverworts)

BGC: MHmm1	**Site Series:** 07	**Name:** YcHm - Hellebore	**Map Code:** YH

Concept Description
Upper to lower; moderate to steep seepage slopes; open canopy of Hm-Yc with poor productivity; often up slope of 09; 6 soil moisture regime and D-E soil nutrient regime

Characteristic Vegetation
Tree: mountain hemlock, (yellow-cedar, western hemlock)
Shrub: oval-leaved blueberry, (false azalea, Alaskan blueberry, copperbush,
Herb: Indian hellebore, rosy twistedstalk, deer-cabbage, bunchberry, (oak fern, five-leaved bramble)
Moss/lichen: lanky moss, sphagnums, (pipecleaner moss, step moss, heron's-bill mosses, leafy liverworts)

BGC: MHmm1	**Site Series:** 08	**Name:** HmYc - Sphagnum	**Map Code:** YS

Concept Description
Bog forests/woodlands; level ridge crest and depression; often in complex of non-forested wetland; very scrubby and open Hm-Yc forests with very poor productivity; often below 06 but up or adjacent to non-treed wetland; 7 soil moisture regime and A-B soil nutrient regime

Characteristic Vegetation
Tree: mountain hemlock, (subalpine fir, amabilis fir, yellow-cedar, western hemlock)
Shrub: oval-leaved blueberry, false azalea, copperbush, (Alaskan blueberry, black huckleberry)
Herb: five-leaved bramble, white mountain-heather, (pink mountain-heather, rosy twistedstalk, skunk cabbage, bog-laurel)
Moss/lichen: lanky moss, sphagnums, (red-stemmed feathermoss, step moss, leafy mosses)

BGC: MHmm1	**Site Series:** 09	**Name:** YcHm - Skunk cabbage	**Map Code:** YC

Concept Description
Lower wet seepage slope; swamp forests/woodlands; mostly gentle to level sites that is located in areas have significant mineral input influence; Hm-Yc-Ba-Hw forests with open canopy and poor productivity due to saturated and cold soil; often downslope of 07; 7 soil moisture regime and C-E soil nutrient regime

Characteristic Vegetation
Tree: mountain hemlock, amabilis fir, western hemlock, (yellow-cedar)
Shrub: Alaskan blueberry, false azalea, (black huckleberry, oval-leaved blueberry, copperbush, salmonberry)
Herb: skunk cabbage, sedges, five-leaved bramble, rosy twistedstalk, bunchberry, oak fern, lady fern, Sitka valerian, Indian hellebore)
Moss/lichen: sphagnums, leafy mosses, pipecleaner moss, lanky moss

BGC: MHmm1	**Site Series:** 00	**Name:** YC-Rhacomitrium bluffs	**Map Code:** YR

Concept Description
Scrubby forested bluffs or cliffs with extremely rocky steep slopes (>100%); influenced by extreme microsite variation such as ledges and crevices, and occasional surface seepage. Sites are restricted due to shallow soils and generally occur on very thin colluvial and organic material; 1-5 soil moisture regime and B-C soil nutrient regime

Characteristic Vegetation
Tree: yellow-cedar, mountain hemlock
Shrub: no data
Herb: no data
Moss/lichen: no data

MHwhp/MHmmp

BGC: MHwhp/MHmmp	Site Series: 00	Name: Alpine Fellfield Class	Map Code: Af

Concept Description
Areas of exposed locations where the dynamics of frost and wind give rise to typically low plant cover in a rocky or mineral soil matrix. Thin snowpack leads to active freeze-thaw cycles that heave plants out of the soil. Commonly vegetated with cushion plants and cryptograms.

BGC: MHwhp/MHmmp	Site Series: 00	Name: Alpine Grassland Class	Map Code: Ag

Concept Description
Grass-dominated and well-vegetated, dry and cold climates with low snow load and very-well-developed soils. Cold winters and growing-season frosts are the influential factors in alpine grasslands ecosystem.

BGC: MHwhp/MHmmp	Site Series: 00	Name: Alpine Heath Class	Map Code: Ah

Concept Description
Mountain-heather (*Cassiope* and *Phyllodoce* spp.) heath is widespread in snowy environments; 2-4 soil moisture regime and B-D soil nutrient regime.

