



Taseko Prosperity Gold-Copper Project

Appendix 5-5-G

Appendix G

Results of a Rare Plant Survey of the Prosperity Mine Site and Transmission Corridor



February 2007

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1 Introduction

This appendix describes the results of a 2006 rare plant survey in the proposed mine site and transmission corridor for the Prosperity Copper-Gold Project. The mine site is located approximately 125 km southwest of Williams Lake, on the eastern flanks of the Coast Mountains near Taseko Lake in the Chilcotin Forest District of the Cariboo Forest Region. The mine site is confined by basalt bluffs and is bowl-shaped with a small lake, Fish Lake, near its center. The transmission corridor runs east from the mine site and terminates on the east side of the Fraser River near Dog Creek (south of Williams Lake). This is the second rare plant survey for the mine site as Madrone Consultants Ltd. (1999) completed a similar survey in 1997.

Forests dominate much of the landscape at mine site. Tree species are mainly lodgepole pine and Douglas-fir, as well as white spruce in wetter areas and higher elevations. Wetland complexes are common and scattered drier vegetation types are common on hilltops and slopes. Wetlands are often found adjacent to various watercourses and ponds, and along the margins of Fish Lake. There are two main wetland types: sedge-dominated marshes and fens, and shrub-dominated fens, with the main shrubs being Barclay's and grey-leaved willow and low birch. Scattered grass- and forb-dominated communities are present on south or west-facing slopes associated with small hills, eskers, and steep creek channels, and also characterize higher elevation dry ridges. Two biogeoclimatic zones are represented in the minesite area - the Montane Spruce (MSxv) and the Sub-Boreal Pine-Spruce (SBPSxc).

The vegetation along the narrow transmission corridor is more varied than at the mine site, ranging from open shrub-steppe and grasslands, to open or dense dry forests dominated mainly by lodgepole pine and Douglas-fir (large numbers of pines have been killed by the pine beetle in recent years). A variety of wetlands, ranging from marsh to alkaline sloughs, are also present along this corridor. The transmission corridor passes through eight biogeoclimatic subzones, Sub-Boreal Pine Spruce (SBPSxc & SBPSmk), Montane Spruce (MSxv), Engelmann Spruce-Subalpine Fir (ESSFxv), Interior Douglas-Fir (IDFdk3 & IDFdk4), and the Bunchgrass (BGxh3 & BGxw2).

2 Methods

2.1 Preliminary Documentation

The rareness of plants in British Columbia has been determined at two levels: at the national level through the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and the Species at Risk Act (SARA), and at the provincial

level through the British Columbia Conservation Data Center (CDC). Plant species are ranked nationally by COSEWIC as endangered (E), threatened (T), or special concern (SC), and are submitted to SARA for legal designation. The CDC ranks species at the provincial level and places them on one of three lists: the Red List (plants that are extirpated, endangered, or threatened in British Columbia), the Blue List (plants of special concern in British Columbia), or the Yellow List (species that are not at risk in BC).

Prior to fieldwork, working lists of rare vascular plants (Appendix A-1) and bryophytes (mosses; Appendix A-1) that could potentially occur in the mine site or along the transmission corridor were compiled. No vascular plant species listed by SARA were considered potentially present in the study area¹, so Appendix A-1 was derived from the CDC database (CDC 2006) and from Douglas et al. (2002). The bryophyte list was compiled through accessing the CDC and SARA databases as well as through consultation with Dr. T. McIntosh (the rare plant specialist who was retained to lead rare plant surveys in the project area). Rare plant lists were supplemented with descriptions and illustrations or photographs acquired from E-Flora BC (Klinkenberg et. al. 2006), the Rare Native Vascular Plants of British Columbia (Douglas et al. 2002), and various internet sources. A rare plant booklet that included descriptions and illustrations of the potential rare plants, as well as habitat data, was prepared and made available to all field crews, not only the crew working on rare plant surveys.

Available rare element reports were reviewed including a paper discussing the problems with rare plant surveys and assessments (Bush and Lancaster 2004), and two reports on rare plant surveys written for similar projects (Haeussler 2004 and Bartemucci 2004). The rare plant portion of the Madrone (1999) report was also reviewed (McIntosh 2006).

Prior to fieldwork, in order to refine our searches at the mine site, large scale aerial photos, topographic maps, and CDC rare plant habitat data were reviewed in order to identify habitats that had the highest potential to support rare species. The main target areas that were identified included complex wetlands, riparian zones, and open, drier habitats such as grasslands and rock outcrops or ridge crests. Sites for investigation of rare plants along the transmission corridor were all chosen during the field session through examination of aerial photos and while undertaking field reconnaissance.

2.2 Field Surveys

2.2.1 Timing and Site Selection

Spring and summer rare plant field surveys were completed at the mine site from June 20 to 23 and from August 1 and 3, 2006. Surveys were completed along the

¹ A list of nationally listed rare vascular plants and bryophytes is available at: www.sararegistry.gc.ca/species/default_e.cfm.

transmission corridor between July 28 and 31 (Table 1 lists dates and locations of the 2006 rare plant plots). Having two sessions at the mine site allowed for the inventory of late fruiting vascular plants, in particular sedges, as well as plants that were submerged earlier in the year. The June portion of the field work was completed with the aid of a helicopter. The August portion of the field work, due to the lack of availability of helicopters during a severe fire season, was completed mostly by truck and ATVs.

We surveyed not only pre-determined sites but also finer-scale landscape features and small patch vegetation communities chosen in the field sessions during reconnaissance. Locations for detailed rare plant plots were selected subjectively in the field and their locations logged with a GPS unit. At each rare plant plot, surveyors used a meandering walking pattern to locate microhabitats with higher rare plant potential within the site. Microhabitats such as raised hummocks or moist depressions in wetlands, or outcrop areas in drier areas, were inspected more closely than the more widespread habitats. Vegetation and site characteristics were recorded for the representative ecosystem whether it was a confined, linear riparian zone or a large, open wetland. An exhaustive species list was made at most sites. However, where rare plant potential was deemed to be relatively low or during follow-up surveys in August, a more limited species list was prepared. If a suspected rare plant was found, population size, phenology, and ecosystem attributes were recorded. All rare plant plots were photographed using a digital camera.

