

Ruby Rock Provincial Park Vegetation Monitoring

Project Results and Summary

November 25, 2010

Prepared for:

Ministry of Forests and Range

and

Ministry of Environment

Prepared by:



ECOFOR

natural and cultural resource consultants

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Acknowledgements and Personnel

Report Title: Ruby Rock Provincial Park Vegetation Monitoring
Project Results and Summary

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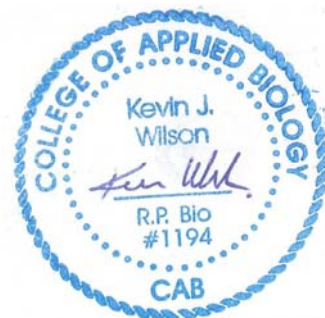
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1 Introduction

In August 2010, the BC Ministry of Forests and Range and Ministry of Environment retained Ecofor Consulting BC Ltd (Ecofor) to conduct vegetation monitoring within Ruby Rock Provincial Park. This report summarizes the monitoring activities conducted in August and September 2010. Data for the monitoring assessments and photographic documentation are provided in the attached appendices.

2 Project Location

Ruby Rock Provincial Park is located approximately 75 km northwest of the community of Fort St. James, between the north arm of Stuart Lake and Cunningham Lake. The project site was the southern section of the park along the north shore of Cunningham Lake. Access to the project site is by boating across Cunningham Lake, from a boat launch located along the Cunningham forest service road.

3 Monitoring Methodology

A suite of assessments were conducted on 75 plots, located prior to field visits, in a 500 m x 500 m grid pattern in the project area. The assessments included a timber cruise plot, biogeoclimatic ecosystem classification (BEC) determination, 5.64 m radius vegetation plot, coarse woody debris (CWD) transect, and fuel loading assessment (as detailed within Schedule A of the services agreement):

- Plot locations located using handheld GPS units, and were marked upon visit.
- Photographs were taken in each of the cardinal directions from each plot centre (Appendix A)
- Timber cruise plots were conducted at each plot using a BAF 7 prism to capture 8 to 12 live and dead tree stems with a 7.5 cm DBH minimum DBH. Tree heights were calculated using either clinometers and tape measure, or hypsometer.
- Vegetation species were captured within a 5.64 m radius (100 m²) of the plot centre. All plants were identified to species when possible.
- Canopy closure was estimated at each plot, average gradient was measured by clinometer.
- CWD was assessed along a 30 m long transects. The transect extended from plot centre, 15 m along a bearing selected from a random number table, then an additional 15 m along a bearing 90 degrees greater than the first bearing.
- BEC of each plot stand was determined by comparing the existing site conditions to the mapped BEC provided by the client. BEC keys and descriptions are based on DeLong et al (1993).
- Fuel loading was assessed based on factors and criteria provided by the client.

4 Results and Discussion

All data collected for each plot is provided in Appendix C, and in attached digital files (Excel spreadsheets and Access database—see Appendix D).

Across the project area, 110 total species of trees, shrubs, dwarf shrubs, forbs, graminoids, ferns, fern allies, and mosses and lichens were identified. Low emphasis was placed on moss and lichen identification, so only common and easily identifiable species were noted. Due to the timing of vegetation sampling, some species could not be identified. Several grass specimens (Poaceae), rockcress (*Arabis* sp.), *Rubus* sp., hawkweed (*Hieracium* sp.), and willows (*Salix* sp.) could not be identified due to the lack of fruiting, flowering and/or vegetative structures necessary for reliable identification.

Eleven BEC types were described within the project area. Four plots were not assigned a BEC type because they were located in recently disturbed areas and the vegetation comprised of early seral species. The number of plots described within each BEC types is found below. Frequency of plant species within each BEC type is found in Appendix B.

- SBSdw3/04 (34 plots)
- SBSdw3/01 (17 plots)
- SBSmc2/01 (7 plots)
- SBSdw3/02 (3 plots)
- SBSdw3/07 (3 plots)
- SBSdw3/08 (2 plots)
- SBSdk/07 (1 plot)
- SBSmc2/04 (1 plot)
- SBSmc2/05 (1 plot)
- SBSmc2/07 (1 plot)
- SBSmk1/01 (1 plot)
- Undetermined (4 plots)

5 Closure

This report summarizes the vegetation monitoring activities conducted by Ecofor in Ruby Rock Provincial Park. All required data was collected using appropriate methods and is provided in several formats for the client's convenience.

6 Literature Cited

Delong, C., Tanner, D., and Jull, M. J. 1993. A Field Guide for Site Identification and Interpretation for the Southwest Portion of the Prince George Forest Region. Land management handbook no. 24. British Columbia Ministry of Forests, Forest Sciences Section. Victoria, BC.

Appendix A – Photographic documentation

Photographs were taken in each cardinal direction (in order, north, east, south, west) from the centre of each plot.

Ruby Rock Provincial Park Vegetation Inventory: Plot 1 Photodocumentation



Date: September 7, 2010

Comments:

Northern view (uphill) from plot center of a Lodgepole pine stand. Stand is a fire origin stand with the trees similar in diameter size and height, there is little soil to support an extensive herb or shrub layer.



Date: September 7, 2010

Comments:

Eastern view from plot center showing a Lodgepole pine stand with light shrub layer present. There are a few regenerating white spruce and Sitka alder present, but overall the security cover for wildlife is poor.



Date: September 7, 2010

Comments:

Southern view from plot center in a Lodgepole pine forest, there is very little understory or shrub/herb layer present likely due to the intensity of the fire causing most of the topsoil to be burnt off.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 1
Photodocumentation



Date: September 7, 2010

Comments:

Western view from plot center shows a fairly dense stand of young Lodgepole pine forest; very little large woody debris present and only a few alder/ low growing shrubs present.

Ruby Rock Provincial Park Vegetation Inventory: Plot 2 Photodocumentation



Date: September 7, 2010

Comments:

Northern view from plot center of a mixed stand of Lodgepole pine, White spruce and Sub-alpine fir. Stand is a fire origin stand, but the site is protected and wet, therefore stocking is dense. There is some self-thinning occurring in the smaller diameter Sub-alpine fir contributing to the fuel loading.



Date: September 7, 2010

Comments:

Eastern view from plot center showing a mixed stand in a wetter area with moss cover on significant portions of the forest floor. The site supports numerous shrubs, but few herbs or grasses are present.



Date: September 7, 2010

Comments:

Southern view from plot center in a mixed stand with Lodgepole pine, White spruce and Sub-alpine fir present. Wet moss covered ground with some smaller coarse woody debris scattered throughout.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 2
Photodocumentation



Date: September 7, 2010

Comments:

Western view from plot center shows a fairly dense stand of young Lodgepole pine and White spruce. All pine of any significant size have succumbed to pine beetle attack.

Ruby Rock Provincial Park Vegetation Inventory: Plot 3 Photodocumentation



Date: September 7, 2010

Comments:

Northern view from plot center (uphill) of a mixed stand of Lodgepole pine, White spruce Douglas and Sub-alpine fir. Site located on steep slope (48%), it has dense plant cover in the herb and shrub layers as well as some areas with deposits of large woody debris.



Date: September 7, 2010

Comments:

Eastern view from plot center showing a mixed stand in a wetter area with abundant regenerating growth present. The dense regenerating growth will provide good security and thermal cover for wildlife.



Date: September 7, 2010

Comments:

Southern view from plot center in a mixed stand showing areas with dense regenerating growth.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 3
Photodocumentation



Date: September 7, 2010

Comments:

Western view from plot center in a mixed stand; steep gradients in addition the stand age have contributed to areas with significant deposits of large woody debris.

Ruby Rock Provincial Park Vegetation Inventory: Plot 4 Photodocumentation



Date: August 28, 2010

Comments:

Northern view from plot center shows a mixed forest composed of Douglas fir, Sub-alpine fir (balsam) and Lodgepole pine. Dense young to mature fire-origin stand with branches extending right to the ground.



Date: August 28, 2010

Comments:

Eastern view from plot center shows the mixed stand with a moderate coarse woody debris layer scattered throughout the stand.



Date: August 28, 2010

Comments:

Southern view from plot center shows the dense mixed composition stand, with moss covered forest floor. Poor growing site as there is very little mineral soil present under moss layer, just abundant cobbles and rock.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 4
Photodocumentation



Date: August 28, 2010

Comments:

Western view from plot center shows the thick stand which would offer good thermal and security/escape cover for ungulate species.

Ruby Rock Provincial Park Vegetation Inventory: Plot 5 Photodocumentation



Date: September 1, 2010

Comments:

Northern view from plot center shows a void plot; no trees were present in plot. Opening on south facing slope on rocky hillside, There was a substantial shrub, herb and grass layer due to location and lack of a forest canopy.



Date: September 1, 2010

Comments:

Eastern view from plot center shows the rocky slope, low shrub cover and some Douglas fir regenerating growth encroaching into the opening.



Date: September 1, 2010

Comments:

Southern view from plot center shows a slight bench with a few Trembling aspen trees. The open slope has a well developed shrub, herb and grass layer, offering excellent foraging opportunities for ungulates.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 5
Photodocumentation



Date: September 1, 2010

Comments:

Western view from plot center shows the open south-facing slope with Cunningham Lake in the background.

Ruby Rock Provincial Park Vegetation Inventory: Plot 6 Photodocumentation



Date: September 1, 2010

Comments:

Northern view from plot center shows Sub-alpine fir (balsam) forest cover at the plot location; plot located at the base of steep slopes which extend into a wet draw. Higher on the slope tree species change to Douglas fir.



Date: September 1, 2010

Comments:

Eastern view from plot center in balsam fir stand with a light cover of coarse woody debris and dense cover of regenerating (regen) fir. The regen showed signs of moose browse, and it will provide valuable thermal cover for ungulates in the winter months.



Date: September 1, 2010

Comments:

Southern view from plot center shows the profuse balsam regen cover at the lower elevations in the draw.

Ruby Rock Provincial Park Vegetation Inventory: Plot 6 Photodocumentation



Date: September 1, 2010

Comments:

Western view from plot center shows a small opening in the balsam forest with a thick cover of shrubs and herbs.



Date: September 1, 2010

Comments:

Fresh (< 1 month old) bear scat was near plot center, bear had been foraging on fairy-bells.



Date: September 1, 2010

Comments:

There were numerous snags present in the balsam forest; they will provide wildlife trees for avian/wildlife species present.

Ruby Rock Provincial Park Vegetation Inventory: Plot 7 Photodocumentation



Date: September 9, 2010

Comments:

Northern view from plot center (uphill) shows a mixed composition stand consisting of Lodgepole pine and Douglas fir; all mature pine have succumbed to pine beetle attack. Site is located on the edge of a rocky outcrop with the slopes to 45% to the south. There is abundant Sub-alpine fir re-growth upslope that shows heavy use by moose (numerous pellet groups in a small area).



Date: September 9, 2010

Comments:

Eastern view from plot center shows an open mixed stand of Douglas fir and Lodgepole pine. There is a moderate layer of shrubs and herbs interspaced with patches of bare ground and a light cover of large woody debris scattered throughout.



Date: September 9, 2010

Comments:

Southern view from plot center in a Douglas fir/Lodgepole pine stand; regenerating fir down-slope would provide excellent security and thermal cover for wildlife.

Ruby Rock Provincial Park Vegetation Inventory: Plot 7 Photodocumentation



Date: September 9, 2010

Comments:

Western view from plot center in a mixed Douglas fir/ Lodgepole pine forest, stand is fairly dense providing security and thermal cover for wildlife species. Moose pellets were noted in the openings around this location, showing their use of this habitat during the past winter.



Date: September 9, 2010

Comments:

There were some forested openings that had a dense grass cover made up largely of Blue Stemmed Wild Rye.

Ruby Rock Provincial Park Vegetation Inventory: Plot 8 Photodocumentation



Date: September 9, 2010

Comments:

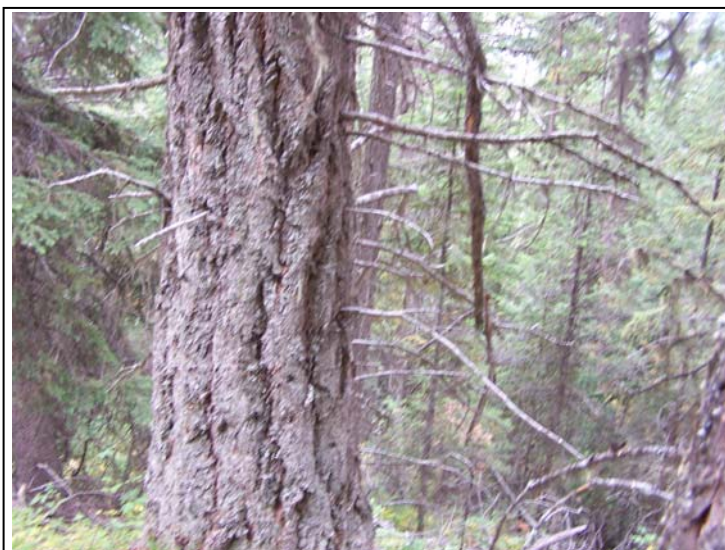
Northern view from plot center (uphill) shows a stand consisting almost extensively of mature-old Douglas fir. Plot is located on ridge top with large diameter Douglas fir scattered throughout, and numerous openings with a dense shrub, herb and grass layers present.



Date: September 9, 2010

Comments:

Eastern view from plot center shows steep gradients extending down to creek. The site is dry but, as you proceed off the ridgeline it gets much wetter and the species composition changes.



Date: September 9, 2010

Comments:

Southern view from plot center in a Douglas fir stand; regenerating fir down-slope would provide excellent security and thermal cover for wildlife.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 8
Photodocumentation



Date: September 9, 2010

Comments:

Western view from plot center in Douglas fir leading forest, stand is fairly dense providing security and thermal cover for wildlife species. Deer pellets were noted in the opening at this location, showing their use of this habitat during the past winter.

Ruby Rock Provincial Park Vegetation Inventory: Plot 9 Photodocumentation



Date: September 9, 2010

Comments:

Northern view from plot center (uphill) shows a mixed stand consisting of Douglas fir, White spruce and Sub-alpine fir with Douglas fir as the leading species. Stand is dense, ground is bare or moss covered with a light layer of shrubs and herbs.



Date: September 9, 2010

Comments:

Eastern view from plot center showing a mixed stand consisting mainly of Douglas fir, ground cover is sparse with patches of bare ground present.



Date: September 9, 2010

Comments:

Southern view from plot center in a mixed stand depicts a young stand with branches extending right to the ground level.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 9
Photodocumentation



Date: September 9, 2010

Comments:

Western view from plot center in Douglas fir leading forest, stand is fairly dense providing security and thermal cover for wildlife species, but little or no browse is available. There is very little large woody debris present.

Ruby Rock Provincial Park Vegetation Inventory: Plot 10 Photodocumentation



Date: August 28, 2010

Comments:

Northern view from plot center shows a wet site location with a mixed forest composed of White spruce and Sub-alpine fir (balsam). Thick understory of Sitka alder and balsam regenerating growth would provide good thermal cover for ungulates; abundant moose pellets groups throughout.



Date: August 28, 2010

Comments:

Eastern view from plot center shows the spruce leading forest at wet site location, flat moss covered ground with low to moderate coarse woody debris present.



Date: August 28, 2010

Comments:

Southern view from plot center shows the wet site location reflected by the dense shrub layer present.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 10
Photodocumentation



Date: August 28, 2010

Comments:

Western view from plot center shows the thick stand which would offer good thermal and security/escape cover for ungulate species. The stand has a canopy closure of approximately 65%.

Ruby Rock Provincial Park Vegetation Inventory: Plot 11 Photodocumentation



Date: September 14, 2010

Comments:

Northern view from plot center shows a dense mixed forest composed of Douglas fir, White spruce with a minor component of Lodgepole pine. Canopy closure of 60% does not allow for a dense shrub layer, but should provide thermal cover for ungulate species.



Date: September 14, 2010

Comments:

Eastern view from plot center shows the densely stocked mixed forest with a thick regenerating layer of Sub-alpine fir.



Date: September 14, 2010

Comments:

Southern view from plot center shows the mixed spruce and fir forest; the poorly developed shrub/herb layer would provide poor foraging opportunities for ungulate species.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 11
Photodocumentation



Date: September 14, 2010

Comments:

Western view from plot center shows the mixed composition forest with limbs extending right to the forest floor.

Ruby Rock Provincial Park Vegetation Inventory: Plot 12 Photodocumentation



Date: September 14, 2010

Comments:

Northern view from plot center shows a monoculture forest composed of Lodgepole pine. A dense regenerating (regen) layer of Sub-alpine fir, White spruce and Sitka alder would provide thermal cover for ungulate species, but the sparse shrub/herb layer will provide poor foraging opportunities.



Date: September 14, 2010

Comments:

Eastern view from plot center shows the dense small diameter forest. The site is quite moist with a moss cover of 90%.



Date: September 14, 2010

Comments:

Southern view from plot center shows the thick regen layer and some scattered coarse woody debris.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 12
Photodocumentation



Date: September 14, 2010

Comments:

Western view from plot center shows the small diameter stand, open forest floor with a sparse shrub/herb layer. This stand offers poor foraging for the wildlife species present.

Ruby Rock Provincial Park Vegetation Inventory: Plot 13 Photodocumentation



Date: September 10, 2010

Comments:

Northern view from plot center shows a open Lodgepole pine forest with scattered Sub-alpine fir (balsam). Plot location at the top of the slope just back from a south facing slope.



Date: September 10, 2010

Comments:

Eastern view from plot center shows an open young stand with a limited shrub/herb layer and a light cover of regenerating balsam.



Date: September 10, 2010

Comments:

Southern view from plot center shows regenerating balsam and moss covered ground. The shrub/herb layer is minimal; therefore forage opportunity is poor for wildlife. The open stand will not provide much security/escape cover for ungulate species or thermal cover in winter months.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 13
Photodocumentation



Date: September 10, 2010

Comments:

Western view from plot center shows live pine trees; no beetle killed trees in plot closest is 10m from plot. There is a light cover of balsam regenerating growth and a minimal herb/shrub layer.

Ruby Rock Provincial Park Vegetation Inventory: Plot 14 Photodocumentation



Date: September 11, 2010

Comments:

Northern view from plot center shows a wet plot location with the forest cover composed of Sub-alpine fir (balsam), White spruce and Lodgepole pine. The majority of the pine have died due to beetle attack opening up the forest canopy.



Date: September 11, 2010

Comments:

Eastern view from plot center shows the dominant component of spruce, poorly developed shrub layer and dense regenerating (regen.) spruce and balsam in the background. The regen provides security/escape and thermal cover for ungulate species.



Date: September 11, 2010

Comments:

Southern view from plot center shows regenerating balsam, moss covered ground and alder understory. The shrub/herb layer is minimal; therefore forage opportunity is poor for wildlife.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 14
Photodocumentation



Date: September 11, 2010

Comments:

Western view from plot center shows spruce and balsam trees, moss covered ground and balsam regen.

Ruby Rock Provincial Park Vegetation Inventory: Plot 15 Photodocumentation



Date: September 11, 2010

Comments:

Northern view from plot center shows a mixed stand composed of Sub-alpine fir (balsam), White spruce and Lodgepole pine. There is dense balsam and spruce regenerating (regen.) growth and a poorly developed shrub layer.



Date: September 11, 2010

Comments:

Eastern view from plot center shows the heavy regenerating layer which provides escape and thermal cover.



Date: September 11, 2010

Comments:

Southern view from plot center shows the dense regen and moss covered ground.

Ruby Rock Provincial Park Vegetation Inventory: Plot 15 Photodocumentation



Date: September 11, 2010

Comments:

Western view from plot center shows the mature forest with a substantial balsam regenerating layer and some scattered coarse woody debris.



Date: September 11, 2010

Comments:

The dead pine provide cavity nest sites for avian species and denning sites for small mammals (i.e. squirrel, marten).

Ruby Rock Provincial Park Vegetation Inventory: Plot 16 Photodocumentation



Date: September 14, 2010

Comments:

Northern view from plot center shows a mature stand of White spruce, Sub-alpine fir and Lodgepole pine. The stand is fairly thick and has a dense shrub layer of regenerating balsam, Sitka alder, Prickly rose and Thimbleberry.



Date: September 14, 2010

Comments:

Eastern view from plot center shows a moderately dense stand of White spruce, Sub-alpine fir and Lodgepole pine. Regenerating balsam and spruce as well as alder make up the understory.



Date: September 14, 2010

Comments:

Southern view from plot center (down-slope) shows a dense shrub layer and some coarse woody debris. In some places coarse woody debris concentrations were significant, especially along the draw bordering the creek. Dense cover will provide good thermal, escape cover for wildlife species as well as providing forage.

Ruby Rock Provincial Park Vegetation Inventory: Plot 16 Photodocumentation



Date: September 14, 2010

Comments:

Western view from plot center in mixed stand of White spruce, Sub-alpine fir and Lodgepole pine. The wet habitat supports a lush shrub layer.



Date: September 14, 2010

Comments:

There is still some green patches of grass (Blue Wildrye and Reed grass spp.) present that have not become decadent due the lateness of the season. Site is located in a steep gully that protects plants from excess sun exposure; therefore the site is still lush and green.

Ruby Rock Provincial Park Vegetation Inventory: Plot 17 Photodocumentation



Date: September 14, 2010

Comments:

Northern view from plot center shows a mixed stand of mature Douglas fir, Lodgepole pine, White spruce and Sub-alpine fir. Pine is approximately 60% dead due to beetle attack. There is a minimal shrub layer present at this location.



Date: September 14, 2010

Comments:

Eastern view from plot center shows a dense mixed wood stand with understory made up of regenerating (regen) Sub-alpine fir (balsam), Sitka alder and a light shrub cover over the forest floor. The Balsam regen will provide moderate thermal cover for ungulates



Date: September 14, 2010

Comments:

Southern view from plot center shows some of the regenerating Sub-alpine fir which will provide thermal cover for wildlife species.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 17
Photodocumentation



Date: September 14, 2010

Comments:

Western view from plot center shows a thick mixed forest with moss covered ground and very little low shrub being present. Wildlife forage opportunity is poor for this plot.

Ruby Rock Provincial Park Vegetation Inventory: Plot 18 Photodocumentation



Date: September 14, 2010

Comments:

Northern view from plot center shows a mixed stand of mature White spruce and Sub-alpine fir. Site is very wet as the plot is located between the toe of the slope and a slight ridge that creates a trap for run-off. Beyond the slight ridge the steep slope (40-60%) continues as before towards the lake.



Date: September 14, 2010

Comments:

Eastern view from plot center shows a wet site that has a thick moss cover; tree species are suited to the damp site location.



Date: September 14, 2010

Comments:

Southern view from plot center shows the wet site location with moss covered ground, Sitka alder and horsetail. There are pools of standing water present but it does not show in the picture.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 18
Photodocumentation



Date: September 14, 2010

Comments:

Western view from plot center shows the mixed stand of spruce and balsam. This is a micro-site, if you move 50m up or down-slope you are in a totally different type of site or moisture regime (dry mixed stand of Lodgepole pine and Douglas fir).

Ruby Rock Provincial Park Vegetation Inventory: Plot 19 Photodocumentation



Date: September 1, 2010

Comments:

Northern view from plot center shows a lower elevation forest composed of Trembling aspen and White spruce with a tall understory of Douglas maple.



Date: September 1, 2010

Comments:

Eastern view from plot center shows the open forest with the tall understory and dense shrub layer



Date: September 1, 2010

Comments:

Southern view from plot center shows the thick shrub layer under the aspen forest.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 19
Photodocumentation



Date: September 1, 2010

Comments:

Western view from plot center shows the open south-facing slope in an aspen forest; dense shrub and understory would provide excellent security/escape cover for ungulate species.

Ruby Rock Provincial Park Vegetation Inventory: Plot 20 Photodocumentation



Date: September 1, 2010

Comments:

Northern view from plot center shows a poor growing site located on top of a knoll on slope above lake. Tree species include Lodgepole pine and Douglas fir.



Date: September 1, 2010

Comments:

Eastern view from plot center shows stunted pine and fir trees, exposed rocky outcrops/boulders with a minimal shrub layer. The dense tree cover provides excellent security cover for ungulates; there were numerous ungulate pellets groups along this slope.



Date: September 1, 2010

Comments:

Southern view from plot center shows steep slopes extending towards lake with a tree cover of Douglas fir and Lodgepole pine. Very little mineral soil is present. The south facing slope provides excellent wintering habitat for deer, evident by pellets groups spaced throughout this slope face.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 20
Photodocumentation



Date: September 1, 2010

Comments:

Western view from plot center shows the rocky knoll, patches of moss and stunted pine trees. The majority of the pine stand is dead due to beetle attack.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 21
Photodocumentation



Date: September 9, 2010

Comments:

Northern view from plot center shows a mixed forest composed of Douglas fir and White spruce. Wet site location with moss covered ground and abundant regenerating (regen) Sub-alpine/ Douglas fir; regen will provide excellent thermal and escape/security cover for ungulate species.



Date: September 9, 2010

Comments:

Eastern view from plot center shows the mature spruce forest, moss covered ground, thick regen, and scattered coarse woody debris. The slope at the plot location is 55%.



Date: September 9, 2010

Comments:

Southern view from plot center shows the mixed spruce and fir forest. Moss covered ground with little or no herb or shrub layer apparent.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 21
Photodocumentation



Date: September 9, 2010

Comments:

Western view from plot center shows the steep side-slope with dense regenerating spruce and fir. Virtually no herb/shrub layers present to offer any forage for wildlife species.

Ruby Rock Provincial Park Vegetation Inventory: Plot 22 Photodocumentation



Date: August 26, 2010

Comments:

Northern view (uphill) from plot center of a Douglas fir stand with a few young white spruce present. Regenerating fir and spruce provide security cover for wildlife.



Date: August 26, 2010

Comments:

Eastern view from plot center showing a Douglas fir stand with light to moderate shrub layer present.



Date: August 26, 2010

Comments:

Southern view from plot center in a Douglas fir forest, moderate regenerating growth with a few decadent fir snags present as wildlife trees.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 22
Photodocumentation



Date: August 26, 2010

Comments:

Western view from plot center shows a fairly dense stand with regenerating fir and white spruce present. The regenerating forest provides thermal and security cover for resident ungulates.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 23
Photodocumentation



Date: August 26, 2010

Comments:

Northern view (uphill) from plot center; mixed Aspen/ Douglas fir stand with heavy shrub layer. Stand has been recently burned as fire scars are evident on numerous trees.



Date: August 26, 2010

Comments:

Eastern view from plot center; mixed Aspen/Douglas fir stand, heavy shrub layer and recent fire scars on fir tree.



Date: August 26, 2010

Comments:

Southern view from plot center showing Cunningham Lake in background; open stand with dense shrub layer and numerous dead trees from recent prescribed fire.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 23
Photodocumentation



Date: August 26, 2010

Comments:

Western view from plot center; opening in stand has thick shrub layer. A large portion of the small diameter aspen have died as a result of the prescribed burns.

Ruby Rock Provincial Park Vegetation Inventory: Plot 24 Photodocumentation



Date: August 28, 2010

Comments:

Northern view from plot center shows a forest opening uphill from plot location. Plot is located at the edge of a bench; thick Douglas fir downhill and open aspen parkland above. The open canopy helps to support a thick and diverse herb/shrub layer.



Date: August 28, 2010

Comments:

Eastern view from plot center shows the mature fir forest with dense fir regenerating (regen) growth downhill; the regen will provide excellent thermal cover for ungulate species present.



Date: August 28, 2010

Comments:

Southern view from plot center shows the dense shrub layer under the open canopy forest (canopy closure 45%).

Ruby Rock Provincial Park Vegetation
Inventory: Plot 24
Photodocumentation



Date: August 28, 2010

Comments:

Western view from plot center shows the open aspen parkland on the bench uphill from the plot location. Four fresh elk beds as well as 2 piles of scat were observed 50m uphill of the plot in this aspen stand.

Ruby Rock Provincial Park Vegetation Inventory: Plot 25 Photodocumentation



Date: September 14, 2010

Comments:

Northern view from plot center shows a young Douglas fir dominated stand. The denseness of the stand prohibits development of a herb/shrub layer; therefore foraging opportunities are limited for wildlife species.



Date: September 14, 2010

Comments:

Eastern view from plot center shows the dense young fir stand (branches extend to forest floor), poorly developed shrub layer, bare ground and decaying coarse woody debris.



Date: September 14, 2010

Comments:

Southern view from plot center down the slope shows a thick young forest. The dense stocking will provide some security and thermal cover for ungulate species.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 25
Photodocumentation

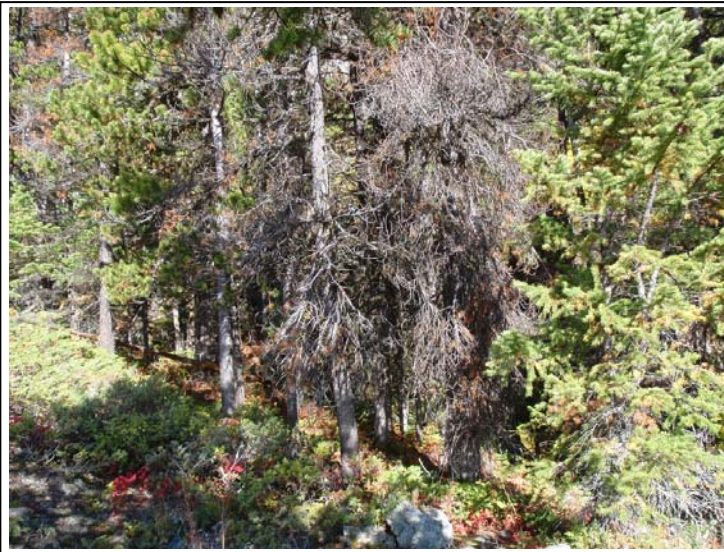


Date: September 14, 2010

Comments:

Western view from plot center shows profuse amount of regenerating fir in portions of this stand.

Ruby Rock Provincial Park Vegetation Inventory: Plot 26 Photodocumentation



Date: September 14, 2010

Comments:

Northern view from plot center shows the mixed Douglas fir Lodgepole pine stand; pine is approximately 30% red attack, 20% green attack and 35% gray attack.



Date: September 14, 2010

Comments:

Eastern view from plot center shows a mixed forest stand made up of Douglas fir and Lodgepole pine at a dry rocky site; ground cover is common juniper.



Date: September 14, 2010

Comments:

Southern view from plot center shows the steep terrain facing south; plot was moved 60m to a safe location away from cliffs. Steep slopes and lack of access limit any harvest activities to helicopter orientated procedures.

Ruby Rock Provincial Park Vegetation Inventory: Plot 26 Photodocumentation



Date: September 14, 2010

Comments:

Western view from plot center shows the steep open rocky slope with a cover of juniper. There are numerous dead trees evident in the background of the picture. The site is very dry and tree growth is stunted.



Date: September 1, 2010

Comments:

The Lodgepole pine are pretty much decimated by the beetle attack; 30% red, 20% green the rest grays

Ruby Rock Provincial Park Vegetation Inventory: Plot 27 Photodocumentation



Date: September 10, 2010

Comments:

Northern view from plot center (uphill) shows young/ mature Trembling aspen forest with some willow understory and heavy shrub layer.



Date: September 10, 2010

Comments:

Eastern view from plot center shows an open hillside in an aspen forest; there are a few scattered patches of White spruce and Douglas fir veterans.



Date: September 10, 2010

Comments:

Southern view from plot center shows an open aspen stand with mature Douglas fir forest below. A dense shrub layer would provide excellent forage for bear and ungulates.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 27
Photodocumentation



Date: September 10, 2010

Comments:

Western view from plot center shows a corpse of veteran Douglas fir in a Trembling aspen forest; other than a heavy shrub layer there is not much coarse woody debris to contribute to fuel loading.

Ruby Rock Provincial Park Vegetation Inventory: Plot 28 Photodocumentation



Date: September 10, 2010

Comments:

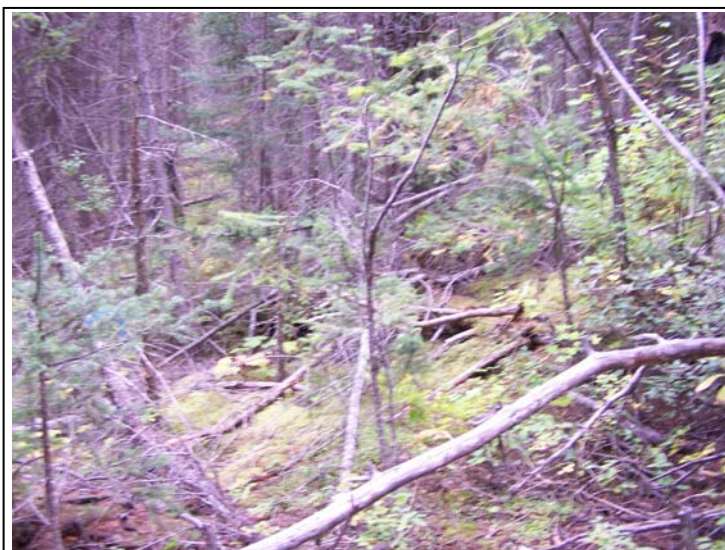
Northern view from plot center (uphill) shows some large diameter Douglas fir and Sub-alpine fir that have snapped off. Plot is located down-slope from rocky cliffs and the area appears to get some high winds swirling down-slope creating havoc, blowing down or snapping off trees.



Date: September 10, 2010

Comments:

Eastern view from plot center shows dense stand of regenerating Douglas fir which would provide excellent security and thermal cover for wildlife.



Date: September 10, 2010

Comments:

Southern view from plot center shows a thick stand of regenerating evergreens, wind-throw and snapped off trees have created some openings in the forest canopy.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 28
Photodocumentation



Date: September 10, 2010

Comments:

Western view from plot center shows a snapped off spruce tree in the dense mixed wood forest. There are old/mature Douglas fir upslope, but the dense understory is made up of Douglas fir, White spruce and Sub-alpine fir.

Ruby Rock Provincial Park Vegetation Inventory: Plot 29 Photodocumentation



Date: September 10, 2010

Comments:

Northern view from plot center shows a stand dominated by Lodgepole pine, with scattered Douglas fir and White spruce. Open stand with a sparse shrub/herb layer and moss covered ground ($\approx 90\%$).



Date: September 10, 2010

Comments:

Eastern view from plot center shows the open pine stand with a few scattered regenerating spruce and fir. The openness of the stand does not provide much security or thermal cover.



Date: September 10, 2010

Comments:

Southern view from plot center shows an opening in forest canopy that allows a thicker shrub layer to develop. There is scattered pine blow-down, but that will increase as more pine succumb to the beetles and fall over. The limited shrub and herb layer does not provide much forage for wildlife species.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 29
Photodocumentation



Date: September 10, 2010

Comments:

Western view from plot center shows the open pine stand with a dense patch of blowdown; this blowdown will provide habitat for small mammals which will in turn support a diverse gamut of small predators.

Ruby Rock Provincial Park Vegetation Inventory: Plot 30 Photodocumentation



Date: September 10, 2010

Comments:

Northern view from plot center shows a mixed stand composed of Sub-alpine fir (balsam) and White spruce. There is dense balsam and spruce regenerating (regen.) growth and a poorly developed shrub layer.



Date: September 10, 2010

Comments:

Eastern view from plot center shows the heavy regenerating layer which provides escape and thermal cover for ungulate species.



Date: September 10, 2010

Comments:

Southern view from plot center shows the dense regen and open balsam and spruce forest.

Ruby Rock Provincial Park Vegetation Inventory: Plot 30 Photodocumentation



Date: September 10, 2010

Comments:

Western view from plot center shows the mature forest with a substantial balsam regenerating layer and some scattered coarse woody debris.



Date: September 10, 2010

Comments:

The dead pine provide cavity nest sites for avian species and denning sites for small mammals (i.e. squirrel, marten).

Ruby Rock Provincial Park Vegetation Inventory: Plot 31 Photodocumentation



Date: September 11, 2010

Comments:

Northern view from plot center shows a mixed stand composed of Lodgepole pine, Douglas fir, White spruce and Sub-alpine fir. There is approximately 50% moss coverage and a regenerating layer of spruce and sub-alpine fir.