BGC: MHwhp/MHmmp	Site Series: 00	Name: Alpine Meadow Class	Map Code: Am

Concept Description
Ecosystems of subalpine and alpine elevations. Vegetation typically has high cover and stature. These ecosystems occur on fresh to moist usually well-developed soils that have continuous winter snowpack. Sites with seepage or unstable soils favour the Alpine Meadow Class over alpine heath ecosystems.

BGC: MHwhp/MHmmp	Site Series: 00	Name: Alpine Nivation (Late Snowbed) Class	Map Code: As

Concept Description
Occurs under very deep or persistent snowpacks that last well into the growing season and are commonly of low cover and low species diversity. Few species can tolerate the short growing season and environmental conditions. Erosion during snowbed melting (nivation) and growing-season cryoturbation is extreme due to lack of vegetation cover and high soil moisture

BGC: MHwhp/MHmmp	Site Series: 00	Name: Alpine Tundra Class	Map Code: At

Concept Description
Relatively well-vegetated ecosystems of mixed life-form composition, commonly with an abundance of dwarf shrubs. They occur on cold, circum-mesic sites that have moderate snow cover.

BGC: MHwhp/MHmmp	Site Series: 00	Name: Lichen-Hm parkland	Map Code: LM

Concept Description
Mosaic of rocky sites with tree islands; 1-2 soil moisture regime and B-C soil nutrient regime

BGC: MHwhp/MHmmp	Site Series: 00	Name: HmBa-blueberry	Map Code: MB

Concept Description
Closed forest on steep, snow-shedding sites within parkland heather dominated meadow; 3-5 soil moisture regime and B-D soil nutrient regime

BGC: MHwhp/MHmmp	Site Series: 00	Name: Hm-Mountain heather parkland	Map Code: MH

Concept Description
Mosaic of heather and tree islands; 3-5 soil moisture regime and B-C soil nutrient regime

BGC: MHwhp/MHmmp	Site Series: 00	Name: Subalpine Krummholz Class	Map Code: Sk

Concept Description
Krummholz are conifer shrub-dominated ecosystems that occur at the treeline, the upper elevations of conifer tolerance. Conifers are commonly of dwarfed stature due to harsh environmental conditions, including low growing-season temperatures and winter frost and wind damage. Site conditions are typically well- to rapidly drained with thin or coarse-textured soils. Some types are floristically similar to lower-elevation subalpine forests

BGC: MHwhp/MHmmp	**Site Series:** 00	**Name:** Sedge parkland meadows	**Map Code:** SP

Concept Description
Mosaic of moist meadow sites with tree islands; 5-6 soil moisture regime and C-D soil nutrient regime

BGC: MHwhp/MHmmp	**Site Series:** 00	**Name:** Subalpine Shrub Seepage	**Map Code:** Ss

Concept Description
Subalpine shrub-dominated ecosystem of cold climates on frost-prone sites with dry to very moist soils.

BGC: MHwhp/MHmmp	**Site Series:** 00	**Name:** Yc-Rhacomitrium bluffs	**Map Code:** YR

Concept Description
Scrubby forested bluffs or cliffs with extremely rocky steep slopes (>100%); influenced by extreme microsite variation such as ledges and crevices, and occasional surface seepage. Sites are restricted due to shallow soils and generally occur on very thin colluvial and organic material; 1-5 soil moisture regime and B-C soil nutrient regime

CMAun

BGC: CMAun	Site Series: 00	Name: Alpine Heath Class	Map Code: Ah
Concept Description Mountain-heather (*Cassiope* and *Phyllodoce* spp.) heath is widespread in snowy environments; 2-4 soil moisture regime and B-D soil nutrient regime			

BGC: CMAun	Site Series: 00	Name: Alpine Tundra Class	Map Code: At
Concept Description Relatively well-vegetated ecosystems of mixed life-form composition, commonly with an abundance of dwarf shrubs. They occur on cold, circum-mesic sites that have moderate snow cover.			