Lists of potential rare species do not necessarily include all of the rare plants that can be found in any particular survey area. Often, especially in British Columbia, many areas have not been surveyed thoroughly and the respective CDC lists for a region may not be complete. Therefore, throughout the rare plant surveys, numerous collections were made of plants that could not be confirmed in the field. These specimens were dried in plant presses or, in the case of bryophytes, in paper bags for identification later at the University of British Columbia Herbarium. Plant collections were made by both the rare plant and mapping crews.

2.2.2 Rare Plant Surveys at the Mine Site

In June, twenty-four plots were investigated for the presence of rare vascular plants and bryophytes. Sixteen of these plots were full Rare Plant - Site Characteristic Plots, whereas eight were Visual Plots. In the August field session, using Ground Inspection Forms, seven follow-up surveys at previously established plots were completed and nine new plots established at the mine site. The following habitats were the focus of the rare plant species field work at the mine site:

1. In June, 16 plots were established in various sites in and along the extensive wetlands south of Fish Lake; most sites were chosen based on habitat diversity, i.e. complexes of sedge fens, marls, wet scrub, and ponds (Figures 1

through 6). A few isolated ponds were selected for investigation as well. Seven of these plots were investigated again in August.

2. Six plots were established in June on open, dry south to south-west facing slopes along eskers and adjacent to many of the wetlands. One of these was re-investigated in August.
3. One plot was established in June on a dry, open, and rocky top of a basalt bluff. This site was not revisited in August.
4. One plot was established in June on a large mass of basalt talus adjacent to a wetland. This site was not revisited in August.

2.2.3 Rare Plant Surveys along the Transmission Corridor

In August, twenty plots were established along the proposed transmission corridor. Using Ground Inspection Forms, the following habitats were investigated for rare plants:

1. Eight plots were established in grasslands and shrub-steppe habitats (Figs. 9 and 10).
2. Ten plots were established in mainly wetland habitats, in particular fens, stream sides, and alkaline sloughs (Fig. 11).
3. One plot was established in a lodgepole pine community.



Figure 1. Aerial view of wetland complex in Mine site area.



Figure 2. Aerial view of fen, wet shrubland, and dry esker slope.



Figure 3. Sedge fen at TRP 101.



Figure 4. Sedge fen and open water habitat.



Figure 5. Typical muddy edge of pond showing extensive cover of small yellow water-buttercup (*Ranunculus gmelinii*).



Figure 6. Willow dominated wetland.



Figure 7. Aerial view of dry slope (left side of photograph).

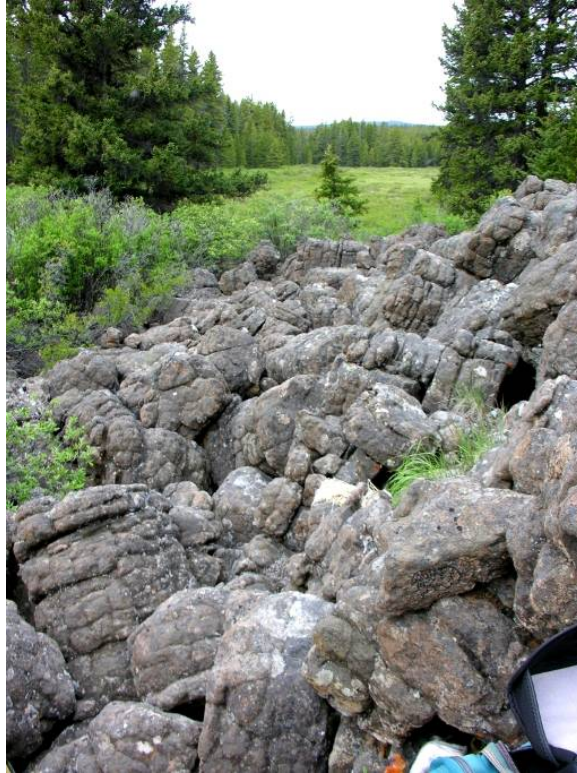


Figure 8. Basalt talus (TRP 105).



Figure 9. Shrub-steppe habitat (HRP04).



Figure 10. Grassland community (HRP10).



Figure 11. Seasonally wet alkaline slope (HRP15).

3 Results and Discussion

3.1 Rare Vascular Plants

Two CDC-listed rare vascular plants were found during the surveys: *Ranunculus pedatifidus* ssp. *affinis* Smith (Birdfoot Buttercup) and *Boechera holboellii* var. *pinetorum* (Tidestrom) Dorn (Holboell's rockcress, previously known as *Arabis holboellii* var. *pinetorum*). Both species are Blue-listed by CDC and are not listed nationally. Table 1 lists details from all the rare plant plots and locations of rare plant species.

3.1.1 Birdfoot Buttercup

Birdfoot buttercup is a perennial herb that grows up to 33 cm tall, and is typically found in moist meadows and wetlands (Klinkenberg 2006; CDC 2006; Fig X). This plant is rare throughout BC in areas east of the Coast-Cascade mountain ranges and is scattered across northern North America. It is considered imperiled / vulnerable (S2/S3) and is provincially Blue-listed by CDC (2006). It was located at four wetland sites in the mine site mainly associated with the Grey-leaved willow - Glow moss (WM) ecosystem in the SBPSxc Biogeoclimatic Subzone. It is usually abundant at each site with well over 200 individual plants observed. Birdfoot buttercup was not found along the transmission corridor.



Figure 12. Basal leaves of birdfoot buttercup
(from www.callutheran.edu/cr/waterton/common)

3.1.2 Holboell's rockcress

Holboell's rockcress is a biennial or short-lived perennial herb that usually grows from 0.1 to 0.4 m tall, rarely taller, and is typically found in dry, stony or gravelly habitats in shrub-steppe and grasslands, mainly in lowland areas (Klinkenberg 2006; CDC 2006). This species is considered imperiled / vulnerable (S2/S3) and is provincially Blue-listed by CDC (2006). It was located during the TEM fieldwork along the transmission corridor and not by the rare plant crew. It appears to be mainly associated with the IDFdk4 biogeoclimatic subzone. This species was not found in the mine site.



Figure 13. Holboell's rockcress (from: www.calflora.net/bloomingplants)

3.2 Rare Bryophytes

Two CDC Blue Listed moss species, *Schistidium heterophyllum* (Kindb. in Mac. & Kindb.) McIntosh and *Drepanocladus longifolius* (W. Mitten) V.F. Brotherus ex J.E.G.N.Paris (formerly *Drepanocladus capillifolius*), were found during the rare plant surveys.