Date: September 11, 2010

Comments:

Eastern view from plot center shows a mixed stand with an understory of regenerating growth and Sitka alder. The regenerating growth will provide some thermal and security escape cover for ungulate species.



Date: September 11, 2010

Comments:

Southern view from plot center shows the edge of the slope below plot center. Plot is located at the toe of one slope and on top of the break of the next slope.

Ruby Rock Provincial Park Vegetation Inventory: Plot 31 Photodocumentation



Date: September 11, 2010

Comments:

Western view from plot center in the mixed forest stand; tree diameters are quite small and the low vegetation is sparse.



Date: September 11, 2010

Comments:

There are some large diameter snags that will provide forage and denning sites for some avian and wildlife species.

Ruby Rock Provincial Park Vegetation Inventory: Plot 32 Photodocumentation



Date: September 14, 2010

Comments:

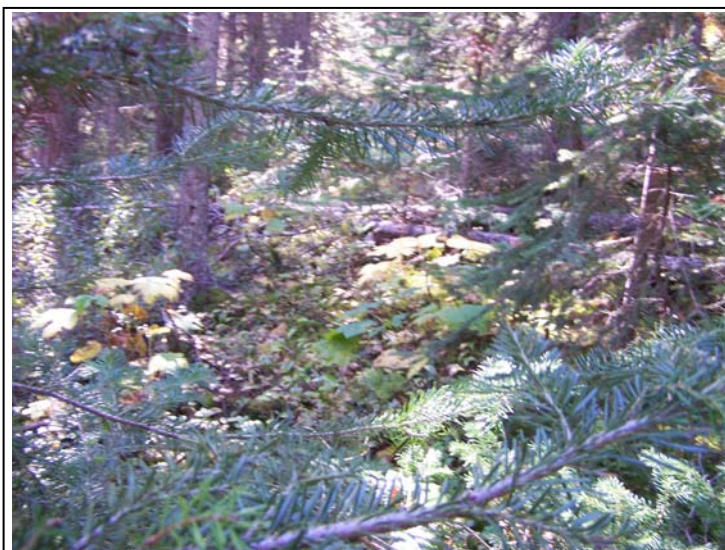
Northern view from plot center shows a mixed stand of mature White spruce, Douglas fir and Lodgepole pine. There is abundant regenerating (regen) growth and a dense cover of shrubs. High percentage of pine >90% is dead due to beetle attack, but has not started to fall or get blown over yet.



Date: September 14, 2010

Comments:

Eastern view from plot center shows an open forest stand with a profuse understory of regen and tall shrubs.



Date: September 14, 2010

Comments:

Southern view from plot center shows the dense shrub layer which would provide forage for wildlife species. Moose and deer pellets groups were noted, likely from the previous spring.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 32
Photodocumentation



Date: September 14, 2010

Comments:

Western view from plot center shows the dense understory of regenerating Sub-alpine/Douglas fir and spruce which would provide thermal cover for wildlife species, as well as providing escape or security cover.

Ruby Rock Provincial Park Vegetation Inventory: Plot 33 Photodocumentation



Date: September 15, 2010

Comments:

Northern view from plot center shows a homogeneous stand of mature Lodgepole pine. Approximately 60% of the stand is dead due to beetle attack.



Date: September 15, 2010

Comments:

Eastern view from plot center shows an open pine stand with a profuse shrub layer and an understory of Sitka alder, regenerating White spruce and Douglas fir.



Date: September 15, 2010

Comments:

Southern view from plot center shows the open pine forest, light regenerating (regen) growth and sparse coarse woody debris. Concentrations of coarse woody debris will increase as more of the pine succumb to beetle attack and start to fall down.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 33
Photodocumentation



Date: September 15, 2010

Comments:

Western view from plot center shows the open pine forest with an understory of Buffalo berry, spruce/ fir regen, willow species and Saskatoon. The open forest provides poor thermal cover, but does offer security cover and some foraging opportunities; moose pellet groups were noted throughout the area.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 34
Photodocumentation



Date: September 15, 2010

Comments:

Northern view from plot center shows the lush vegetation at plot center alongside the stream.



Date: September 15, 2010

Comments:

Eastern view from plot center shows a mixed forest stand made up of White spruce and Sub-alpine fir with a heavy ground cover of low shrubs.



Date: September 15, 2010

Comments:

Southern view from plot center shows a stand of large diameter White spruce with a tall understory dominated by Sitka alder.

Ruby Rock Provincial Park Vegetation Inventory: Plot 34 Photodocumentation



Date: September 15, 2010

Comments:

Western view from plot center shows a stand of White spruce with an understory of Sitka alder. The wet site location supports a lush shrub layer.



Date: September 15, 2010

Comments:

The site location along the creek is another wet micro-site 50m wide bordering creek; composed of White spruce and Sub-alpine fir while back from the watercourse 30-50mm is a mature Lodgepole pine forest. The wet plot location reflected by Devils' club, horsetail, Palmate coltsfoot and wood fern ground cover.

Ruby Rock Provincial Park Vegetation Inventory: Plot 35 Photodocumentation



Date: September 17, 2010

Comments:

Northern view from plot center shows homogeneous Lodgepole pine stand; stand is presently 50% dead due to beetle attack. There is a moderate shrub layer and coarse woody debris is sparse, but will increase as more of the stand dies off, roots deteriorate and the trees blow over.



Date: September 17, 2010

Comments:

Eastern view from plot center shows open pine forest with slopes running at 30%. Regenerating growth is sparse and scattered and the shrub layer is moderate.



Date: September 17, 2010

Comments:

Southern view from plot center shows the Sitka alder making up 10% of the shrub layer. The alder provides escape cover, but offers no thermal cover potential.

Ruby Rock Provincial Park Vegetation Inventory: Plot 35 Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center shows the open pine forest with a dense shrub layer largely made up of Sitka alder, Prickly rose, Thimbleberry, Birch-leaf spirea and herb layer with a high component of Showy aster.



Date: September 17, 2010

Comments:

There is dense alder cover downhill of the plot which would provide good security/escape for ungulate species.

Ruby Rock Provincial Park Vegetation Inventory: Plot 36 Photodocumentation



Date: September 17, 2010

Comments:

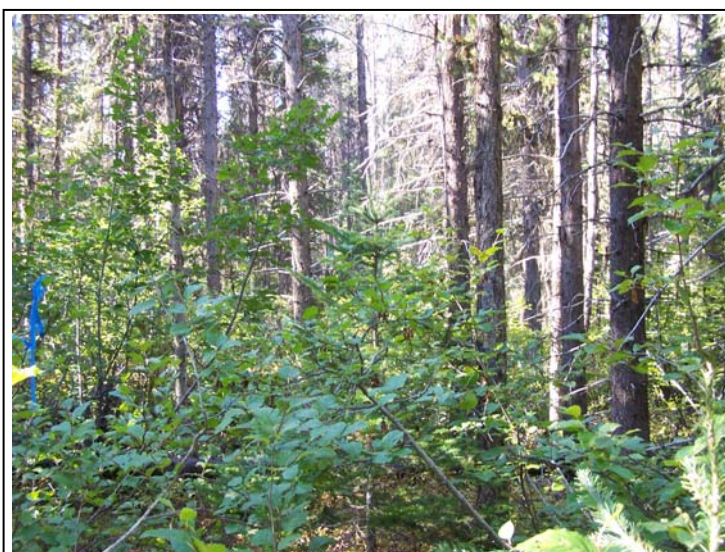
Northern view from plot center shows a mixed stand composed of mature Lodgepole pine, Douglas fir and White spruce. Plot falls on top of rocky ridge-top with very little mineral soil which offers poor growing conditions. The understory composed of Sitka alder is dense offering excellent security cover for ungulate species.



Date: September 17, 2010

Comments:

Eastern view from plot center shows the dense alder understory under the forest canopy.



Date: September 17, 2010

Comments:

Southern view from plot center shows the major forest component pine which is 90% dead due to beetle attack. Openings in the stand will increase as the pine trees deteriorate.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 36
Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center shows the mixed stand with the regenerating tree component which will provide thermal cover for ungulate species. Moose pellet groups and fresh tracks were observed around the plot location.

Ruby Rock Provincial Park Vegetation Inventory: Plot 37 Photodocumentation



Date: September 17, 2010

Comments:

Northern view from plot center shows the mixed composition stand of Douglas fir, White spruce and Lodgepole pine; pine component 90% dead due to beetle attack.



Date: September 17, 2010

Comments:

Eastern view from plot center shows some dense regenerating (regen) growth composed of fir, spruce and the thick alder layer. The alder and the regen provide security/escape cover as well as thermal cover for ungulate species.



Date: September 17, 2010

Comments:

Southern view from plot center shows the mature Douglas fir forest, moss covered ground and sparse shrub layer.

Ruby Rock Provincial Park Vegetation Inventory: Plot 37 Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center shows the mixed stand composed of fir, spruce and pine with the moderate shrub layer and low coarse woody debris cover.



Date: September 17, 2010

Comments:

Technician measuring coarse woody debris transect; coarse woody debris level was low to moderate, but fuel continuity was low.

Ruby Rock Provincial Park Vegetation Inventory: Plot 38 Photodocumentation



Date: September 17, 2010

Comments:

Northern view from plot center shows plot location at the base of rock outcrop/cliff; gradients range from 70-90%. The stand is composed of White spruce, Lodgepole pine and Douglas fir with a canopy closure of 55%.



Date: September 17, 2010

Comments:

Eastern view from plot center shows mixed composition stand of fir, pine and regenerating growth made up of spruce and fir.



Date: September 17, 2010

Comments:

Southern view from plot center shows the thick shrub layer in forest openings; slope gradient is 80%. The coarse woody debris layer is low.

Ruby Rock Provincial Park Vegetation Inventory: Plot 38 Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center shows the base of the rock cliff and the mixed forest stand composed of pine, fir and spruce.



Date: September 17, 2010

Comments:

Woodpecker excavation in fir tree; site could be used as a nest site for avian species or a denning tree for marten. Wildlife tree numbers will increase as the pine stand deteriorates

Ruby Rock Provincial Park Vegetation Inventory: Plot 39 Photodocumentation



Date: September 17, 2010

Comments:

Northern view from plot center shows plot location at the base of a small cliff/rock outcrop. The site is dry as it is a south-facing slope and the stand is composed of Douglas fir and Lodgepole pine.



Date: September 17, 2010

Comments:

Eastern view from plot center shows the rocky outcrop and pine forest; all pine are dead due to beetle attack. The open stand has a fairly dense shrub layer.



Date: September 17, 2010

Comments:

Southern view from plot center shows the steep slope extending down into the unnamed stream draw. Scat evidence show moose wintering at this location; excellent site with south facing slope which would have a negligible snow pack and lush vegetation along stream would provide ample browse.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 39
Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center show a forest opening on slope above watercourse. The shrub layer is minimal as is coarse woody debris deposits.

Ruby Rock Provincial Park Vegetation Inventory: Plot 40 Photodocumentation



Date: September 9, 2010

Comments:

Northern view from plot center (uphill) shows wet site location with forest cover made up of White spruce and Douglas fir; the thick shrub layer is dominated by Devils club, Red-osier dogwood and Thimble-berry.



Date: September 9, 2010

Comments:

Eastern view from plot center shows the mixed stand of Douglas fir/White spruce, thick shrub layer and decaying coarse woody debris.



Date: September 9, 2010

Comments:

Southern view from plot center in wet spruce forest; it is a multi-layered stand with regenerating spruce and fir which provides forage, thermal, security/escape cover for the ungulate species present. Overall it provides excellent habitat for ungulates.

Ruby Rock Provincial Park Vegetation Inventory: Plot 40 Photodocumentation



Date: September 9, 2010

Comments:

Western view from plot center shows the open mixed composition stand with a diverse shrub/herb layer.



Date: September 9, 2010

Comments:

The plot location is in a stream draw with the watercourse north of the plot 3m.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 41
Photodocumentation



Date: August 26, 2010

Comments:

Northern view (uphill) from plot center; mixed Aspen/ Douglas fir stand with heavy shrub layer. No mature trees were present in plot, Pin cherry, aspen and fir regenerating growth with a dense shrub layer.



Date: August 26, 2010

Comments:

Eastern view from plot center; mixed Aspen/Douglas fir stand in the background, but no mature trees are present at the plot center. Large opening above lake has a thick shrub and herb layer that has started to deteriorate near the end of the growing season.



Date: August 26, 2010

Comments:

Southern view from plot center with Cunningham Lake in background; opening in mixed aspen/Douglas fir forest. Lake shore has a cover of mature aspen and cottonwood with a very dense understory of shrubs and regenerating growth.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 41
Photodocumentation



Date: August 26, 2010

Comments:

Western view from plot center; opening in stand has thick shrub layer that is starting to die off at the end of the growing season. There is some evidence of aspen die-off as a result of prescribed burns.

Ruby Rock Provincial Park Vegetation Inventory: Plot 42 Photodocumentation



Date: August 28, 2010

Comments:

Northern view from plot center (uphill) shows an open Trembling aspen forest with a dense shrub/herb layer.



Date: August 28, 2010

Comments:

Eastern view from plot center shows the small diameter aspen forest; open forest with profuse shrub and herb layer offers excellent foraging opportunities for wildlife.



Date: August 28, 2010

Comments:

Southern view from plot center in aspen forest; coarse woody debris (CWD) is very sparse with a few small diameter aspen found on the CWD transects.

Ruby Rock Provincial Park Vegetation Inventory: Plot 42 Photodocumentation



Date: August 28, 2010

Comments:

Western view from plot center shows the open aspen forest with the dense shrub and herb cover.



Date: August 28, 2010

Comments:

There were clumps of willow scattered throughout the stand; willow will provide good forage for moose in winter months.

Ruby Rock Provincial Park Vegetation Inventory: Plot 43 Photodocumentation



Date: September 10, 2010

Comments:

Northern view from plot center (uphill) shows a stand consisting almost exclusively of young Douglas fir. Plot is located on ridge top that has been burned off leaving very little top-soil to support any herb or shrub growth; just a dense stand of young Douglas fir (branches extend right to the ground).



Date: September 10, 2010

Comments:

Eastern view from plot center shows minimal top-soil with cobble/boulder outcrops and little if any vegetative cover. This stand offers low wildlife habitat potential.



Date: September 10, 2010

Comments:

Southern view from plot center shows some larger diameter fir down-slope, as it appears that the fire did not extend down-slope into the older larger diameter forest.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 43
Photodocumentation



Date: September 10, 2010

Comments:

Western view from plot center in Douglas fir leading forest, stand is very dense and there are areas with high concentrations of small woody debris.

Ruby Rock Provincial Park Vegetation Inventory: Plot 44 Photodocumentation



Date: September 10, 2010

Comments:

Northern view from plot center shows a mixed multi-layered stand composed of Douglas fir, White spruce and Sub-alpine fir. There is consistent layer of regenerating growth composed of spruce and balsam.



Date: September 10, 2010

Comments:

Eastern view from plot center shows a mixed stand with an understory of regenerating growth and a high concentration of coarse woody debris.



Date: September 10, 2010

Comments:

Southern view from plot center shows the open mature stand with a heavy layer of regenerating growth. The regenerating growth will provide good security/escape cover, but does not have the height to provide good thermal cover. The Balsam will provide forage for moose during the winter at higher snow levels.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 44
Photodocumentation



Date: September 10, 2010

Comments:

Western view from plot center shows the open mixed stand, moderate regenerating growth and abundant coarse woody debris. Spruce in middle of picture is dead from beetle attack and has been foraged on by woodpeckers.



Date: September 10, 2010

Comments:

Pitch tube on spruce beetle attack tree.

Ruby Rock Provincial Park Vegetation Inventory: Plot 45 Photodocumentation



Date: September 11, 2010

Comments:

Northern view from plot center (uphill) shows a mature stand of Douglas fir, regenerating fir and a light shrub layer over moss covered ground.



Date: September 11, 2010

Comments:

Eastern view from plot center shows a mature Douglas fir forest with scattered large woody debris.



Date: September 11, 2010

Comments:

Southern view from plot center (down-slope) shows a mature Douglas fir forest, regenerating fir, a light shrub layer and patches of bare ground.

Ruby Rock Provincial Park Vegetation Inventory: Plot 45 Photodocumentation



Date: September 11, 2010

Comments:

Western view from plot center in a Douglas fir forest; location is a semi-flat bench at mid-slope with a cover of regenerating fir and Douglas maple. The ground cover is sparse with some patches of bare ground



Date: September 11, 2010

Comments:

There are areas with a dense cover of regenerating Douglas fir which would provide thermal and escape/security cover. There are also numerous fir snags which could be utilized by wildlife.

Ruby Rock Provincial Park Vegetation Inventory: Plot 46 Photodocumentation



Date: September 11, 2010

Comments:

Northern view from plot center (uphill) shows a flat bench in a Douglas fir forest. This bench is located at mid-slope along the ridge above Cunningham Lake. There was a fairly recent bear bedding area as well as numerous deer and moose pellet groups which show ungulate use from the previous winter.



Date: September 11, 2010

Comments:

Eastern view from plot center shows a Douglas fir forest with abundant fir regenerating growth, which provides good thermal cover as well as escape/security cover.



Date: September 11, 2010

Comments:

Southern view from plot center (down-slope) shows a mature Douglas fir forest with areas of profuse small and large woody debris deposits which contribute to the fuel loading.

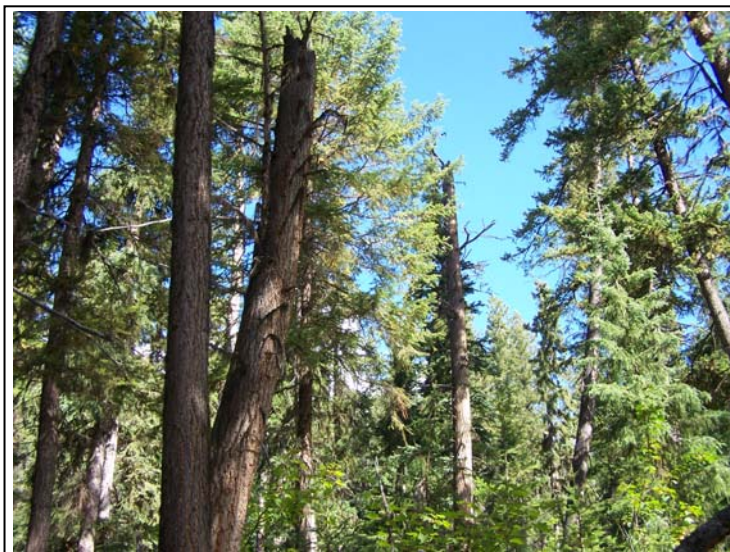
Ruby Rock Provincial Park Vegetation Inventory: Plot 46 Photodocumentation



Date: September 11, 2010

Comments:

Western view from plot center in a Douglas fir forest; south facing slope is dry with some areas having high concentrations of coarse woody debris.



Date: September 11, 2010

Comments:

There are numerous fir snags present for avian and wildlife use.

Ruby Rock Provincial Park Vegetation Inventory: Plot 47 Photodocumentation



Date: September 11, 2010

Comments:

Northern view from plot center (uphill) shows a mixed composition stand consisting of Douglas fir, Sub-alpine fir, White spruce and Trembling aspen. There also was a multi-layered shrub layer that would provide excellent security/escape and thermal cover as well as forage opportunities for wildlife.



Date: September 11, 2010

Comments:

Eastern view from plot center shows a mixed stand of Trembling aspen and White spruce with a substantial shrub layer. The diverse stand offers excellent wildlife values.



Date: September 11, 2010

Comments:

Southern view from plot center shows a thick shrub layer under a veteran Douglas fir.

Ruby Rock Provincial Park Vegetation Inventory: Plot 47 Photodocumentation



Date: September 11, 2010

Comments:

Western view from plot center in a mixed composition forest; the old forest has some large diameter trees blown over or snapped off contributing to the coarse woody debris.



Date: September 11, 2010

Comments:

There were some wildlife trees/snags present in the decedent Douglas fir component of the stand. The Douglas fir were veterans and there were several trees as well as snags present that would provide excellent trees for avian and wildlife use.

Ruby Rock Provincial Park Vegetation Inventory: Plot 48 Photodocumentation



Date: September 13, 2010

Comments:

Northern view from plot center shows a small diameter stand composed of Douglas fir, White spruce and Sub-alpine fir; site is quite wet due to the north facing aspect.



Date: September 13, 2010

Comments:

Eastern view from plot center shows the dense small diameter mixed stand and moss covered ground ($\approx 95\%$ coverage). The open stand does not provide much security cover for ungulates and the lack of regenerating growth will not provide much thermal cover.



Date: September 13, 2010

Comments:

Southern view from plot center shows the open forest with a lack of a shrub layer; poor foraging opportunities for ungulate species.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 48
Photodocumentation



Date: September 13, 2010

Comments:

Western view from plot center shows the open small diameter forest with a light layer of coarse woody debris. A controlled scarification burn would not be an option as the site is too wet and there is not a sufficient fuel load to carry a burn.

Ruby Rock Provincial Park Vegetation Inventory: Plot 49 Photodocumentation



Date: September 13, 2010

Comments:

Northern view from plot center shows a small diameter stand composed of Douglas fir, White spruce and Lodgepole pine; site is quite wet even though it is a south facing aspect.



Date: September 13, 2010

Comments:

Eastern view from plot center shows the dense small diameter mixed stand and moss covered ground (>50% coverage). The open stand does not provide much security cover for ungulates and does not allow light infiltration to support a diverse shrub layer for browsing purposes.



Date: September 13, 2010

Comments:

Southern view from plot center shows the young small diameter forest with a lack of a shrub layer; poor foraging opportunities for ungulate species. The dense stand will provide some thermal cover during winter months.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 49
Photodocumentation



Date: September 13, 2010

Comments:

Western view from plot center shows the open small diameter forest with a light layer of coarse woody debris. A controlled scarification burn would not be an option as the site is too wet and there is not a sufficient fuel load to carry a burn. Partial thinning may be an option to open the canopy and allow a denser shrub layer to develop.

Ruby Rock Provincial Park Vegetation Inventory: Plot 50 Photodocumentation



Date: September 13, 2010

Comments:

Northern view from plot center (uphill) shows a mature Douglas fir forest with a light shrub layer and some areas with concentrations of small and large woody debris.



Date: September 13, 2010

Comments:

Eastern view from plot center shows the steep slope (60%) in a mature Douglas fir forest. The shrub layer is light with patches of bare ground present.



Date: September 13, 2010

Comments:

Southern view from plot center (down-slope) shows a light concentration of small woody debris, and light shrub understory composed of Douglas maple and willow. The stand is quite open providing low thermal cover and poor wildlife browse; there is some security cover provided in the dense stands of Douglas maple and regenerating fir growth.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 50
Photodocumentation



Date: September 13, 2010

Comments:

Western view from plot center shows the steep slope and a light concentration of small woody debris.

Ruby Rock Provincial Park Vegetation Inventory: Plot 51 Photodocumentation



Date: September 15, 2010

Comments:

Northern view from plot center (uphill) shows an open mixed stand of Lodgepole pine and Douglas fir with a light to moderate shrub cover. The stand type turns to 100% pine further uphill with a heavy Sitka alder understory.



Date: September 15, 2010

Comments:

Eastern view from plot center shows a mixed forest stand made up of lodgepole pine and Douglas fir. The pine is approximately 50-60% dead due to the beetle infestation, which has opened the canopy allowing higher light infiltration.



Date: September 15, 2010

Comments:

Southern view from plot center shows a smaller diameter stand size with a larger component of regenerating fir.

Ruby Rock Provincial Park Vegetation Inventory: Plot 51 Photodocumentation



Date: September 15, 2010

Comments:

Western view from plot center shows thicker regenerating growth in the background with some openings in the forest canopy in the foreground.



Date: September 15, 2010

Comments:

The openings in the forest canopy allow higher light infiltration, which in turn supports a diverse grass community including Blue wildrye, Rough leaved rice grass and Festuca species.

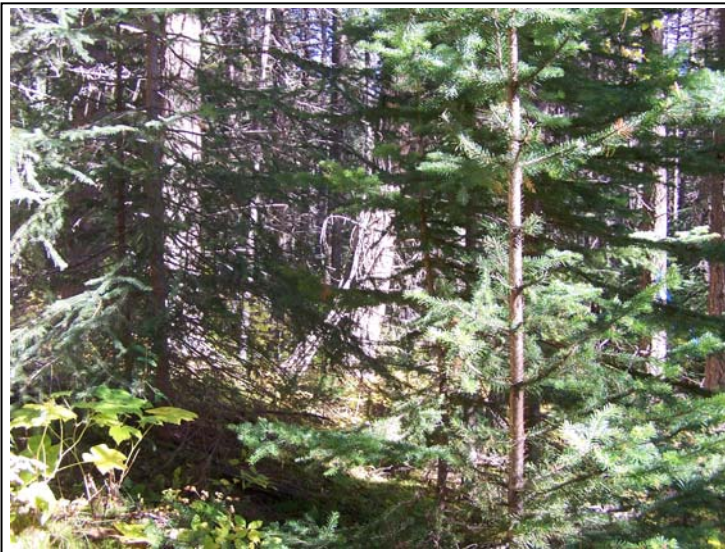
Ruby Rock Provincial Park Vegetation Inventory: Plot 52 Photodocumentation



Date: September 16, 2010

Comments:

Northern view (uphill) from plot center shows a homogeneous stand of young-mature Douglas fir with a few Lodgepole pine and Trembling aspen scattered throughout. The stand is fairly dense, but there is still a substantial shrub layer present.



Date: September 16, 2010

Comments:

Eastern view from plot center shows a dense stocked stand with some Douglas fir and Sub-alpine fir regenerating (regen) growth, which would provide good security and thermal cover for ungulates.



Date: September 16, 2010

Comments:

Southern view from plot center shows the dense Douglas fir stand with scattered regen throughout the stand.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 52
Photodocumentation



Date: September 16, 2010

Comments:

Western view from plot center shows the young fir stand with branches extending right to the ground. Although the stand has dense stocking it supports a diverse shrub and herb layer.

Ruby Rock Provincial Park Vegetation Inventory: Plot 53 Photodocumentation



Date: September 17, 2010

Comments:

Northern view from plot center shows the sedge meadow approximately 40m away; low lying moss covered ground sparse shrub layer and tree cover made up of White spruce and Sub-alpine fir.



Date: September 17, 2010

Comments:

Eastern view from plot center shows some dense regenerating (regen.) growth composed of fir and spruce. The regen. provides security/escape cover as well as thermal cover for ungulate species.



Date: September 17, 2010

Comments:

Southern view from plot center shows the mature Sub-alpine fir, moss covered ground and sparse shrub layer made up largely of regenerating growth.

Ruby Rock Provincial Park Vegetation Inventory: Plot 53 Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center shows the open fir forest stand with sedge meadow in background.



Date: September 17, 2010

Comments:

There is a small sedge meadow to the northwest of the plot; lower area with Sub-alpine fir tree cover between ridges that are treed with Lodgepole pine and White spruce. There are abundant dead snags around the wetland which will provide wildlife trees for avian species and smaller furbearers.

Ruby Rock Provincial Park Vegetation Inventory: Plot 54 Photodocumentation



Date: September 17, 2010

Comments:

Northern view from plot center shows a mixed stand composed of Douglas fir, White spruce and Lodgepole pine with some Sub-alpine fir (balsam) regenerating in the understory. The dense alder understory will provide good security/escape cover for ungulate species.



Date: September 17, 2010

Comments:

Eastern view from plot center shows the large boulder/rock outcrop that occupies this aspect of the plot.



Date: September 17, 2010

Comments:

Southern view from plot center shows the rock outcrop that creates an opening in the forest canopy.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 54
Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center shows the dense bunchberry layer under the forest canopy. The coarse woody debris layer is sparse, but should increase as more of the beetle killed pine blow over.

Ruby Rock Provincial Park Vegetation Inventory: Plot 55 Photodocumentation



Date: September 17, 2010

Comments:

Northern view from plot center shows a mixed multi-layered stand composed of Douglas fir, White spruce and Lodgepole pine.



Date: September 17, 2010

Comments:

Eastern view from plot center shows plot location at the edge of an opening in the forest canopy; this allows substantial light infiltration to support the shrub understory. The dense understory will provide security/escape cover as well as browse for wildlife species.



Date: September 17, 2010

Comments:

Southern view from plot center shows the mature stand with a heavy layer of coarse woody debris. The southwest portions of the plot have copious amounts of coarse woody debris.

Ruby Rock Provincial Park Vegetation Inventory: Plot 55 Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center shows the open mixed stand and abundant coarse woody debris. This dense layer of coarse woody debris will provide habitat for smaller rodents and wildlife which will in turn support a diverse group of predators.



Date: September 17, 2010

Comments:

The pine trees are succumbing to beetle attack and should provide wildlife trees as they die off.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 56
Photodocumentation



Date: September 17, 2010

Comments:

Northern view from plot center shows a mixed forest stand composed of Douglas fir and White spruce with a dense layer of Sitka alder.



Date: September 17, 2010

Comments:

Eastern view from plot center shows a mixed forest stand, alder understory and a heavy ground cover of low shrubs.



Date: September 17, 2010

Comments:

Southern view from plot center shows the dense alder cover; it will provide good security/escape cover for ungulate species.

Ruby Rock Provincial Park Vegetation Inventory: Plot 56 Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center shows the thick alder cover; the tree stand canopy closure is quite open supporting this alder growth. Plot on the edge of a wet draw; devils club cover starts 20m down-slope.



Date: September 17, 2010

Comments:

There is evidence of moose browse on the Sub-alpine fir regenerating growth and Mountain ash, also moose pellets were found at the plot location

Ruby Rock Provincial Park Vegetation
Inventory: Plot 57
Photodocumentation



Date: September 11, 2010

Comments:

Northern view from plot center shows a dense shrub layer under a mixed White spruce, Douglas fir, Sub-alpine fir and Paper birch. Plot is located at the toe of the slope, with a much higher moisture regime than upslope.



Date: September 11, 2010

Comments:

Eastern view from plot center shows a forest opening with a dense cover of Devils' club over top of Bunchberry, Canada violet, Common miterwort, Solomon seal and Hookers fairybell.



Date: September 11, 2010

Comments:

Southern view from plot center shows a White spruce forest with a heavy cover of Devils' club. There is good thermal, escape/security cover for ungulates as well as excellent browse for moose; fresh moose tracks were noted near plot center.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 57
Photodocumentation



Date: September 11, 2010

Comments:

Western view from plot center shows an open White spruce forest with scattered Paper birch throughout.

Ruby Rock Provincial Park Vegetation Inventory: Plot 58 Photodocumentation



Date: September 13, 2010

Comments:

Northern view from plot center shows the Douglas fir dominated stand; minimal herb/shrub layer and moss covered ground.



Date: September 13, 2010

Comments:

Eastern view from plot center shows the dense young fir stand; branches extend right to the ground. The dense stand cover does not allow light infiltration to support a herb or shrub layer. Therefore ungulate forage is poor, security cover is minimal, but thermal cover should be adequate.



Date: September 13, 2010

Comments:

Southern view from plot center shows the dense fir forest, tree diameters range from 20 to 30 cm.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 58
Photodocumentation



Date: September 13, 2010

Comments:

Western view from plot center shows the dense fir forest, Douglas maple and White spruce regenerating growth in the understory. The forest openings have a thick moss layer, but not much of an herb layer.

Ruby Rock Provincial Park Vegetation Inventory: Plot 59 Photodocumentation



Date: September 12, 2010

Comments:

Northern view from plot center shows a thick shrub layer at the plot location; wet site location at the toe of one slope and crest of another.



Date: September 12, 2010

Comments:

Eastern view from plot center shows a mixed forest stand White spruce and Douglas fir, a thick shrub layer and regenerating spruce in the understory.



Date: September 12, 2010

Comments:

Southern view from plot center shows the thick cover; it will provide good forage, security/escape and thermal cover for ungulate species.

Ruby Rock Provincial Park Vegetation Inventory: Plot 59 Photodocumentation



Date: September 12, 2010

Comments:

Western view from plot center shows the mature White spruce and Douglas fir forest with a consistent shrub layer.



Date: September 12, 2010

Comments:

There is evidence of moose browse on the Dogwood and willow species present at this location. The dense shrub understory provides profuse feed for ungulate and other wildlife species.

Ruby Rock Provincial Park Vegetation Inventory: Plot 60 Photodocumentation



Date: September 13, 2010

Comments:

Northern view from plot center (uphill) shows a young to mature stand of Douglas fir with branches extending to the ground.



Date: September 13, 2010

Comments:

Eastern view from plot center shows a mature Douglas fir forest, scattered large woody debris and a light shrub layer. Slopes are steep, running at 60% at this plot location.



Date: September 13, 2010

Comments:

Southern view from plot center (down-slope) shows a mature Douglas fir forest, regenerating fir, a light shrub layer composed of Douglas maple, Prickly rose, Buffalo berry and Saskatoon.

Ruby Rock Provincial Park Vegetation Inventory: Plot 60 Photodocumentation



Date: September 13, 2010

Comments:

Western view from plot center in a Douglas fir forest; steep south facing slope is dry and ground cover is sparse with some patches of bare ground.



Date: September 13, 2010

Comments:

There are some areas with concentrations of large woody debris, but they are scattered and fuel continuity is low.

Ruby Rock Provincial Park Vegetation Inventory: Plot 61 Photodocumentation



Date: September 15, 2010

Comments:

Northern view from plot center shows a mixed stand composed of Douglas fir, Lodgepole pine and White spruce; the shrub and herb layer is minimal.



Date: September 15, 2010

Comments:

Eastern view from plot center shows the dense mixed stand, tree diameters are small and some of the smaller nursery trees are dying off.



Date: September 15, 2010

Comments:

Southern view from plot center shows the dense young mixed forest, tree diameters range from 15 to 30 cm. There is some light Sub-alpine fir regenerating growth that may provide forage for moose, but other than that the foraging opportunities are poor.

Ruby Rock Provincial Park Vegetation Inventory: Plot 61 Photodocumentation



Date: September 15, 2010

Comments:

Western view from plot center shows the open mixed stand; stand is too open to provide thermal or security cover for ungulate species; but, the denseness of the stand will provide some cover from the wind.

Ruby Rock Provincial Park Vegetation Inventory: Plot 62 Photodocumentation



Date: September 15, 2010

Comments:

Northern view from plot center shows a wet plot location with a profuse shrub layer. The plot is located on a north facing slope which promotes this dense shrub layer.



Date: September 15, 2010

Comments:

Eastern view from plot center shows the dense mixed stand; stand is composed of Douglas fir, White spruce and Sub-alpine fir (balsam) with dense patches of regenerating (regen.) balsam. The balsam regen. will provide good security, thermal cover as well as provide forage for wintering moose.



Date: September 15, 2010

Comments:

Southern view from plot center shows the dense regenerating growth, moss covered ground and thick shrub layer.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 62
Photodocumentation



Date: September 15, 2010

Comments:

Western view from plot center shows the heavy coarse woody debris layer; the CWD layer will provide excellent habitat for small mammals which will in turn support a diverse range of smaller and mid-sized predators.

Ruby Rock Provincial Park Vegetation Inventory: Plot 63 Photodocumentation



Date: September 16, 2010

Comments:

Northern view from plot center (uphill) shows a mixed stand of Douglas fir and White spruce with a light shrub cover. There is abundant regenerating (regen) fir and spruce to provide security/escape cover as well as thermal cover; moose pellet groups were noted throughout. Smaller diameter (10-20cm) coarse woody debris is distributed through the area.



Date: September 16, 2010

Comments:

Eastern view from plot center shows a mixed forest stand made up of Douglas fir and White spruce. There is profuse coarse woody debris in this quadrant and throughout the plot.



Date: September 16, 2010

Comments:

Southern view from plot center shows a more open stand with a lighter fuel load from coarse woody debris.