BGC: CMAun	Site Series: 00	Name: Alpine Nivation (Late Snowbed) Class	Map Code: As
Concept Description Occurs under very deep or persistent snowpacks that last well into the growing season and are commonly of low cover and low species diversity. Few species can tolerate the short growing season and environmental conditions. Erosion during snowbed melting (nivation) and growing-season cryoturbation is extreme due to lack of vegetation			

BGC: CMAun	Site Series: 00	Name: Subalpine Krummholz Class	Map Code: Sk
Concept Description Krummholz are conifer shrub-dominated ecosystems that occur at the treeline, the upper elevations of conifer tolerance. Conifers are commonly of dwarfed stature due to harsh environmental conditions, including low growing-season temperatures and winter frost and wind damage. Site conditions are typically well- to rapidly drained with thin or coarse-textured soils. Some types are floristically similar to lower-elevation subalpine forests			

BGC: CMAun	Site Series: 00	Name: Subalpine Shrub Seepage	Map Code: Ss
Concept Description Subalpine shrub-dominated ecosystem of cold climates on frost-prone sites with dry to very moist soils.			

Non-Vegetated Units

Site Series: 00	**Name:** Beachland Class	**Map Code:** Bb

Concept Description
Beachland ecosystems occur on unconsolidated beach sediments (sands/gravels/shells/cobbles) in the supra-tidal zone of the marine environment. This zone is affected by wind, salt spray, and/or water erosion and deposition of marine sediments. Halophytes and graminoid species that are adapted to continual burying due to shifting sands are common in the beach and fore-dune zones. Stabilized dune deposits are included in this class and may have a higher cover of mosses and shrubs.

Site Series: 00	**Name:** Headland Class	**Map Code:** Br

Concept Description
These ecosystems are found on headlands, sea cliffs, rocky islands, and consolidated parent materials of non-marine origin that are affected by saltwater spray and splashing. There is high species diversity amongst the vegetation and often influenced by the elevation above sea level and the exposure to sea spray.

Site Series: 00	**Name:** Estuarine Meadow Class	**Map Code:** Ed

Concept Description
Estuarine meadows occur in the high intertidal zone of estuaries, where tidal flooding occurs less frequently than daily and is tempered by freshwater mixing. Species composition is relatively diverse, typically with a mix of graminoids and forbs.

Site Series: 00	**Name:** Estuarine Marsh Class	**Map Code:** Em

Concept Description
An estuarine marsh is an intertidal ecosystem that is flooded diurnally and has simple communities dominated by salt-tolerant emergent graminoids and succulents. These marshes occur in the middle to upper tidal zones of estuaries where saltwater influences predominate.

Site Series: 00	**Name:** Exposed Soil	**Map Code:** ES

Concept Description
Any area of exposed soil that is not included in any of the other definitions. It includes areas of recent disturbance, such as mud slides, debris torrents, avalanches, and human-made disturbances (e.g., pipeline rights-of-way) where vegetation cover is less than 5%.

Site Series: 00	**Name:** Estuarine Tidal Flat Class	**Map Code:** Et

Concept Description
Estuarine tidal flat sites are intertidal ecosystems dominated by benthic/burrowing fauna and macro algae. These ecosystems occur in the mid to lower tidal zones of estuaries, where freshwater and salt water mix. Sites are flooded and exposed with most tidal cycles. Large flats of silts, sands, or pebbles are common.

Site Series: 00	**Name:** Active Channel Flood Class	**Map Code:** Fa

Concept Description
These ecosystems occur on sites that are annually flooded and often scoured for prolonged periods. These sites are located adjacent to the river channel at lower water conditions. Ecosystems are usually dominated by annuals or herb-layer species with extensive root systems where there are unstable substrates. On sites with more stable substrates, bryoid communities are more typical.

Site Series: 00	**Name:** Fringe Flood Class	**Map Code:** Ff

Concept Description
Fringe flood ecosystems develop on sub-irrigated but rarely flooded non-alluvial soils next to lakes and other still waters, or in slope draws and gullies in areas with dry climates. High soil moisture and modified climates produce tall broadleaf shrub or low treed ecosystems that are distinct from the adjacent upland. These ecosystems are differentiated from the Brushland Class in dry environments by tall shrub physiognomy and moist site conditions.]

Site Series: 00	**Name:** Low bench Flood Class	**Map Code:** Fl

Concept Description
Low bench ecosystems occur on sites that are flooded for moderate periods (< 40 days) of the growing season—conditions that limit the canopy to tall shrubs, especially willows or alders. Annual erosion and deposition of sediments (sands and silts) generally limit understory and humus development. These ecosystems are most commonly associated with fluvial systems but also occur on wave-washed beaches of larger lakes. They are floristically related to many shrub swamps but occur on non-wetland soils and do not have an abundance of hydrophytes.