3.2.1 *Schistidium heterophyllum*

Schistidium heterophyllum is a moss that forms small to rather extensive patches over rock in semi-shaded shrub-steppe, grasslands, and ponderosa pine communities in BC (T. McIntosh pers. comm. 2006, CDC 2006). It is endemic to North America and is rare in southern BC and across its range in western North America. This species is considered critically imperiled / vulnerable (S1/S3) and is provincially Blue-listed (CDC 2006). It was found only once, at TRP 105, an extensive area of basalt talus that lies adjacent to a wetland and stream complex. The one site where it was found on basalt talus in the mine site represents the furthest north and east location of this species in BC and North America.

3.2.2 *Drepanocladus longifolius*

Drepanocladus longifolius is a moss that forms extensive patches in wetland fens and shallow pond or lake margins in BC (CDC 2006). Its range is little known in North America especially since this group is presently undergoing a taxonomic revision. However, it has not been collected frequently and is probably rare in central and northern BC and across its range in North America. This species is considered imperiled / vulnerable (S2/S3) and is provincially Blue-listed (CDC 2006). It was found at six of the wetland rare species plots at the mine site.

3.3 Table 1. 2006 Rare Plant Plot Data

Rare Plant Plot Number	Date	Location (M = minesite T = Transmission Corridor)	UTM Location (all 10U and NAD 83)	BEC subzone	Dominant Ecosystem type	Rare Plant Presence	Rare Plant Species
TRP101	20/6/06	M	461919/5695186	SBPSxc/BF	Water sedge - Beaked sedge	yes	<i>Drepanocladus longifolius</i>
TRP102	20/6/06	M	462039/5695374	SBPSxc/SE	Slender sedge – Common hook moss	yes	<i>Ranunculus pedatifidus</i> <i>Drepanocladus longifolius</i>
TRP103	20/6/06	M	462509/5694289	MSxv/SE	Slender sedge – Common hook moss	no	
TRP104	20/6/06	M	462829/5694363	MSxv/KG	Juniper - Kinnikinnick	no	
TRP105	20/6/06	M	462931/5694386	MSxv/RO	Rock outcrop	yes	<i>Schistidium heterophyllum</i>
TRP106	20/6/06	M	462919/5694568	MSxv/SE/WS	Willow - Scrub birch- Sedge Fen	no	
TRP107	21/6/06	M	458832/5695238	SBPSxc/LK	Pl – Kinnikinnick – Cladonia	no	
TRP108	21/6/06	M	458706/5697613	SBPSxc/GA	Grass – Larged- leaved avens	yes	<i>Ranunculus pedatifidus</i> <i>Drepanocladus longifolius</i>
TRP109	21/6/06	M	458800/5697651	SBPSxc/JK	Juniper - Kinnikinnick	no	
TRP110	21/6/06	M	459391/5698476	SBPSxc/BF	Water sedge - Beaked sedge	yes	<i>Ranunculus pedatifidus</i>

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TRP111	22/6/06	M	458164/5703630	MS _{xv} /BW	Scrub birch - Water sedge fen	no	
TRP112	22/6/06	M	458184/5703433	MS _{xv} /WS/BF	Willow - Scrub birch- Sedge Fen	no	
TRP113	22/6/06	M	457401/5698749	SBPS _{xc}	n/a	no	
TRP114	22/6/06	M	456546/5697483	SBPS _{xc} /WS/SE	Scrub birch - Buckbean - Shore sedge	yes	<i>Drepanocladus longifolius</i>
TRP115	22/6/06	M	456757/5697636	SBPS _{xc} /BF	Water sedge - Beaked sedge	no	
TRP116	22/6/06	M	458308/5698496	SBPS _{xc} /JK	Juniper - Kinnikinnick	no	
TRP117	22/6/06	M	458794/5698908	SBPS _{xc} /BF	Water sedge - Beaked sedge	no	
TRP118	23/6/06	M	458450/5698089	SBPS _{xc} /BF/W M	Water sedge - Beaked sedge	yes	<i>Ranunculus pedatifidus</i> <i>Drepanocladus longifolius</i>
TRP119A	23/6/06	M	458636/5696797	SBPS _{xc} /BF/WS	Water sedge - Beaked sedge	yes	<i>Drepanocladus longifolius</i>
TRP119B	23/6/06	M	458730/5697150	SBPS _{xc} /BF	Water sedge - Beaked sedge	no	
TRP120	23/6/06	M	458717/5697322	SBPS _{xc} /LC	Pl- Kinnikinnick - Cladonia	no	
TRP121	23/6/06	M	458978/5697498	SBPS _{xc} /RM	Baltic Rush	no	
TRP122	23/6/06	M	458978/5697498	SBPS _{xc} /BM	Beaked sedge - Water sedge marsh	no	
TRP123	23/6/06	M	461054/5695761	SBPS _{xc} /JK	Juniper - Kinnikinnick	no	

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HRP01	28/7/06	T	548000/5726090	IDFxm/NP	Spreading needlegrass – Pussytoes	no	
HRP02	28/7/06	T	547435/5726135	BGxw2/WN	Bluebunch wheatgrass – Needle-and- thread grass	no	
HRP03	28/7/06	T	547303/5726130	BGxw2/WN	Bluebunch wheatgrass – Needle-and- thread grass	no	
HRP04	28/7/06	T	547106/5726104	BGxw2/SP	Big sagebrush - Bluebunch wheatgrass	no	
HRP05	28/7/06	T	546468/5726189	BGxh3/SW	Bluebunch wheatgrass – Big sagebrush	no	
HRP06 (weed inventory plot)	29/7/06	T	535055/5725275	IDFdk4/AR	Trembling Aspen – Rose	no	
HRP07	29/7/06	T	535055/5725275	IDFdk4/SH	Sxw - Horsetail - Glow moss	no	
HRP08	29/7/06	T	534916/5725413	IDFdk4/SH	Sxw - Horsetail - Glow moss	no	
HRP09	29/7/06	T	539707/5724771	IDFxm/AR	Trembling aspen – Prickly rose	no	
HRP10	29/7/06	T	539858/5724816	IDFxm		no	
HRP11	30/7/06	T	522797/5730366	IDFdk4/LP	FdPl - Pinegrass – Feathermoss	no	
HRP12	30/7/06	T	522188/5730395	IDFdk4/BW	Water sedge - Beaked sedge	no	