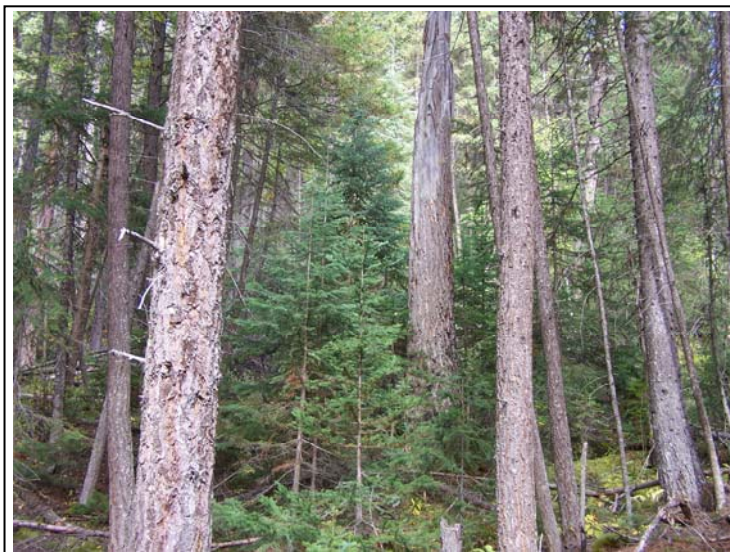
Ruby Rock Provincial Park Vegetation Inventory: Plot 63 Photodocumentation



Date: September 16, 2010

Comments:

Western view from plot center shows some White spruce with thick regenerating growth in the background. The regen provides good escape and thermal cover.



Date: September 16, 2010

Comments:

There are abundant snags scattered through the stand which can be utilized by avian and other wildlife species.

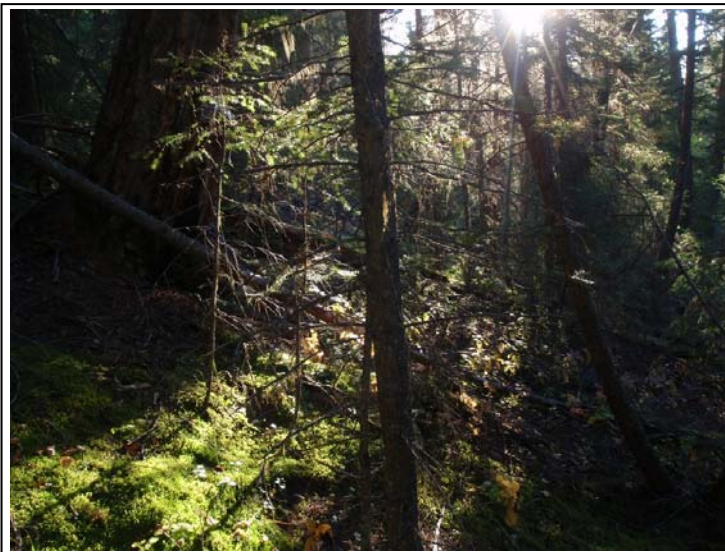
Ruby Rock Provincial Park Vegetation
Inventory: Plot 64
Photodocumentation



Date: September 17, 2010

Comments:

Northern view from plot center shows a Douglas fir dominated forest; multi-layered stand with regenerating growth, young, mature and veterans present.



Date: September 17, 2010

Comments:

Eastern view from plot center shows homogeneous fir forest with a minimal shrub layer and moss covered ground.



Date: September 17, 2010

Comments:

Southern view from plot center shows the thick cover; it will provide good security/escape and thermal cover for ungulate species. The dense stand does not allow for much herb or shrub development, therefore foraging opportunities would be poor for wildlife.

Ruby Rock Provincial Park Vegetation Inventory: Plot 64 Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center shows the mature Douglas fir forest with a sparse shrub layer.



Date: September 17, 2010

Comments:

There are fir veterans present; some of which are dead which will provide wildlife trees for avian and other wildlife species.

Ruby Rock Provincial Park Vegetation Inventory: Plot 65 Photodocumentation



Date: September 16, 2010

Comments:

Northern view from plot center shows a mixed Douglas fir, Lodgepole pine and White spruce (minor component) stand.



Date: September 16, 2010

Comments:

Eastern view from plot center shows plot location on the brow of a hill, minimal mineral soil present with rocky outcrops throughout site.



Date: September 16, 2010

Comments:

Southern view from plot center shows the thick cover from the regenerating fir; it will provide good security/escape cover, but is not does not have dense enough stocking to provide thermal cover. The dry site location in addition to regenerating tree layers does not allow a good herb/shrub development which would provide foraging opportunities for wildlife.

Ruby Rock Provincial Park Vegetation Inventory: Plot 65 Photodocumentation



Date: September 16, 2010

Comments:

Western view from plot center shows the mature Douglas fir, Lodgepole pine forest with a sparse shrub layer. The coarse woody debris concentrations are low to moderate.



Date: September 16, 2010

Comments:

There are fir veterans present as well as snags; which will provide wildlife trees for avian and other wildlife species.

Ruby Rock Provincial Park Vegetation Inventory: Plot 66 Photodocumentation



Date: September 17, 2010

Comments:

Northern view from plot center shows a mixed composition stand with Douglas fir, White spruce, Lodgepole pine and a few scattered Paper birch. The ground is moss covered, but there is a minimal herb/shrub layer.



Date: September 17, 2010

Comments:

Eastern view from plot center depicts plot location in the bottom of a gully between two rocky ridges; in some places there are areas of patches of regenerating Sub-alpine fir (balsam). The balsam regen. will provide good security cover, but the stocking is insufficient to provide thermal cover.



Date: September 17, 2010

Comments:

Southern view from plot center shows the heavy patch of blow-down; hill-slope in the SW quadrant. The blowdown will provide habitat for small mammals which will in turn support a diverse gamut of predators.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 66
Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center shows the tail end of the blow-down patch with the mixed composition forest stand in the background.

Ruby Rock Provincial Park Vegetation Inventory: Plot 67 Photodocumentation



Date: September 17, 2010

Comments:

Northern view from plot center shows a thick shrub layer with a high component of Thimbleberry and an understory largely composed of Douglas maple. This riparian bench provides a wet habitat for a dense shrub layer.



Date: September 17, 2010

Comments:

Eastern view from plot center shows a mixed stand composed of Douglas fir, Paper birch and White spruce.



Date: September 17, 2010

Comments:

Southern view from plot center shows the profuse shrubs growing in the forest openings along the stream course. The lush underbrush provides excellent wildlife forage and cover.

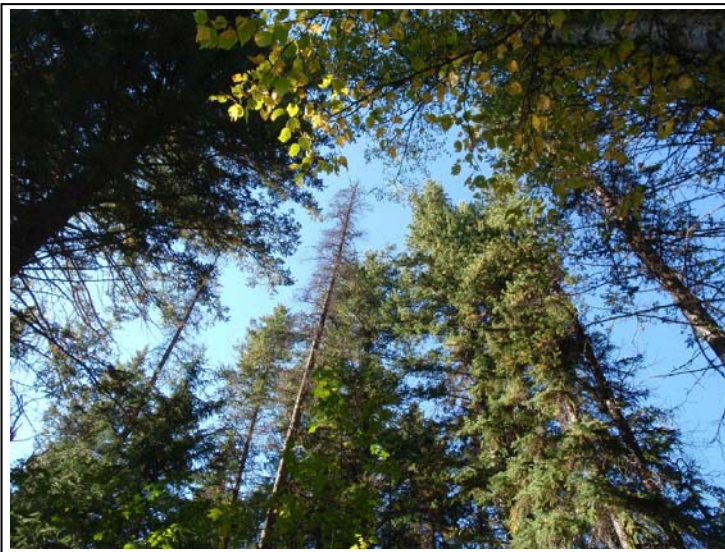
Ruby Rock Provincial Park Vegetation
Inventory: Plot 67
Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center shows the profuse shrub layer, although it provides security cover and forage it is too open to provide thermal cover for ungulate species.



Date: September 17, 2010

Comments:

There is also a Lodgepole pine component in this forest that has succumbed to beetle attack, they will provide snags and dead trees for avian species.



Date: September 17, 2010

Comments:

Well scoured stream located near plot center; riparian habitat offers excellent wildlife values providing browse and cover for ungulate species.

Ruby Rock Provincial Park Vegetation Inventory: Plot 68 Photodocumentation



Date: September 17, 2010

Comments:

Northern view from plot center shows a mixed Lodgepole pine, White spruce and Sub-alpine fir (balsam) stand. Due to the die-off of the pine from beetle attack, higher light infiltration has supported moderate shrub development.



Date: September 17, 2010

Comments:

Eastern view from plot center shows the pine dominated stand with some balsam regenerating in the background.



Date: September 17, 2010

Comments:

Southern view from plot center shows the plot location on the top of a small ridge, this allows light infiltration to support a healthy shrub layer. The shrub layers provide forage and security/escape cover for ungulate species.

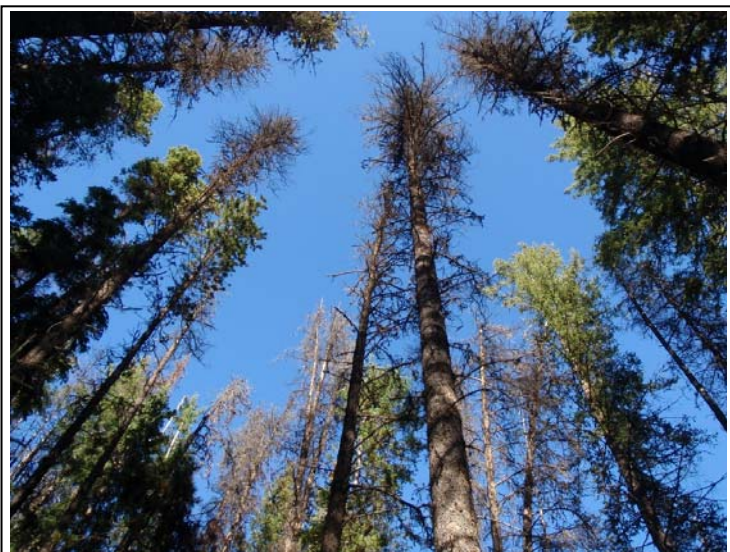
Ruby Rock Provincial Park Vegetation Inventory: Plot 68 Photodocumentation



Date: September 17, 2010

Comments:

Western view from plot center shows the mature forest with a substantial shrub layer and regenerating layer. This understory is not dense enough to provide thermal cover for ungulate species.



Date: September 17, 2010

Comments:

The dominant component of pine is dying off due to beetle attack; these will eventually fall down or some will provide wildlife trees for avian and other wildlife species.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 69
Photodocumentation



Date: September 13, 2010

Comments:

Northern view from plot center shows a multi-layered shrub layer under a White spruce and Black cottonwood forest. This riparian bench provides a wet habitat for a dense shrub layer.



Date: September 13, 2010

Comments:

Eastern view from plot center across the stream shows a mixed stand of Douglas fir, White spruce, Trembling aspen and Black cottonwood.



Date: September 13, 2010

Comments:

Southern view from plot center shows the profuse shrubs growing along the stream course. The lush underbrush provides excellent wildlife forage and cover.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 69
Photodocumentation



Date: September 13, 2010

Comments:

Western view from plot center in a White spruce forest; location is a flat bench adjacent to the watercourse at the toe of the slope which confines the stream channel and associated riparian zone.



Date: September 13, 2010

Comments:

Well scoured stream located east of plot center; riparian habitat offers excellent wildlife values with browse and cover for ungulates. An elk rub tree was noted 100m down-slope of the plot location.



Date: September 13, 2010

Comments:

There were numerous snags present along the stream riparian zone providing wildlife trees.

Ruby Rock Provincial Park Vegetation Inventory: Plot 70 Photodocumentation



Date: September 13, 2010

Comments:

Northern view from plot center shows a flat knoll with a cover of Lodgepole pine and a few scattered Douglas fir. The pine stand has been infested by pine beetle and is 70-80% dead. Coarse woody debris is patchy and composed of mainly small diameter pine.



Date: September 13, 2010

Comments:

Eastern view from plot center shows a dense pine stand that is overstocked causing low tree diameters and heights. There is only a light shrub layer and bare ground predominates.



Date: September 13, 2010

Comments:

Southern view from plot center (down-slope) shows that beyond the dense pine patch a mature Douglas fir forest dominates the forest cover.

Ruby Rock Provincial Park Vegetation Inventory: Plot 70 Photodocumentation



Date: September 13, 2010

Comments:

Western view from plot center in a Lodgepole pine forest; flat knoll is dry and ground cover is sparse with some patches of bare ground.



Date: September 13, 2010

Comments:

There are a few scattered snags (wildlife trees); which are remnants from the fire that created this thick pine stand.

Ruby Rock Provincial Park Vegetation Inventory: Plot 71 Photodocumentation



Date: September 15, 2010

Comments:

Northern view from plot center shows a mixed composition stand with Douglas fir, White spruce, Sub-alpine fir (balsam) and a few scattered Paper birch. The ground is moss covered with a minimal herb/shrub layer.



Date: September 15, 2010

Comments:

Eastern view from plot center shows the mixed composition mature stand. There are some areas that have abundant coarse woody debris.



Date: September 15, 2010

Comments:

Southern view from plot center shows the mixed composition stand, patchy shrub layer and areas of dense balsam regenerating growth. The balsam will provide thermal cover as well as offering some winter forage for resident moose.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 71
Photodocumentation



Date: September 15, 2010

Comments:

Western view from plot center shows the sloping terrain away from plot center. There are bare patches of ground interspaced with mossy sections and a light cover of shrubs.

Ruby Rock Provincial Park Vegetation Inventory: Plot 72 Photodocumentation



Date: September 15, 2010

Comments:

Northern view from plot center shows a beetle killed pine tree. The stand composition is dominated by spruce with pine being sub-dominant and Douglas fir, Trembling aspen, Black cottonwood making up the minor species.



Date: September 15, 2010

Comments:

Eastern view from plot center shows the dominant component of spruce, poorly developed shrub layer and dense regenerating (regen.) spruce and balsam in the background. The regen provides security/escape and thermal cover for ungulate species.



Date: September 15, 2010

Comments:

Southern view from plot center shows a snapped off spruce tree with an opening in the forest canopy in the background. The opening supports a dense shrub layer which will provide forage for wildlife species.

Ruby Rock Provincial Park Vegetation
Inventory: Plot 72
Photodocumentation



Date: September 15, 2010

Comments:

Western view from plot center shows the dense regen layer, some coarse woody debris and moderate developed herb/shrub layer.

Ruby Rock Provincial Park Vegetation Inventory: Plot 73 Photodocumentation



Date: September 16, 2010

Comments:

Northern view from plot center shows a mixed stand of Trembling aspen, Douglas fir, Lodge pole pine and White spruce. All pine is dead due to the beetle infestation. This open canopy stand has a dense shrub layer, which will provide good browse potential for ungulates and bear.



Date: September 16, 2010

Comments:

Eastern view from plot center shows some dense regenerating (regen) growth composed of fir and spruce. The regen provides security/escape cover for ungulate species, but is not thick enough to provide thermal cover.



Date: September 16, 2010

Comments:

Southern view from plot center shows the Douglas fir leading component of the timber cover. Under this portion of the stand the shrub layer is less prominent with some patches of bare ground apparent.

Ruby Rock Provincial Park Vegetation Inventory: Plot 73 Photodocumentation



Date: September 16, 2010

Comments:

Western view from plot center shows the open mixed forest stand with a well developed shrub layer and some of the regenerating fir and spruce.



Date: September 16, 2010

Comments:

There are some wildlife trees occurring in the Trembling aspen portion of the stand; the snag numbers will increase as the beetle-killed pine deteriorate further and get snapped off due to wind-throw.

Ruby Rock Provincial Park Vegetation Inventory: Plot 74 Photodocumentation



Date: September 16, 2010

Comments:

Northern view from plot center shows a mixed stand composed of Douglas fir and White spruce. There is dense Sub-alpine fir (balsam), spruce regenerating growth and a well developed shrub layer. The regen will provide good security/escape and thermal cover for ungulate species.



Date: September 16, 2010

Comments:

Eastern view from plot center shows the heavy regen, well developed shrub layer and a fir snag. The shrubs will provide forage for wildlife and the snags will provide habitat for avian and small mammal species.



Date: September 16, 2010

Comments:

Southern view from plot center shows the mixed stand composition with an opening in the forest canopy in the background.

Ruby Rock Provincial Park Vegetation Inventory: Plot 74 Photodocumentation



Date: September 16, 2010

Comments:

Western view from plot center shows the mature forest with a substantial shrub layer and regenerating layer. The pine component of the stand is dying back due to beetle attack; red attack pines are evident in the background of the picture.



Date: September 16, 2010

Comments:

The balsam regen is being browsed by moose in the winter months; moose pellet groups were present in the plot vicinity.

Ruby Rock Provincial Park Vegetation Inventory: Plot 75 Photodocumentation



Date: September 16, 2010

Comments:

Northern view from plot center shows a mixed stand composed of White spruce, Douglas fir and Sub-alpine fir (balsam). The stand is patchy with a dense shrub layer and a well developed understory.



Date: September 16, 2010

Comments:

Eastern view from plot center shows the heavy regenerating (regen.) growth and well developed shrub layer. The regen. and understory will provide forage for wildlife as well as security/escape and thermal cover for ungulate species.



Date: September 16, 2010

Comments:

Southern view from plot center shows the dense regenerating growth with an opening in the forest canopy in the background.

Ruby Rock Provincial Park Vegetation Inventory: Plot 75 Photodocumentation



Date: September 16, 2010

Comments:

Western view from plot center shows thick shrub layer under a mature spruce.



Date: September 16, 2010

Comments:

There is evidence of moose browse on the willow and Red-osier dogwood in the plot vicinity.

Appendix B – Species list for each BEC type

Species frequency by BEC type (number of plots)

Common name	Scientific name	Overall	SBSdk/07	SBSdw3/01	SBSdw3/02	SBSdw3/04	SBSdw3/07	SBSdw3/08	SBSmc2/01	SBSmc2/04	SBSmc2/05	SBSmc2/07	SBSmk1/01	undetermined
TREES (regen)														
Subalpine fir	<i>Abies lasiocarpa</i>	39	10	15	2	1	7	1	1	1	1	1	1	
Paper birch	<i>Betula papyrifera</i>	4	3	1										
Hybrid white spruce	<i>Picea glauca x engelmannii</i>	30	9	1	14	1	2	2	1					
Lodgepole pine	<i>Pinus contorta</i>	1		1										
Trembling aspen	<i>Populus tremuloides</i>	4	1	1										2
Interior douglas-fir	<i>Pseudotsuga menziesii var.</i>	32	7	3	21									1
SHRUBS														
Douglas Maple	<i>Acer glabrum</i>	17	4	10	1	1								1
Sitka alder	<i>Alnus crispa ssp. sinuata</i>	26	1	6	8	2	1	5	1	1	1			
Saskatoon	<i>Amelanchier alnifolia</i>	30	4	3	20	1							1	1
Blue clematis	<i>Clematis occidentalis ssp.</i>	5		1	3								1	
Red-osier dogwood	<i>Cornus stolonifera</i>	12	1	7	2	1	1							
Common juniper	<i>Juniperus communis</i>	8		3	4									1
Rocky mountain juniper	<i>Juniperus scopulorum</i>	1												1
Black twinberry	<i>Lonicera involucrata</i>	16	1	8	1	1	1	2		1			1	
Devil's club	<i>Oplopanax horridus</i>	9	1	4	1	1	2							
Pin cherry	<i>Prunus pennsylvanica</i>	2												2
Choke cherry	<i>Prunus virginiana</i>	1		1										
Black gooseberry	<i>Ribes lacustre</i>	40	1	11	2	20	1	1	1	1	1		1	
Prickly rose	<i>Rosa acicularis</i>	56		16	3	25	2	1	3		1	1	1	3
Red raspberry	<i>Rubus idaeus</i>	3									1	1		1
Thimbleberry	<i>Rubus parviflorus</i>	27	1	13	7	2		1		1			1	1
Willow sp.	<i>Salix sp.</i>	12		1	1	8		1						1
Soopolallie	<i>Shepherdia canadensis</i>	31		8	2	16	1	1	2					1
Western mountain-ash	<i>Sorbus scopulina</i>	9	1	2	2	1		2	1					
Sitka mountain-ash	<i>Sorbus sitchensis</i>	1									1			
Birch-leaved spiraea	<i>Spiraea betulifolia</i>	54		14	3	29	1	1	5				1	
Snowberry	<i>Symphoricarpos albus</i>	12		3	6	1								2
Black huckleberry	<i>Vaccinium membranaceum</i>	26		6	1	9	1	1	6	1		1		
Highbush cranberry	<i>Viburnum edule</i>	18		10	1	7								
DWARF SHRUBS														
Kinnickinnick	<i>Arctostaphylos uva-ursi</i>	4			2	1								1
Prince's pine	<i>Chimaphila umbellata</i>	5		2	3									

Common name	Scientific name	Overall	SBSdk/07	SBSdw3/01	SBSdw3/02	SBSdw3/04	SBSdw3/07	SBSdw3/08	SBSmc2/01	SBSmc2/04	SBSmc2/05	SBSmc2/07	SBSmk1/01	undetermined
Twinflower	<i>Linnaea borealis</i>	40	8	1	26	1	1	2					1	
Five-leaf bramble	<i>Rubus pedatus</i>	1							1					
Trailing raspberry	<i>Rubus pubescens</i>	8	1	3		1	1	1	1					
Rubus spp.	<i>Rubus spp</i>	1				1								
Dwarf blueberry	<i>Vaccinium caespitosum</i>	6		1	2	3								
FORBS														
Yarrow	<i>Achillea millefolium</i>	7			2	3								2
Baneberry	<i>Actaea rubra</i>	8		2		2		2	1		1			
Nodding onion	<i>Allium cernuum</i>	1												1
Rosy pussytoes	<i>Antennaria microphylla</i>	1				1								
Racemose pussytoes	<i>Antennaria racemosa</i>	1			1									
Red columbine	<i>Aquilegia formosa</i>	3		2		1								
Rockcress sp.	<i>Arabis sp.</i>	1												1
Wild sarsaparilla	<i>Aralia nudicaulis</i>	28	1	8	1	15	2	1						
Heart-leaved arnica	<i>Arnica cordifolia</i>	5				2			1	1			1	
Fringed aster	<i>Aster ciliolatus</i>	6		2		2	1	1						
Showy aster	<i>Aster conspicuus</i>	44		12	1	24	2	1	1				1	2
Leafy aster	<i>Aster foliaceus</i>	5		2		1	1		1					
Red paintbrush	<i>Castilleja miniata</i>	1												1
Queen's cup	<i>Clintonia uniflora</i>	2		2										
Bunchberry	<i>Cornus canadensis</i>	40		14	1	14	2	2	5		1		1	
Hooker's fairybells	<i>Disporum hookeri</i>	10		2		4	2	1						1
Rough-fruited fairybells	<i>Disporum trachycarpum</i>	14		5		6			2					1
Fireweed	<i>Epilobium angustifolium</i>	23		4	1	8	1	1	3	1	1		1	2
Woodland strawberry	<i>Fragaria vesca</i>	1		1										
Wild strawberry	<i>Fragaria virginiana</i>	4		1		3								
Northern bedstraw	<i>Galium boreale</i>	28		5	2	16	2				1			2
Sweet-scented bedstraw	<i>Galium triflorum</i>	7		5				1	1					
Bastard toad-flax	<i>Geocaulon lividum</i>	1		1										
Rattlesnake-plantain	<i>Goodyera oblongifolia</i>	34		13		19		1	1					
Dwarf rattlesnake-	<i>Goodyera repens</i>	2		1		1								
Cow parsnip	<i>Heracleum lanatum</i>	13		3		4	1		2		1		1	1
Hieracium sp.	<i>Hieracium sp.</i>	1		1										
Purple peavine	<i>Lathyrus nevadensis</i>	30		9		14	2		2				1	2
Creamy peavine	<i>Lathyrus ochroleucus</i>	14		5	1	7			1					
Common mitrewort	<i>Mitella nuda</i>	7		2			1	1	1		1	1		
One-flowered	<i>Moneses uniflora</i>	6		3		1			1	1				

Common name	Scientific name	Overall	SBSdk/07	SBSdw3/01	SBSdw3/02	SBSdw3/04	SBSdw3/07	SBSdw3/08	SBSmc2/01	SBSmc2/04	SBSmc2/05	SBSmc2/07	SBSmk1/01	undetermined
Indian-pipe	<i>Monotropa uniflora</i>	1				1								
One-sided wintergreen	<i>Orthilia secunda</i>	56	14	2	27	3	2	6				1	1	
Mountain sweet-cicely	<i>Osmorhiza berteroi</i>	22	9		8	2	1	1						1
Field locoweed	<i>Oxytropis campestris</i>	2			1	1								
Palmate coltsfoot	<i>Petasites palmatus</i>	6	3				1			1	1			
White cinquefoil	<i>Potentilla arguta</i>	1												1
Marsh cinquefoil	<i>Potentilla palustris</i>	1										1		
Pink wintergreen	<i>Pyrola asarifolia</i>	6	3		1				1	1				
Green wintergreen	<i>Pyrola chlorantha</i>	6	1		3						1	1		
Three-toothed saxifrage	<i>Saxifraga tricuspidata</i>	3			1	1								1
Lance-leaved stonecrop	<i>Sedum lanceolata</i>	2				1								1
Arrow-leaved groundsel	<i>Senecio triangularis</i>	1										1		
False solomon's seal	<i>Smilacina racemosa</i>	43	1	14	1	17	2	2	2		1		1	2
Spikelike goldenrod	<i>Solidago spathulata</i>	1												1
Clasping twisted-stalk	<i>Streptopus amplexifolius</i>	5		2			1		1			1		
Western meadowrue	<i>Thalictrum occidentale</i>	30		11		12	1	1	1	1	1		1	1
American vetch	<i>Vicia americana</i>	1		1										
Canada violet	<i>Viola canadensis</i>	9		3		4	1	1						
GRAMINOIDS														
Slender wheatgrass	<i>Agropyron trachycaulum</i>	3				2								1
Fringed brome	<i>Bromus ciliatus</i>	4		1		2								1
Bluejoint	<i>Calamagrostis canadensis</i>	1										1		
Slimstem reedgrass	<i>Calamagrostis stricta</i>	23		3	2	10	1	1	3		1		1	1
Thick-headed sedge	<i>Carex macloviana</i>	2				1								1
Nodding wood-reed	<i>Cinna latifolia</i>	4		2			1					1		
Timber oat-grass	<i>Danthonia intermedia</i>	3			1	1								1
Blue wildrye	<i>Elymus glaucus</i>	36	1	11	1	16	1	1	2		1			2
Altai fescue	<i>Festuca altaica</i>	1				1								
Western fescue	<i>Festuca occidentalis</i>	10				9			1					
Junegrass	<i>Koeleria macrantha</i>	3			1	1								1
Rough-leaved Ricegrass	<i>Oryzopsis asperifolia</i>	29		10	1	17		1						
Arctic bluegrass	<i>Poa arctica</i>	2				2								
Interior bluegrass	<i>Poa interior</i>	3				2								1
Bluegrass sp.	<i>Poa sp.</i>	1				1								
Unidentified grass	<i>Poaceae sp.</i>	5		1		1			1					2
FERNS and ALLIES														
Spiny wood fern	<i>Dryopteris expansa</i>	7	1	1		1	1	2				1		

Common name	Scientific name	Overall	SBSdk/07	SBSdw3/01	SBSdw3/02	SBSdw3/04	SBSdw3/07	SBSdw3/08	SBSmc2/01	SBSmc2/04	SBSmc2/05	SBSmc2/07	SBSmk1/01	undetermined
Common horsetail	<i>Equisetum arvense</i>	9	1	3			2		1		1	1		
Wood horsetail	<i>Equisetum sylvaticum</i>	2					1					1		
Oak fern	<i>Gymnocarpium dryopteris</i>	1						1						
Stiff club-moss	<i>Lycopodium annotinum</i>	4		2				1	1					
Compact selaginella	<i>Selaginella densa</i>	2			1									1
Oregon woodsia	<i>Woodsia oregana</i>	3			1	1								1
MOSSES and LICHENS														
Ragged moss sp.	<i>Brachythecium sp.</i>	1				1								
Wavy-leaved moss	<i>Dicranum polysetum</i>	1				1								
Broom moss	<i>Dicranum scoparium</i>	16		5	6			1	4					
Step moss	<i>Hylocomium splendens</i>	7		3	4									
Pelt lichen	<i>Peltigera sp.</i>	2				2								
Red-stemmed	<i>Pleurozium schreberi</i>	55		14	2	26	1	2	6	1	1	1		1
Juniper moss	<i>Polytrichum juniperinum</i>	5		1	4									
Knight's plume moss	<i>Ptilium crista-castrensis</i>	42		8	2	21	1	1	5	1	1	1		1
Electrified cat's-tail moss	<i>Rhytidiadelphus triquetrus</i>	7		2	3						1			1

Appendix C – Individual plot data

Ruby Rock Provincial Park Vegetation Monitoring



Plot 1

Plot description

UTM 10 346569 E 6054418 N Date assessed 9/1/2010

Canopy closure: 75% Slope: 36 %

Fire origin stand--young and dense. Very sparse herbaceous plant cover-a few alders provide cover. Low blueberry present, otherwise understory very sparse. No browse for ungulates. Moderate thermal cover. Fair security cover. No wildlife signs noted.

Ratings

Browse none
Security moderate
Thermal cover moderate

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSdw3/04**

Matches mapped BEC except for Fd canopy component. Vegetation keys to SBSdw3/04

Management prescription

Young dense fire origin stand is not a good burn candidat unless stand removal is desired. Opening patches would allow more ungulate browse and cover to grow.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	<1
<i>Picea glauca x enqelmannii</i>	Hybrid white spruce	<1
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	8
<i>Amelanchier alnifolia</i>	Saskatoon	1
<i>Juniperus communis</i>	Common iuniper	<1
<i>Rosa acicularis</i>	Prickly rose	2
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	2
<i>Symphoricarpos albus</i>	Snowberry	1
<i>Vaccinium membranaceum</i>	Black huckleberry	2
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	3
<i>Vaccinium caespitosum</i>	Dwarf blueberry	10
FORBS		
<i>Epilobium anqustifolium</i>	Fireweed	<1
GRAMINOIDS		
<i>Calamaarostis stricta</i>	Slimstem reedgrass	<1
<i>Elymus glaucus</i>	Blue wildrye	<1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	

Fuel Loading

fuel depth 20 - 40 cm
fuel size 31 - 45%
horizontal arrangement <20%
vertical arrangement partially elevated
vegetation none
fuel continuity low

CWD transect

diameter	length
10 cm	4 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 1

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	PI	16.6	13.6	4		4												
2	PI	15.6	11.4	1														
3	PI	16.9	12.8	1														
4	PI	16.9	13.8	1														
5	PI	14.2	9.7	1														
6	PI	12.8	9.1	1														
7	PI	16.1	13.7	1														
8	PI	17	18.6	1														
3	Fd	32.5	51	1												1	194	

Ruby Rock Provincial Park Vegetation Monitoring



Plot 2

Plot description

UTM 10 347068 E 6054422 N Date assessed 9/1/2010

Canopy closure: 60% Slope: 17 %

Good thermal and security cover. No browse for ungulates--very little for bear.
Abundant huckleberry plants, but no berries this year. Young stand ~ 100 years from fire.

Ratings

Browse	none
Security	good
Thermal cover	good

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSmc2/01**

BEC description looks good.

Management prescription

Not a good burn candidate: wet forest floor with fairly abundant moss cover and sparse burnable vegetation. Opening some patches could encourage ungulate forage.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	4
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	1
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	<1
<i>Vaccinium membranaceum</i>	Black huckleberry	30
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
<i>Rubus pedatus</i>	Five-leaf bramble	2
FORBS		
<i>Cornus canadensis</i>	Bunchberry	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
FERNS and ALLIES		
<i>Lycopodium annotinum</i>	Stiff club-moss	<1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	90
<i>Ptilium crista-castrensis</i>	Knight's plume moss	1

Fuel Loading

fuel depth	<20 cm
fuel size	<15%
horizontal arrangement	<20%
vertical arrangement	on ground
vegetation	none
fuel continuity	spotty

CWD transect

	diameter	length
	10 cm	10 m
	12 cm	12 m
	18 cm	8 m
	11 cm	5 m
	10 cm	2 m
	15 cm	2 m
	11 cm	7 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 2

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	PI	19.6	22.8	3														
2	BI	16.2	12.9	2		1												
3	PI	18.3	19.1	3														
4	PI	21.8	22.5	3														
5	Sx	13.4	15.2	2			2											
6	PI	207	18.6	1														Pitching in 2
7	PI	189	19.4	3														
8	PI	204	25.4	3														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 3

Plot description

UTM 10 347554 E 6054411 N Date assessed 9/1/2010

Canopy closure: 55% Slope: 48 %

Good security and thermal cover (lots of thick BI). No winter forage. No signs of wildlife/ Steep side-slope with lots of blowdown.

Ratings

Browse	poor
Security	good
Thermal cover	good

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSmk1/01**

Matches vegetation profile of mapped BEC except that there is Fd in the canopy. Keys thus to SBSmk1/01; but not a great fit.

Management prescription

Leave as is: provides good thermal and security cover.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	20
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	1
<i>Clematis occidentalis ssp. grosseserrata</i>	Blue clematis	<1
<i>Lonicera involucrata</i>	Black twinberr	<1
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Rubus parviflorus</i>	Thimbleberry	1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Arnica cordifolia</i>	Heart-leaved arnica	<1
<i>Aster conspicuus</i>	Showy aster	2
<i>Cornus canadensis</i>	Bunchberr	1
<i>Epilobium anaustifolium</i>	Fireweed	<1
<i>Heracleum lanatum</i>	Cow parsnip	<1
<i>Lathyrus nevadensis</i>	Purple peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Thalictrum occidentale</i>	Western meadowrue	<1
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	1

Fuel Loading

fuel depth	20 - 40 cm
fuel size	<15%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	moderate
fuel continuity	moderate

CWD transect

diameter	length
30 cm	15 m
14 cm	7 m
22 cm	20 m
13 cm	18 m
10 cm	8 m
20 cm	20 m
16 cm	9 m
20 cm	6 m
22 cm	15 m
15 cm	10 m
10 cm	8 m
22 cm	12 m
35 cm	15 m
22 cm	20 m
17 cm	10 m
7 cm	15 m
15 cm	7 m
15 cm	8 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 3

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or h top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Bl	7.9	9.1	2		1					1							Witch broom in 1
2	Bl	11.3	11.5	1	1													
3	Sx	26.8	33.9	2			3	1										
4	Pl	14.4	20.4	2		2			3									
5	Sx	17.9	21.8	1		3												
6	Pl	8.2	27.2	4														
7	Pl	25.1	33.1	3														
8	Pl	21.1	24.1	3														
9	Pl	15.4	16.3	2		4			3									
10	Pl	24	28.6	3														
11	Sx	19.2	18.8	1														
12	Bl	10.6	41	4														
13	Fd	32.2	59.5	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 4

Plot description

UTM 10 348070 E 6054419 N Date assessed 8/28/2010
 Canopy closure: 65% Slope: 34 %

Young, mixed stand composed of Lodgepole pine, Douglas fir and Sub-alpine fir, 70-80 yrs old. It is a fire origin stand with little mineral soil and lots of rock under moss layer. Heavy CWD throughout. There was no browse, but good thermal and security cover. No animal sign present at or around the plot.

Ratings

Browse none
 Security good
 Thermal cover good

BEC comments

BEC as mapped: **ESSFmv1/03 - SBSmc2/01**

BEC as assessed: **SBSdw3/04**

Does not match ESSF (no white-flowered rhododendron among others). Not mc2, due to presence of Fd in the canopy. Keys thus to SBSdw3/04.