Site Series: 00	**Name:** Middle bench Flood Class	**Map Code:** Fm

Concept Description
Middle bench ecosystems occur on sites briefly flooded (10–25 days) during freshet, allowing tree growth, but forests are dominated by flood-tolerant broadleaf species, such as black cottonwood and red alder. Conifers may occur on elevated microsites but are less abundant than deciduous trees.

Site Series: 00	**Name:** Glacier	**Map Code:** GL

Concept Description
A mass of perennial snow and ice with definite lateral limits. It typically flows in a particular direction.

Site Series: 00	**Name:** Gravel Pit	**Map Code:** GP

Concept Description
An area exposed through the removal of sand and gravel.

Site Series: 00	**Name:** Lake	**Map Code:** LA

Concept Description
A naturally occurring static body of water, greater than 2 m deep in some portion. The boundary for the lake is the natural high water mark.

Site Series: 00	**Name:** Mudflat Sediment	**Map Code:** MU

Concept Description
Flat plain-like areas dominated by fine-textured sediments. These areas are found in association with freshwater, saltwater or estuarine bays (at low tide), lakes, ponds, rivers and streams.

Site Series: 00	**Name:** Pond	**Map Code:** PD

Concept Description
A small body of water greater than 2 m deep, but not large enough to be classified as a lake (e.g., less than 50 ha).

Site Series: 00	**Name:** Permanent Snow	**Map Code:** PN

Concept Description
Snow or ice that is not part of a glacier but is found during summer months on the landscape.

Site Series: 00	**Name:** Rock Group Cliff Class	**Map Code:** Rc

Concept Description
Cliff ecosystems are vertical rock sites, commonly with high bryophyte cover (rock crusts), but small pockets of soils may support vascular vegetation.

Site Series: 00	**Name:** River	**Map Code:** RI

Concept Description
A watercourse formed when water flows between continuous, definable banks. The flow may be intermittent or perennial. An area that has an ephemeral flow and no channel with definable banks is not considered a river.

Site Series: 00	**Name:** Rock Outcrop Class	**Map Code:** Ro

Concept Description
A gentle to steep, bedrock escarpment or outcropping, with little soil development and sparse vegetative cover. Drought-tolerant cryptogams are often prominent and vascular plants are limited. Subclasses based on geologic characteristics can be differentiated (e.g., ultramafic/serpentine; limestone subclasses).

Site Series: 00	**Name:** Talus Class	**Map Code:** Rt

Concept Description
Talus ecosystems are active and inactive talus (large rocks) and scree (smaller rocks and more soil). These ecosystems typically have a low herb layer cover because of mobile substrates or lack of soil. Stable talus may have high bryophyte cover, particularly on cool aspects with stable substrates, or vegetation similar to adjacent rock outcrop communities. Some stable talus ecosystems may have some cover of deciduous trees or shrubs. Unstable sites may have distinct communities of species that are tolerant of mobile substrates.

Site Series: 00	**Name:** Rural	**Map Code:** RW

Concept Description
Any area in which residences and other human developments are scattered and intermingled with forest, range, farm land, and native vegetation or cultivated crops. (Forested areas and cultivated fields should be mapped as separate units.)

Site Series: 00	**Name:** Road surface	**Map Code:** RZ

Concept Description
An area cleared and compacted for the purpose of transporting goods and services by vehicles.

Site Series: 00	**Name:** Sal Water	**Map Code:** SW

Concept Description
Any body of water that contains salt or is considered to be salty.

Site Series: 00	**Name:** Urban/Suburban	**Map Code:** UR

Concept Description
An area in which residences and other human developments form an almost continuous covering of the landscape. These areas include cities and towns, subdivisions, commercial and industrial parks, and similar developments both inside and outside city limits. (Forested areas, such as parks, should be mapped as separated units.)