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HRP13	30/7/06	T	525159/5731212	IDFdk4/BW	Water sedge - Beaked sedge	no	
HRP14	30/7/06	T	510065/5730638	IDFdk4/BW	Water sedge - Beaked sedge	no	
HRP15	30/7/06	T	509988/5730677	IDFdk4/AF	Nuttall's alkaligrass – Foxtail barley	no	
HRP16	31/7/06	T	557197/5725080	IDFdk3	n/a	no	
HRP17	31/7/06	T	557240/5725096	IDFdk3	n/a	no	
HRP18	31/7/06	T	558224/5724932	IDFdk3	n/a	no	
HRP19 (weed inventory plot)	31/7/06	T	558202/5724939	IDFdk3	n/a	no	
HRP20	31/7/06	T	550663/5725778	IDFxm/BGxw2	n/a	no	
HRP21 (revisit TRP110)	1/8/06	M	459373/5698527	MSxv/BF	Water sedge - Beaked sedge	no	
HRP22	1/8/06	M	459321/5699003	MSxv	n/a	no	
HRP23	1/8/06	M	456196/5701794	MSxv/BF	Water sedge - Beaked sedge	no	
HRP24 (revisit TRP102)	1/8/06	M	462026/5695360	MSxv/BF	Water sedge - Beaked sedge	no	
HRP25 (revisit TRP101)	2/8/06	M	461922/5695209	MSxv/BF	Water sedge - Beaked sedge	no	
HRP26 (revisit TRP123)	2/8/06	M	461040/5695679	SBPSxc/01	Pl - Kinnikinnick – Feathermoss	no	
HRP27	2/8/06	M	458832/5695238	MSxc/02	Pl - Fescue -		

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(revisit TRP107)					Stereocaulon		
HRP28	2/8/06	M	456556/5697487	SBPS _{xc} /DS	Drummond's willow - Beaked sedge	no	
HRP29	2/8/06	M	458910/5697617	SBPS _{xc} /BF	Water sedge - Beaked sedge	no	
HRP30 (revisit TRP109)	2/8/06	M	458812/5697634	SBPS _{xc} /LC	Pl- Kinnikinnick - Cladonia	no	
HRP31 (revisit TRP118)	2/8/06	M	458485/5698135	SBPS _{xv} /BF	Water sedge - Beaked sedge	no	
HRP32	3/8/06	M	459390/5701092	MS _{xv} /BF	Water sedge - Beaked sedge	no	
HRP33	3/8/06	M	459307/5701253	MS _{xv} /SH	Sxw - Horsetail - Crowberry	no	
HRP34	3/8/06	M	459114/5700818	MS _{xv} /BF	Water sedge - Beaked sedge	no	
HRP35	3/8/06	M	460122/5698257	MS _{xv} / BF	Water sedge - Beaked sedge	no	
HRP36	3/8/06	M	460220/5698348	MS _{xv} / BF	Water sedge - Beaked sedge	no	

3.4 Discussion

No nationally-listed rare plant species were found during the rare plant surveys at the mine site and along the transmission corridor. However, four BC Blue-listed plants were found during field surveys. This low number of rare species reflects the relatively small area that was investigated as well as the limited number of habitat types that are present in the study area. All four species are ranked S1/S3 or S2/S3 which signifies that the rankings are uncertain, mainly due to lack of provincial inventory. The western portions of the Cariboo Region are one of the least inventoried in the province. Birdfoot buttercup, Holboell's rockcress, and *Drepanocladus longifolius* appear to be undercollected in the province and are probably more widespread throughout the central and northern portions of the province. These plants may eventually be downlisted to the Yellow List once more inventories are completed. However, *Schistidium heterophyllum* will probably remain rare in the province and may be Red-listed in future as it has been collected under ten times in BC, and, before this survey, only in the Okanagan Valley and near Kamloops.

4 Conclusions and Recommendations

4.1 Conclusions

This is the second rare plant survey that has been completed at this site (including Madrone 1999) making this area one of the most thoroughly surveyed for rare plants in the Cariboo region. Although Madrone (1999) did not find any rare plants during their surveys, four provincially Blue-listed plants were found in the recent 2006 surveys. The provincial status of all of these plants, except for the moss, *Schistidium heterophyllum*, are probably not threatened by mine or transmission line development as they are probably widespread in similar, yet non-inventoried areas nearby. However, the provincial status of *Schistidium heterophyllum* may be threatened as it appears rare in the province and this is an unusual outlier population.

4.2 Recommendations

This is the second detailed rare plant survey to be completed at the mine site in 10 years. Therefore, there appears to be no need for further investigation of this type there. However, the search for rare plants along the proposed transmission corridor is incomplete. This search was only undertaken once, in July when many of the spring and early summer flowering plants were dried up and unidentifiable, and it was limited by the lack of helicopter assistance. Therefore, it is recommended that a spring survey, either in early or mid June, be completed along the transmission corridor.

Also, some form of mitigation for the rare moss, *Schistidium heterophyllum*, should be considered, possibly by transporting some of the rocks to a suitable site away from the minesite.

5 References

- Madrone Consultants Ltd. 1999. Taseko Mines Limited Prosperity Project Vegetation Data Draft Report 1997-1998. Report prepared for Taseko Mines Ltd., Vancouver, B.C.
- McIntosh T.T. 2006. Baseline rare plant survey report for the Taseko Mines Ltd. Prosperity Project site. Report prepared for AXYS Environmental Consulting Ltd.
- Bartemucci, P. 2004. Rare plants and ecosystems of the Red Chris Mine study area. Report prepared for AXYS Environmental Consulting Ltd.
- BC Conservation Data Center (CDC). 2006. BC species and ecosystem explorer. Ministry of Environment. available at: <http://srmapps.gov.bc.ca/apps/eswp/>.
- Bush, L. and T. Lancaster. 2004. Problems with Rare Plant Surveys. Internal report, AXYS Environmental Consulting Ltd.
- Douglas, George W., Del Meidinger, and Jenifer Penny. 2002. Rare Native Vascular Plants of British Columbia. Province of British Columbia. Victoria.
- Haeussler, S. 2004. Kemess Mine Project. Internal report, AXYS Environmental Consulting Ltd.
- Klinkenberg, Brian. (Editor) 2006. E-Flora BC: Electronic Atlas of the Plants of British Columbia. Lab for Advanced Spatial Analysis, Department of Geography, University of British Columbia, Vancouver. available at: www.eflora.bc.ca