Management prescription

Very thick young stand with branches extending right to the ground, cannot burn. A partial thinning may be an option to open the stand and allow better shrub growth.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	3
SHRUBS		
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rubus parviflorus</i>	Thimbleberry	1
<i>Sorbus scopulina</i>	Western mountain-ash	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1.5
<i>Vaccinium membranaceum</i>	Black huckleberry	2
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	1
FORBS		
<i>Arnica cordifolia</i>	Heart-leaved arnica	<1
<i>Cornus canadensis</i>	Bunchberry	1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Heracleum lanatum</i>	Cow parsnip	1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Thalictrum occidentale</i>	Western meadowrue	1
GRAMINOIDS		
<i>Festuca occidentalis</i>	Western fescue	<1

Fuel Loading

fuel depth 20 - 40 cm
 fuel size 31 - 45%
 horizontal arrangement <20%
 vertical arrangement on ground
 vegetation none
 fuel continuity moderate

CWD transect

	diameter	length
	14 cm	25 m
	12 cm	7 m
	19 cm	15 m
	8 cm	10 m
	11 cm	6 m
	12 cm	4 m
	13 cm	8 m
	10 cm	7 m
	22 cm	6 m
	8 cm	8 m
	7 cm	8 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 4

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Bl	18.5	23.6	1														
2	Pl	18.8	21.8	2		1												
3	Fd	16	18.4	2			1											
4	Pl	16.5	15.1	1														
5	Fd	14.5	24.7	1														
6	Bl	18.6	24.6	2				3										
7	Bl	14.1	20.8	4														
8	Fd	16.3	25.6	2			2			1								
9	Fd	18.9	32.8	2		2												
10	Bl	19.8	23.6	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 5

Plot description

UTM 10 346072 E 6053926 N Date assessed 9/7/2010

Canopy closure: 0% Slope: 60%

Open rocky slope; south-facing. No trees present except for juniper. Very dry/ 45% exposed rock. Dense pockets of Fd in area provide some thermal and security cover. Good grass forage and shrubs for browse. Old moose and deer pellets present. No bear sign. Very dry--all burned off (No CWD).

Ratings

Browse good
Security moderate
Thermal cover moderate

BEC comments

BEC as mapped: **SBSmc2/02**

BEC as assessed: **undetermined**

This is a small disturbed microsite--does not match up to the mapped BEC - SBSmc2/02. Likely not SBSmc2 due to prevalence of Fd in area.

Management prescription

Security cover will increase if left to grow in. Burning could be an option in future to maintain browse levels.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Juniperus communis</i>	Common juniper	10
<i>Juniperus scopulorum</i>	Rocky mountain juniper	3
<i>Prunus pensylvanica</i>	Pin cherry	1
<i>Rosa acicularis</i>	Prickly rose	5
<i>Rubus idaeus</i>	Red raspberrv	<1
<i>Shepherdia canadensis</i>	Soopolallie	4
FORBS		
<i>Achillea millefolium</i>	Yarrow	2
<i>Allium cernuum</i>	Nodding onion	<1
<i>Arabis</i> sp.	Rockcress sp.	<1
<i>Galium boreale</i>	Northern bedstraw	4
<i>Saxifraaa tricuspidata</i>	Three-toothed saxifrage	3
<i>Sedum lanceolata</i>	Lance-leaved stonecrop	<1
<i>Solidaaq spathulata</i>	Spikelike goldenrod	<1
GRAMINOIDS		
<i>Aaropyron trachycaulum</i>	Slender wheatgrass	1
<i>Danthonia intermedia</i>	Timber oat-grass	4
<i>Koeleria macrantha</i>	Junegrass	3
<i>Poa interior</i>	Interior bluegrass	<1
FERNS and ALLIES		
<i>Selaainella densa</i>	Compact selaginella	1
<i>Woodsia oreqana</i>	Oregon woodsia	<1

Fuel Loading

fuel depth <20 cm
fuel size <15%
horizontal arrangement <20%
vertical arrangement on ground
vegetation low
fuel continuity low

CWD transect

diameter	length
0 cm	0 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 5

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** No trees. Open South facing sloper

Ruby Rock Provincial Park Vegetation Monitoring



Plot 6

Plot description

UTM 10 346571 E 6053921 N Date assessed 9/7/2010

Canopy closure: 65% Slope: 43 %

Wet draw--lower slopes. Abundant BI lower on slope. Fd above. Very damp with abundant mosses. Good thermal and security cover. Moose scat throughout and browsed BI. Bear scat (fairybell seeds) at plot center. Good snag trees present for potential wildlife trees.

Ratings

Browse poor
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01/07**

BEC as assessed: **SBSdw3/01**

SBSdw3/01 seems closer than SBSdw3/07

Management prescription

Too thick for any burns; lots of ladder fuels.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	3
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	<1
<i>Cornus stolonifera</i>	Red-osier dogwood	<1
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	1
<i>Rubus parviflorus</i>	Thimbleberry	2
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1
<i>Symphoricarpos albus</i>	Snowberry	1
FORBS		
<i>Aster conspicuus</i>	Showy aster	1
<i>Disporum hookeri</i>	Hooker's fairybells	3
<i>Epilobium anaustifolium</i>	Fireweed	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Heracleum lanatum</i>	Cow parsnip	<1
<i>Lathyrus nevadensis</i>	Purple peavine	1
<i>Moneses uniflora</i>	One-flowered wintergreen	<1
<i>Orthilia secunda</i>	One-sided wintergreen	2
<i>Smilacina racemosa</i>	False solomon's seal	2
<i>Thalictrum occidentale</i>	Western meadowrue	2
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrve	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSESSES and LICHENS		
<i>Hvlocomium splendens</i>	Step moss	
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	
<i>Rhytidiadelphus triquetrus</i>	Electrified cat's-tail moss	

Fuel Loading

fuel depth 20 - 40 cm
fuel size 15 - 30%
horizontal arrangement <20%
vertical arrangement on ground
vegetation low
fuel continuity low

CWD transect

	diameter	length
	40 cm	25 m
	20 cm	9 m
	28 cm	15 m
	20 cm	16 m
	32 cm	25 m
	38 cm	30 m
	25 cm	16 m
	12 cm	22 m
	42 cm	25 m
	35 cm	20 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 6

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Bl	6.6	9.9	1														
2	Bl	14.6	15	1														
3	Bl	13.8	11.6	1		1												
4	Bl	21.2	26.6	1														
5	Bl	18.8	22.9	1														
6	Bl	26	33	1														
7	Bl	26.9	43.9	4														
8	Fd	13.4	66.5	4														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 7

Plot description

UTM 10 347068 E 6053919 N Date assessed 9/9/2010
 Canopy closure: 55% Slope: 42 %

Forest type change-PI to north and bench and rolling gullies. Fd veterans to south on steep slope. Good security cover on benches. Good thermal cover in thick BI regen to NE. Quite rocky-walked to south of large rock cliff from plot 8--This area is a knob of exposed large rocks. There are abundant moose pellet groups across this rocky bench-- every 20 - 30 m. Good wintering area for them.

Ratings

Browse poor
 Security good
 Thermal cover good

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSdw3/02**

Doesn't match mapped BEC. Closest to SBSdw3/02

Management prescription

Could burn area. To the south in are mature Fd. To N and NE 100% PI with about 90% dead over moderate Fd and BI regen.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	2
<i>Juniperus communis</i>	Common juniper	<1
<i>Ribes lacustre</i>	Black gooseberrv	<1
<i>Rosa acicularis</i>	Prickly rose	5
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
DWARF SHRUBS		
<i>Arctostaphylos uvi-ursi</i>	Kinnickinnick	1
<i>Vaccinium caespitosum</i>	Dwarf blueberry	2
FORBS		
<i>Achillea millefolium</i>	Yarrow	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Lathyrus ochroleucus</i>	Creamv peavine	1
<i>Orthilia secunda</i>	One-sided wintergreen	1
GRAMINOIDS		
<i>Calamaarostis stricta</i>	Slimstem reedgrass	1
<i>Elymus glaucus</i>	Blue wildrye	1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	
<i>Ptilium crista-castrensis</i>	Knight's plume moss	

Fuel Loading

fuel depth 20 - 40 cm
 fuel size 15 - 30%
 horizontal arrangement <20%
 vertical arrangement on ground
 vegetation low
 fuel continuity moderate

CWD transect

diameter	length
15 cm	12 m
25 cm	5 m
20 cm	9 m
24 cm	7 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 7

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Pl	19.5	23.4	3														
2	Pl	19.2	22.8	3														
3	Fd	15.5	18.9	2			3											
4	Fd	24.5	34.5	2			2											
5	Fd	23.9	34.4	1														
6	Fd	25	40.1	2			2											
7	Fd	24.6	30.5	1														
8	Fd	22.9	31.8	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 8

Plot description

UTM 10 347571 E 6053914 N Date assessed 9/9/2010

Canopy closure: 55% Slope: 64 %

Good security and escape and thermal cover. Good escape terrain; deer pellets present. Wet draw to N with thick regen and heavy blowdown.

Ratings

Browse	moderate
Security	good
Thermal cover	good

BEC comments

BEC as mapped: **SBSdw3/04/01**

BEC as assessed: **SBSdw3/04**

Keys to SBSdw3/04

Management prescription

Possible partial burn on SW portion--more open S facing slopes with lower regen levels.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	1
<i>Juniperus communis</i>	Common juniper	<1
<i>Ribes lacustre</i>	Black gooseberr	<1
<i>Rosa acicularis</i>	Prickly rose	2
<i>Shepherdia canadensis</i>	Soopolallie	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	4
<i>Viburnum edule</i>	Highbush cranberry	1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Achillea millefolium</i>	Yarrow	<1
<i>Aralia nudicaulis</i>	Wild sarsaparilla	<1
<i>Aster conspicuus</i>	Showy aster	25
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Lathyrus nevadensis</i>	Purple peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Smilacina racemosa</i>	False solomon's seal	3
<i>Thalictrum occidentale</i>	Western meadowrue	<1
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrve	2
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSSES and LICHENS		
<i>Peltiaera</i> sp.	Pelt lichen	
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	
<i>Ptilium crista-castrensis</i>	Knight's plume moss	

Fuel Loading

fuel depth	20 - 40 cm
fuel size	31 - 45%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	moderate
fuel continuity	low

CWD transect

diameter	length
9 cm	1.5 m
60 cm	15 m
12 cm	8 m
10 cm	4 m
11 cm	5 m
28 cm	4 m
25 cm	8 m
12 cm	2 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 8

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	31.8	81	2		1	3											weeping scar in 1
2	Fd	31.7	98	2			2											large candelabra in 1
3	Fd	18.7	27.8	2			2											
4	Fd	38.3	99.7	2		2	4											
5	Fd	36.9	84.6	1														
6	Fd	32.8	104.9	2			5	1										

Ruby Rock Provincial Park Vegetation Monitoring



Plot 9

Plot description

UTM 10 348066 E 6053920 N Date assessed 9/9/2010

Canopy closure: 80% Slope: 32 %

90% moss coverage. Good thermal and security cover, but very low browse and wintering potential. Some light moose browse on Bl. Bl regen very sparse. No bear browse, and no deer browse.

Ratings

Browse	poor
Security	good
Thermal cover	good

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSdw3/04**

Mapped BEC doesn't quite match because there is no Fd or alder. Keys to SBSdw3/04 or SBSmk1/04.

Management prescription

Too much ladder fuel to burn. Opening some patches could encourage browse, but could also decrease thermal cover connectivity and security cover value.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	<1
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	<1
<i>Ribes lacustre</i>	Black gooseberry	1
<i>Rubus parviflorus</i>	Thimbleberry	2
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
<i>Vaccinium membranaceum</i>	Black huckleberry	1
DWARF SHRUBS		
<i>Chimaphila umbellata</i>	Prince's pine	<1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	<1
<i>Aster conspicuus</i>	Showy aster	<1
<i>Cornus canadensis</i>	Bunchberry	<1
<i>Disporum hookeri</i>	Hooker's fairybells	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodvera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus nevadensis</i>	Purple peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Smilacina racemosa</i>	False solomon's seal	1
<i>Thalictrum occidentale</i>	Western meadowrue	<1
GRAMINOIDS		
<i>Festuca occidentalis</i>	Western fescue	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	
<i>Ptilium crista-castrensis</i>	Knight's plume moss	
<i>Rhytidiadelphus triquetrus</i>	Electrified cat's-tail moss	

Fuel Loading

fuel depth	20 - 40 cm
fuel size	15 - 30%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	none
fuel continuity	low

CWD transect

diameter	length
14 cm	3 m
7 cm	4 m
5 cm	15 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 9

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or h top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments	
1	Fd	23.6	30.6	1															
2	Fd	21.6	34.7	1															
3	Fd	18.4	16.8	1														number of sweeps	
4	Fd	22.8	27.1	1															
5	Fd	22.7	38.1	1															
6	Sx	20.2	20	2		1													
7	Bl	16.4	17	1															
8	Fd	19.4	20.5	1															
9	Bl	13	18.5	3															
10	Fd	21.3	33.6	2			2												
11	Fd	21.6	26.7	2			2												
12	Fd	20.5	28.2	1															

Ruby Rock Provincial Park Vegetation Monitoring



Plot 10

Plot description

UTM 10 348569 E 6053918 N Date assessed 8/28/2010

Canopy closure: 65% Slope: 5%

Mixed stand with moderate tree diameters (none large except White spruce). Quite a lot of CWD. Heavy moss cover and quite wet. Has good forage potential and good thermal cover. Lots of old moose scat but not a lot of fresh sign.

Ratings

Browse good
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSmc2/01**

Matches SBS mc2/01, no Fd.

Management prescription

Thick stand, burning not an option as everything would burn.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	1
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	4
<i>Lonicera involucrata</i>	Black twinberry	4
<i>Ribes lacustre</i>	Black gooseberry	3
<i>Sorbus scopulina</i>	Western mountain-ash	1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1
DWARF SHRUBS		
<i>Rubus pubescens</i>	Trailing raspberry	10
FORBS		
<i>Actaea rubra</i>	Baneberry	1
<i>Arnica cordifolia</i>	Heart-leaved arnica	1
<i>Cornus canadensis</i>	Bunchberry	8
<i>Disporum trachycarpum</i>	Rough-fruited fairybells	<1
<i>Epilobium anagrostifolium</i>	Fireweed	1
<i>Galium triflorum</i>	Sweet-scented bedstraw	1
<i>Heracleum lanatum</i>	Cow parsnip	3
<i>Lathyrus nevadensis</i>	Purple peavine	4
<i>Mitella nuda</i>	Common mitrewort	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	1
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrye	<1
<i>Festuca occidentalis</i>	Western fescue	<1
<i>Poaceae sp.</i>	Unidentified grass	<1
FERNS and ALLIES		
<i>Equisetum arvense</i>	Common horsetail	<1

Fuel Loading

fuel depth	<20 cm
fuel size	15 - 30%
horizontal arrangement	<20%
vertical arrangement	on ground
vegetation	low
fuel continuity	moderate

CWD transect

	diameter	length
	10 cm	5 m
	8 cm	8 m
	12 cm	15 m
	4 cm	2 m
	20 cm	10 m
	20 cm	10 m
	8 cm	6 m
	17 cm	10 m
	6 cm	3 m
	8 cm	10 m
	32 cm	12 m
	8 cm	7 m
	5 cm	3 m
	14 cm	4 m
	20 cm	20 m
	15 cm	10 m
	15 cm	12 m

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Plot 10

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	PI	9.4	17.3	4														
2	Bl	16.5	16.6	1														
3	Bl	7.6	15.7	4														
4	Sx	20.4	24.7	1														
5	Sx	23.3	30.5	1														
6	Sx	25.8	45	2		1												
7	Sx	20.1	28	2			5											
8	Sx	26.6	34.6	1														
9	Sx	25.3	30.3	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 11

Plot description

UTM 10 349068 E 6053918 N Date assessed 9/14/2010

Canopy closure: 60% Slope: 15 %

South facing slope in a fairly young forest Douglas fir White spruce, Sub-alpine fir (balsam) and a few Lodgepole pine. The forest canopy will provide thermal cover, but the low understory does not give much security cover and there is not much forage available. The Fd regen is small and the CWD is present but not abundant.

Ratings

Browse poor
Security poor
Thermal cover moderate

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSdw3/04**

Keys to mc/01 but it is dominated by Fd. SBSdw3/04 is a a better fit.

Management prescription

Could open patches to encourage browse growth. May occur naturally if pine trees are attacked by MPB (as they haven't been yet.)

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	2
SHRUBS		
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
<i>Vaccinium membranaceum</i>	Black huckleberry	5
FORBS		
<i>Aquilegia formosa</i>	Red columbine	2
<i>Arnica cordifolia</i>	Heart-leaved arnica	<1
<i>Aster conspicuus</i>	Showy aster	2
<i>Cornus canadensis</i>	Bunchberry	<1
<i>Disporum trachycarpum</i>	Rough-fruited fairvbells	<1
<i>Fragaria virginiana</i>	Wild strawberry	1
<i>Goodvera oblongifolia</i>	Rattlesnake-plantain	2
<i>Heracleum lanatum</i>	Cow parsnip	<1
<i>Lathyrus nevadensis</i>	Purple peavine	3
<i>Moneses uniflora</i>	One-flowered wintergreen	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	1
<i>Thalictrum occidentale</i>	Western meadowrue	1
GRAMINOIDS		
<i>Calamaarostis stricta</i>	Slimstem reedgrass	1
<i>Festuca occidentalis</i>	Western fescue	1
MOSSES and LICHENS		
<i>Bracylecium sp.</i>	Ragged moss sp.	1
<i>Dicranum scoparium</i>	Broom moss	1
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	5
<i>Polytrichum juniperinum</i>	Juniper moss	<1
<i>Ptilium crista-castrensis</i>	Knight's plume moss	5

Fuel Loading

fuel depth 20 - 40 cm
fuel size >45%
horizontal arrangement <20%
vertical arrangement on ground
vegetation low
fuel continuity low

CWD transect

diameter	length
10 cm	7 m
12 cm	6 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 11

Cruise plot

Plot BAF: 7 **DBH limit: 7.5cm** **Comments:** Average slope is 14% on a S aspect; even terrain through a mesic site location. There are coarse fragments that are mod-well drained. Regen vol=1000sph:BI7Sx2Fd1

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	14.6	16.7	8			1									3		same tree forked <1.3m dbh
2	Fd	14	13.9	8			1									3		
3	Sx	25	34.5	2		1										1		
4	Pl	24.5	32.3													2		
5	Fd	24	39.4															
6	Sx	25.5	36.1															
7	Fd	6.5	18.5	9											E			Broken Middle 1/3. E Downtree
8	Sx	23	27.9															
9	Bl	29.5	35	2		1												
10	Sx	25	33.5	1														
11	Fd	20.5	27.4	8														
12	Pl	22	33.6	2		1										2		
13	Fd	14	25.7	2		1			3									
14	Fd	23.4	35.4	2		2										2		
15	Sx	24.9	41.8	1												2		

Ruby Rock Provincial Park Vegetation Monitoring



Plot 12

Plot description

UTM 10 349566 E 6053919 N Date assessed 9/14/2010

Canopy closure: 45% Slope: 12 %

Pine, Engelmann White Spruce and Sub-alpine fir (balsam)woods. North facing slope with 90% moss coverage and quite a bit of balsam regenerating (regen) growth. Not much browse except regen and alder. Canopy thick enough in some areas to provide thermal cover but will become more open as the pine die. Open areas with more alder could provide security. The site is quite moist.

Ratings

Browse poor
Security moderate
Thermal cover moderate

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSmc2/04**

Keys to SBSmc2/04 due to presence of Palmate Coltsfoot.

Management prescription

Probably to wet to burn and there is a fair bit of CWD. Could remove pine to encourage more browse but if left it will occur naturally as pine dies.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	2
<i>Picea alauca x engelmannii</i>	Hybrid white spruce	1
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	4
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Sorbus scopulina</i>	Western mountain-ash	<1
<i>Vaccinium membranaceum</i>	Black huckleberry	15
FORBS		
<i>Arnica cordifolia</i>	Heart-leaved arnica	<1
<i>Epilobium angustifolium</i>	Fireweed	<1
<i>Moneses uniflora</i>	One-flowered wintergreen	5
<i>Petasites palmatus</i>	Palmate coltsfoot	1
<i>Pyrola asarifolia</i>	Pink wintergreen	<1
<i>Thalictrum occidentale</i>	Western meadowrue	<1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	90
<i>Ptilium crista-castrensis</i>	Knight's plume moss	2

Fuel Loading

fuel depth	20 - 40 cm
fuel size	15 - 30%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	low
fuel continuity	low

CWD transect

	diameter	length
	10 cm	11 m
	10 cm	6.5 m
	11 cm	12 m
	14 cm	13 m
	10 cm	10 m
	15 cm	12 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 12

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope @ 15% rolling. North aspect. Rolling terrain, rock outcropping. High % c.frag. MPB (PlgBli). 25% grey, 20% red, <10% green. Regen @ 1200 sph, BI1Sx2Fd1.

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Pl	17.4	20.5	1												2		
2	Pl	18	17.6	2			2									2		
3	Pl	18.5	21.1	1												2		Scar 1 <5yrs
4	Bl	11.1	14.5	8			3									3		
5	Pl	9	16.5	3									3			2		MPB - Grey >50% Sound
6	Pl	13	15.2	3									3			2		MPB - Grey >50% Sound
7	Pl	14.5	21.3	3									3			2		MPB - Grey >50% Sound

Ruby Rock Provincial Park Vegetation Monitoring



Plot 13

Plot description

UTM 10 351567 E 6053918 N Date assessed 9/10/2010

Canopy closure: 60% Slope: 25 %

25% slope @ 190 degrees. Open pine woods at top of slope with some subalpine fir present. Beetle kill not noted in pine in plot, found one ~10m from plot. Approximately 60% canopy closure, not much browse present except subalpine fir. May provide some thermal cover being on south facing slope. Fairly young and dense forest with thick moss coverage. Deer pellets noted on slope ~200m from plot.

Ratings

Browse poor
Security moderate
Thermal cover moderate

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSmc2/01**

Keys to SBSmc2/01; matches description somewhat.

Management prescription

Good green pine in the stand. Not enough fuels and too wet to burn. Recommend leaving as is.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	10
SHRUBS		
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Shepherdia canadensis</i>	Soopolallie	7
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	4
<i>Vaccinium membranaceum</i>	Black huckleberry	5
FORBS		
<i>Aster conspicuus</i>	Showy aster	3
<i>Cornus canadensis</i>	Bunchberry	1
<i>Disporum trachycarpum</i>	Rough-fruited fairybells	<1
<i>Lathyrus nevadensis</i>	Purple peavine	<1
<i>Lathyrus ochroleucus</i>	Creamy peavine	1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
GRAMINOIDS		
<i>Elymus glaucus</i>	Blue wildrye	1
MOSESSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	1
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	75
<i>Ptilium crista-castrensis</i>	Knight's plume moss	2

Fuel Loading

fuel depth <20 cm
fuel size >45%
horizontal arrangement <20%
vertical arrangement partially elevated
vegetation low
fuel continuity low

CWD transect

diameter	length
18 cm	6 m
10 cm	9 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 13

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope @ 30%. Even terrain. No observed MPB. Regen <7.5cm @ 1200sph @ 90m3/ha. Dryer site. Upper slope.

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	PI	16.5	11.2	2		1	2										3	Tree class 3 - intermediate. No MPB noted
2	PI	17.5	17.5	2		1											3	
3	PI	17.1	16.5	1													3	
4	PI	16.8	15.5	2		1											3	
5	PI	15.8	15.2	1													3	
6	BI	13.9	11.5	1													3	
7	BI	12	13.8	1													3	
8	PI	17	15.6	1													3	
9	BI	8.4	12.1	1													3	
10	PI	16.5	16.4	2		2											3	
11	PI	8.5	9.8	2					3								3	

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Plot 14

Plot description

UTM 10 352069 E 6053917 N Date assessed 9/11/2010

Canopy closure: 60% Slope: 10 %

~12% slope at 230 degrees, canopy cover ~40%, open canopy due to beetle hill, lots of Abi las regen, mixed forest with Abi las - Sw and PI (mainly dead), not much browse present other than Abi las regen and Sitka Alder, woods has fairly thick shrub layer which prevents seeing very far, open canopy probably prevents good thermal cover, heavy moss coverage over damp ground

Ratings

Browse	poor
Security	moderate
Thermal cover	poor

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSmc2/01**

keys to SBS mc2-01 but seems quite wet

Management prescription

not a good burn candidate as the fuel is sparse and the ground wet; quite a few standing dead pine so fuel on ground will increase as the snags blow down.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	35
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	8
<i>Sorbus scopulina</i>	Western mountain-ash	<1
<i>Vaccinium membranaceum</i>	Black huckleberry	5
FORBS		
<i>Orthilia secunda</i>	One-sided wintergreen	3
<i>Pyrola asarifolia</i>	Pink wintergreen	4
MOSSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	10
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	50
<i>Ptilium crista-castrensis</i>	Knight's plume moss	20

Fuel Loading

fuel depth	<20 cm
fuel size	>45%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	none
fuel continuity	spotty

CWD transect

diameter	length
10 cm	2.5 m
10 cm	5 m
25 cm	5 m
cm	m
cm	m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 14

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** mesic site, moderate brush cover 20% alder, even terrain, average 10% slope, regen, @ 2000 sph, <7.5 um BI 7 5 x 2

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Sx	20.3	23.6	1												2	103	
2	PI	18	20.6	3									3			2	110	>50% sound, MPB grey
3	PI	19	24.6	3									3			2		MPB grey
4	BI	13.2	14.4	2		1										3		
5	BI	20.2	25	1												2		
6	BI	20	23.2	1												2	121	
7	Sx	19	17	1												2		
8	PI	12.5	16.8	3									3			2		MPB grey
9	Sx	9	15	2					2						E	3		Broken middle 1/3 count down (E)

Ruby Rock Provincial Park Vegetation Monitoring



Plot 15

Plot description

UTM 10 352565 E 6053919 N Date assessed 9/11/2010

Canopy closure: 50% Slope: 15 %

Cavity nest in pine snag just south of plot. ~15% slope @ 88 degrees. ~50% canopy closure. Not much browse present except Sub-alpine fir (*Abi las*) and Sitka alder. Beetle killed pine present resulting in somewhat open canopy. Forest is mix of *Abi las*, White spruce and Lodgepole pine with shrub layer of *Abi las* regen and Sitka alder. Heavier regen areas could provide some thermal cover. Several game trails were noted nearby.

Ratings

Browse poor
Security
Thermal cover moderate

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSmc2/01**

Keys to SBSmc2/01. Shrubs and mosses match up.

Management prescription

Would not recommend burning area as there are many ladder fuels present as well as abundant CWD.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	25
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	2
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	2
<i>Vaccinium membranaceum</i>	Black huckleberry	10
FORBS		
<i>Aster foliaceus</i>	Leafy aster	<1
<i>Cornus canadensis</i>	Bunchberry	2
<i>Epilobium anaustifolium</i>	Fireweed	<1
<i>Orthilia secunda</i>	One-sided wintergreen	3
<i>Thalictrum occidentale</i>	Western meadowrue	<1
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	<1
MOSSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	2
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	75

Fuel Loading

fuel depth	20 - 40 cm
fuel size	15 - 30%
horizontal arrangement	20 - 50%
vertical arrangement	partially elevated
vegetation	low
fuel continuity	moderate

CWD transect

diameter	length
28 cm	9.5 m
17 cm	15 m
13 cm	12 m
22 cm	4 m
20 cm	4 m
17 cm	5 m
10 cm	6.5 m
10 cm	7 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 15

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** 16% slope on a SE aspect with even terrain over a mesic site, 15% blowdown. Stand vol= 400m³/ha; Regen vol 2000sph BI9Sx1; MPB 60%=10%Gr, 30%red and 20%grey

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	PI	7	24.2	3					3						E			No MPB >50% sound
2	PI	13	14.5	3											E			Downed. No breaks
3	PI	23.4	26.5	2		1										2		
4	Sx	9	18.5	2					3									
5	PI	26	36.6	2									2					>5% Red Needles. No MPB flew
6	BI	26	35.2	1														
7	BI	10.5	20	2			1											
8	BI	26.5	31.6	2		1												
9	PI	27	34.4	2		1												
10	PI	14	24.8	3					2						E			>50% Sound. No MPB
11	PI	26	30.2	1								2				3		
12	PI	25.5	30.6	2														>50% Sound. MPB Grey

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Plot 16

Plot description

UTM 10 354067 E 6053920 N Date assessed 9/14/2010

Canopy closure: 35% Slope: 45 %

Set on a steep slope down into a creek draw. Abundant blowdown decadent Sub-alpine fir (balsam). Mixed stand of Subalpine Fir, White Spruce, Pine, Douglas Fir. Good thermal, security cover and good browse for ungulates. Abundant Subalpine Fir snags for wildlife trees.

Ratings

Browse good
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSmc2/01 -dw3/01**

BEC as assessed: **SBSmc2/05**

On border mc2/01 to mc2/04 on map, matches more closely to SBSmc2/01, but keys to mc2/05 due to abundant thimbleberry.

Management prescription

Leave as is. Too steep to work with and it is above a nice stream and it is too wet to burn.

5.64m Vegetation plot

Species	Cover (%)	Fuel Loading	
TREES (regen)		fuel depth	40 - 60 cm
<i>Abies lasiocarpa</i>	Subalpine fir 3	fuel size	15 - 30%
SHRUBS		horizontal arrangement	20 - 50%
<i>Alnus crispa ssp. sinuata</i>	Sitka alder 7	vertical arrangement	partially elevated
<i>Lonicera involucrata</i>	Black twinberry 5	vegetation	high
<i>Ribes lacustre</i>	Black gooseberry 3	fuel continuity	moderate
<i>Rosa acicularis</i>	Prickly rose 1		
<i>Rubus idaeus</i>	Red raspberry <1		
<i>Rubus parviflorus</i>	Thimbleberry 50		
<i>Sorbus sitchensis</i>	Sitka mountain-ash 1		
FORBS		CWD transect	
		diameter	length
<i>Actaea rubra</i>	Baneberry <1	12 cm	1 m
<i>Cornus canadensis</i>	Bunchberry <1	20 cm	4.5 m
<i>Epilobium anaustifolium</i>	Fireweed <1	7 cm	5 m
<i>Galium boreale</i>	Northern bedstraw <1	10 cm	15 m
<i>Heracleum lanatum</i>	Cow parsnip <1	25 cm	11 m
<i>Mitella nuda</i>	Common mitrewort <1	16 cm	4 m
<i>Petasites palmatus</i>	Palmate coltsfoot 1	8 cm	25 m
<i>Pyrola chlorantha</i>	Green wintergreen <1	14 cm	15 m
<i>Smilacina racemosa</i>	False solomon's seal <1	17 cm	17 m
<i>Thalictrum occidentale</i>	Western meadowrue 2	18 cm	6 m
GRAMINOIDS		8 cm	7 m
<i>Calamaarostis stricta</i>	Slimstem reedgrass 1	28 cm	20 m
<i>Elymus glaucus</i>	Blue wildrye 1	20 cm	5 m
FERNS and ALLIES		18 cm	7 m
<i>Equisetum arvense</i>	Common horsetail 2	14 cm	10 m
MOSESSES and LICHENS			
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss 30		
<i>Ptilium crista-castrensis</i>	Knight's plume moss 20		
<i>Rhytidiadelphus triquetrus</i>	Electrified cat's-tail moss 10		

Ruby Rock Provincial Park Vegetation Monitoring



Plot 16

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Bl	4.1	51.9	4														
2	Bl	32.9	36	1														
3	Sx	31.4	44	1														
4	Sx	33.6	43.4	2			5											
5	Sx	32.4	57.5	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 17

Plot description

UTM 10 354566 E 6053920 N Date assessed 9/14/2010

Canopy closure: 60% Slope: 15 %

Dense mixed stand ~100 yrs old (Pine, White Spruce, Subalpine Fir, Douglas Fir). 60% of Pine is beetle attack. Moderate understory of Subalpine Fir regen and alder that would provide moderate thermal and security cover. No browse as there is a very low shrub layer.

Ratings

Browse	none
Security	moderate
Thermal cover	moderate

BEC comments

BEC as mapped: **SBSmc2/01 -dw3/01**

BEC as assessed: **SBSdw3/04**

Doesn't match either but has plants of both. Has Fd in canopy and lacks queen's cup and thimbleberry, so better match to dw3/04.

Management prescription

Salvage dead beetle kill and allow stand to mature.

5.64m Vegetation plot

Species	Cover (%)	Fuel Loading	
TREES (regen)		fuel depth	20 - 40 cm
<i>Abies lasiocarpa</i>	Subalpine fir 20	fuel size	<15%
SHRUBS		horizontal arrangement	<20%
<i>Alnus crispa ssp. sinuata</i>	Sitka alder 1	vertical arrangement	partially elevated
<i>Rosa acicularis</i>	Prickly rose <1	vegetation	low
<i>Rubus parviflorus</i>	Thimbleberry <1	fuel continuity	spotty
<i>Sorbus scopulina</i>	Western mountain-ash <1		
<i>Spiraea betulifolia</i>	Birch-leaved spiraea 2		
<i>Vaccinium membranaceum</i>	Black huckleberry 2		
FORBS		CWD transect	
<i>Cornus canadensis</i>	Bunchberry 4	<u>diameter</u>	<u>length</u>
<i>Epilobium angustifolium</i>	Fireweed <1	10 cm	6 m
<i>Orthilia secunda</i>	One-sided wintergreen <1	25 cm	20 m
GRAMINOIDS		13 cm	10 m
<i>Calamagrostis stricta</i>	Slimstem reedgrass <1	12 cm	9 m
MOSSES and LICHENS			
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss 60		
<i>Ptilium crista-castrensis</i>	Knight's plume moss 25		

Ruby Rock Provincial Park Vegetation Monitoring



Plot 17

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Sx	26.2	33.2	3														
2	Pl	27	37	3														
3	Fd	22.7	38.3	2			2											
4	Sx	24.5	33.3	1														
5	Pl	26.9	37.2	3														
6	Sx	20.2	22.4	1														
7	Sx	14.9	10.9	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 18

Plot description

UTM 10 355065 E 6653917 N Date assessed 9/14/2010
 Canopy closure: 45% Slope: 0%

Wet depression between ridge top and toe of slope, microclimate. Pools of standing water, 100% moss cover. Straight subalpine fir and white spruce with pine on the ridge and up the slope. Lots of horsetail and alder. No thermal cover, fair security/escape cover, fair browse. Lots of snags for wildlife trees.

Ratings

Browse moderate
 Security moderate
 Thermal cover none

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSmc2/07**

Does not match mapped BEC class. Little microsite between ridge top and toe of slope, wet depression with pools of standing water. Lots of horsetail, marsh cinquefoil, subalpine fir and white spruce. Keys to SBSmc2/07 due to moisture levels and vegetation (e.g. bluejoint)

Management prescription

Leave site as is, nice little microsite creates a wet area on dry slope; it is good moose habitat. It would be too wet to burn.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	8
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	10
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Rubus idaeus</i>	Red raspberry	<1
<i>Vaccinium membranaceum</i>	Black huckleberry	3
FORBS		
<i>Mitella nuda</i>	Common mitrewort	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Potentilla palustris</i>	Marsh cinquefoil	<1
<i>Pyrola chlorantha</i>	Green wintergreen	<1
<i>Senecio trianqularis</i>	Arrow-leaved groundsel	<1
<i>Streptopus amplexifolius</i>	Clasping twisted-stalk	<1
GRAMINOIDS		
<i>Calamaqrostis canadensis</i>	Bluejoint	<1
<i>Cinna latifolia</i>	Nodding wood-reed	<1
FERNS and ALLIES		
<i>Drvopteris exspansa</i>	Spinv wood fern	<1
<i>Equisetum arvense</i>	Common horsetail	45
<i>Equisetum sylvaticum</i>	Wood horsetail	20
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	65
<i>Ptilium crista-castrensis</i>	Knight's plume moss	35

Fuel Loading

fuel depth 20 - 40 cm
 fuel size <15%
 horizontal arrangement <20%
 vertical arrangement partially elevated
 vegetation low
 fuel continuity low

CWD transect

	diameter	length
	14 cm	6 m
	30 cm	20 m
	26 cm	12 m
	15 cm	7 m
	15 cm	6 m
	20 cm	10 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 18

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Bl	26.3	21.5	1														
2	Bl	23.7	28.3	1														
3	Bl	24.4	26.9	3														
4	Bl	24.4	31.2	3														
5	Sx	17.3	14.9	4														
6	Sx	28	44.3	3														
7	Bl	32	27.4	4														
8	Bl	21.3	27.9	1														
9	Sx	22.6	35.5	2			3											
10	Sx	20.1	22	1														
11	Bl	18.8	29.2	1														
12	Sx	17.7	25.7	3														
13	Sx	26	45	3														
14	Bl	6.2	10	2		1												

Ruby Rock Provincial Park Vegetation Monitoring



Plot 19

Plot description

UTM 10 346064 E 6053417 N Date assessed 9/7/2010

Canopy closure: 45% Slope: 38 %

This plot falls on the edge of a Fd type stand. 100% At, except Sxw in gullies and a few Fd higher on the ridgetops to the east. Abundant bear sign and some ungulate tracks in water hole in draw--Moose and possibly elk. Good browse. Cover in narrow gullies from weather, but no thermal cover in deciduous stands.