Site Series: 00	**Name:** Avalanche Herb Meadow Class	**Map Code:** Vh

Concept Description
Avalanche herb meadows are ecosystems in avalanche tracks that are dominated by forbs, graminoids, and/or dwarf woody shrubs. These ecosystems often occur in the central track or run-out zone of avalanche paths where snow accumulates or where mobile substrates limit the establishment of shrubs or trees. Rocky talus cones affected by avalanches are placed in the Talus Class.

Site Series: 00	**Name:** Avalanche Shrub Thicket Class	**Map Code:** Vs

Concept Description
Avalanche shrub thickets are ecosystems in avalanche tracks that are dominated by deciduous shrubs and are most frequently associated with the track and lateral run-out portions of the avalanche path where deep snow lay occurs infrequently but site conditions are fresh or wetter.

Site Series: 00	**Name:** Avalanche Treed Class	**Map Code:** Vt

Concept Description
Avalanche treed ecosystems are dominated by shrub-sized trees that are continually pruned by snow slides and are prevented from becoming forest. This does not include young forests that are regenerating from single extreme events; such forests are seral ecosystems. Trees in Vt ecosystems show evidence of pruning and bark damage from chronic avalanche events. Site conditions are typically dry.

Site Series: 00	**Name:** Alpine Wetland Class	**Map Code:** Wa

Concept Description
Wet, high-elevation, high-latitude ecosystems occur that do not clearly fit any of the wetland classes of the Canadian Wetland Classification System (NWWG 1988). These ecosystems occur on seeps and saturated flats that have site characteristics similar to lower-elevation swamps, but because of the constraints of cold climate, they support low-stature vegetation dominated by dwarf willows, forbs, and/or mosses. Sites may be underlain with mineral or very thin organic horizons; peat formation is limited because of low rates of accumulation. Permafrost may occur in some cases.

Site Series: 00	**Name:** Bog Wetland Class	**Map Code:** Wb

Concept Description
Bogs are shrubby or treed, nutrient-poor peatlands with distinctive communities of ericaceous shrubs and hummock-forming *Sphagnum* species adapted to highly acid and oxygen-poor soil conditions. Bogs develop in basins where peat accumulation has raised the wetland surface above groundwater flow, or, less commonly, on hillslopes where groundwater is very low in dissolved nutrients (e.g., flows from granitic parent material).

Site Series: 00	**Name:** Fen Wetland Class	**Map Code:** Wf

Concept Description
Fens are peatlands where groundwater inflow maintains relatively high mineral content within the rooting zone. These sites are characterized by non-ericaceous shrubs, sedges, grasses, reeds, and brown mosses. Fens develop in basins, lake margins, river floodplains, and seepage slopes, where the water table is usually at or just below the peat surface for most of the growing season.

Site Series: 00	**Name:** Marsh Wetland Class	**Map Code:** Wm

Concept Description
A marsh is a shallowly flooded mineral wetland dominated by emergent grass-like vegetation. A fluctuating water table is typical in marshes, with early season high water tables dropping through the growing season. Exposure of the substrate in late season or during dry years is common. The substrate is usually mineral, but may have a well-decomposed organic veneer derived primarily from marsh emergent vegetation. Nutrient availability is high (eutrophic to hyper-eutrophic) due to circum-neutral pH, water movement, and aeration of the substrate.

Site Series: 00	**Name:** Swamp Wetland Class	**Map Code:** Ws

Concept Description
A swamp is a forested, treed, or tall-shrub, mineral wetland dominated by trees and broadleaf shrubs on sites with a flowing or fluctuating, semi-permanent, near-surface water table. Tall-shrub swamps are dense thickets, while forested swamps have large trees occurring on elevated microsites and lower cover of tall deciduous shrubs. Both types of swamps have abundant available nutrients from groundwater and often have surface standing water. Swamps may be underlain with peat, but it is well decomposed, woody, and dark. Tree and shrub subclasses can be recognized.

Site Series: 00	**Name:** Shallow-water Wetland Class	**Map Code:** Ww

Concept Description
Aquatic wetlands are shallow waters dominated by rooted, submerged, and floating aquatic plants. These communities are always associated with permanent still or slow-moving water bodies, such as shallow potholes or deeper ponds and lakes. Shallow-water sites are usually permanently flooded; they may become exposed during extreme drought years. Shallow-water communities most commonly occur where standing water is less than 2 m deep in midsummer. Aquatic plants may root in mineral soils or in well humified sedimentary peat.