Appendix A Potential Rare Plants in the Taseko Study Area

A.1 Rare vascular plants from the Central Cariboo and Chilcotin Forest Districts²

Scientific Name	Common Name	Biogeoclimatic variant	Global Rank BC	Rank	BC Status	COSEWIC	SARA	DCC Forest District (Transmission Line)	DCH Forest District (Mine site)
<i>Allium geyeri</i> var. <i>tenerum</i>	Geyer's onion	BGxw;IDFdk;IDFxm G4G5T3T5		S2S3	Blue			X	
<i>Apocynum x floribundum</i>	western dogbane	BGxh;IDFxm	GNA	S2S3	Blue			X	
<i>Arabis holboellii</i> var. <i>pinetorum</i>	Holboell's rockcress	BGxh;BGxw;IDFxm G5T5?		S2S3	Blue			X	
<i>Arabis lemmonii</i> var. <i>drepanoloba</i>	Lemmon's rockcress AT		G5T4?	S2S3	Blue			X	
<i>Arabis lignifera</i>	woody-branched rockcress	BGxh;BGxw;IDFdk G5		S2S3	Blue			X	

² B.C. Conservation Data Centre (CDC). 2006. BC Species and Ecosystems Explorer. B.C. Ministry of Sustainable Resource Management, Victoria, BC. Available from: <http://srmapps.gov.bc.ca/apps/eswp/> (accessed April 2006).

									x
<i>Arabis sparsiflora</i>	sickle-pod rockcress	BGxh;BGxw	G5 S1						
<i>Arnica chamissonis</i> <i>ssp. incana</i>	meadow arnica	IDFxm;SBPSxc	G5T3T5	S2S3	Blue				x x
<i>Atriplex argentea</i> <i>ssp. argentea</i>	silvery orache	BGxh;BGxw;IDFx m	G5T5 S1		Red				x x
<i>Atriplex truncata</i>	wedgescale orache	BGxh;BGxw;IDFd k;IDFxm G5		S1	Red				x x
<i>Botrychium</i> <i>ascendens</i>	upswept moonwort	AT;IDFdk	G2G3	S2	Red				x
<i>Botrychium simplex</i>	least moonwort	SBPSxc	G5	S2S3	Blue				x
<i>Camissonia breviflora</i>	short-flowered evening-primrose	IDFdk G5		S1	Red				x
<i>Carex heleonastes</i>	Hudson Bay sedge	IDFdk ;SBPSxc	G4	S2S3	Blue				x x
<i>Carex hystricina</i>	porcupine sedge	BGxh;BGxw;SBP Sxc G5		S2S3	Blue				x x
<i>Carex rostrata</i>	swollen beaked sedge	SBPSxc	G5	S2S3	Blue				x

									x x
<i>Carex simulata</i>	short-beaked fen sedge	IDFdk;IDFxm;SBP Sxc G5		S2S3	Blue				
<i>Carex sprengeii</i>	Sprengel's sedge	IDFxm	G5?	S1	Red				x
<i>Carex sychnocephala</i>	many-headed sedge	BGxh;BGxw;IDFdk;IDFxm;SBPSxc	G4	S3	Blue				x
<i>Cerastium fischerianum</i>	Fischer's chickweed AT		G4	S2S3	Blue				x
<i>Chamaerhodos erecta ssp. nuttallii</i>	American chamaerhodos	BGxh;IDFdk;IDFxm G5T4T5		S2S3	Blue				x
<i>Crepis atribarba ssp. atribarba</i>	slender hawksbeard BGxh		G5T5	S1	Red				x
<i>Crepis modocensis ssp. modocensis</i>	low hawksbeard	BGxw	G4G5T4	S1	Red				x
<i>Crepis occidentalis ssp. pumila</i>	western hawksbeard BGxh		G5T5	S1	Red				x
<i>Draba alpina</i>	alpine draba	AT	G4G5	S2S3	Blue				x
<i>Draba densifolia</i>	Nuttall's draba	AT	G5	S2S3	Blue				x

									x
<i>Draba glabella</i> var. <i>glabella</i>	smooth draba	AT	G4G5T4	S2S3	Blue				
									x
<i>Draba reptans</i>	Carolina draba	BGxw	G5	S1	Red				
									x
<i>Draba ventosa</i>	Wind River draba	AT	G3	S2S3	Blue				
									x x
<i>Epilobium ciliatum</i> ssp. <i>watsonii</i>	purple-leaved willowherb	IDFxm	G5T3T5	S2S3	Blue				
									x
<i>Epilobium halleanum</i>	Hall's willowherb	BGxh;BGxw	G5	S2S3	Blue				
									x
<i>Epilobium leptocarpum</i>	small-fruited willowherb	AT;ESSF xv	G5	S2S3	Blue				
									x
<i>Festuca minutiflora</i>	little fescue	AT	G5	S2S3	Blue				
									x
<i>Galium multiflorum</i>	multi-flowered bedstraw	IDFd	k	G5	S1	Red			
									x
<i>Glyceria pulchella</i>	slender mannagrass	BGxh;IDFdk	G5	S2S3	Blue				
									x x
<i>Hesperostipa spartea</i>	porcupinegrass	BGxh;IDFxm	G5	S2	Red				

									x
<i>Juncus albescens</i>	whitish rush	AT;SBPSxc	G5	S2S3	Blue				
									x
<i>Melica spectabilis</i>	purple oniongrass	AT;ESSFvx;IDFdk	G5	S2S3	Blue				
									x
<i>Mimulus breweri</i>	Brewer's monkey-flower	ESSFvx	G5	S2S3	Blue				
									x
<i>Montia chamissoi</i>	Chamisso's montia	SBPSxc	G5	S2S3	Blue				
									x
<i>Muhlenbergia glomerata</i>	marsh muhly	BGxh;IDFdk;SBP Sxc G5		S3	Blue				
									x
<i>Pedicularis parviflora ssp. parviflora</i>	small-flowered lousewort	MSxv	G4T4	S3	Blue				
									x
<i>Poa fendleriana</i> ssp. <i>fendleriana</i>	mutton grass	BGxh;BGxw	G5T5	S1	Red				
									x
<i>Polemonium boreale</i>	northern Jacob's- ladder	AT	G5	S2S3	Blue				
									x
<i>Polemonium elegans</i>	elegant Jacob's- ladder	AT	G4	S2S3	Blue				
									x
<i>Polemonium occidentale</i> ssp. <i>occidentale</i>	western Jacob's- ladder	BGxh;IDFdk;SBP Sxc G5?T5?		S2S3	Blue				