Ratings

Browse good
Security moderate
Thermal cover moderate

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/07**

Close to mapped BEC rating, but At presence may indicate SBSdw3/07.

Management prescription

Some burning in At near plot would open up the understory.

5.64m Vegetation plot

Species		Cover (%)
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	5
<i>Amelanchier alnifolia</i>	Saskatoon	2
<i>Cornus stolonifera</i>	Red-osier dogwood	2
<i>Rosa acicularis</i>	Prickly rose	8
<i>Rubus parviflorus</i>	Thimbleberry	4
<i>Shepherdia canadensis</i>	Soopolallie	5
<i>Symphoricarpos albus</i>	Snowberry	5
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	<1
<i>Aster ciliolatus</i>	Fringed aster	<1
<i>Aster conspicuus</i>	Showy aster	3
<i>Disporum hookeri</i>	Hooker's fairybells	4
<i>Epilobium anaustifolium</i>	Fireweed	5
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Lathyrus nevadensis</i>	Purple peavine	4
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	2
<i>Thalictrum occidentale</i>	Western meadowrue	2
<i>Viola canadensis</i>	Canada violet	<1
GRAMINOIDS		
<i>Elymus glaucus</i>	Blue wildrye	<1

Fuel Loading

fuel depth <20 cm
fuel size 15 - 30%
horizontal arrangement <20%
vertical arrangement partially elevated
vegetation high
fuel continuity spotty

CWD transect

	diameter	length
	12 cm	2 m
	24 cm	2.5 m
	15 cm	10 m
	14 cm	20 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 19

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	At	17	22.5	2		1	3											0.5m above dbh -- flared butt
2	At	15.5	18.7	2		1	5											
3	At	19.2	27.9	2		1	3											
4	At	14.6	20.1	2			6											

Ruby Rock Provincial Park Vegetation Monitoring



Plot 20

Plot description

UTM 10 346567 E 6053422 N Date assessed 9/7/2010

Canopy closure: 40% Slope: 30%

Mixed PI-Fd forest. Rocky site. 65% exposed--little topsoil. Abundant deer scat (nice sunny ridge top.) Top of rocky ridge. Thick PI regen type. Good security and thermal cover. South facing likely has little snow. Moose scat present. Very thick stand in parts (~70% canopy closure),

Ratings

Browse moderate
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/04/01**

BEC as assessed: **SBSdw3/04**

Mapped on border of dw3/01 and dw3/04. More closely matched to dw3/04, due to vegetation present.

Management prescription

Cannot burn stand--or it will all burn. Appears to have burned ~ 40 years ago.

5.64m Vegetation plot

Species		Cover (%)
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	1
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	4
<i>Shepherdia canadensis</i>	Soopolallie	2
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	2
<i>Symphoricarpos albus</i>	Snowberry	<1
DWARF SHRUBS		
<i>Arctostaphylos uvi-ursi</i>	Kinnickinnick	2
<i>Vaccinium caespitosum</i>	Dwarf blueberry	1
FORBS		
<i>Achillea millefolium</i>	Yarrow	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Oxytropis campestris</i>	Field locoweed	<1
<i>Saxifraga tricuspidata</i>	Three-toothed saxifrage	1
<i>Sedum lanceolata</i>	Lance-leaved stonecrop	<1
GRAMINOIDS		
<i>Aaropyron trachycaulum</i>	Slender wheatgrass	<1
<i>Danthonia intermedia</i>	Timber oat-grass	<1
<i>Festuca altaica</i>	Altai fescue	<1
<i>Koeleria macrantha</i>	Junegrass	<1
<i>Orzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
<i>Poa interior</i>	Interior bluegrass	<1
FERNS and ALLIES		
<i>Woodsia oregana</i>	Oregon woodsia	<1

Fuel Loading

fuel depth <20 cm
fuel size 15 - 30%
horizontal arrangement <20%
vertical arrangement on ground
vegetation none
fuel continuity spotty

CWD transect

	diameter	length
	15 cm	1.5 m
	7.5 cm	7 m
	15 cm	15 m
	10 cm	10 m
	11 cm	10 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 20

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Pl	10.9	15.7	3			3											
2	Pl	7.1	13.3	3														
3	Pl	8.8	15.1	3														
4	Fd	7.5	10.1	1														
5	Fd	5.7	9.1	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 21

Plot description

UTM 10 347067 E 6053416 N Date assessed 9/9/2010
 Canopy closure: 45% Slope: 55 %

Open Fir woods with some large White Spruce. Balsam, wintergreen and twinflower understory. >95% moss coverage (step moss, shreber's, knights plume). Very few non-woody vascular plants. Moderate browse on balsam and there are wildlife trees present. There is good thermal and security cover in dense understory.

Ratings

Browse poor
 Security good
 Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01/07**

BEC as assessed: **SBSdw3/04**

Mapped on border between dw3/01 and dw3/07, but keys to dw3/04, and vegetation components match (e.g. saskatoon, mosses, wintergreen etc.)

Management prescription

Leave as is as there are too many ladder fuels and not enough dry vegetation to burn. Not much ungulate potential other than wintering for moose.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Betula papyrifera</i>	Paper birch	<1
<i>Picea glauca x enqelmannii</i>	Hybrid white spruce	<1
<i>Pseudotsuqa menziesii var. glauca</i>	Interior douglas-fir	18
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	<1
<i>Ribes lacustre</i>	Black gooseberry	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	1
FORBS		
<i>Orthilia secunda</i>	One-sided wintergreen	3
MOSSES and LICHENS		
<i>Hylocomium splendens</i>	Step moss	20
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	20
<i>Ptilium crista-castrensis</i>	Knight's plume moss	55

Fuel Loading

fuel depth 20 - 40 cm
 fuel size 15 - 30%
 horizontal arrangement <20%
 vertical arrangement partially elevated
 vegetation none
 fuel continuity low

CWD transect

diameter	length
10 cm	15 m
12.5 cm	8.2 m
10 cm	10 m
11 cm	4.5 m
15 cm	3 m
15 cm	10 m
17 cm	9 m
12 cm	3.5 m
12.5 cm	9 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 21

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	31.2	55.2	2					3									Broken Top - Calculated Height
2	Fd	35.2	53.3	1														Calculated Height
3	Sx	15.5	18.3	2					3									Estimated Height: 15.5m
4	Fd	31	43.5	2		1												Estimated Height: 31.0m
5	Fd	32	54.7	1							2							Estimated Height: 32.0m
6	Fd	35	52.8	2			3											Estimated Height: 35.0m
7	Sx	33.9	43.1	1														Calculated Height
8	Sx	5.5	11.2	4														Dead, Broken Top, Estimated Height

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Plot 22

Plot description

UTM 10 347569 E 6053422 N Date assessed 8/26/2010

Canopy closure: 60% Slope: 45 %

Mature Fd forest. Good thermal cover, good security cover--some dense cover. Nice cover for deer. Moose scat present. Good standing snag wildlife tree potential.

Ratings

Browse moderate
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01/02**

BEC as assessed: **SBSdw3/04**

Mapped on border of SBSdw3/01 and 02 but keys to SBSdw3/04. Shrubs, herbs, and mosses components also a better match to dw3/04.

Management prescription

No treatment. Can't burn because brush is too dense and too much ladder fuel.

5.64m Vegetation plot

Species		Cover (%)	Fuel Loading	
TREES (regen)			fuel depth	<20 cm
<i>Pseudotsuqa menziesii var. glauca</i>	Interior douglas-fir	4	fuel size	<15%
SHRUBS			horizontal arrangement	<20%
<i>Clematis occidentalis ssp. arosseserrata</i>	Blue clematis	<1	vertical arrangement	on ground
<i>Ribes lacustre</i>	Black gooseberry	1	vegetation	low
<i>Rosa acicularis</i>	Prickly rose	4	fuel continuity	moderate
<i>Shepherdia canadensis</i>	Soopolallie	5		
<i>Viburnum edule</i>	Highbush cranberry	1		
DWARF SHRUBS			CWD transect	
<i>Linnaea borealis</i>	Twinflower	1	<u>diameter</u>	<u>length</u>
FORBS			7 cm	5 m
<i>Achillea millefolium</i>	Yarrow	<1	14 cm	1.5 m
<i>Actaea rubra</i>	Baneberry		20 cm	20 m
<i>Aralia nudicaulis</i>	Wild sarsaparilla	5	15 cm	1 m
<i>Aster conspicuus</i>	Showy aster	6	10 cm	2.5 m
<i>Disporum trachycarpum</i>	Rough-fruited fairvbells	<1		
<i>Fraaaria virainiana</i>	Wild strawberry	<1		
<i>Galium boreale</i>	Northern bedstraw	2.5		
<i>Lathyrus nevadensis</i>	Purple peavine	1		
<i>Smilacina racemosa</i>	False solomon's seal	<1		
<i>Thalictrum occidentale</i>	Western meadowrue	2		
GRAMINOIDS				
<i>Aaropyron trachvcaulum</i>	Slender wheatgrass	<1		
<i>Poa arctica</i>	Arctic bluegrass	<1		
<i>Poaceae sp.</i>	Unidentified grass	<1		
MOSSES and LICHENS				
<i>Hvlocomium splendens</i>	Step moss			
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss			

Ruby Rock Provincial Park Vegetation Monitoring



Plot 22

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	24.2	32.9	1														
2	Fd	26.3	36.3	1														
3	Fd	25.6	45.2	2		1												
4	Fd	20.2	32.1	1														
5	Fd	24.3	43.7	1														
6	Fd	5.2	84.4	4														
7	Fd	24.2	46.9	1														
8	Fd	29.7	46	1														
9	Fd	26.7	37	1														
10	Fd	30.6	107.3	3														
11	Fd	16.3	62.4	1					1									
12	Fd	35.6	101.2	3														
13	Fd	10	90.1	4														

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Plot 23

Plot description

UTM 10 348073 E 6053414 N Date assessed 8/26/2010
 Canopy closure: 10% Slope: 35 %

Burnt within last 2 years. Aspen - Douglas-fir interface area. Has had multiple fires.
 About 50-60% of the aspen is dead. Douglas-fir is burnt but not dead; 2 large trees
 may recover. Stand is about 85% aspen, 15% douglas-fir. Abundant bear forage site.
 Moose have browsed on willow. Shrub layer is thick -- 1-1.3 m tall. No thermal cover.
 Few scattered Douglas-fir and surviving aspen.

Ratings

Browse good
 Security moderate
 Thermal cover none

BEC comments

BEC as mapped: **SBSdw3/04/01**

BEC as assessed: **undetermined**

Recently burned so hard to determine proper BEC based on vegetation currently present.

Management prescription

Keep burning to maintain ungulate browse and security cover.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Populus tremuloides</i>	Trembling aspen	20
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	3
<i>Rosa acicularis</i>	Prickly rose	5
<i>Rubus parviflorus</i>	Thimbleberry	70
<i>Salix sp.</i>	Willow sp.	1
FORBS		
<i>Aster conspicuus</i>	Showy aster	7
<i>Disporum hookeri</i>	Hooker's fairybells	35
<i>Epilobium anagrostifolium</i>	Fireweed	3
<i>Heracleum lanatum</i>	Cow parsnip	7
<i>Lathyrus nevadensis</i>	Purple peavine	2
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Thalictrum occidentale</i>	Western meadowrue	23
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	1
<i>Elymus glaucus</i>	Blue wildrye	<1
<i>Poaceae sp.</i>	Unidentified grass	3

Fuel Loading

fuel depth <20 cm
 fuel size >45%
 horizontal arrangement <20%
 vertical arrangement partially elevated
 vegetation high
 fuel continuity spotty

CWD transect

diameter	length
11 cm	4 m
14 cm	4 m
70 cm	35 m
8 cm	2.5 m
15 cm	12 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 23

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	At	12.2	19.84	4		1	3							1		3		all fire scarred in 1
2	Fd	39.9	84.05	5		1	3							1		1		
3	Fd	32.4	82.75	5		1	3							1		1		

Ruby Rock Provincial Park Vegetation Monitoring



Plot 24

Plot description

UTM 10 348561 E 6053420 N Date assessed 8/28/2010

Canopy closure: 45% Slope: 30 %

Plot located at a type edge between Douglas fir and Trembling aspen. Douglas fir type on steeper ground and aspen type on bench. There is thick Douglas Fir regenerating (regen) growth downhill, a few Subalpine fir present and one birch. Fresh scat (elk) and four beds uphill on bench 50m from plot. Good browse and abundant thermal cover under Douglas Fir canopy, as well as good security in the fir regen downhill.

Ratings

Browse	excellent
Security	good
Thermal cover	good

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSdw3/04**

Does not match the SBSmc2 code (Fd component of canopy.) More like dw3 with Douglas fir and Prickly rose. Keys to dw3/04; shrub layer a better match to 04 than 01.

Management prescription

Possible burn in Aspen patch. Too thick in Douglas Fir regen due to high ladder fuels which will carry the fire into the canopy.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	2
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	2
<i>Clematis occidentalis</i> ssp. <i>grosseserrata</i>	Blue clematis	1
<i>Rosa acicularis</i>	Prickly rose	15
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	10
FORBS		
<i>Aster conspicuus</i>	Showy aster	15
<i>Disporum hookeri</i>	Hooker's fairybells	5
<i>Lathyrus nevadensis</i>	Purple peavine	5
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	10
<i>Thalictrum occidentale</i>	Western meadowrue	2
GRAMINOIDS		
<i>Elymus glaucus</i>	Blue wildrye	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	10
<i>Ptilium crista-castrensis</i>	Knight's plume moss	5
<i>Rhytidiadelphus triquetrus</i>	Electrified cat's-tail moss	3

Fuel Loading

fuel depth	<20 cm
fuel size	31 - 45%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	low
fuel continuity	low

CWD transect

	diameter	length
	5 cm	2.5 m
	10 cm	0.4 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 24

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Pl	19.5	42.8	1														
2	At	16.9	29.7	2		1	3											
3	At	16.3	26.8	2		1	5											
4	Fd	28.3	76.7	2			3											
5	Fd	28.7	67	1														
6	Fd	27.3	58.9	1														
7	Fd	33.9	64.9	1														
8	Fd	35.7	82.3	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 25

Plot description

UTM 10 349067 E 6053419 N Date assessed 9/14/2010

Canopy closure: 65% Slope: 35 %

Stand <80yrs old, dominated by Douglas Fir on a south facing slope. A fair bit of advanced decayed CWD (proof from stand starting fire). Some open patches but not much browse as willows that are present are too tall to be a browse source. Thermal cover is provided but too open to provide security cover.

Ratings

Browse	poor
Security	poor
Thermal cover	good

BEC comments

BEC as mapped: **SBSmc2/02**

BEC as assessed: **SBSdw3/04**

Not really a good fit for mc2 at all. Dominated by Douglas Fir. Keys thus to SBSdw3/04 due to the shrubs present.

Management prescription

Patches could be opened to encourage more browse. There are a few pine which may naturally open patches if attacked by beetle. Too much ladder fuel for burning.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	<1
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	<1
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	<1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Salix sp.</i>	Willow sp.	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Aster conspicuus</i>	Showy aster	1
<i>Disporum trachycarpum</i>	Rough-fruited fairybells	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus nevadensis</i>	Purple peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	<1
<i>Carex macloviana</i>	Thick-headed sedge	<1
MOSSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	3
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	10
<i>Ptilium crista-castrensis</i>	Knight's plume moss	1

Fuel Loading

fuel depth	<20 cm
fuel size	>45%
horizontal arrangement	<20%
vertical arrangement	on ground
vegetation	none
fuel continuity	spotty

CWD transect

diameter	length
40 cm	20 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 25

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope of 35% on a west aspect. Rolling terrain through a mesic site. Immature conifer cover. 15-20% blowdown in type. High % c. frags >50%. Low regen cover. Fd10>1.3m <7.5cm Fd

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirital grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	13.5	9	8												3		
2	Fd	15.5	15	8												3		
3	Fd	16.4	20.9	8												3		
4	Fd	16	15.6	8												3		
5	Fd	16.5	22.4	8												3		
6	Fd	16	20.5	8												3		
7	Pl	16.8	27.5	8												3		
8	Fd	14	11.1	8		1										3		
9	Fd	15	18.6	8												3		

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Plot 26

Plot description

UTM 10 349554 E 6053481 N Date assessed 9/14/2010

Canopy closure: 5% Slope: 35%

Plot moved 63m at 347 degrees off from cliffs to closest safe location. Open area on rock bench above a steep cliff. Dry site dominated by common juniper and Fd. Low potential for browse, security and thermal cover for wildlife species. pine component of stand beetle attacked. There is willow adjacent to plot and a black bear was observed before plot was located.

Ratings

Browse poor
Security none
Thermal cover none

BEC comments

BEC as mapped: **SBSmc2/02**

BEC as assessed: **SBSdw3/02**

Not a match to SBSmc2 due to presence of Fd. Open rocky area with vegetation that is likely atypical (i.e. microsite) makes BEC determination difficult. Keys to SBSdw3/02, and matches description.

Management prescription

Low potential site due to dry location; therefore leave site as is. The MPB killed pine in the surrounding area will increase fuel load but it will also allow browse to increase as trees fall and canopy opens up.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	3
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	1
<i>Juniperus communis</i>	Common juniper	50
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Shepherdia canadensis</i>	Soopolallie	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
<i>Vaccinium membranaceum</i>	Black huckleberry	2
DWARF SHRUBS		
<i>Arctostaphylos uvi-ursi</i>	Kinnickinnick	2
<i>Vaccinium caespitosum</i>	Dwarf blueberry	1
FORBS		
<i>Achillea millefolium</i>	Yarrow	<1
<i>Antennaria racemosa</i>	Racemose pussytoes	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Oxytropis campestris</i>	Field locoweed	<1
<i>Saxifraga tricuspidata</i>	Three-toothed saxifrage	1
GRAMINOIDS		
<i>Danthonia intermedia</i>	Timber oat-grass	<1
<i>Koeleria macrantha</i>	Junegrass	<1
FERNS and ALLIES		
<i>Selaainella densa</i>	Compact selaginella	<1

Fuel Loading

fuel depth 20 - 40 cm
fuel size >45%
horizontal arrangement <20%
vertical arrangement partially elevated/on ground
vegetation moderate
fuel continuity low

CWD transect

diameter	length
10 cm	1 m
11 cm	9 m
10 cm	6.5 m

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Plot 26

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** South aspect cliff face; any harvesting activities will be single tree selection heli-log. Average of 35% slope, rocky outcrop = stunted growth on Fd, PI, Vol= 100m³/ha, regen<1000sph; Fd8,PI2

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	7.9	20.9	2			1									3		Est DBH due to branches

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Plot 27

Plot description

UTM 10 350064 E 6053424 N Date assessed 9/10/2010

Canopy closure: 45% Slope: 60%

Good forage for ungulates. Young Aspen forest under Douglas-fir veterans. Good soil layer. Very steep slope 60-70%. Rock cliffs and outcrops uphill. No thermal cover, good escape/security. South facing slope should have low snow.

Ratings

Browse good
Security good
Thermal cover none

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSdw3/04**

Mapped class could be mc2/02 (on border). Doesn't match either BEC class. South facing slope of dry rocky cliffs above forest with large Douglas-fir scattered throughout. A better BEC match is SBSdw3/04.

Management prescription

Burn regen. Very few ladder fuels. Large Douglas-fir veterans would resist fire and fire will lower shrub layer.

5.64m Vegetation plot

Species		Cover (%)
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	8
<i>Amelanchier alnifolia</i>	Saskatoon	1
<i>Rosa acicularis</i>	Prickly rose	3
<i>Salix sp.</i>	Willow sp.	<1
<i>Shepherdia canadensis</i>	Soopolallie	<1
FORBS		
<i>Actaea rubra</i>	Baneberry	<1
<i>Aralia nudicaulis</i>	Wild sarsaparilla	<1
<i>Aster conspicuus</i>	Showy aster	3
<i>Epilobium angustifolium</i>	Fireweed	1
<i>Lathyrus nevadensis</i>	Purple peavine	2
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Thalictrum occidentale</i>	Western meadowrue	3
<i>Viola canadensis</i>	Canada violet	1
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrve	<1
<i>Poa sp.</i>	Bluegrass sp.	<1

Fuel Loading

fuel depth 20 - 40 cm
fuel size <15%
horizontal arrangement <20%
vertical arrangement partially elevated
vegetation high
fuel continuity low

CWD transect

	diameter	length
	12 cm	8 m
	10 cm	3 m
	15 cm	12 m
	12 cm	8 m
	15 cm	6 m
	10 cm	3 m

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Plot 27

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	31.4	8.88	2		1					4					45		
2	Fd	27.5	101.5	2			6											
3	At	11.7	16.4	2		1	3											
4	At	17	19.1	2		1	3											
5	At	16.2	15.8	2		1	3											
6	At	12.4	13.3	4														
7	At	11.6	12.2	4														
8	At	17.4	22.8	2		1	3											
9	At	15.8	22	2		1	3											
10	At	16.5	18.5	2		1	3											

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Plot 28

Plot description

UTM 10 350568 E 6053422 N Date assessed 9/10/2010

Canopy closure: 65% Slope: 46 %

Mature stand on S facing slope approximately 100m below some 30-40m cliffs. Dense multi-layered mixed stand comprised of White spruce and Douglas fir with a heavy moss cover of 70-80%. The dense forest stand provides excellent thermal and security cover for ungulate species, but not a lot of forage was noted at the plot (deer and moose pellets present). The are abundant large fir snags present for avian species and small mammals to utilize as wildlife trees. Some of the veteran fir stand component upslope is starting to die back and several have snapped off or blown over; they provide great small mammal habitat.

Ratings

Browse	poor
Security	excellent
Thermal cover	excellent

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSdw3/04**

Dry Fd site on a S facing slope below some cliffs. It seems to key SBSdw3-04 or 01. Vegetation is a better match to SBSdw3/04.

Management prescription

Leave as is, it provides good wildlife habitat potential. The younger stand component has branches to the ground and the areas of high CWD concentrations would cause too intense of a fire.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	<1
<i>Pseudotsuga menziesii var. glauca</i>	Interior douglas-fir	1
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	<1
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	<1
<i>Amelanchier alnifolia</i>	Saskatoon	<1
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rubus parviflorus</i>	Thimbleberry	<1
<i>Shepherdia canadensis</i>	Soopolallie	1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	1
FORBS		
<i>Antennaria microphylla</i>	Rosv pussytoes	<1
<i>Aster ciliolatus</i>	Fringed aster	<1
<i>Aster conspicuus</i>	Showv aster	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Thalictrum occidentale</i>	Western meadowrue	<1
GRAMINOIDS		
<i>Elymus glaucus</i>	Blue wildrye	<1
<i>Festuca occidentalis</i>	Western fescue	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	45
<i>Ptilium crista-castrensis</i>	Knight's plume moss	25

Fuel Loading

fuel depth	<20 cm
fuel size	<15%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	low
fuel continuity	low

CWD transect

diameter	length
11 cm	4.5 m
35 cm	25 m
40 cm	25 m
50 cm	10 m
55 cm	15 m
12 cm	7 m
35 cm	20 m
10 cm	2 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 28

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	10.6	11.4	8														
2	Sx	15.5	19.6	1														
3	Sx	20.3	26.3	1														
4	Fd	14.2	16	2		1	1											
5	Sx	12.4	15.2	2		1												
6	Fd	32.1	65.2	2			3											
7	Fd	29.1	81.6	3														
8	Fd	4.5	61.8	4														
9	Fd	4	67.7	4														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 29

Plot description

UTM 10 351568 E 6053420 N Date assessed 9/10/2010

Canopy closure: 50% Slope: 27 %

Canopy closure approx 50% due to beetle kill. Open pine woods with Douglas fir and scattered White spruce; shrub layer is sparse, mosses abundant at 90%. There is not much browse present and open woods provide poor security cover and not much thermal cover. Trees are mostly small but they could provide some small cavity trees.

Ratings

Browse	poor
Security	poor
Thermal cover	poor

BEC comments

BEC as mapped: **SBSdw3/04**

BEC as assessed: **SBSdw3/01**

Could be SBSdw2-01; keys to SBSdw3-01 or 04. No queens cup present, but thimbleberry, dwarf blueberry, and twinberry presence, although not extremely abundant, suggest SBSdw3/01.

Management prescription

A lot of beetle kill will increase fuel loading; The smaller fir and spruce would not survive a burn. Browse and security cover may increase as patchy canopy allows greater understory growth,

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	1
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	3
<i>Lonicera involucrata</i>	Black twinberry	<1
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	1
<i>Rubus parviflorus</i>	Thimbleberry	2
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	2
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	1
<i>Vaccinium caespitosum</i>	Dwarf blueberry	<1
FORBS		
<i>Aster conspicuus</i>	Showy aster	10
<i>Epilobium angustifolium</i>	Fireweed	1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Heracleum lanatum</i>	Cow parsnip	1
<i>Lathyrus nevadensis</i>	Purple peavine	2
<i>Lathyrus ochroleucus</i>	Creamy peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Thalictrum occidentale</i>	Western meadowrue	<1
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrve	5
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	55
<i>Ptilium crista-castrensis</i>	Knight's plume moss	25

Fuel Loading

fuel depth	20 - 40 cm
fuel size	31 - 45%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	low
fuel continuity	spotty

CWD transect

diameter	length
13 cm	16 m
11 cm	3.5 m
11 cm	15 m
12 cm	10 m
20 cm	15 m
10 cm	15 m
21 cm	17 m
10 cm	14 m
12 cm	15 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 29

Cruise plot

Plot BAF: 7 **DBH limit: 7.5cm** **Comments:** Even terrain, avg 30% slope, SSE aspect, sub-mesic (fairly dry site) good drainage, blowdown @50%, 1000sph<7.5

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Pl	21	17.3	2		5					1							No beetle
2	Fd	21.5	23.9	1							1							
3	Pl	21	22.4	3									3					Grey attack
4	Fd	18.5	19.3	3														>50% sound
5	Fd	24.3	36.6	1														
6	Fd	24	36.3	1														
7	Sx	8.5	12.5	8					3									
8	Pl	23.5	26.8	2			2						2					Red; no beetles flown
9	Pl	16	18.3	3									3					Grey attack
10	Pl	22	20.5	2									1					Green attack
11	Sx	18.9	20.9	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 30

Plot description

UTM 10 352068 E 6053419 N Date assessed 9/11/2010

Canopy closure: 20% Slope: 18 %

Canopy closure at 20%, 18% slope at 200degrees. Open area at plot due to beetle kill, open woods with small Fd, Sw, Bl. Abundant Bl regen; not much browse except Bl regen; it also provides thermal cover as well areas with denser canopy closure. Dense regen provides good security cover.

Ratings

Browse moderate
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSmc2/01**

Not a bad veg match to the mapped BEC, but lacks 5-leaf bramble and Arnica, and has Bl. Some small Fd present in area, but not a canopy component at the plot.

Management prescription

PI will continue to die and fall down, which allows regen to grow, but also provides a higher fuel load. There is no way to remove the fuel load without an intense fire.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	15
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	3
SHRUBS		
<i>Lonicera involucrata</i>	Black twinberrv	1
<i>Rosa acicularis</i>	Prickly rose	2
<i>Rubus parviflorus</i>	Thimbleberry	3
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	3
<i>Vaccinium membranaceum</i>	Black huckleberry	5
FORBS		
<i>Cornus canadensis</i>	Bunchberry	20
<i>Epilobium angustifolium</i>	Fireweed	1
<i>Heracleum lanatum</i>	Cow parsnip	1
<i>Moneses uniflora</i>	One-flowered wintergreen	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Streptopus amplexifolius</i>	Clasping twisted-stalk	<1
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	40
<i>Ptilium crista-castrensis</i>	Knight's plume moss	40

Fuel Loading

fuel depth 20 - 40 cm
fuel size 31 - 45%
horizontal arrangement 20 - 50%
vertical arrangement mostly elevated
vegetation low
fuel continuity low

CWD transect

diameter	length
15 cm	15 m
25 cm	17 m
17 cm	10 m
13 cm	8.5 m
17 cm	15 m
10 cm	14 m
15 cm	10 m
13 cm	18 m
11 cm	6 m
16 cm	13 m
12 cm	12 m
12 cm	17.5 m
13 cm	11 m
16 cm	7 m
12 cm	15 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 30

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Avg slope @19%, mesic site; 5000sph regen <7.5, avg vol 300m3/ha. Even terrain at mid-slope. Pl age @avg Dia @ 27cm =133 Yrs, Fd age @ 44.7 dbh=85yrs

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Sx	9.4	11	8												3		Imm Sx
2	Pl	9.5	28.1	3					1									No MPB; >50% sound
3	Bl	19.6	21.8	3														>50% sound
4	Bl	13.4	15.2	3														>50% sound

Ruby Rock Provincial Park Vegetation Monitoring



Plot 31

Plot description

UTM 10 352567 E 6053418 N Date assessed 9/11/2010

Canopy closure: 60% Slope: 5%

Mixed forest composed of Lodgepole pine, Douglas fir, White spruce and Sub-alpine fir. Dry area at the toe of one slope and crest of another with approx. 50% moss coverage. Not much browse except for balsam, which provides thermal and security cover (deer pellets near to plot). Open areas for winter sunning with some large Fd present. Fair amount of alder provides good cover during summer months. There are some large snags present for wildlife trees.

Ratings

Browse moderate
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSmc2/01**

Some of the shrubs match mc2/01, but Fd component of canopy indicates SBSdw3. Keys to SBSdw3/04 due to lack of queens cup and thimbleberry.

Management prescription

Leave as is; there is little fuel present.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	2
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	10
<i>Rosa acicularis</i>	Prickly rose	3
<i>Shepherdia canadensis</i>	Soopolallie	0.5
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	5
<i>Vaccinium membranaceum</i>	Black huckleberry	10
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Orthilia secunda</i>	One-sided wintergreen	2
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	<1
MOSSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	3
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	30
<i>Ptilium crista-castrensis</i>	Knight's plume moss	1

Fuel Loading

fuel depth <20 cm
fuel size >45%
horizontal arrangement <20%
vertical arrangement on ground
vegetation low
fuel continuity spotty

CWD transect

diameter	length
20 cm	10 m
16 cm	5 m
12 cm	12 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 31

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Rolling terrain, Avg slope 7%, SSE aspect, rocky slope that is quite dry. 15%blowdown; Regen 2500sph:BI9Sx1(Fd), no pine beetle present

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	25	55.2	2					3							2		
2	Fd	25	58.2	2			2		3			1				2		
3	Bl	13.8	19.5	1												2		
4	Fd	26	55.3	2			3									2		
5	Fd	23.2	54	2					3							2		
6	Pl	18	23	2		4			3							2		
7	Pl	22.4	26.9	1												3		
8	Bl	10	13.3	8												2		

Ruby Rock Provincial Park Vegetation Monitoring



Plot 32

Plot description

UTM 10 354066 E 6053416 N Date assessed 9/14/2010

Canopy closure: 55% Slope: 24 %

Good thermal cover (lots of regenerating growth, heavy cover), good security escape cover and fair browse potential. Some old moose scat noted within vicinity. Mixed mature stand, +100 years old Douglas fir, Lodgepole pine and White spruce. All or >95% Pine dead from beetle, it is not falling yet, but they will provide wildlife snags later as they deteriorate.

Ratings

Browse moderate
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01/09**

BEC as assessed: **SBSdw3/01**

SBSdw3/01 is a good match.

Management prescription

Take out dead pine with selective harvest or fall and let stand continue as Douglas Fir will take over.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Picea alauca x enaelmannii</i>	Hvbrid white spruce	1
<i>Pseudotsuqa menziesii var. glauca</i>	Interior douglas-fir	2
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	2
<i>Oplopanax horridus</i>	Devil's club	<1
<i>Ribes lacustre</i>	Black gooseberry	3
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Rubus parviflorus</i>	Thimbleberry	1
<i>Shepherdia canadensis</i>	Soopolallie	3
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
<i>Vaccinium membranaceum</i>	Black huckleberry	2
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	<1
<i>Aster ciliolatus</i>	Fringed aster	<1
<i>Aster conspicuus</i>	Showy aster	<1
<i>Clintonia uniflora</i>	Queen's cup	<1
<i>Cornus canadensis</i>	Bunchberry	3
<i>Epilobium angustifolium</i>	Fireweed	<1
<i>Lathyrus nevadensis</i>	Purple peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Thalictrum occidentale</i>	Western meadowrue	<1
GRAMINOIDS		
<i>Elymus glaucus</i>	Blue wildrye	<1
FERNS and ALLIES		
<i>Lycopodium annotinum</i>	Stiff club-moss	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	35
<i>Ptilium crista-castrensis</i>	Knight's plume moss	35

Fuel Loading

fuel depth	20 - 40 cm
fuel size	<15%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	moderate
fuel continuity	spotty

CWD transect

diameter	length
21 cm	20 m
10 cm	12 m
30 cm	20 m
14 cm	20 m
13 cm	4 m
25 cm	8 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 32

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Sx	31.2	39.2	1														
2	Pl	28	37.4	3														
3	Fd	31.3	47.7	1														
4	Fd	24.2	25.6	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 33

Plot description

UTM 10 354564 E 6053417 N Date assessed 9/15/2010

Canopy closure: 45% Slope: 36 %

Straight mature (100-120yrs old) Pine stand, 60% dead. Good browse, noted moose scat throughout. Poor thermal cover at plot stand as it is dead or dying and alder is scarce. Further downslope heavier pockets of alder would provide security and some thermal cover. No snags present for wildlife trees.

Ratings

Browse good
Security moderate
Thermal cover poor

BEC comments

BEC as mapped: **SbSdw3/01**

BEC as assessed: **SBSdw3/04**

Matches closer to SbSdw3/04. Rough leaved rice and princes pine present.

Management prescription

Harvest pine stand as beetle will end up killing rest of stand, If left it will blowdown and become a fire hazard. Any fire through this stand will be intense as there will be a heavy fuel load as the pine die off. Leave as is, as pine deteriorate the stand will open up and shrub densities will increase before the regenerating growth takes over.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	<1
<i>Pseudotsuga menziesii var. glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	2
<i>Amelanchier alnifolia</i>	Saskatoon	<1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Salix sp.</i>	Willow sp.	<1
<i>Shepherdia canadensis</i>	Soopolallie	35
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	8
DWARF SHRUBS		
<i>Chimaphila umbellata</i>	Prince's pine	2
<i>Linnaea borealis</i>	Twinflower	2
FORBS		
<i>Aster conspicuus</i>	Showy aster	2
<i>Cornus canadensis</i>	Bunchberry	3
<i>Epilobium anaustifolium</i>	Fireweed	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus ochroleucus</i>	Creamy peavine	1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
GRAMINOIDS		
<i>Calamaarostis stricta</i>	Slimstem reedgrass	<1
<i>Elymus glaucus</i>	Blue wildrye	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	50
<i>Ptilium crista-castrensis</i>	Knight's plume moss	30

Fuel Loading

fuel depth 20 - 40 cm
fuel size <15%
horizontal arrangement <20%
vertical arrangement on ground
vegetation low
fuel continuity spotty

CWD transect

diameter	length
11 cm	12 m
8 cm	4 m
11 cm	7 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 33

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	PI	22.7	18.9	1														
2	PI	22.5	22.3	3														
3	PI	20.8	17.1	1														
4	PI	23	22.6	3														
5	PI	24.7	25.4	3														
6	PI	22.7	28.1	3														
7	PI	16.6	13.8	1														
8	PI	17.9	14.1	1														
9	PI	22.7	22	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 34

Plot description

Lush site right on a creek. Excellent browse, good thermal cover in large regenerating growth and heavy alder cover, which also gives security. Some wildlife tree snags along water course.