<i>Polygonum polygaloides</i> ssp. <i>kelloggii</i>	Kellogg's knotweed	IDFd	k;IDFxm	G4G5T3T5	S2S3	Blue																x					
<i>Polygonum ramosissimum</i> var. <i>ramosissimum</i>	bushy knotweed		BGxh	G5T5	S1	Red																			x		
<i>Potentilla diversifolia</i> var. <i>perdissecta</i>	diverse-leaved cinquefoil	AT;IDFd		G5T4	S2S3	Blue																				x	
<i>Potentilla nivea</i> var. <i>pentaphylla</i>	five-leaved cinquefoil		BGxh;BGxw;IDFd k; G5T4		S2S3	Blue																				x x	
<i>Potentilla ovina</i> var. <i>ovina</i>	sheep cinquefoil	AT;ESSFxv		G5?T5?	S2S3	Blue																				x	
<i>Pyrola elliptica</i>	white wintergreen		IDFxm	G5	S2S3	Blue																				x	
<i>Ranunculus pedatifidus</i> ssp. <i>affinis</i>	birdfoot buttercup		AT;ESSFxv;;IDFd k;SBPSxc G5T5		S2S3	Blue																				x x	
<i>Salix boothii</i>	Booth's willow		IDFd	G5	S2S3	Blue																				x	
<i>Salix serissima</i>	autumn willow		IDFxm	G4	S2S3	Blue																				x	
<i>Scolochloa festucacea</i>	rivergrass		BGxh;BGxw;IDFd k;IDFxm;SBPSxc	G5	S2	Red																				x x	

									x
<i>Senecio plattensis</i>	plains butterweed	BGxh;IDFdk;SBP Sxc G5		S2S3	Blue				
<i>Silene drummondii</i> var. <i>drummondii</i>	Drummond's campion	BGxh;BGxw;IDFd k;IDFxm;MSxv G5T5		S3	Blue				x x
<i>Stuckenia vaginata</i>	sheathing pondweed	BGxw;IDFdk;IDFx m G5		S2S3	Blue				x
<i>Trichophorum pumilum</i>	dwarf clubrush	IDFdk;SBPSxc	G5	S2S3	Blue				x

A.2 Rare bryophytes potentially present in the study area³

Scientific Name	Common Name	Global Rank BC	Rank	BC Status	COSEWIC/SARA
<i>Calliergon richardsonii</i>	G4		S2S3	Blue	
<i>Calliergon trifarium</i>	G4		S2S3	Blue	

³ This list was compiled by T. McIntosh who is presently updating the CDC rare bryophyte list for the province.

<i>Campylium calcareum</i>	G3G5		S1S3	Blue	
<i>Campylium hispidulum</i>	G4G5		S2S3	Blue	
<i>Campylium radicale</i>		G3G5	S1S3	Blue	
<i>Drepanocladus capillifolius</i>		GU	S2S3	Blue	
<i>Drepanocladus lapponicus</i>		GU	S1S3	Blue	
<i>Drepanocladus pseudostramineus</i>		G3	S2S3	Blue	
<i>Drepanocladus sendtneri</i>		G5?	S2S3	Blue	
<i>Drepanocladus tundrae</i>		GU	S1S3	Blue	
<i>Entosthodon rubiginosus</i>	Rusty Cord-moss	G1G3	S1	Red	Endangered
<i>Loeskyprnum badium</i>		G4G5	S2S3	Blue	

<i>Loeskyprnum wickesia</i>		G3G5	S2S3	Blue	
<i>Pterygoneurm kozlovii</i>	Alkaline Wing-nerved Moss	G1G3	S1	Red	Threatened
<i>Pterygoneurum lamellatum</i>		G3G5	S1	Red	
<i>Schistidium dupretii</i>		GNRQ	S2S3	Blue	
<i>Schistidium heterophyllum</i>		G3	S1S3	Blue	
<i>Schistidium flaccidum</i> (= <i>S. pulvinatum</i>)		G5	S1S3	Blue	

Appendix B Plant List For the Mine Site and Transmission Corridor

The following list represents the vascular plants, bryophytes, and lichens that were identified during rare plant field work in the Taseko Mines Site. It is a combination of the work by Madrone (1999) and the 2006 field work.

GYMNOSPERMS

Cupressaceae

<i>Juniperus communis</i> L.	Common juniper
<i>Juniperus scopulorum</i> Sarg.	Rocky Mountain juniper

Pinaceae

<i>Abies lasiocarpa</i> (Hook.) Nutt.	Subalpine fir
<i>Picea glauca</i> (Moench) Voss	White spruce
<i>Pinus contorta</i> Dougl. ex Loud.	Lodgepole pine
<i>Pseudotsuga menziesii</i> (Mirb.) Franco	Douglas-fir

PTERIDOPHYTES

Equisetaceae

<i>Equisetum arvense</i> L.	Common horsetail
<i>Equisetum fluviatile</i> L. em. Ehrh.	Swamp horsetail
<i>Equisetum laevigatum</i> A. Br.	Smooth scouring-rush
<i>Equisetum pratense</i> Ehrh.	Meadow horsetail
<i>Equisetum scirpoides</i> Michx.	Dwarf scouring-rush
<i>Equisetum sylvaticum</i> L.	Wood horsetail

Selaginellaceae

<i>Selaginella densa</i> Rydb.	Compact selaginella
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Dryopteridaceae

<i>Cystopteris fragilis</i> (L.) Bernh.	Fragile fern
<i>Woodsia scopulina</i> D.C. Eaton	Mountain cliff fern
<i>Woodsia</i> cf. <i>oregana</i> D.C. Eaton	Western cliff fern

Ophioglossaceae

Botrychium cf. lunaria (L.) Sw. Common moonwort

ANGIOSPERMS
DICOTYLEDONS

Apiaceae

Heracleum lanatum Michx. Cow-parsnip
Lomatium cf. dissectum (Nutt.) Math. Fern-leaved desert parsley
& Const.
Osmorhiza chilensis H. & A. Mountain sweet-cicely