UTM 10 355066 E 6053425 N Date assessed 9/13/2010

Canopy closure: 65% Slope: 23 %

Ratings

Browse excellent
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01/07**

BEC as assessed: **SBSdw3/07**

Closer to 3/07. This is another little microsite right on a creek. 50m wide lush vegetation with Spruce and Balsam. 30-40m back is mature pine forest with beetle attack (60-70% dead)

Management prescription

Possible salvage harvest of dead pine on either side of drainage, but leave all naturally established regen. Too wet to burn adjacent to the creek.

5.64m Vegetation plot

Species	Cover (%)	Fuel Loading	
TREES (regen)		fuel depth	<20 cm
<i>Abies lasiocarpa</i>	Subalpine fir	1	fuel size <15%
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	1	horizontal arrangement <20%
SHRUBS		vertical arrangement	on ground
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	30	vegetation moderate
<i>Lonicera involucrata</i>	Black twinberry	2	fuel continuity spotty
<i>Oplopanax horridus</i>	Devil's club	20	
<i>Ribes lacustre</i>	Black gooseberry	2	
<i>Rosa acicularis</i>	Prickly rose	<1	
<i>Rubus parviflorus</i>	Thimbleberry	1	
DWARF SHRUBS		CWD transect	
<i>Linnaea borealis</i>	Twinflower	<1	
<i>Rubus pubescens</i>	Trailing raspberry	1	
FORBS			
<i>Aralia nudicaulis</i>	Wild sarsaparilla	<1	
<i>Aster conspicuus</i>	Showy aster	<1	
<i>Aster foliaceus</i>	Leafy aster	<1	
<i>Cornus canadensis</i>	Bunchberry	2	
<i>Disporum hookeri</i>	Hooker's fairybells	<1	
<i>Galium boreale</i>	Northern bedstraw	<1	
<i>Heracleum lanatum</i>	Cow parsnip	<1	
<i>Lathyrus nevadensis</i>	Purple peavine	<1	
<i>Mitella nuda</i>	Common mitrewort	<1	
<i>Orthilia secunda</i>	One-sided wintergreen	<1	
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1	
<i>Petasites palmatus</i>	Palmate coltsfoot	<1	
<i>Smilacina racemosa</i>	False solomon's seal	<1	
<i>Streptopus amplexifolius</i>	Clasping twisted-stalk	<1	
GRAMINOIDS			
<i>Calamagrostis stricta</i>	Slimstem reedgrass	<1	
<i>Cinna latifolia</i>	Nodding wood-reed	<1	
FERNS and ALLIES			
<i>Drvopteris expansa</i>	Spiny wood fern	5	
<i>Equisetum arvense</i>	Common horsetail	10	
<i>Equisetum sylvaticum</i>	Wood horsetail	2	

Ruby Rock Provincial Park Vegetation Monitoring



Plot 34

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Sx	30.8	51.8	1														
2	Sx	36.8	62.3	1														
3	Bl	25	38.6	1														
4	Sx	31	51.5	1														
5	Sx	32.5	60.1	1														dbh taken @ 1.6m due to burl
6	Sx	36.3	62.9	2			4											
7	Bl	26.2	66.3	2			1		3									

Ruby Rock Provincial Park Vegetation Monitoring



Plot 35

Plot description

UTM 10 355567 E 6053420 N Date assessed 9/17/2010

Canopy closure: 50% Slope: 30 %

100% pine stand: DBH 20-30cm, 20m tall. Stand is 50% dead at present. There is good security cover in dense alder downhill, fair browse for ungulates and poor thermal cover. There is no snag potential for wildlife. Stand composition will change, understory and shrub layer will increase as stand dies off.

Ratings

Browse moderate
Security good
Thermal cover poor

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/01**

Matches well with dw3/01

Management prescription

Stand will succumb to beetle attack; an option would be partial thinning to reduce fire hazard.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	1
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	1
<i>Pseudotsuga menziesii var. glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	10
<i>Rosa acicularis</i>	Prickly rose	4
<i>Rubus parviflorus</i>	Thimbleberry	2
<i>Shepherdia canadensis</i>	Soopolallie	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	3
<i>Vaccinium membranaceum</i>	Black huckleberry	2
<i>Viburnum edule</i>	Highbush cranberry	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	1
FORBS		
<i>Aster conspicuus</i>	Showy aster	15
<i>Aster foliaceus</i>	Leafy aster	1
<i>Cornus canadensis</i>	Bunchberry	1
<i>Epilobium angustifolium</i>	Fireweed	<1
<i>Goodvera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Pyrola chlorantha</i>	Green wintergreen	<1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	70
<i>Rhytidiadelphus triquetrus</i>	Electrified cat's-tail moss	10

Fuel Loading

fuel depth <20 cm
fuel size <15%
horizontal arrangement <20%
vertical arrangement on ground
vegetation low
fuel continuity spotty

CWD transect

diameter	length
13 cm	12 m
15 cm	20 m
12 cm	12 m
12 cm	6 m
16 cm	6 m
20 cm	20 m
14 cm	8 m
12 cm	10 m
19 cm	4 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 35

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	PI	3.2	10.5	4														
2	PI	23.9	27.3	3														
3	PI	23	27.6	1														
4	PI	20.3	22.9	2			6											
5	PI	21.3	19.8	1														
6	PI	22.5	20.5	1														
7	PI	15	11.2	3														
8	PI	22.7	17.4	1														
9	PI	23.3	22.4	1														
10	PI	22.1	18.5	2			1											

Ruby Rock Provincial Park Vegetation Monitoring



Plot 36

Plot description

UTM 10 356066 E 6053422 N Date assessed 9/17/2010

Canopy closure: 35% Slope: 6%

Top of ridge that has very little soil. Young stand of Lodgepole pine, Douglas fir and White spruce. Pine is 90% beetle killed and there is a very heavy alder layer with almost nothing under it. Good thermal cover, some moose browse (fresh tracks within 50m), winter browse on balsam regen. Excellent security cover. No signs of any snags, will become more prevalent as pine starts falling.

Ratings

Browse moderate
Security excellent
Thermal cover good

BEC comments

BEC as mapped: **SBSmc2/01**

BEC as assessed: **SBSdw3/04**

Kind of matches mc2/01 and mc2/04, except that Fd is present in the canopy. There was five leaf bramble back from plot. Keys to SBSdw3/04--no thimbleberry.

Management prescription

Partial cut of dead pine to create some openings to encourage shrub growth. Create a patchwork of openings.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	3
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	2
<i>Pseudotsuga menziesii var. glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	75
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
<i>Vaccinium membranaceum</i>	Black huckleberry	15
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Orthilia secunda</i>	One-sided wintergreen	<1
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	55
<i>Ptilium crista-castrensis</i>	Knight's plume moss	45

Fuel Loading

fuel depth <20 cm
fuel size <15%
horizontal arrangement <20%
vertical arrangement on ground
vegetation low
fuel continuity spotty

CWD transect

diameter	length
15 cm	12 m
11 cm	8 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 36

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	22.2	28.6	1														
2	Sx	11.3	11.1	1														
3	Fd	16.6	15.2	1														
4	Pl	23.9	28.5	3														
5	Fd	15	17.3	1														Slight crook in 1
6	Pl	26.3	34.2	3														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 37

Plot description

UTM 10 356566 E 6053420 N Date assessed 9/17/2010

Canopy closure: 60% Slope: 35 %

Fair browse for moose, but there is not much grass present. Thick alder provides good security escape cover and moderate thermal cover in brushy spruce. Larger diameter forest has some older snags available for wildlife trees.

Ratings

Browse moderate
Security good
Thermal cover moderate

BEC comments

BEC as mapped: **SBSmc2/01 - dw3/04** BEC as assessed: **SBSdw3/01**

Mapped on border between mc2/01 and dw3/04. South facing slope Lodgepole pine, Douglas fir and White spruce 150 years old? Pine 80% dead, there is a heavy alder cover with moderate blowdown. Some Thimbleberry present, indicating SBSdw3/01--but lacks queen's cup and twinberry.

Management prescription

Partial cut some of the dead Pine stand to create openings to promote shrub growth and create different habitat.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	<1
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	4
<i>Pseudotsuga menziesii var. glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	4
<i>Ribes lacustre</i>	Black gooseberry	1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Rubus parviflorus</i>	Thimbleberry	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1
FORBS		
<i>Aster conspicuus</i>	Showy aster	4
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodvera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus nevadensis</i>	Purple peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Thalictrum occidentale</i>	Western meadowrue	1
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	45
<i>Ptilium crista-castrensis</i>	Knight's plume moss	35

Fuel Loading

fuel depth 20 - 40 cm
fuel size 15 - 30%
horizontal arrangement 20 - 50%
vertical arrangement partially elevated
vegetation low
fuel continuity low

CWD transect

	diameter	length
	8 cm	14 m
	8 cm	10 m
	6 cm	7 m
	10 cm	4 m
	8 cm	8 m
	7 cm	6 m
	12 cm	6 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 37

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	27.7	37.9	1														
2	Sx	32.55	37.7	1														
3	Pl	24.8	32	3														
4	Fd	35.6	35.6	1														
5	Fd	29.8	39.5	1														
6	Fd	28.2	34.8	1														
7	Fd	28	40	1														
8	Sx	27.4	30.3	2			3											

Ruby Rock Provincial Park Vegetation Monitoring



Plot 38

Plot description

UTM 10 357065 E 6053416 N Date assessed 9/17/2010

Canopy closure: 55% Slope: 85 %

Steep south facing slope rock cliff with poor ungulate forage, poor security cover too steep to maneuver. Moderate thermal cover under trees in gullies. Few snags present, but they should increase over time as pine trees fall over and break off. Nice Pine at plot with possible woodpecker nest (either downie or sapsucker) and/or marten den site.

Ratings

Browse	poor
Security	poor
Thermal cover	moderate

BEC comments

BEC as mapped: **SBSdw3/02 - mc2/01/02**

BEC as assessed: **SBSdw3/02**

Plot right at bottom rock cliff. Mature Douglas fir, lodgepole pine and White spruce forest. Pine makes up 30% of stand and are all dead. South facing very steep (70-90%). Matches close to dw3/02

Management prescription

Leave as is as too steep to do anything; the open cliff faces provide diversity.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Picea alauca x enaelmannii</i>	Hybrid white spruce	1
<i>Pseudotsuga menziesii var. alauca</i>	Interior douglas-fir	1
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	<1
<i>Clematis occidentalis ssp. grosseserrata</i>	Blue clematis	<1
<i>Juniperus communis</i>	Common juniper	<1
<i>Ribes lacustre</i>	Black gooseberry	1
<i>Rosa acicularis</i>	Prickly rose	2
<i>Salix sp.</i>	Willow sp.	<1
<i>Shepherdia canadensis</i>	Sooopollalie	4
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	2
<i>Viburnum edule</i>	Highbush cranberry	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	<1
<i>Aster conspicuus</i>	Showy aster	1
<i>Cornus canadensis</i>	Bunchberry	1
<i>Epilobium angustifolium</i>	Fireweed	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
GRAMINOIDS		
<i>Calamaarostis stricta</i>	Slimstem reedgrass	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
FERNS and ALLIES		
<i>Woodsia oregana</i>	Oregon woodsia	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	40
<i>Ptilium crista-castrensis</i>	Knight's plume moss	40

Fuel Loading

fuel depth	40 - 60 cm
fuel size	<15%
horizontal arrangement	<20%
vertical arrangement	on ground
vegetation	moderate
fuel continuity	spotty

CWD transect

	diameter	length
	12 cm	8 m
	15 cm	6 m
	15 cm	7 m
	30 cm	4 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 38

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Pl	27	35.1	3														
2	Fd	26.3	44.4	1														
3	Sx	20.3	32.1	1														
4	Sx	31.2	43.5	1														

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Plot 39

Plot description

UTM 10 357564 E 6053419 N Date assessed 9/17/2010

Canopy closure: 35% Slope: 80 %

Good thermal cover and ungulate browse in creek draw. Moose scat below along creek draw, they browse early winter in these steep sided draws. Escape cover is poor as they could get trapped against cliffs.

Ratings

Browse good
Security poor
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/07/04**

BEC as assessed: **SBSdw3/04**

Very dry site, exposed south facing slope at bottom of rock cliffs. Mature 40-60cm Douglas fir and Lodgepole pine (PI). All PI dead, but there are a few scattered spruce in draws. Keys to SBSdw3/04 (no queens cup, thimbleberry or twinberry)

Management prescription

Possible partial cut some of PI to create more openings, otherwise leave as is. Very steep right against small cliff.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	3
<i>Alnus crispa</i> ssp. <i>sinuata</i>	Sitka alder	<1
<i>Amelanchier alnifolia</i>	Saskatoon	<1
<i>Ribes lacustre</i>	Black gooseberry	3
<i>Rosa acicularis</i>	Prickly rose	5
<i>Salix</i> sp.	Willow sp.	<1
<i>Shepherdia canadensis</i>	Soopolallie	3
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	3
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	1
<i>Aster conspicuus</i>	Showy aster	2
<i>Cornus canadensis</i>	Bunchberry	1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Pyrola chlorantha</i>	Green wintergreen	<1
GRAMINOIDS		
<i>Calamaarostis stricta</i>	Slimstem reedgrass	<1
<i>Poa interior</i>	Interior bluegrass	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	30
<i>Ptilium crista-castrensis</i>	Knight's plume moss	25

Fuel Loading

fuel depth 20 - 40 cm
fuel size 31 - 45%
horizontal arrangement <20%
vertical arrangement on ground
vegetation moderate
fuel continuity spotty

CWD transect

diameter	length
20 cm	15 m
15 cm	8 m

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Plot 39

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	PI	22	25	3														
2	PI	19.8	15.7	1														
3	PI	23.8	26.4	3														
4	Fd	23.9	25.5	2			3											
5	Fd	26.2	36	1														
6	Fd	35.7	57.5	1														
7	Fd	28.1	37.6	1														
8	Fd	35	48	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 40

Plot description

UTM 10 347573 E 6052915 N Date assessed 9/9/2010
 Canopy closure: 60% Slope: 15 %

Fd, Sx mixed woods with mostly mature trees and some regen/understory; occasional Bl present. Ground layer is thick with Devils club, Thimbleberry and Dogwood with minimal moss coverage. Plot is within a stream draw with stream passing the plot to the north about 3m (possible S-4 stream). Excellent ungulate habitat good browse with dogwood and good thermal cover, open woods provide security cover. Plot located on gentle south facing slope.

Ratings

Browse excellent
 Security moderate
 Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/07**

BEC as assessed: **SBSdw3/01**

Possibly too much Fd for dw3-07. Keys to 01 (thimbleberry and twinberry present)

Management prescription

This is a mixed forest with ladder fuels present (fire not an option); no management recommended just leave stand as is.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Picea alauca x enqelmannii</i>	Hybrid white spruce	2
SHRUBS		
<i>Cornus stolonifera</i>	Red-osier dogwood	2
<i>Lonicera involucrata</i>	Black twinberry	<1
<i>Oplopanax horridus</i>	Devil's club	11
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	2
<i>Rubus parviflorus</i>	Thimbleberry	3
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1
DWARF SHRUBS		
<i>Rubus pubescens</i>	Trailing raspberry	<1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	30
<i>Cornus canadensis</i>	Bunchberry	1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodyera repens</i>	Dwarf rattlesnake-plantain	<1
<i>Heracleum lanatum</i>	Cow parsnip	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Pvrola asarifolia</i>	Pink wintergreen	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Streptopus amplexifolius</i>	Clasping twisted-stalk	<1
<i>Thalictrum occidentale</i>	Western meadowrue	<1
GRAMINOIDS		
<i>Cinna latifolia</i>	Nodding wood-reed	<1
<i>Elymus glaucus</i>	Blue wildrye	1
FERNS and ALLIES		
<i>Drvopteris expansa</i>	Spiny wood fern	1
<i>Equisetum arvense</i>	Common horsetail	<1

Fuel Loading

fuel depth	>60 cm
fuel size	31 - 45%
horizontal arrangement	>80%
vertical arrangement	partially elevated
vegetation	high
fuel continuity	high

CWD transect

diameter	length
22 cm	12 m
35 cm	10 m
10 cm	15 m
27 cm	15 m
15 cm	6 m
12 cm	7 m
15 cm	11 m
28 cm	12.5 m
29 cm	6 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 40

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** 10-15% blowdown; downed wood >50% rotten (not tallible). Rolling terrain, wet site with 15% avg slope, located at lower slope.

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Sx	26	30.5	2			1		3									
2	Sx	9.5	13.1	8														
3	Sx	27.5	38.5	2			1		3									
4	Sx	39	46.8	1														
5	Fd	42.5	67.7	2			1											Vet > 140 yrs
6	Fd	43	67.6	1								2						
7	Fd	39	42.4	1														
8	Sx	11	25.5	2		1			3									
9	Fd	44	64.7	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 41

Plot description

UTM 10 348066 E 6052922 N Date assessed 8/26/2010

Canopy closure: 0% Slope: 35 %

Opening on slope--possibly due to lightning-strike induced fire. A lot of pin cherry and aspen regen along edges of opening. Fir regen +30 years. No trees within plot. Rocky mountain juniper encroaching in opening. No CWD - likely all burned. Early spring-summer ungulate forage. Bear scat within 25 m of plot. Saskatoon berries present some ungulate game trails on slope below plot. Moose-browsed pincherry and aspen outside of plot.

Ratings

Browse good
Security poor
Thermal cover none

BEC comments

BEC as mapped: **SBSdw3/04**

BEC as assessed: **undetermined**

Hard to determine the proper BEC in this recently burned area--mostly early seral species present.

Management prescription

Possibly burn more to create better ungulate habitat.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Populus tremuloides</i>	Trembling aspen	2
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	40
<i>Prunus pensylvanica</i>	Pin cherry	35
<i>Rosa acicularis</i>	Prickly rose	35
<i>Symphoricarpos albus</i>	Snowberry	60
DWARF SHRUBS		
<i>Arctostaphylos uvi-ursi</i>	Kinnickinnick	2
FORBS		
<i>Achillea millefolium</i>	Yarrow	3
<i>Aster conspicuus</i>	Showy aster	20
<i>Castilleja miniata</i>	Red paintbrush	1
<i>Disporum trachycarpum</i>	Rough-fruited fairybells	1
<i>Epilobium anaustifolium</i>	Fireweed	10
<i>Galium boreale</i>	Northern bedstraw	5
<i>Lathyrus nevadensis</i>	Purple peavine	8
<i>Potentilla arquta</i>	White cinquefoil	1
<i>Smilacina racemosa</i>	False solomon's seal	1
GRAMINOIDS		
<i>Bromus ciliatus</i>	Fringed brome	1.5
<i>Carex macloviana</i>	Thick-headed sedge	5
<i>Elymus glaucus</i>	Blue wildrye	1.5
<i>Poaceae sp.</i>	Unidentified grass	1

Fuel Loading

fuel depth <20 cm
fuel size >45%
horizontal arrangement <20%
vertical arrangement partially elevated
vegetation moderate
fuel continuity high

CWD transect

diameter	length
0 cm	0 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 41

Cruise plot

Plot BAF:7 **DBH limit:** 7.5cm **Comments:** Void plot

Ruby Rock Provincial Park Vegetation Monitoring



Plot 42

Plot description

UTM 10 348566 E 6052923 N Date assessed 8/28/2010

Canopy closure: 60% Slope: 35 %

Trembling aspen type with few scattered Douglas fir and heavy regenerating layer. Bear diggings in type, moose browse on choke cherry. Pretty straight Aspen type from lake, large 6-8m willow bushes all the way through. Some openings 30-40m wide down slope. Slope 30-50%. There is good browse on the shrub layer, security cover is moderate in the dense understory, but there is no thermal cover in the aspen stand.

Ratings

Browse good
Security moderate
Thermal cover none

BEC comments

BEC as mapped: **SBSdw3/04**

BEC as assessed: **SBSdw3/04**

A few scattered Fd present, but otherwise all At canopy. Best match is an early seral stage of SBSdw3/04.

Management prescription

Possible burn to knock down shrub layer and open up understory.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Populus tremuloides</i>	Trembling aspen	1
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	2
<i>Prunus virginiana</i>	Choke cherry	15
<i>Rosa acicularis</i>	Prickly rose	40
<i>Symphoricarpos albus</i>	Snowberry	20
FORBS		
<i>Aster ciliolatus</i>	Fringed aster	3
<i>Aster conspicuus</i>	Showy aster	3
<i>Disporum hookeri</i>	Hooker's fairybells	50
<i>Epilobium angustifolium</i>	Fireweed	2
<i>Heracleum lanatum</i>	Cow parsnip	<1
<i>Lathyrus nevadensis</i>	Purple peavine	15
<i>Smilacina racemosa</i>	False solomon's seal	1
<i>Thalictrum occidentale</i>	Western meadowrue	10
<i>Viola canadensis</i>	Canada violet	<1
GRAMINOIDS		
<i>Elymus glaucus</i>	Blue wildrye	1

Fuel Loading

fuel depth <20 cm
fuel size <15%
horizontal arrangement <20%
vertical arrangement partially elevated
vegetation high
fuel continuity spotty

CWD transect

diameter	length
9 cm	6 m
9.5 cm	10 m
7.5 cm	6 m
4 cm	4 m
12 cm	10 m
3 cm	8 m
3 cm	2 m
3 cm	8 m
5 cm	5 m
4 cm	6 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 42

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	At	12.9	12.2	2		1	3											
2	At	10.3	8.1	4														
3	At	12.2	10.1	2		1	3											
4	At	14.1	14.2	2		1	3											
5	At	13.5	16.8	2		1	3											
6	At	14.2	14.7	2		1	3											
7	At	13.5	15.9	2		1	3											
8	At	10.6	13.1	2		1	3											
9	At	12.9	16.5	2		1	5											

Ruby Rock Provincial Park Vegetation Monitoring



Plot 43

Plot description

UTM 10 350578 E 6052918 N Date assessed 9/10/2010

Canopy closure: 65% Slope: 50%

This is a rocky knob with a dense stand of young fir (est. age 40-60yrs) from a previous fire; there is very little soil, just light layer over loose scree. No vegetation in plot only 1 shrub, no vascular plants or grass. Therefore there is no browse and it is too exposed to provide thermal or security cover. There are abundant fir snags for avian species and some small mammals. There are areas of concentrations of coarse woody debris, but the CWD transects did not pick it up. There are better wildlife habitat features downslope in the mature fir/spruce forest

Ratings

Browse	none
Security	none
Thermal cover	poor

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **undetermined**

Keys to SBSdw3/01 SW of the plot, but here it is a burned ridge and there is no soil or vegetation. It is a young Douglas fir forest with minimal moss cover on the ground. Likely an early seral stage of dw3/04 or dw3/02 due to the position at crest of slope.

Management prescription

At this location there is too much CWD and the young forest has limbs to the ground, therefore burning is not an option. Either do a partial thinning or allow this stand to mature and self thin, at which time greater wildlife values will be offered. The larger older stand comprised of Douglas fir and White spruce are downslope; there burning may be an option.

5.64m Vegetation plot

Species		Cover (%)
SHRUBS		
<i>Symphoricarpos albus</i>	Snowberry	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	30
<i>Ptilium crista-castrensis</i>	Knight's plume moss	5
<i>Rhytidiadelphus triquetrus</i>	Electrified cat's-tail moss	5

Fuel Loading

fuel depth	20 - 40 cm
fuel size	15 - 30%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	none
fuel continuity	moderate

CWD transect

diameter	length
8 cm	4.5 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 43

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	21.9	36.3	2		3												
2	Fd	18.4	33	2		2												
3	Fd	16.4	25.3	2		2												
4	Fd	19.7	31.5	1														
5	Fd	15.7	18.4	1														
6	Fd	16.4	21.2	1														
7	Fd	9.9	11	1														
8	Fd	19.6	27	1														Slight crook in 1

Ruby Rock Provincial Park Vegetation Monitoring



Plot 44

Plot description

UTM 10 351066 E 6052927 N Date assessed 9/10/2010

Canopy closure: 50% Slope: 15 %

15% slope at 150 degrees. There is Spruce beetle present and there are large amounts of CWD in the plot. Browse is sparse, stand is quite open with sparse security cover and the open stand does not provide thermal cover. There are some larger wildlife trees present around the plot.

Ratings

Browse	poor
Security	poor
Thermal cover	poor

BEC comments

BEC as mapped: **SBSdw3/04/07**

BEC as assessed: **SBSdw3/04**

Keys to dw3-04 but lacks shrubs; has 3 shrubs and 1 moss matching.

Management prescription

A burn would result in a stand replacement (would increase browse potential) as there is not much large fir that would resist the burn. Recommend leave as is.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	4
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	<1
<i>Pseudotsuga menziesii var. glauca</i>	Interior douglas-fir	8
SHRUBS		
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Salix sp.</i>	Willow sp.	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1
<i>Viburnum edule</i>	Highbush cranberry	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	4
FORBS		
<i>Aster conspicuus</i>	Showy aster	1
<i>Cornus canadensis</i>	Bunchberry	5
<i>Goodvera repens</i>	Dwarf rattlesnake-plantain	<1
<i>Monotropa uniflora</i>	Indian-pipe	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Pyrola asarifolia</i>	Pink wintergreen	1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	80

Fuel Loading

fuel depth	40 - 60 cm
fuel size	15 - 30%
horizontal arrangement	20 - 50%
vertical arrangement	mostly elevated
vegetation	none
fuel continuity	low

CWD transect

	diameter	length
	30 cm	10 m
	10 cm	12 m
	12.5 cm	10 m
	22 cm	20 m
	28 cm	m
	25 cm	15 m
	27 cm	11 m
	13 cm	18 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 44

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments: Average slope @ 16%, rolling terrain, mesic site.

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Sx	15	21.5	3												2		
2	Fd	19.5	21.1	2		1					2					2		
3	Sx	14.5	24	2					3				6			2		
4	Sx	15	22	2					3							2		
5	Sx	25.5	30	1												2		
6	Sx	25	24.6	2		1										2		
7	Sx	25	29.6	2									5			2		
8	Sx	30.7	40.2	1												1		

Ruby Rock Provincial Park Vegetation Monitoring



Plot 45

Plot description

UTM 10 351568 E 6052912 N Date assessed 9/11/2010

Canopy closure: 60% Slope: 40%

Fair browse, some thick regenerating growth for thermal cover and it provides good security cover. Not open enough for sun to melt open ground, canopy too closed. There is more bear and moose sign down below on wet bench off lake. Abundant Douglas fir snags for wildlife trees.

Ratings

Browse moderate
Security good
Thermal cover moderate

BEC comments

BEC as mapped: **SBSdw3/04**

BEC as assessed: **SBSdw3/04**

Seems to match mapped BEC class.

Management prescription

Could burn here; it is an older, larger stand which could resist fire. Fire would help clean and open up understory.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	4
SHRUBS		
<i>Acer glabrum</i>	Douglas Maple	15
<i>Amelanchier alnifolia</i>	Saskatoon	1
<i>Cornus stolonifera</i>	Red-osier dogwood	1
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	2
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	4
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	8
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodvera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus nevadensis</i>	Purple peavine	3
<i>Lathyrus ochroleucus</i>	Creamy peavine	1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrve	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	40
<i>Ptilium crista-castrensis</i>	Knight's plume moss	40

Fuel Loading

fuel depth	20 - 40 cm
fuel size	15 - 30%
horizontal arrangement	<20%
vertical arrangement	on ground
vegetation	low
fuel continuity	moderate

CWD transect

	diameter	length
	15 cm	3 m
	10 cm	3 m
	8 cm	4 m
	20 cm	15 m
	8 cm	20 m
	50 cm	8 m
	30 cm	6 m
	40 cm	20 m
	10 cm	4 m
	20 cm	10 m
	30 cm	15 m
	23 cm	15 m

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Plot 45

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	23.9	65.7	2					3									
2	Fd	34.2	63.9	1														
3	Fd	33	67	3														
4	Fd	7.3	9.9	2			2											
5	Fd	31.6	53	2														
6	Fd	31.5	51.9	1														
7	Fd	29.8	47.2	1														
8	Fd	31.1	91.6	2					3									
9	Fd	32.4	38.1	1			2											
10	Fd	36	48.9	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 46

Plot description

UTM 10 352067 E 6052920 N Date assessed 9/11/2010

Canopy closure: 45% Slope: 53 %

South facing slope in a Douglas Fir stand. There are abundant snags for wildlife trees, lots of blowdown on slope. Good browse, thick regenerating growth above plot for thermal cover, good escape cover. Bear bed on bench above and spring ungulate scat above also.

Ratings

Browse good
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/04**

BEC as assessed: **SBSdw3/04**

Matches mapped BEC zone. Although thimbleberry is present, there is no queen's cup or twinberry.

Management prescription

Decadent Douglas fir stand with lots of snags and blowdown; a burn would be hot with all the blowdown.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	2
SHRUBS		
<i>Acer glabrum</i>	Douglas Maple	1
<i>Amelanchier alnifolia</i>	Saskatoon	<1
<i>Ribes lacustre</i>	Black gooseberry	2
<i>Rubus parviflorus</i>	Thimbleberry	1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
<i>Symphoricarpos albus</i>	Snowberry	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
<i>Rubus pubescens</i>	Trailing raspberry	<1
FORBS		
<i>Aster conspicuus</i>	Showy aster	<1
<i>Epilobium angustifolium</i>	Fireweed	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodvera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus nevadensis</i>	Purple peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
GRAMINOIDS		
<i>Festuca occidentalis</i>	Western fescue	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
<i>Poa arctica</i>	Arctic bluegrass	<1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	65
<i>Ptilium crista-castrensis</i>	Knight's plume moss	35

Fuel Loading

fuel depth	40 - 60 cm
fuel size	31 - 45%
horizontal arrangement	20 - 50%
vertical arrangement	partially elevated
vegetation	low
fuel continuity	moderate

CWD transect

diameter	length
10 cm	25 m
10 cm	6 m
40 cm	20 m
18 cm	7 m
25 cm	3.5 m
25 cm	12 m
22 cm	20 m

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Plot 46

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments	
1	Fd	6.9	59.5	3					1										
2	Fd	5	15	2					3										
3	Fd	3	44.8	4															
4	Fd	24.2	36.7	2					3										
5	Fd	22.2	37.9	3															
6	Fd	14.8	44.5	3															
7	Fd	22.4	32.3	2			3												
8	Fd	18.1	22.7	2				1											
9	Fd	22.3	29.4	2			5												

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Plot 47

Plot description

UTM 10 352575 E 6052913 N Date assessed 9/11/2010

Canopy closure: 55% Slope: 43 %

Good browse, thermal and security cover. Moose scat throughout area and bear den (possible winter/maybe resting den) 60m away. Abundant Douglas Fir snags and large diameter for wildlife trees. Fir stand decadent, 60-80% dead. Lots of blowdown and dead.

Ratings

Browse good
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/04**

BEC as assessed: **SBSdw3/04**

Doesn't match mapped BEC that well--a bit too wet. South facing slope with large diameter Douglas Fir uphill, lower slopes species change to White spruce, Trembling Aspen, Subalpine Fir here. Wet creek 50m away with devils club. Keys out to dw3/04, but seems like it should be a wetter type, possibly 08, but there is At present and no Oak fern.

Management prescription

Burn may open stand up and give Douglas Fir a chance to take over and get rid of some large woody debris.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	<1
<i>Pseudotsuga menziesii var. glauca</i>	Interior douglas-fir	3
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	25
<i>Oplopanax horridus</i>	Devil's club	2
<i>Ribes lacustre</i>	Black gooseberry	1
<i>Rosa acicularis</i>	Prickly rose	4
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1
<i>Symphoricarpos albus</i>	Snowberry	1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	1
<i>Aster conspicuus</i>	Showy aster	<1
<i>Disporum hookeri</i>	Hooker's fairvbells	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Heracleum lanatum</i>	Cow parsnip	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	1
<i>Thalictrum occidentale</i>	Western meadowrue	2
<i>Viola canadensis</i>	Canada violet	<1
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	<1
<i>Elymus glaucus</i>	Blue wildrye	<1
FERNS and ALLIES		
<i>Dryopteris expansa</i>	Spiny wood fern	<1

Fuel Loading

fuel depth 20 - 40 cm
fuel size <15%
horizontal arrangement <20%
vertical arrangement on ground
vegetation high
fuel continuity spotty

CWD transect

	diameter	length
	45 cm	25 m
	45 cm	1.5 m
	10 cm	2 m
	45 cm	10 m
	15 cm	4 m
	12 cm	7 m

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Plot 47

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	4.5	86	4														
2	Sx	29	61	1														
3	At	24.8	46.9	2		1	3											
4	Bl	25.1	48	2		1												
5	Fd	3.5	71.6	4														
6	Fd	4.2	88.9	2			4											
7	Fd	7.2	71.3	4														

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Plot 48

Plot description

UTM 10 353065 E 6052918 N Date assessed 10/13/2010

Canopy closure: 40% Slope: 32 %

Mixed stand composed of Douglas fir, White spruce and Sub-alpine fir on N facing slope with 95% moss coverage. Some regen present and the canopy is patchy, but some thermal cover is available. Security cover is poor due to the openness of the stand and browse is fair with some willow and dogwood present with denser quantities in the valley bottom. Some wolf scat was noted next to the plot

Ratings

Browse moderate
Security poor
Thermal cover moderate

BEC comments

BEC as mapped: **SBSdw3/01/04**

BEC as assessed: **SBSdw3/01**

Keyes to dw3/01 because twinberry is present; however the site is a N facing and seems quite wet. It has Princes pine and Oak fern nearby so maybe 08 is a better match.

Management prescription

Burning is not an option as the stand is densely stocked and young with branches extending right to the ground; if it was burned the whole stand would burn. Partial thinning would open the stand up and encourage wildlife browse growth.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	7
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	2
SHRUBS		
<i>Cornus stolonifera</i>	Red-osier dogwood	2
<i>Lonicera involucrata</i>	Black twinberry	2
<i>Ribes lacustre</i>	Black gooseberry	1
<i>Salix sp.</i>	Willow sp.	<1
<i>Shepherdia canadensis</i>	Soopolallie	<1
<i>Sorbus scopulina</i>	Western mountain-ash	1
<i>Vaccinium membranaceum</i>	Black huckleberry	2
<i>Viburnum edule</i>	Highbush cranberry	<1
DWARF SHRUBS		
<i>Chimaphila umbellata</i>	Prince's pine	1
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Cornus canadensis</i>	Bunchberry	8
<i>Disporum trachycarpum</i>	Rough-fruited fairybells	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus nevadensis</i>	Purple peavine	2
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Petasites palmatus</i>	Palmate coltsfoot	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Thalictrum occidentale</i>	Western meadowrue	<1
GRAMINOIDS		
<i>Poaceae sp.</i>	Unidentified grass	<1
MOSSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	2
<i>Hylocomium splendens</i>	Step moss	10
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	15
<i>Ptilium crista-castrensis</i>	Knight's plume moss	60

Fuel Loading

fuel depth	40 - 60 cm
fuel size	15 - 30%
horizontal arrangement	<20%
vertical arrangement	mostly elevated
vegetation	low
fuel continuity	low

CWD transect

diameter	length
26 cm	3 m
30 cm	7 m
10 cm	12 m
10 cm	7 m
40 cm	16 m
27 cm	6 m

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Plot 48

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** 350m3/ha:Sw4Fd4BI2(Pl), regen 800sph:Sx6BI3Fd1. Rolling terrain, NE aspect, mesic site, Avg slope at 43%,

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Pl	21.9	24.5	2		1											2	
2	Sx	15.5	11.6	8													3	
3	Sx	25.1	25.8	1													2	
4	Fd	24.8	22.4	1													2	
5	Sx	20.5	18.4	1													2	
6	Fd	22.5	22.3	1													2	
7	Fd	24	25.2	2		1											2	
8	Fd	15.5	13.6	8							2						3	
9	Sx	24.5	28	1													2	

Ruby Rock Provincial Park Vegetation Monitoring



Plot 49

Plot description

UTM 10 353566 E 6052920 N Date assessed 9/13/2010

Canopy closure: 65% Slope: 20%

Open mixed composition stand with Douglas fir, Lodgepole pine and White spruce on a S facing slope with > 50% moss covered ground. Rice grass is fairly prevalent. There is a closed canopy for thermal cover and the open patches have more browse, but there is not enough undergrowth for security cover.