Apocynaceae

Apocynum androsaemifolium L. Spreading dogbane

Asteraceae

Achillea millefolium L. Yarrow
Agoseris aurantiaca (Hook.) Greene Orange agoseris
Agoseris glauca (Pursh) Raf. Short-beaked agoseris
Anaphalis margaritacea (L.) Benth. & Pearly everlasting
Hook. f. ex C.B. Clarke
Antennaria microphylla Rydb. Rosy pussytoes
Antennaria neglecta Greene Field pussytoes
Antennaria parviflora Nutt. Nuttall's pussytoes
Antennaria pulcherrima(Hook.) Greene Showy pussytoes
Antennaria racemosa Hook. Racemose pussytoes
Antennaria cf. umbrinella Rydb. Umber pussytoes
Arnica chamissonis Less. Meadow arnica
Arnica cordifolia Hook. Heart-leaved arnica
Arnica latifolia Bong. Mountain arnica
Arnica fulgens Pursh Orange arnica
Artemisia campestris L. Northern wormwood
Artemisia dracunculus L. Tarragon
Artemisia frigida Willd. Prairie sagewort
Artemisia ludoviciana Nutt. Western mugwort
Artemisia tridentata unidentified sage
Aster borealis (T. & G.) Prov. Rush aster
Aster ciliolatus Lindl. in Hook. Lindley's aster
Aster conspicuus Lindl. in Hook. Showy aster

<i>Aster sibiricus</i> L.	Arctic aster
<i>Cirsium arvense</i>	Canada Thistle
<i>Cirsium scariosum</i>	Bog thistle
<i>Crepis atrabarba</i>	Hawksbeard
<i>Erigeron compositus</i> Nutt.	Cut-leaved daisy
<i>Erigeron flagellaris</i>	trailing fleabane
<i>Erigeron speciosus</i> (Lindl.) DC.	Showy daisy
<i>Hieracium albiflorum</i> Hook.	White hawkweed
<i>Petasites frigidus</i> (L.) Fries	Sweet coltsfoot
<i>Petasites sagittatus</i> (Banks ex Pursh) A. Gray	Arrow-leaved coltsfoot
<i>Senecio pauperculus</i> Michx.	Canadian butterweed
<i>Senecio pseud aureus</i> Rydb.	Streambank butterweed
<i>Senecio streptanthifolius</i>	Rocky Mountain butterweed
<i>Solidago canadensis</i> L.	Canada goldenrod
<i>Solidago multiradiata</i> Ait.	Northern goldenrod
<i>Solidago spathulata</i> DC.	Spike-like goldenrod
<i>Taraxacum officinale</i> Webber in Wiggers	Common dandelion
<i>Tragopogon dubius</i> Scop.	Yellow salsify
Berberidaceae	
<i>Mahonia</i>	Oregon-grape
Betulaceae	
<i>Alnus crispa</i> (Ait.) Pursh	Green alder
<i>Alnus tenuifolia</i> Nutt.	Mountain alder
<i>Betula pumila</i> var. <i>glandulifera</i> Michx.	Low birch
<i>Betula occidentalis</i> Hook.	Water birch
<i>Betula papyrifera</i> Marsh.	Paper birch
Boraginaceae	
<i>Lithospermum ruderae</i> Dougl. ex Lehm.	Lemonweed gromwell
<i>Myosotis</i> sp.	Forget-me-not
Brassicaceae	
<i>Arabis drummondii</i> A. Gray	Drummond's rockcress

<i>Arabis holboellii</i> Hornem.	Holboell's rockcress
<i>Cardamine ? pensylvanica</i> Muhl. ex Willd.	Pennsylvanian bittercress
<i>Cardamine occidentale</i> (S. Wats.) Howell	Western bittercress
<i>Draba aurea</i> Vahl. in Horn.	Golden draba
<i>Draba borealis</i> DC.	Northern draba
<i>Draba inserta</i> Pays.	Yellowstone draba
<i>Draba oligosperma</i> Hook.	Few-seeded draba
<i>Draba paysonii</i> Macbr.	Payson's draba
<i>Draba praealta</i> Greene	Tall draba
<i>Erysimum cheiranthoides</i> L.	Wormseed mustard
<i>Rorippa palustris</i> (L.) Bess.	Marsh yellow cress

Cactaceae

<i>Opuntia fragilis</i>	Prickly pear cactus
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Caprifoliaceae

<i>Linnaea borealis</i> L.	Twinflower
<i>Lonicera involucrata</i> (Richards.) Banks ex. Spring	Black twinberry
<i>Moehringia lateriflora</i> (L.) Fenzl	Blunt-leaved sandwort
<i>Sambucus racemosa</i> L.	Black elderberry
<i>Symphoricarpos albus</i> (L.) Blake	Common snowberry

Caryophyllaceae

<i>Cerastium arvense</i> L.	Field chickweed
<i>Minuartia rubella</i> (wahl.) Hiern	Boreal sandwort
<i>Moehringia lateriflora</i> (L.) Fenzi	Blunt-leaved sandwort
<i>Silene</i>	Campion
<i>Stellaria</i>	Starwort

Ceratophyllaceae

<i>Ceratophyllum demersum</i> L.	Common hornwort
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Cornaceae

<i>Cornus canadensis</i> L.	Bunchberry
<i>Cornus stolonifera</i> Michx.	Red-osier dogwood

Crassulaceae

Sedum lanceolatum Torr. Lance-leaved stonecrop

Droseraceae

Drosera anglica Huds. Great sundew

Elaeagnaceae

Elaeagnus commutata Behr. ex Rydb. Silverberry
Shepherdia canadensis (L.) Nutt. Soopolallie

Empetraceae

Empetrum nigrum L. Crowberry

Ericaceae

Arctostaphylos urva-ursi (L.) Spreng. Kinnikinnick
 ?*Cassiope*
Kalmia microphylla (Hook.) Heller Western bog-laurel
Ledum glandulosum Nutt. Trapper's tea
Ledum groenlandicum Oeder Labrador tea
Moneses uniflora (L.) Gray Single delight
Orthilia secunda (L.) House One-sided wintergreen
Phyllodoce empetriformis (Sw.) D. Don Pink mountain-heather
Phyllodoce glanduliflora (Hook.) Cov. Yellow mountain heather
Pyrola asarifolia Michx. Pink wintergreen
Pyrola chlorantha Sw. Green wintergreen
Pyrola picta Sm. White-veined wintergreen
Rhododendron albiflorum Hook. White-flowered rhododendron
Vaccinium alaskaense Howell Alaskan blueberry
Vaccinium caespitosum Michx. Dwarf blueberry
Vaccinium scoparium Leib. Grouseberry