Ratings

Browse moderate
Security poor
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/04**

BEC as assessed: **SBSdw3/04**

Keys to dw3-04; has the right shrubs and rice grass

Management prescription

Some of the patches could be thinned to provide better browse potential.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	1
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	1
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	3
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	2
<i>Salix sp.</i>	Willow sp.	2
<i>Shepherdia canadensis</i>	Soopolallie	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
<i>Vaccinium membranaceum</i>	Black huckleberry	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Aster conspicuus</i>	Showy aster	1
<i>Disporum trachycarpum</i>	Rough-fruited fairybells	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodvera oblongifolia</i>	Rattlesnake-plantain	<1
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrve	1
<i>Festuca occidentalis</i>	Western fescue	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	1
MOSESSES and LICHENS		
<i>Dicranum polysetum</i>	Wavv-leaved moss	1
<i>Dicranum scoparium</i>	Broom moss	5
<i>Polytrichum iuniperinum</i>	Juniper moss	<1
<i>Ptilium crista-castrensis</i>	Knight's plume moss	1

Fuel Loading

fuel depth <20 cm
fuel size >45%
horizontal arrangement <20%
vertical arrangement mixed with soil
vegetation low
fuel continuity spotty

CWD transect

diameter	length
12 cm	1 m
28 cm	10 m
35 cm	20 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 49

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Even terrain on SW aspect, avg slope @ 23%, mesic site that is well drained. Vol 275m³/ha, Fd7Sx2Pl1; Regen 1200sph, Sx2Fd8

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	15	17.4	8									2			3		
2	Pl	16.5	26.2	2					3				2					
3	Fd	16.1	24.2	2					3				2					
4	Fd	13.3	22.4	1									2					
5	Fd	12	12.7	8			4						3					
6	Fd	12.3	12.2	8									3					
7	Fd	8	9.7	8									3					
8	Fd	16.5	24.9	1									2					

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Plot 50

Plot description

UTM 10 354069 E 6052921 N Date assessed 9/13/2010

Canopy closure: 55% Slope: 60%

No thermal cover, no real browse, it is a dry south facing slope. There was an active game trail on the ridge that parallels the creek draw 150m over. Forest young, so there are no snags. Some security/escape cover in regenerating growth and Douglas Maple groves. No evidence of any bear activity, scat, or browse. No berries are present.

Ratings

Browse none
Security moderate
Thermal cover none

BEC comments

BEC as mapped: **SBSdw3/04**

BEC as assessed: **SBSdw3/04**

Seems to match pretty close. Dry slope @ 155 degrees. Saw common juniper upslope. 100% Douglas Fir.

Management prescription

Young fire origin Douglas Fir stand (80-100 yrs old). South facing slopes. Forest young with branches to the ground and short regen. Leave to self thin and delimb then burn once it matures; if it was burned now it would all burn.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	7
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Salix</i> sp.	Willow sp.	1
<i>Shepherdia canadensis</i>	Soopolallie	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	3
<i>Aster conspicuus</i>	Showy aster	10
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus ochroleucus</i>	Creamy peavine	3
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Thalictrum occidentale</i>	Western meadowrue	<1
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	<
<i>Elymus glaucus</i>	Blue wildrye	<1
<i>Orzopsis asperifolia</i>	Rough-leaved Ricegrass	<1

Fuel Loading

fuel depth 20 - 40 cm
fuel size <15%
horizontal arrangement <20%
vertical arrangement partially elevated
vegetation low
fuel continuity low

CWD transect

diameter	length
10 cm	10 m
10 cm	2.5 m
11 cm	3 m
12 cm	10 m
7 cm	3 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 50

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	22.7	32.6	1														
2	Fd	27	35	1														
3	Fd	24	31	1														
4	Fd	27.2	35.8	2			3											
5	Fd	23.5	40.8	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 51

Plot description

UTM 10 355066 E 6052918 N Date assessed 9/15/2010

Canopy closure: 45% Slope: 60%

Steep south facing slope feeding into a mid-ridge gully. 100% Pine stand uphill with heavy alder cover, stand changes to Douglas Fir near toe of slope and up north side of mid-ridge gully. Moose scat present, nice wet draw for them below. Good ungulate browse, thermal cover close by in gully but none at site and fair security cover. No snags or wildlife trees.

Ratings

Browse good
Security moderate
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/04**

Matches closer to a SBS dw3/04

Management prescription

Selectively harvest the dead beetle pine or fall to create openings for wildlife habitat. The Douglas Fir is not mature, leave as is to mature.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	<1
<i>Pseudotsuga menziesii var. glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Juniperus communis</i>	Common juniper	<1
<i>Rosa acicularis</i>	Prickly rose	3
<i>Shepherdia canadensis</i>	Soopollalie	4
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
DWARF SHRUBS		
<i>Chimaphila umbellata</i>	Prince's pine	<1
<i>Linnaea borealis</i>	Twinflower	2
FORBS		
<i>Aster foliaceus</i>	Leafy aster	<1
<i>Cornus canadensis</i>	Bunchberry	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus ochroleucus</i>	Creamy peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Viola canadensis</i>	Canada violet	<1
GRAMINOIDS		
<i>Bromus ciliatus</i>	Fringed brome	<1
<i>Elymus glaucus</i>	Blue wildrye	1
<i>Festuca occidentalis</i>	Western fescue	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	65

Fuel Loading

fuel depth	20 - 40 cm
fuel size	<15%
horizontal arrangement	<20%
vertical arrangement	on ground
vegetation	low
fuel continuity	spotty

CWD transect

diameter	length
14 cm	7 m
10 cm	4 m
15 cm	10 m
20 cm	21 m
16 cm	6 m
16 cm	15 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 51

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	26.5	35.7	1														
2	Pl	20.8	27.5	3														
3	Pl	22.2	23.8	3														
4	Pl	19.9	26.5	3														
5	Fd	21.6	27	1														
6	Fd	21.4	30.5	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 52

Plot description

UTM 10 356065 E 6052913 N Date assessed 9/16/2010

Canopy closure: 65% Slope: 44 %

Major Douglas Fir stand on south facing slope. Good spacing, fairly young still, have branches right to the ground. Few scattered Aspen. Light Alpine Fir regen and Douglas Maple. Open stand above wet draw. Good thermal cover and security escape cover. Browse fair/good on slope and good for moose on wet meadow below. Young forest, not many snags for wildlife trees. Open rocky outcrops 100-150m upslope.

Ratings

Browse good
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/01**

Thimbleberry is present, so keys to SBSdw3/01 (although queens cup and twinberry are not present)

Management prescription

Too much regen and branches (with moss) right to ground to burn; whole forest would burn. Leave as it is. Nice semi-open Douglas Fir forest with some open slope and rocky outcrops.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	5
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	1
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	5
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	2
<i>Rubus parviflorus</i>	Thimbleberry	4
<i>Symphoricarpos albus</i>	Snowberry	<1
<i>Viburnum edule</i>	Highbush cranberry	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	2
<i>Rubus pubescens</i>	Trailing raspberry	<1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	<1
<i>Aster foliaceus</i>	Leafy aster	<1
<i>Cornus canadensis</i>	Bunchberry	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus nevadensis</i>	Purple peavine	1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	1
<i>Thalictrum occidentale</i>	Western meadowrue	<1
<i>Viola canadensis</i>	Canada violet	<1
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrve	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	10
<i>Ptilium crista-castrensis</i>	Knight's plume moss	5

Fuel Loading

fuel depth	20 - 40 cm
fuel size	<15%
horizontal arrangement	<20%
vertical arrangement	on ground
vegetation	low
fuel continuity	spotty

CWD transect

diameter	length
7 cm	6 m
12 cm	5 m
8 cm	4 m
12 cm	5 m
11 cm	2 m
12 cm	4 m
12 cm	1.5 m
10 cm	2 m
12 cm	3 m
9 cm	3 m
15 cm	4 m
10 cm	4 m
9 cm	4 m
12 cm	8 m
10 cm	8 m
16 cm	3.5 m
18 cm	5 m

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Plot 52

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Pl	33.1	54.2	3														
2	Fd	29.4	48.2	2			4											
3	Fd	33.9	45.4	1														
4	Fd	33.8	53.4	2														
5	At	19.4	18	2			1											
6	Fd	32.8	50.3	1		1	3											
7	Fd	32.5	35.1	1														
8	Fd	33.8	69	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 53

Plot description

UTM 10 356566 E 6052919 N Date assessed 9/17/2010

Canopy closure: 55% Slope: 0%

Plot right at the edge of a small sedge wetland. Balsam and Spruce at plot, mature Pine to SE (higher ground) . Ground flat, 100% moss cover. Very little for shrubs and plants. Poor browse, good thermal cover under thick, dense Sub-alpine fir (Bl) regen. Good security, thick bush only see 50m. Lots of dead snags for wildlife. Fair to good moose habitat but not good for much else.

Ratings

Browse poor
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01/07**

BEC as assessed: **SBSdw3/07**

Keys to SBSdw3/07, based on Sx canpy and low cover of Equisetum.

Management prescription

Partially thin some areas to open up closed canopy. Too dense and wet to burn.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	10
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	5
<i>Sorbus scopulina</i>	Western mountain-ash	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1
<i>Vaccinium membranaceum</i>	Black huckleberry	12
FORBS		
<i>Cornus canadensis</i>	Bunchberry	1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
FERNS and ALLIES		
<i>Equisetum arvense</i>	Common horsetail	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	55
<i>Ptilium crista-castrensis</i>	Knight's plume moss	35

Fuel Loading

fuel depth <20 cm
fuel size <15%
horizontal arrangement <20%
vertical arrangement on ground
vegetation none
fuel continuity spotty

CWD transect

diameter	length
10 cm	7 m
18 cm	8 m
9 cm	15 m
17 cm	9 m
9 cm	5 m
9 cm	5 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 53

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Bl	17.7	25.2	3														
2	Bl	16.9	19.1	1														
3	Bl	16.3	30.4	3														
4	Sx	15.8	14.4	1														
5	Bl	19.1	28.4	1														
6	Bl	10.4	19.6	1														
7	Bl	18.5	24.5	1														Spike branch in 1
8	Sx	20.3	31.8	1														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 54

Plot description

UTM 10 357064 E 6052919 N Date assessed 9/17/2010

Canopy closure: 30% Slope: 60%

60% avg slope: 80% uphill and 40% downhill. Mixed composition forest made up of White spruce, Douglas fir, Lodgepole pine with Sub-alpine fir regen. Large boulder/bedrock outcrop occupies SE 50% of the plot. Tree canopy is patchy open areas with Devils club and alder and a carpet of bunchberry. There is decent security cover with all the underbrush and there is ample browse, but thermal cover is lacking

Ratings

Browse good
Security good
Thermal cover poor

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/08**

Keyes to the 08 due to the oak fern--some of the other plants don't match. Plot location is NW facing slope next to a depression.

Management prescription

The site is too wet to burn, recommend leave as is. An option would be thin the dead pine to open canopy and promote browse growth; but over time they will fall on there own and create openings naturally.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	10
<i>Picea alauca x enqelmannii</i>	Hybrid white spruce	<1
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	8
<i>Oplopanax horridus</i>	Devil's club	1
<i>Shepherdia canadensis</i>	Soopollalie	<1
<i>Vaccinium membranaceum</i>	Black huckleberry	<1
FORBS		
<i>Actaea rubra</i>	Baneberry	<1
<i>Cornus canadensis</i>	Bunchberry	40
<i>Epilobium anaustifolium</i>	Fireweed	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Smilacina racemosa</i>	False solomon's seal	<1
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	1
FERNS and ALLIES		
<i>Dryopteris exspansa</i>	Spiny wood fern	1
<i>Gymnocarpium dryopteris</i>	Oak fern	1
<i>Lycopodium annotinum</i>	Stiff club-moss	3
MOSSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	5
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	35
<i>Ptilium crista-castrensis</i>	Knight's plume moss	2

Fuel Loading

fuel depth <20 cm
fuel size 15 - 30%
horizontal arrangement <20%
vertical arrangement on ground
vegetation low
fuel continuity low

CWD transect

	diameter	length
	15 cm	6 m
	10 cm	5 m
	16 cm	15 m
	23 cm	25 m
	16 cm	15 m
	13 cm	20 m
	17 cm	11 m
	11 cm	6 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 54

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Avg slope at 66%, rock outcrop, mesic site on a N aspect will rolling terrain.
Regen 1000sph: BI7Sx2Fd1

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	26.8	27.3	2					3								2	
2	PI	30.5	37.1	3									3				1	
3	PI	32.8	37.8	3									3				1	MPB grey >50%sound
4	Sx	33.2	38.5	3									7				1	MPB >50%sound
5	Sx	28.5	29.1	1													2	IBS grey >50%sound
6	PI	32	35	3									3				1	
7	PI	31.5	43.1	3									3				1	MPB grey >50%sound
8	Sx	28.3	44.3	1													2	MPB grey >50%sound
9	Sx	30	27.8	2		1						2					1	
10	Fd	31	39.1	1													1	

Ruby Rock Provincial Park Vegetation Monitoring



Plot 55

Plot description

UTM 10 357568 E 6052922 N Date assessed 9/17/2010

Canopy closure: 30% Slope: 20 %

Plot is at the edge of an opening in a Douglas fir forest, dense understory of Sitka alder and a dense vegetated ground cover. Fir dominant stand with White spruce, Paper birch and Lodgepole pine (beetle attacked). Moderate browse in in shrub layer, alder and maple, dense alder/maple as well as the hilly terrain will provide security cover, but thermal cover is lacking. There is a lot of CWD present, but it is not captured in the CWD transects.

Ratings

Browse moderate
Security good
Thermal cover poor

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/01**

Keys to 01 due to dominant Douglas fir and Thimbleberry

Management prescription

Leave stand as is, browse and security cover present and there is thermal cover in adjacent areas.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>alauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	<1
<i>Alnus crispa</i> ssp. <i>sinuata</i>	Sitka alder	10
<i>Amelanchier alnifolia</i>	Saskatoon	1
<i>Cornus stolonifera</i>	Red-osier dogwood	2
<i>Ribes lacustre</i>	Black gooseberrv	1
<i>Rosa acicularis</i>	Prickly rose	5
<i>Rubus parviflorus</i>	Thimbleberry	2
<i>Shepherdia canadensis</i>	Soopolallie	1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
<i>Viburnum edule</i>	Highbush cranberry	<1
DWARF SHRUBS		
<i>Rubus pubescens</i>	Trailing raspberry	1
FORBS		
<i>Actaea rubra</i>	Baneberry	<1
<i>Aralia nudicaulis</i>	Wild sarsaparilla	5
<i>Aster conspicuus</i>	Showy aster	10
<i>Cornus canadensis</i>	Bunchberry	15
<i>Disporum trachycarpum</i>	Rough-fruited fairvbells	<1
<i>Fragaria virginiana</i>	Wild strawberry	<1
<i>Galium triflorum</i>	Sweet-scented bedstraw	<1
<i>Goodvera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus nevadensis</i>	Purple peavine	1
<i>Moneses uniflora</i>	One-flowered wintergreen	1
<i>Smilacina racemosa</i>	False solomon's seal	1
<i>Thalictrum occidentale</i>	Western meadowrue	1
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrve	1
<i>Orzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	3
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	10

Fuel Loading

fuel depth	>60 cm
fuel size	15 - 30%
horizontal arrangement	20 - 50%
vertical arrangement	mostly elevated
vegetation	moderate
fuel continuity	moderate

CWD transect

diameter	length
15 cm	3 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 55

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope 20%, blowdown at 15%. Mesic site on SE aspect with even terrain at plot, trees are shallow rooted due to rock which exposed throughout the site. Terrain varies from even gullied to benches. Regen 1200sph:Sx8BI2

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	29.8	33.9	2					3			1					2	
2	Pl	29.5	31.5	3									3				2	MPB, grey > 50% sound
3	Fd	34	37.5	1							0						1	
4	Pl	28.3	28.1	3									3				2	MPB, grey > 50% sound
5	Pl	32.5	35.7	3									3				1	MPB, grey > 50% sound
6	Sx	26.5	20.4	3											G		2	Uprooted blowdown > 50% sound
7	Pl	29.5	24.4	3									3				2	MPB, grey > 50% sound
8	Fd	36	44.2	1													1	
9	Fd	34	39.2	1													1	
10	Fd	36.1	47.1	1													1	
11	Fd	35.5	30.1	1													1	
12	Fd	35.5	39.1	1													1	

Ruby Rock Provincial Park Vegetation Monitoring



Plot 56

Plot description

UTM 10 358066 E 6052918 N Date assessed 9/17/2010

Canopy closure: 40% Slope: 25 %

Mixed composition stand of Douglas fir and White spruce on the edge of a draw; tree canopy is patchy and alder fills voids beneath open patches. Further down in the draw approx. 20m site is wetter and Devils club starts. The dense alder provides security cover, and the Mountain ash is being browsed, but the open canopy does not provide thermal cover.

Ratings

Browse good
Security good
Thermal cover poor

BEC comments

BEC as mapped: **SBSdw3/04**

BEC as assessed: **SBSdw3/01**

Keys to 01 due to Queens cup, Thimbleberry and Twinberry

Management prescription

Leave site as is; there is good ungulate habitat present.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	3
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	75
<i>Lonicera involucrata</i>	Black twinberry	1
<i>Rosa acicularis</i>	Prickly rose	1
<i>Rubus parviflorus</i>	Thimbleberry	2
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	2
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	2
<i>Aster conspicuus</i>	Showy aster	4
<i>Clintonia uniflora</i>	Queen's cup	<1
<i>Cornus canadensis</i>	Bunchberry	1
<i>Goodvera oblongifolia</i>	Rattlesnake-plantain	1
<i>Hieracium sp.</i>	Hieracium sp.	<1
<i>Lathyrus nevadensis</i>	Purple peavine	<1
<i>Moneses uniflora</i>	One-flowered wintergreen	5
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	1
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	1
<i>Elymus glaucus</i>	Blue wildrye	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSESSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	3
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	5
<i>Polytrichum juniperinum</i>	Juniper moss	1

Fuel Loading

fuel depth <20 cm
fuel size
horizontal arrangement <20%
vertical arrangement on ground
vegetation low
fuel continuity low

CWD transect

diameter	length
10 cm	5 m
20 cm	5 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 56

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope 26%, rolling terrain at a mesic site. Deep rooting depth at 40cm, moderate coarse fragments, 40% stones/small boulders. Regen @1000sph:Sx6BI3Fd1

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	36	48.3	1												1		
2	Fd	34.5	37.7	1												1		
3	Fd	34	40.5	2		1	3									1		
4	Fd	36.5	58.9	5							0					1		
5	Sx	31.8	41.9	1												1		
6	Pl	24	42.3	3					3				3			2		
7	Fd	35.5	61.4	5												1		

Ruby Rock Provincial Park Vegetation Monitoring



Plot 57

Plot description

UTM 10 352562 E 6052420 N Date assessed 9/11/2010

Canopy closure: 35% Slope: 30%

Plot is located at the toe of the slope in an opening with cover of 100% Devils club and few shrubs poking through. Mixed composition stand of White spruce and Douglas fir with scattered paper birch; it is a wet plot location. Excellent browse for moose (fresh tracks nearby) with a little meadow to the NE. The dense understory and shrub layer provide good security and thermal cover. There are large snags in the vicinity that would provide wildlife trees for avian species and small mammals.

Ratings

Browse excellent
Security excellent
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/01**

Keys out to mapped BEC (twinberry is present.)

Management prescription

Leave as is, site has good wildlife habitat values. The site would be too wet to burn, as well as there is minimal CWD. Younger spruce have limbs to the ground which act as ladder fuels carrying the fire into the upper canopy if a burn was utilized.

5.64m Vegetation plot

Species		Cover (%)
SHRUBS		
<i>Lonicera involucrata</i>	Black twinberry	3
<i>Oplopanax horridus</i>	Devil's club	60
<i>Ribes lacustre</i>	Black gooseberry	2
<i>Rosa acicularis</i>	Prickly rose	4
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
<i>Symphoricarpos albus</i>	Snowberry	1
<i>Viburnum edule</i>	Highbush cranberry	<1
FORBS		
<i>Aquilegia formosa</i>	Red columbine	<1
<i>Aster conspicuus</i>	Showy aster	<1
<i>Cornus canadensis</i>	Bunchberry	1
<i>Disporum hookeri</i>	Hooker's fairybells	1
<i>Galium triflorum</i>	Sweet-scented bedstraw	<1
<i>Mitella nuda</i>	Common mitrewort	<1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	1
<i>Thalictrum occidentale</i>	Western meadowrue	<1
<i>Viola canadensis</i>	Canada violet	<1
GRAMINOIDS		
<i>Cinna latifolia</i>	Nodding wood-reed	<1
<i>Elymus glaucus</i>	Blue wildrye	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	15

Fuel Loading

fuel depth	20 - 40 cm
fuel size	<15%
horizontal arrangement	<20%
vertical arrangement	on ground
vegetation	high
fuel continuity	spotty

CWD transect

	diameter	length
	45 cm	20 m
	12 cm	4 m
	10 cm	4 m
	30 cm	2 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 57

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Sx	23	36.3	2		1			3									
2	Sx	24.1	38.2	2		2												
3	Sx	24	40.7	2			3											
4	Fd	43.9	113.4	5														Veteran fir

Ruby Rock Provincial Park Vegetation Monitoring



Plot 58

Plot description

UTM 10 353062 E 6052421 N Date assessed 9/13/2010

Canopy closure: 65% Slope: 35 %

Open Douglas fir dominated forest with some White spruce; sparse herb layer with patches of thick moss. There is not much blowdown or regen present (Fd, Sw), therefore there is very little browse other than Douglas maple and security cover present, but thermal cover is good under the closed canopy. There are lots of downed nursery trees contributing to CWD.

Ratings

Browse	poor
Security	poor
Thermal cover	good

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/04**

Keys to SBSdw3-04 has rice grass and rose (and lacks twinberry, queens cup and thimbleberry).

Management prescription

Possible thinning to create more openings for browse and to change to desired forest composition; or leave as is.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Picea alauca x enaelmannii</i>	Hvbrid white spruce	4
<i>Pseudotsuqa menziesii var. glauca</i>	Interior douglas-fir	1
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	2
<i>Amelanchier alnifolia</i>	Saskatoon	2
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	2
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Aster conspicuus</i>	Showy aster	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus nevadensis</i>	Purple peavine	1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
GRAMINOIDS		
<i>Bromus ciliatus</i>	Fringed brome	<1
<i>Festuca occidentalis</i>	Western fescue	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	3
<i>Hylocomium splendens</i>	Step moss	1
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	15
<i>Ptilium crista-castrensis</i>	Knight's plume moss	1

Fuel Loading

fuel depth	<20 cm
fuel size	>45%
horizontal arrangement	<20%
vertical arrangement	mixed with soil/on ground
vegetation	none
fuel continuity	spotty

CWD transect

diameter	length
12 cm	8 m
10 cm	9 m
27 cm	26 m
14 cm	15 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 58

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope at 42% on a SSE aspect, even terrain, sub-mesic site with <10% blowdown. There is low vegetation and brush cover. Stand vol @356m3/ha: Fd7Sx3, Regen vol @ 600sph: Sx7Fd2Bl1.

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	28.4	22.5	1												2		
2	Sx	28.3	33.9	1												2		
3	Fd	25.9	50.2	1												2		
4	Fd	25.5	33.8	1												2		
5	Fd	28	22.5	1												2		
6	Sx	25	26.2	2					3							2		
7	Fd	27.5	30.5	1												2		
8	Fd	27.5	38.5	1							0					2		

Ruby Rock Provincial Park Vegetation Monitoring



Plot 59

Plot description

UTM 10 353566 E 6052417 N Date assessed 9/12/2010

Canopy closure: 45% Slope: 8%

Mixed composition stand of Douglas fir and White spruce; located at the crest of one hill and toe of another. Patchy stand cover, but dense areas provide security and thermal cover and open stand has dense undergrowth in areas to provide browse (Dogwood, Willow, Maple)

Ratings

Browse good
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/08**

Keyes to dw3/01; but it is not a good fit as it should key to a wetter BEC (i.e. Devils club is present), possibly dw3/08 as trailing raspberry and mitrewort are present, as is baneberry which is typically found in richer habitats.

Management prescription

All ungulate and wildlife requirements are met, therefore leave as is.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Picea glauca x enqelmannii</i>	Hybrid white spruce	3
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	30
<i>Cornus stolonifera</i>	Red-osier dogwood	2
<i>Lonicera involucrata</i>	Black twinberr	<1
<i>Oplopanax horridus</i>	Devil's club	20
<i>Ribes lacustre</i>	Black gooseberr	1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Salix sp.</i>	Willow sp.	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
<i>Rubus pubescens</i>	Trailing raspberry	<1
FORBS		
<i>Actaea rubra</i>	Baneberry	<1
<i>Aralia nudicaulis</i>	Wild sarsaparilla	15
<i>Aster ciliolatus</i>	Fringed aster	<1
<i>Aster conspicuus</i>	Showy aster	2
<i>Cornus canadensis</i>	Bunchberr	<1
<i>Disporum hookeri</i>	Hooker's fairybells	1
<i>Galium triflorum</i>	Sweet-scented bedstraw	<1
<i>Mitella nuda</i>	Common mitrewort	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Thalictrum occidentale</i>	Western meadowrue	<1
<i>Viola canadensis</i>	Canada violet	1
GRAMINOIDS		
<i>Elymus glaucus</i>	Blue wildrye	1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
FERNS and ALLIES		
<i>Dryopteris expansa</i>	Spiny wood fern	2
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	10

Fuel Loading

fuel depth 20 - 40 cm
fuel size 31 - 45%
horizontal arrangement <20%
vertical arrangement partially elevated
vegetation moderate
fuel continuity low

CWD transect

diameter	length
10 cm	1.5 m
12 cm	2 m
45 cm	20 m
11 cm	6 m
50 cm	9 m
13 cm	9 m
16 cm	9 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 59

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope of 23% on a SE aspect. Rolling terrain in a mesic site with greater amounts of vegetation and brush cover. Regen vol @ 1500sph : Sx9Fd1, possible vets Fd and Sx > 40cm. Stand vol 350m3/ha.

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Sx	15	14.1	8												3		Imm Sx ,80 yrs
2	Fd	30	77.8	2		2	2									1		Vet > 140
3	Fd	31	51	2			1									1		
4	Sx	29.5	43.3	1												1		
5	Fd	33.8	77.4	1												1		Tree 5&6 same tree forked below DBH
6	Sx	31.5	44.9	2			1									1		Vet >140yrs
7	Sx	31.8	51.5	2			1									1		
8	Sx	18.8	22.8	8					3							3		Imm Sx <80 yrs

Ruby Rock Provincial Park Vegetation Monitoring



Plot 60

Plot description

UTM 10 354067 E 6052417 N Date assessed 9/13/2010

Canopy closure: 60% Slope: 64 %

South facing slope. 100% Douglas Fir less than 100 yrs old. Few scattered vets, very low shrub layer. Site gets wetter at toe of slope, we are at mid slope. No thermal cover, no/little browse and moderate security cover. Few older Douglas Fir snags for wildlife trees. Overall wildlife potential is low.

Ratings

Browse none
Security moderate
Thermal cover none

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/04**

keys to SBSdw3/04--lacks queens cup, thimbleberry and twinberry.

Management prescription

Let it naturally self thin and once the lower branches are gone then burn. Overall it is an open Fir forest with light regen and little or no shrub.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	3
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	5
<i>Amelanchier alnifolia</i>	Saskatoon	1
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Shepherdia canadensis</i>	Soopolallie	<1
<i>Symphoricarpos albus</i>	Snowberry	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	<1
<i>Aster conspicuus</i>	Showy aster	1
<i>Disporum trachycarpum</i>	Rough-fruited fairvbells	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Lathyrus nevadensis</i>	Purple peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
GRAMINOIDS		
<i>Elymus glaucus</i>	Blue wildrye	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSESSES and LICHENS		
<i>Peltigera</i> sp.	Pelt lichen	3
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	10
<i>Polytrichum juniperinum</i>	Juniper moss	2
<i>Rhytidiadelphus triquetrus</i>	Electrified cat's-tail moss	5

Fuel Loading

fuel depth	20 - 40 cm
fuel size	15 - 30%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	none
fuel continuity	low

CWD transect

diameter	length
32 cm	3 m
72 cm	4.5 m
17 cm	8 m
10 cm	6 m
15 cm	2 m
7 cm	2 m
12 cm	3 m
10 cm	4 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 60

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	10.7	15	2							1							
2	Fd	14.1	12.6	1														
3	Fd	23.8	30.9	1														
4	Fd	17.2	21.2	1														
5	Fd	26.2	35.2	1														
6	Fd	20.5	27.4	1														
7	Fd	19.1	23.8	1														
8	Fd	21.6	27.6	1														
9	Fd	29.9	67.8	5			3											

Ruby Rock Provincial Park Vegetation Monitoring



Plot 61

Plot description

UTM 10 355067 E 6052420 N Date assessed 9/15/2010

Canopy closure: 35% Slope: 30 %

Mixed composition forest of Lodgepole pine, Douglas fir and White spruce. There is a fair amount of beetle kill which will open forest canopy and contribute to CWD layer (small trees 10-15cm). Poor browse (BI regen) and the canopy is too open to provide thermal cover as well as the lack of underbrush other than alder, does not provide much security cover. Plot is located on a small ridge adjacent to a running creek. Some alder present in wetter areas of the location.

Ratings

Browse	poor
Security	poor
Thermal cover	poor

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/04**

Keys to dw3-04, as Plot 60, this site lacks thimbleberry etc.. Site is located at the top of a small ridge.

Management prescription

Leave as is; the open canopy will lead to increases in browse species and regen growth will provide security cover.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	6
<i>Picea alauca x enaqlmannii</i>	Hybrid white spruce	1
SHRUBS		
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	2
<i>Vaccinium membranaceum</i>	Black huckleberry	<1
<i>Viburnum edule</i>	Highbush cranberry	1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	2
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	3
<i>Cornus canadensis</i>	Bunchberry	5
<i>Goodvera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Pyrola chlorantha</i>	Green wintergreen	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	<1
MOSSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	5
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	15
<i>Ptilium crista-castrensis</i>	Knight's plume moss	2

Fuel Loading

fuel depth	40 - 60 cm
fuel size	15 - 30%
horizontal arrangement	20 - 50%
vertical arrangement	mostly elevated
vegetation	low
fuel continuity	low

CWD transect

	diameter	length
	50 cm	14 m
	10 cm	11.5 m
	12 cm	15 m
	11 cm	18 m
	17 cm	2.5 m
	11 cm	15 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 61

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average 35% slope on SW aspect, it has rolling terrain with 20% blowdown. Trees are shallow rooted due to rock; >50% exposed in places.

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	11	10.6	8			3									3		
2	PI	22.6	22.4	3									3			2		MPB grey <5% red needles, > 50% sound
3	Fd	18.2	16.2	1									0			2		
4	PI	22.5	16.1	2		1										2		
5	PI	23	21.5	2									3			2		
6	Fd	13.5	11.6	8		4						2				3		
7	PI	22.4	29.2	2									3			2		
8	PI	22.5	21.1	3									3			2		
9	PI	19.5	18.8	2		1			3							2		
10	PI	20	23.1	3									3			2		<5% red needles

Ruby Rock Provincial Park Vegetation Monitoring



Plot 62

Plot description

UTM 10 355564 E 6052417 N Date assessed 9/15/2010

Canopy closure: 30% Slope: 35 %

Mixed composition stand made up of White spruce, Douglas fir and Sub-alpine fir on a N facing slope. Wet site location has a dense cover of Devils club and balsam regenerating growth. The Balsam regen will provide security cover as well as some thermal protection and the wet site should have ample forage. Large D fir create a patchy cover as they are scattered throughout the stand. Open patches in wetter areas could support greater willow growth; none was noted.

Ratings

Browse moderate
Security good
Thermal cover moderate

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/01**

Keys to dw3/01 (thimbleberry and twinberry present), but could be a wetter type (abundant devil's club present) e.g. dw3/08, but there is no Oak fern and little Field horsetail (Equ arv)

Management prescription

The area is quite wet with extensive ladder fuels that make a burn an unlikely option.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	20
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	<1
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	7
<i>Cornus stolonifera</i>	Red-osier dogwood	1
<i>Lonicera involucrata</i>	Black twinberry	1
<i>Oplopanax horridus</i>	Devil's club	25
<i>Ribes lacustre</i>	Black gooseberry	1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Rubus parviflorus</i>	Thimbleberry	2
<i>Vaccinium membranaceum</i>	Black huckleberry	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Aquilegia formosa</i>	Red columbine	<1
<i>Aralia nudicaulis</i>	Wild sarsaparilla	5
<i>Cornus canadensis</i>	Bunchberry	2
<i>Galium triflorum</i>	Sweet-scented bedstraw	<1
<i>Lathyrus ochroleucus</i>	Creamy peavine	2
<i>Mitella nuda</i>	Common mitrewort	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Petasites palmatus</i>	Palmate coltsfoot	1.5
<i>Pyrola asarifolia</i>	Pink wintergreen	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
<i>Streptopus amplexifolius</i>	Clasping twisted-stalk	<1
<i>Viola canadensis</i>	Canada violet	<1
GRAMINOIDS		
<i>Calamagrostis stricta</i>	Slimstem reedgrass	<1
FERNS and ALLIES		
<i>Equisetum arvense</i>	Common horsetail	<1
<i>Lycopodium annotinum</i>	Stiff club-moss	1
MOSSES and LICHENS		
<i>Ptilium crista-castrensis</i>	Knight's plume moss	25

Fuel Loading

fuel depth	20 - 40 cm
fuel size	31 - 45%
horizontal arrangement	20 - 50%
vertical arrangement	partially elevated
vegetation	moderate
fuel continuity	moderate

CWD transect

diameter	length
17 cm	14 m
18 cm	12 m
25 cm	20 m
20 cm	10 m
27 cm	25 m
26 cm	27 m
19 cm	25 m
31 cm	25 m
38 cm	m
12 cm	1.5 m
15 cm	0.5 m
15 cm	8 m
12 cm	4 m
22 cm	8 m
12 cm	2 m
50 cm	2 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 62

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope of 27% on an east aspect, with rolling terrain, 30% blowdown ranges from 20-100cm. Sub-hydric site with a shallow rooting depth approx 40cm. Regen vol @ 3000sph: BI9Sx1

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Sx	26.8	25.7	5													80	
2	Fd	34	55.6	2		1					0							Vet > 140yrs
3	Fd	35.2	48	5														Vet > 140yrs

Ruby Rock Provincial Park Vegetation Monitoring



Plot 63

Plot description

UTM 10 356066 E 6052420 N Date assessed 9/16/2010

Canopy closure: 65% Slope: 20%

Mixed stand composed of Douglas fir, White spruce, Birch and an understory of Douglas maple. Low shrub component with greater amounts of regen. High blowdown area with large diameter Douglas fir upslope, ~100m upslope it opens up considerably. Poor browse, but there is good thermal cover under regen and good escape/security cover. Lots of snags for wildlife trees. Good transitional cover open on a south facing slope. Uphill there is dense cover, and there is a young stand 100m downslope. Moose scat was present throughout.

Ratings

Browse poor
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/04**

Thimbleberry present but very sparse, keys thus to dw3/04.

Management prescription

Too many ladder fuels to burn and lots of blowdown so fire would burn hot. Large Douglas fir taking over stand and there are large diameter Douglas Fir upslope. Therefore, leave as is, it provides good transitional wildlife habitat right below on the open south facing slope.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Acer glabrum</i>	Douglas Maple	<1
<i>Cornus stolonifera</i>	Red-osier dogwood	1
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rubus parviflorus</i>	Thimbleberry	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1
<i>Viburnum edule</i>	Highbush cranberry	<1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	<1
<i>Aster conspicuus</i>	Showy aster	<1
<i>Cornus canadensis</i>	Bunchberry	1
<i>Disporum trachycarpum</i>	Rough-fruited fairybells	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Pyrola chlorantha</i>	Green wintergreen	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
GRAMINOIDS		
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	55
<i>Ptilium crista-castrensis</i>	Knight's plume moss	40

Fuel Loading

fuel depth	20 - 40 cm
fuel size	15 - 30%
horizontal arrangement	51 - 80%
vertical arrangement	partially elevated
vegetation	low
fuel continuity	moderate to high

CWD transect

	diameter	length
	14 cm	10 m
	13 cm	6 m
	6 cm	4 m
	11 cm	7 m
	12 cm	4 m
	23 cm	25 m
	6 cm	4 m
	10 cm	6 m
	35 cm	12 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 63

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Sx	31.6	41.6	4														
2	Bl	8.4	21.1	1														
3	Sx	26.2	28.4	1														
4	Fd	25.3	28	1														
5	Fd	16	21.1	3														
6	Fd	27.8	34.7	1														
7	Sx	28.1	35.1	1														
8	Fd	24.5	24.4	1														
9	Sx	8.2	20.9	4														
10	Fd	27.2	31.1	1														
11	Fd	7.1	90.1	4														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 64

Plot description

UTM 10 356566 E 6052420 N Date assessed 9/17/2010

Canopy closure: 60% Slope: 40 %

Douglas fir dominated woods with some large dead fir present. There are some open patches with a thicker shrub/herb layer; otherwise undergrowth is sparse. The large sized canopy provides good thermal protection and the Fd regen provides security cover, but forage is lacking. There is greater amounts of forage in adjacent wet spots. The large dead fir with provide excellent wildlife trees for avian species and smaller mammals (squirrel, marten, fisher).

Ratings

Browse moderate
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/04**

Keyes to 04 due to lack of twinberry etc., but it has greater canopy coverage than 04 should have

Management prescription

Best left as is, falling some of the large fir will open the canopy and encourage browse growth, but there is browse close-by in the wetter areas.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Picea alauca x enqelmannii</i>	Hybrid white spruce	1
<i>Pseudotsuga menziesii var. glauca</i>	Interior douglas-fir	15
SHRUBS		
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Shepherdia canadensis</i>	Soopollalie	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	1
<i>Aster conspicuus</i>	Showy aster	6
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus ochroleucus</i>	Creamy peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Smilacina racemosa</i>	False solomon's seal	<1
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrve	1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	15
<i>Polytrichum juniperinum</i>	Juniper moss	<1
<i>Ptilium crista-castrensis</i>	Knight's plume moss	2

Fuel Loading

fuel depth <20 cm
fuel size >45%
horizontal arrangement <20%
vertical arrangement on ground
vegetation low
fuel continuity spotty

CWD transect

	diameter	length
	20 cm	2 m
	20 cm	14 m
	14 cm	13 m
	10 cm	3 m
	14 cm	2 m
	14 cm	3 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 64

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope @ 42% on a S aspect with even terrain on a sub-mesic site. There is a high percent of coarse fragments and boulders. Stand vol= 350m³/ha; Regen vol 2000 sph: SX8Fd1B11

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	27.2	24.9	8												2		
2	Fd	32.6	42.3	1												2		
3	Fd	10.3	10.7	8												3		
4	Fd	42	100.1	7												1		>50% sound
5	Fd	8.5	11.5	8								2				3		
6	Fd	25.5	17	8												2		
7	Fd	35	98	7												1		>50% sound

Ruby Rock Provincial Park Vegetation Monitoring



Plot 65

Plot description

UTM 10 357064 E 6052422 N Date assessed 9/16/2010

Canopy closure: 50% Slope: 30 %

Mixed composition stand made up of Douglas fir, Lodgepole pine and White spruce with some large fir around the plot. Canopy is patchy and ground has high moss coverage even though the site is quite dry. The fir and balsam regen provides security cover, but the canopy is not dense enough to provide thermal protection. There is some small willow adjacent to plot for browse as well as maple and rose. There is a large boulder in the SE portion of the plot. The large dead fir will provide excellent wildlife trees for avian species and smaller mammals.

Ratings

Browse moderate
Security good
Thermal cover poor

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/04**

Keyes to 04, there is no thimbleberry, twinberry or queens cup.

Management prescription

No management required leave open patches to grow browse and allow FD regen to grow to provide better cover.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	7
<i>Pseudotsuga menziesii var. glauca</i>	Interior douglas-fir	2
SHRUBS		
<i>Rosa acicularis</i>	Prickly rose	5
<i>Shepherdia canadensis</i>	Soopolallie	2
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	3
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	1
FORBS		
<i>Aster conspicuus</i>	Showy aster	4
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus nevadensis</i>	Purple peavine	2
<i>Orthilia secunda</i>	One-sided wintergreen	1
GRAMINOIDS		
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSESSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	3
<i>Hylocomium splendens</i>	Step moss	5
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	75

Fuel Loading

fuel depth <20 cm
fuel size >45%
horizontal arrangement <20%
vertical arrangement on ground
vegetation none
fuel continuity spotty

CWD transect

	diameter	length
	10 cm	8 m
	14 cm	13 m
	10 cm	18 m
	14 cm	8.5 m
	15 cm	7 m
	45 cm	2.5 m
	25 cm	10.5 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 65

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope @ 30% on a S aspect. Terrain is gullied and broken with exposed rock and boulders. Fd is decadent and some show signs of fire scarring. Regen vol=1200sph:Fd7PI2Sx1

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirital grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	11.5	11.9	8														
2	Fd	30.5	48.6	7														
3	Pl	22.3	30.3	1														>50% sound
4	Sx	18.9	20.1	1													95	
5	Fd	6.7	11.3	8													100	
6	Pl	18.2	21.4	1														
7	Fd	35.4	89.5	7														
8	Fd	20	72.6	7														>50% sound
9	Pl	8.5	9.9	9														>50% sound, broken at mid-third

Ruby Rock Provincial Park Vegetation Monitoring



Plot 66

Plot description

UTM 10 357566 E 6052423 N Date assessed 9/17/2010

Canopy closure: 40% Slope: 0%

Mixed composition stand made up of White spruce, Douglas fir and Paper birch with moss cover approaching 90%. Shaded gully between two rocky slopes with a large amount of CWD in the SW quadrant. The rough terrain offers security cover, not much thermal cover, but close access to sunny S facing slopes. Browse availability is poor although the birch is being browsed.

Ratings

Browse poor
Security poor
Thermal cover poor

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/01**

Keys to dw3/04, but it is definitely wetter than that; micro site that is shaded on a N slope. Since twinberry is present, will classify as dw3/01

Management prescription

Leave as is the small micro site is not representative of the whole area.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	<1
<i>Betula papyrifera</i>	Paper birch	1
<i>Picea alauca x enaelmannii</i>	Hybrid white spruce	<1
<i>Populus tremuloides</i>	Trembling aspen	<1
<i>Pseudotsuqa menziesii var. glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Lonicera involucreta</i>	Black twinberry	2
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1
<i>Vaccinium membranaceum</i>	Black huckleberry	1
<i>Viburnum edule</i>	Highbush cranberry	2
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	1
<i>Cornus canadensis</i>	Bunchberry	2
<i>Disporum trachycarpum</i>	Rough-fruited fairybells	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus nevadensis</i>	Purple peavine	<1
<i>Lathyrus ochroleucus</i>	Creamy peavine	5
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Thalictrum occidentale</i>	Western meadowrue	1
MOSSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	2
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	60
<i>Ptilium crista-castrensis</i>	Knight's plume moss	10

Fuel Loading

fuel depth 20 - 40 cm
fuel size >45%
horizontal arrangement <20%
vertical arrangement partially elevated
vegetation low
fuel continuity low

CWD transect

diameter	length
20 cm	6 m
12 cm	11 m
14 cm	10 m
16 cm	9 m
14 cm	12 m
22 cm	21 m
21 cm	18 m
11 cm	12 m
18 cm	16 m
18 cm	m
12 cm	3.5 m
14 cm	5 m
13 cm	8 m
20 cm	19 m
22 cm	18 m
24 cm	14 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 66

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope of 33% on a variable aspect, plot is in ravine. High coarse/boulder fragments and exposed rock has trees shallowly rooted <30cm. Regen vol 1000sph: B17Sx2Fd1. Approximately 25% blowdown

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	11.3	10	8												3		
2	Sx	26	25.5	3									7			2		IBS-grey->50% sound
3	Ep	9.5	15.2	3												3		>50% sound
4	Fd	26.2	36.5	2			2				1					2		
5	Fd	29.5	24.3	1							1					2		
6	Pl	32.3	28.5	2									1			1		MPB-green
7	Sx	24.2	25.1	2					3							2		
8	Fd	28	27	4												2		<50% sound; dead useless
9	Fd	33.5	41	1							0					1		

Ruby Rock Provincial Park Vegetation Monitoring



Plot 67

Plot description

UTM 10 358066 E 6052419 N Date assessed 9/17/2010

Canopy closure: 40% Slope: 20%

Mixed forest stand made up of Douglas fir, White spruce, Lodgepole pine and Paper birch. Openings under the canopy dominated by thimbleberry and douglas maple. Canopy is too open to provide thermal cover, but dense understory provides security cover and browse. Stands of aspen adjacent to plot and also alder thickets. Plot located on edge of a stream draw with running water.

Ratings

Browse excellent
Security good
Thermal cover poor

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/01**

Lots of thimbleberry and Fir is near dominant so keys to dw3/01

Management prescription

Would not recommend alteration as it has good wildlife habitat features.

5.64m Vegetation plot

Species		Cover (%)
SHRUBS		
<i>Acer alabrum</i>	Douglas Maple	25
<i>Rosa acicularis</i>	Prickly rose	1
<i>Rubus parviflorus</i>	Thimbleberry	50
<i>Shepherdia canadensis</i>	Soopolallie	5
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	3
<i>Viburnum edule</i>	Highbush cranberry	4
FORBS		
<i>Aster conspicuus</i>	Showy aster	10
<i>Cornus canadensis</i>	Bunchberry	15
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Galium triflorum</i>	Sweet-scented bedstraw	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus ochroleucus</i>	Creamy peavine	2
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Pvrola asarifolia</i>	Pink wintergreen	<1
<i>Smilacina racemosa</i>	False solomon's seal	2
<i>Thalictrum occidentale</i>	Western meadowrue	1
GRAMINOIDS		
<i>Bromus ciliatus</i>	Fringed brome	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	2
FERNS and ALLIES		
<i>Equisetum arvense</i>	Common horsetail	<1

Fuel Loading

fuel depth <20 cm
fuel size >45%
horizontal arrangement 20 - 50%
vertical arrangement partially elevated
vegetation high
fuel continuity moderate/high

CWD transect

	diameter	length
	18 cm	6.5 m
	16 cm	6.5 m
	14 cm	1.5 m
	38 cm	18 m
	21 cm	20.5 m
	20 cm	15 m
	15 cm	7 m
	33 cm	16.5 m
	37 cm	25 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 67

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope of 42% on a SE aspect; gullied terrain in a mesic-sub-hydric site.
 Regen vol= 500sph: B16Sx3Fd1

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Ep	26.9	30.2	2	1											2		
2	Ep	4	23.5	4												2		Dead useless>50% rot
3	Ep	27.6	31.5	1												2		
4	Fd	30.6	48.5	2			1									1		
5	Fd	21	52.2	5					2		0					1		
6	Fd	41.4	85.9	5												1		
7	Fd	36	51.1	5												1		
8	Fd	37.5	55.3	5												1		

Ruby Rock Provincial Park Vegetation Monitoring



Plot 68

Plot description

UTM 10 358567 E 6052422 N Date assessed 9/17/2010

Canopy closure: 20% Slope: 15 %

Mixed stand made up of Lodgepole pine, White spruce and Sub-alpine fir; the dominant species pine is largely dead resulting in a very open canopy and dense shrub layer. Abundant browse present (willow browsed) and game trail through plot, security cover abundant but thermal cover is poor. Area is nearly flat, plot is located on the top of a low ridge.

Ratings

Browse excellent
Security good
Thermal cover poor

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/04**

Keyes to dw3/04; twinberry present but not abundant, thimbleberry and queens cup are lacking. Saskatoon and soopolallie are present.

Management prescription

Pine are going to fall, therefore leave as is and Spruce and Balsam will mature modifying the stand composition. If pine are desired a burn may be necessary for them to regenerate them as the major species.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	4
<i>Picea alauca x enqelmannii</i>	Hybrid white spruce	9
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	6
<i>Amelanchier alnifolia</i>	Saskatoon	3
<i>Lonicera involucrata</i>	Black twinberry	2
<i>Rosa acicularis</i>	Prickly rose	3
<i>Salix sp.</i>	Willow sp.	1
<i>Shepherdia canadensis</i>	Soopolallie	4
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	3
<i>Viburnum edule</i>	Highbush cranberry	5
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
<i>Rubus spp</i>	Rubus spp.	<1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	5
<i>Aster conspicuus</i>	Showy aster	15
<i>Cornus canadensis</i>	Bunchberry	5
<i>Epilobium anqustifolium</i>	Fireweed	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Smilacina racemosa</i>	False solomon's seal	6
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrve	2
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	2

Fuel Loading

fuel depth <20 cm
fuel size >45%
horizontal arrangement <20%
vertical arrangement on ground
vegetation high
fuel continuity low

CWD transect

diameter	length
13 cm	4 m
11 cm	4 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 68

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope at 8% on a N aspect; rolling terrain through a mesic site. Stand vol=375m³/ha : Regen vol= 800sph SX9BI1

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spiral grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	PI	25.2	30	3									3			2		MPB-grey
2	PI	24.5	23.5	2		1	3									2		
3	PI	25	27.5	3									3			2		MPB-grey
4	PI	24	24.4	3									3			2		MPB-grey
5	Fd	36.4	48.1	1												1		
6	PI	24.5	30.2	3									3			2		MPB-grey
7	PI	25.5	41	3									3			2		MPB-grey

Ruby Rock Provincial Park Vegetation Monitoring



Plot 69

Plot description

UTM 10 354065 E 6051918 N Date assessed 9/13/2010

Canopy closure: 50% Slope: 6%

Excellent browse for elk (elk rub 100m downstream), willow for moose. Fair thermal cover under brushy White spruce, there is some dense undergrowth patches and/or open for visual escape 50-100m. Good cavity tree snags for wildlife trees along creek.

Ratings

Browse excellent
Security good
Thermal cover moderate

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdk/07**

Plot right on a creek. Fir is more prevalent on ridge tops. Very wet next to creek. Spruce/cottonwood canopy indicates SBSdk1/07. Prevalence of devils club points toward SBSmk1/08.

Management prescription

Leave habitat as is, it is old riparian stand along creek draw and it has excellent wildlife potential.

5.64m Vegetation plot

Species		Cover (%)
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	65
<i>Cornus stolonifera</i>	Red-osier dogwood	1
<i>Lonicera involucrata</i>	Black twinberry	3
<i>Oplopanax horridus</i>	Devil's club	80
<i>Ribes lacustre</i>	Black gooseberry	1
<i>Rubus parviflorus</i>	Thimbleberry	<1
<i>Sorbus scopulina</i>	Western mountain-ash	1
DWARF SHRUBS		
<i>Rubus pubescens</i>	Trailing raspberry	<1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
GRAMINOIDS		
<i>Elymus glaucus</i>	Blue wildrye	<1
FERNS and ALLIES		
<i>Drvopteris expansa</i>	Spiny wood fern	10
<i>Equisetum arvense</i>	Common horsetail	<1

Fuel Loading

fuel depth <20 cm
fuel size 15 - 30%
horizontal arrangement <20%
vertical arrangement partially elevated
vegetation high
fuel continuity spotty

CWD transect

diameter	length
36 cm	18 m
10 cm	7 m
30 cm	15 m
14 cm	4 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 69

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Act	20.2	67.4	4														Cottonwood
2	Sx	32.9	53	1														
3	Act	24.1	47	2		1	3											Cottonwood
4	Act	29.1	42.1	3														Cottonwood
5	Sx	30.2	49.7	1														
6	Sx	18.3	26	2			3											
7	Sitka	5.5	12.5	1														Sitka Alder

Ruby Rock Provincial Park Vegetation Monitoring



Plot 70

Plot description

UTM 10 354567 E 6051919 N Date assessed 9/13/2010
 Canopy closure: 75% Slope: 6%

Pine stand that is 70-80% dead. Abundant 5-10-15cm blowdown and small fine branches on ground on top of a small knob. No browse, no thermal cover at plot but some further downslope. There are a few old snags from fire but they are pretty decadent. Overall habitat rating is low.

Ratings

Browse none
 Security poor
 Thermal cover none

BEC comments

BEC as mapped: **SBSdw3/04/01**

BEC as assessed: **SBSdw3/04**

A lot of PI, but no kinnickinnick, and a few Fd. No thimbleberry or queens cup (but saskatoon is present) so keys to dw3/04.

Management prescription

Possible thinning of pine to leave live trees. A fire would burn everything off with all the soil. It is a young stand (60-90 yrs old) with Pine and Douglas Fir vets. The Pine that the beetle have hit have a dbh 15-20cm, and are approximately 18m tall.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Pseudotsuqa menziesii</i> var. <i>glauca</i>	Interior douglas-fir	<1
SHRUBS		
<i>Amelanchier alnifolia</i>	Saskatoon	<1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	3
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
FORBS		
<i>Cornus canadensis</i>	Bunchberry	<1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	35
<i>Ptilium crista-castrensis</i>	Knight's plume moss	35

Fuel Loading

fuel depth 40 - 60 cm
 fuel size 31 - 45%
 horizontal arrangement 20 - 50%
 vertical arrangement on ground
 vegetation low
 fuel continuity low

CWD transect

diameter	length
8 cm	4 m
9 cm	5 m
10 cm	9 m
7 cm	4 m
10 cm	3 m
11 cm	15 m
14 cm	5 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 70

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	8.3	53.4	4														
2	Pl	18.4	20.9	3														
3	Pl	18.1	14.3	3														
4	Pl	17.9	16.2	3														
5	Pl	12.5	9.1	1														
6	Pl	17.8	15.3	3														
7	Fd	18.2	18.6	1														
8	Pl	18.1	16.9	1														
9	Fd	18	15.3	1														
10	Pl	17.8	18.9	3														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 71

Plot description

UTM 10 355067 E 6051918 N Date assessed 9/15/2010

Canopy closure: 60% Slope: 10 %

Douglas fir dominated stand with abundant Sub-alpine fir(balsam) regen and some scattered paper birch with patchy areas of moss coverage. Plot located on top of last sloping ridge with slopes down to the north and south of the plot. Minimal browse with the balsam regen, dense canopy provides thermal cover and the thickly stocked stand provides moderate security cover. Moose pellets were noted in the plot. CWD is patchy; there is more in some areas than others.

Ratings

Browse moderate
Security moderate
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/04**

BEC as assessed: **SBSdw3/01**

Keys to dw3/01 or dw3/04; maybe better to 01 as there is twinberry and showy aster present in the plot.

Management prescription

Stand could be partially thinned to encourage growth of browse and create the multi-layered canopy. The stand is too dense for fire as an management option as the whole stand would burn up.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	1
<i>Betula papyrifera</i>	Paper birch	<1
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	<1
SHRUBS		
<i>Lonicera involucrata</i>	Black twinberry	<1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Shepherdia canadensis</i>	Soopolallie	<1
<i>Sorbus scopulina</i>	Western mountain-ash	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	2
<i>Vaccinium membranaceum</i>	Black huckleberry	1
<i>Viburnum edule</i>	Highbush cranberry	<1
FORBS		
<i>Aster conspicuus</i>	Showy aster	1
<i>Cornus canadensis</i>	Bunchberry	<1
<i>Geocaulon lividum</i>	Bastard toad-flax	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Smilacina racemosa</i>	False solomon's seal	<1
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrve	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSESSES and LICHENS		
<i>Dicranum scoparium</i>	Broom moss	2
<i>Hylocomium splendens</i>	Step moss	3
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	10
<i>Ptilium crista-castrensis</i>	Knight's plume moss	2

Fuel Loading

fuel depth 20 - 40 cm
fuel size 31 - 45%
horizontal arrangement <20%
vertical arrangement partially elevated
vegetation low
fuel continuity spotty

CWD transect

diameter	length
10 cm	16 m
11 cm	17 m
10 cm	m
11 cm	14 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 71

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope 13% on variable aspect ridge; rolling terrain in a well drained sub-mesic site with 15-20% blowdown. Regen vol= 2000sph: BI8Sx1Fd1

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	SX	21.2	17.3	1												2	99	
2	Fd	30.5	41.5	2			1				1					1		
4	Fd	12.5	10.1	8												4	125	
5	Fd	23.1	22.6	1												2		
6	Fd	28.8	25.5	1												2		
7	Fd	31.3	22.8	1							0					1		
8	Fd	24	43	1												2		

Ruby Rock Provincial Park Vegetation Monitoring



Plot 72

Plot description

UTM 10 355568 E 6051919 N Date assessed 9/15/2010

Canopy closure: 40% Slope: 1%

Mixed composition stand with White spruce, Douglas fir, Lodgepole pine, Paper birch and Black cottonwood. There is abundant low shrub layer with a balsam regenerating (regen) layer which provides good security cover; thick shrub layer provide good ungulate browse and the thermal cover is poor to moderate as canopy is a bit open, but there is some areas that have dense balsam regen. The moss coverage on the ground is patchy running around 25%. Some of the pine trees have succumbed to beetle attack.

Ratings

Browse good
Security good
Thermal cover moderate

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/01**

Keys to dw3/01, due to thimbleberry presence.

Management prescription

Leave as is as a burn would burn the fuel load, but the dead pine and other ladder fuels would cause the whole stand to burn.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	5
<i>Betula papyrifera</i>	Paper birch	<1
<i>Picea glauca x enaelmanni</i>	Hybrid white spruce	7
SHRUBS		
<i>Cornus stolonifera</i>	Red-osier dogwood	3
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	<1
<i>Rubus parviflorus</i>	Thimbleberry	3
<i>Shepherdia canadensis</i>	Soopolallie	<1
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	12
<i>Viburnum edule</i>	Highbush cranberry	2
DWARF SHRUBS		
<i>Chimaphila umbellata</i>	Prince's pine	<1
<i>Linnaea borealis</i>	Twinflower	3
FORBS		
<i>Actaea rubra</i>	Baneberry	<1
<i>Aster ciliolatus</i>	Fringed aster	2
<i>Aster conspicuus</i>	Showy aster	4
<i>Cornus canadensis</i>	Bunchberry	1
<i>Disporum trachycarpum</i>	Rough-fruited fairvbells	<1
<i>Galium triflorum</i>	Sweet-scented bedstraw	<1
<i>Goodvera oblongaifolia</i>	Rattlesnake-plantain	<1
<i>Orthilia secunda</i>	One-sided wintergreen	1
<i>Osmorhiza berteroi</i>	Mountain sweet-cicely	<1
<i>Petasites palmatus</i>	Palmate coltsfoot	2
<i>Smilacina racemosa</i>	False solomon's seal	1
<i>Vicia americana</i>	American vetch	<1
GRAMINOIDS		
<i>Elymus glaucus</i>	Blue wildrye	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1
MOSSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	10

Fuel Loading

fuel depth	40 - 60 cm
fuel size	31 - 45%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	low
fuel continuity	low

CWD transect

diameter	length
10 cm	11 m
14 cm	18 m
13 cm	16 m
17 cm	16 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 72

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope at 1% on a SW aspect; level terrain in a mesic site with approximately 15% blowdown. MPB at 90%=G1R7Grey2. Stand vol=400s/ha: SX4PI2Fd1Ac1At1Ep1; Regen vol=3500sph: Sx8BI2

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirital grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	29.8	36.4	1							0					2	93	
2	Sx	20.5	27.7	2		1										2		
3	Sx	31.5	28	1												1		
4	Sx	26.8	23.8	2					3							2	96	
5	Pl	33.1	37	2									2			1		>5% red needles
6	Sx	31	22.5	1												1		
7	Sx	9.5	17.1	8					2							3		>50% sound, mid third broken
8	Sx	12.5	18.7	8					3							3	71	
9	Sx	29.5	37.5	3					1							2		> 50% sound

Ruby Rock Provincial Park Vegetation Monitoring



Plot 73

Plot description

UTM 10 356064 E 6051917 N Date assessed 9/16/2010

Canopy closure: 55% Slope: 43 %

South facing slope with open patch, some Trembling aspen, Douglas fir leading with Lodgepole pine and White spruce as minor species. All the pine are dead. Nice stand, starting to separate. Fair browse, good security escape cover, poor thermal cover. Aspen providing snag trees and Pine will provide more. Moose rub/browse on aspen trees, deer and black bear tracks at creek crossing ~150m from site.

Ratings

Browse moderate
Security good
Thermal cover poor

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/04**

Has ricegrass, sarsaparilla, one-sided winergreen, and soopolallie for dw3/04. Has thimbleberry and showy aster for dw3/01. Lacks queens cup and twinberry. Keys to dw3/01, but is a better overall match to dw3/04

Management prescription

Leave as is. Nice stand. May want to selectively harvest beetle wood or fall and burn patches to accelerate natural opening occurrence

5.64m Vegetation plot

Species		Cover (%)	Fuel Loading	
TREES (regen)			fuel depth	<20 cm
<i>Abies lasiocarpa</i>	Subalpine fir	<1	fuel size	<15%
<i>Picea glauca x engelmannii</i>	Hybrid white spruce	<1	horizontal arrangement	<20%
<i>Pseudotsuga menziesii var. glauca</i>	Interior douglas-fir	<1	vertical arrangement	partially elevated
SHRUBS			vegetation	moderate
<i>Rosa acicularis</i>	Prickly rose	4	fuel continuity	spotty
<i>Rubus parviflorus</i>	Thimbleberry	2		
<i>Shepherdia canadensis</i>	Soopolallie	12		
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	1		
<i>Viburnum edule</i>	Highbush cranberry	<1		
DWARF SHRUBS			CWD transect	
<i>Linnaea borealis</i>	Twinflower	<1	<u>diameter</u>	<u>length</u>
FORBS			10 cm	5 m
<i>Aralia nudicaulis</i>	Wild sarsaparilla	<1	8 cm	4 m
<i>Aster conspicuus</i>	Showy aster	2	15 cm	10 m
<i>Cornus canadensis</i>	Bunchberry	2	28 cm	15 m
<i>Epilobium angustifolium</i>	Fireweed	<1	10 cm	3 m
<i>Galium boreale</i>	Northern bedstraw	<1	10 cm	18 m
<i>Lathyrus ochroleucus</i>	Creamy peavine	1	15 cm	8 m
<i>Orthilia secunda</i>	One-sided wintergreen	<1		
<i>Smilacina racemosa</i>	False solomon's seal	<1		
<i>Thalictrum occidentale</i>	Western meadowrue	<1		
GRAMINOIDS				
<i>Elymus glaucus</i>	Blue wildrye	<1		
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	<1		
MOSSES and LICHENS				
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	55		
<i>Ptilium crista-castrensis</i>	Knight's plume moss	35		

Ruby Rock Provincial Park Vegetation Monitoring



Plot 73

Cruise plot

Plot BAF: 7 DBH limit: 7.5cm Comments:

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirial grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	33	49	1														
2	Fd	35.1	66.5	1														
3	Pl	27.9	40.2	3														
4	Fd	31.6	45.7	1														
5	Fd	34.8	49.1	1														
6	At	10.4	22	4														

Ruby Rock Provincial Park Vegetation Monitoring



Plot 74

Plot description

UTM 10 357067 E 6051919 N Date assessed 9/16/2010

Canopy closure: 45% Slope: 22 %

Mixed composition stand made up of Douglas fir, White spruce and Lodgepole pine at a dry site on the edge of a draw; north facing slope or it would be even dryer. There is abundant ungulate browse (balsam, dogwood) available in adjacent wet draw; security cover as well as thermal cover is available under the thick understory. Moose pellets as well as grouse scat was observed in the plot. There are some beetle killed pine adjacent to the plot. The balsam regen has been browsed by moose.

Ratings

Browse excellent
Security good
Thermal cover good

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/04**

Keys to dw3/04. There was no Bearberry or it could be dw3/02.

Management prescription

Leave as is as the fir is not large enough to withstand a fire and there is not enough fuel to carry a burn.

5.64m Vegetation plot

Species		Cover (%)
TREES (regen)		
<i>Abies lasiocarpa</i>	Subalpine fir	10
<i>Pinus contorta</i>	Lodgepole pine	2
SHRUBS		
<i>Alnus crispa ssp. sinuata</i>	Sitka alder	<1
<i>Amelanchier alnifolia</i>	Saskatoon	2
<i>Clematis occidentalis ssp. grosseserrata</i>	Blue clematis	1
<i>Juniperus communis</i>	Common juniper	<1
<i>Ribes lacustre</i>	Black gooseberry	<1
<i>Rosa acicularis</i>	Prickly rose	2
<i>Shepherdia canadensis</i>	Soopolallie	5
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	2
<i>Vaccinium membranaceum</i>	Black huckleberry	1
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	<1
<i>Vaccinium caespitosum</i>	Dwarf blueberry	<1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	1
<i>Aster conspicuus</i>	Showy aster	5
<i>Cornus canadensis</i>	Bunchberry	2
<i>Fragaria virginiana</i>	Wild strawberry	<1
<i>Goodyera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus nevadensis</i>	Purple peavine	<1
<i>Lathyrus ochroleucus</i>	Creamy peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
GRAMINOIDS		
<i>Festuca occidentalis</i>	Western fescue	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	20
<i>Ptilium crista-castrensis</i>	Knight's plume moss	3

Fuel Loading

fuel depth	<20 cm
fuel size	>45%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	low
fuel continuity	spotty

CWD transect

diameter	length
25 cm	5 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 74

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope of 27% on a variable aspect slope that has rolling to gullied terrain that is well-drained and sub-mesic. The site has a high concentration of coarse fragments. Stand vol= 375m³/ha; Regen vol= 1500sph: BI7Sx2P11

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirital grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Fd	22.5	52.2	3												2		>50% sound, broken top not counted in path due to cl
2	Sx	28.4	46	1												2	113	
3	Sx	28.6	40.9	1												2		
4	Fd	28	31	2		1										2		
5	Fd	27.5	29.6	1												2		
6	Fd	14.5	19.8	8												3		
7	Fd	29	41.2	1												2		
8	Sx	20.7	24.4	1												2		
9	Fd	28.6	42.3	1												2	111	

Ruby Rock Provincial Park Vegetation Monitoring



Plot 75

Plot description

UTM 10 357567 E 6051918 N Date assessed 9/16/2010

Canopy closure: 40% Slope: 80 %

Mixed composition stand made up of White spruce and Douglas fir (aspen nearby) with plot location on the edge of a draw running E to W. There is a dense Douglas maple, dogwood understory which provides excellent browse and security cover, but the canopy is too open to provide thermal cover. There are open patches nearby with a thick cover of thimbleberry and there is also patches of willow nearby. Overall low moss cover present.

Ratings

Browse excellent
Security good
Thermal cover poor

BEC comments

BEC as mapped: **SBSdw3/01**

BEC as assessed: **SBSdw3/01**

Keys to 01 due to thimbleberry, though its not abundant, so it could easily be dw3/04 as well.

Management prescription

Leave as is location provides excellent ungulate habitat.

5.64m Vegetation plot

Species		Cover (%)
SHRUBS		
<i>Acer glabrum</i>	Douglas Maple	16
<i>Amelanchier alnifolia</i>	Saskatoon	<1
<i>Cornus stolonifera</i>	Red-osier dogwood	10
<i>Rosa acicularis</i>	Prickly rose	1
<i>Rubus parviflorus</i>	Thimbleberry	<1
<i>Shepherdia canadensis</i>	Soopolallie	8
<i>Spiraea betulifolia</i>	Birch-leaved spiraea	<1
<i>Viburnum edule</i>	Highbush cranberry	2
DWARF SHRUBS		
<i>Linnaea borealis</i>	Twinflower	1
FORBS		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	11
<i>Aster conspicuus</i>	Showy aster	<1
<i>Cornus canadensis</i>	Bunchberry	2
<i>Disporum trachycarpum</i>	Rough-fruited fairybells	<1
<i>Fragaria vesca</i>	Woodland strawberry	<1
<i>Galium boreale</i>	Northern bedstraw	<1
<i>Goodvera oblongifolia</i>	Rattlesnake-plantain	<1
<i>Lathyrus ochroleucus</i>	Creamy peavine	<1
<i>Orthilia secunda</i>	One-sided wintergreen	<1
<i>Smilacina racemosa</i>	False solomon's seal	3
GRAMINOIDS		
<i>Elymus alaucus</i>	Blue wildrve	<1
<i>Oryzopsis asperifolia</i>	Rough-leaved Ricegrass	1
MOSESSES and LICHENS		
<i>Pleurozium schreberi</i>	Red-stemmed feathermoss	15

Fuel Loading

fuel depth	<20 cm
fuel size	31 - 45%
horizontal arrangement	<20%
vertical arrangement	partially elevated
vegetation	moderate
fuel continuity	moderate

CWD transect

diameter	length
14 cm	8 m
14 cm	5.5 m
16 cm	3 m
21 cm	15 m
15 cm	5 m
15 cm	m
20 cm	m
20 cm	7 m
14 cm	m
15 cm	6 m
15 cm	m
18 cm	5 m
16 cm	5.5 m
55 cm	13 m
21 cm	8 m
22 cm	13 m
18 cm	9 m
15 cm	5 m

Ruby Rock Provincial Park Vegetation Monitoring



Plot 75

Cruise plot

Plot BAF: 7 **DBH limit:** 7.5cm **Comments:** Average slope 35% on a variable aspect; 60-65% in gullied areas. Plot is located on a ridge and it is mesic to sub-mesic depending on aspect and it has approximately 10% blowdown. Stand vol=375m³/ha; Regen vol=500 sph: Sx10.

tree #	species	total height (m)	dbh (cm)	tree class	conk	scar	fork or crook	frost crack	d or b top	spirital grain	sweep	lean	insect/disease	fire	down tree	cc	counted age	comments
1	Sx	14.1	17.5	8												3		
2	Fd	38	39.1	1							0					1		
3	Sx	39	41	3									7			1		IBS Grey (Sx beetle)
4	Sx	41.1	44.9	1												1		
5	Sx	18.5	23.8	8		1										3		
6	Sx	35.2	34	3									7			1		IBS grey
7	Sx	34.5	34.3	2					3							1		
8	Fd	35	40.6	1								0				1		

Appendix D – Digital attachments

The following data files are attached to this report; contents are described below.

- Ruby Rock PP - Cruise plot info.xlsx
 - Comments and information relative to each cruise plot.
- Ruby Rock PP - Cruise tree tallies.xlsx
 - Trees assessed within each cruise plot and comments specific to each tree.
- Ruby Rock PP - CWD transects.xlsx
 - CWD transects for each plot.
- Ruby Rock PP - Fuel loading assessment.xlsx
 - Fuel loading assessments for each plot.
- Ruby Rock PP - Plot info - BEC Canopy UTM and comments.xlsx
 - Date assessed, plot descriptions, canopy coverage, field GPS readings, BEC classification and comments, and management prescriptions for each plot.
- Ruby Rock PP - Vegetation plots.xlsx
 - Vegetation species occurring within each plot.
- Ruby_Rock_Vegetation_Inventory.accdb
 - Relational MS Access database, containing all the above data.
 - Also includes queries and reports used to summarize and organize data.