Fabaceae

Astragalus americanus (Hook.) M.E. American milk-vetch
 Jones
Astragalus miser Dougl. ex Hook. Timber milk-vetch

<i>Astragalus robbinsii</i> (Oakes) A. Gray	Robbins' milk-vetch
? <i>Hedysarum</i>	
<i>Lupinus arcticus</i> S. Wats.	Arctic lupine
<i>Medicago sativa</i> L.	Alfalfa
<i>Oxytropis monticola</i> A.Gray (= <i>O. campestris</i>)	Mountain locoweed
<i>Trifolium hybridum</i> L.	Alsike clover
<i>Trifolium pratense</i> L.	Red clover
<i>Trifolium repens</i> L.	White clover
<i>Vicia americana</i> Muhl. ex Willd.	American vetch

Gentianaceae

<i>Gentianella amarella</i> (L.) Borner	Northern gentian
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Grossulariaceae

<i>Ribes hudsonianum</i> Richards. in Frankl.	Northern blackcurrent
<i>Ribes lacustre</i> (Pers.) Poir. in Lamarck	Black gooseberry

Haloragaceae

<i>Myriophyllum</i> sp.	
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Hippuridaceae

<i>Hippuris vulgaris</i> L.	Common mare's tail
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Hydrophyllaceae

<i>Phacelia sericea</i> (Grah.) A. Gray	Silky phacelia
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Lamiaceae

<i>Mentha arvensis</i> L.	Field mint
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Lentibulariaceae

<i>Utricularia minor</i> L.	Lesser bladderwort
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Linaceae

<i>Linum perenne</i> L.	Western blue flax
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Menyanthaceae

Menyanthes trifoliata L. Buckbean

Nymphaeaceae

Nuphar polysepalum Engelm. Rocky Mountain cow-lily

Onagraceae

Epilobium angustifolium L. Fireweed
Epilobium ciliatum Raf. Purple-leaved willowherb

Parnassiaceae

Parnassia fimbriata Konig Fringed grass-of-Parnassus
Parnassia palustris L. Northern grass-of-Parnassus

Plantaginaceae

Plantago major L. Common plantain

Polemoniaceae

Polemonium pulcherrimum Hook. Showy Jacob's ladder

Polygonaceae

Polygonum amphibium L. Water smartweed
Polygonum douglasii Greene Douglas' knotweed
Polygonum viviparum L. Alpine bistort
Rumex occidentalis S. Wats. Western dock

Primulaceae

Androsace septentrionalis L. Northern fairy-candelabra

Ranunculaceae

Actaea rubra (Ait.) Willd. Baneberry
Anemone multifida Poir. Cut-leaved anemone
Anemone parviflora Michx. Northern anemone
Aquilegia formosa Fisch. in DC. Red columbine

<i>Ranunculus acris</i> L.	Meadow buttercup
<i>Ranunculus aquatilis</i> L.	White water-buttercup
<i>Ranunculus flammula</i> L.	Lesser spearwort
<i>Ranunculus gmelinii</i> DC.	Small yellow water-buttercup
<i>Ranunculus sceleratus</i> L.	Celery-leaved buttercup
<i>Thalictrum occidentale</i> A. Gray	Western meadowrue
<i>Thalictrum venulosum</i> Trel.	Veiny meadowrue

Rhamnaceae

<i>Ceanothus velutinus</i> Dougl. ex Hook.	Snowbrush
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Rosaceae

<i>Amelanchier alnifolia</i> (Nutt.) Nutt.	Saskatoon
<i>Fragaria vesca</i> L.	Woodl strawberry
<i>Fragaria virginiana</i> Duch.	Wild strawberry
<i>Geum macrophyllum</i> Willd.	Large-leaved avens
<i>Geum triflorum</i> Pursh	Old man's whiskers
<i>Potentilla anserina</i> L.	Silverweed
<i>Potentilla arguta</i> Pursh	White cinquefoil
<i>Potentilla diversifolia</i> Lehm.	Diverse-leaved cinquefoil
<i>Potentilla gracilis</i> Dougl.	Graceful cinquefoil
<i>Potentilla hippiana</i> Lehm.	Woolly cinquefoil
<i>Potentilla palustris</i> (L.) Scop.	Marsh cinquefoil
<i>Potentilla ? uniflora</i> Ledeb.	One-flowered cinquefoil
<i>Rosa acicularis</i> Lindl.	Prickly rose
<i>Rubus arcticus</i> L.	Nagoonberry
<i>Rubus idaeus</i> L.	Red raspberry
<i>Sanguisorba canadensis</i> L.	Sitka burnet
<i>Sibbaldia procumbens</i> L.	Sibbaldia
<i>Spiraea betulifolia</i> Pall.	Birch-leaved spirea

Rubiaceae

<i>Galium boreale</i> L.	Northern bedstraw
<i>Galium trifidum</i> L.	Small bedstraw
<i>Galium triflorum</i> Michx.	Sweet-scented bedstraw

Salicaceae

<i>Populus balsamifera</i> L.	Balsam poplar
<i>Populus tremuloides</i> Michx.	Trembling aspen
<i>Salix arbusculoides</i> Anderss.	Northern bush willow
<i>Salix arctica</i> Pallas	Arctic willow
<i>Salix barclayi</i> Anderss.	Barclay's willow
<i>Salix bebbiana</i> Sarg.	Bebb's willow
<i>Salix brachycarpa</i> Nutt.	Short-fruited willow
<i>Salix candida</i> Fluegge ex. Willd.	Hoary willow
<i>Salix drummondiana</i> Barratt ex Hook.	Drummond's willow
<i>Salix glauca</i> L.	Grey-leaved willow
<i>Salix planifolia</i> Pursh	Tea-leaved willow
<i>Salix sitchensis</i> Sanson ex Bong.	Sitka willow
<i>Salix</i> spp.	Unidentified willows

Saxifragaceae

<i>Heuchera cylindrica</i> Dougl. ex Hook.	Round-leaved alumroot
<i>Mitella</i> sp.	Mitrewort
<i>Saxifraga bronchialis</i> L.	Spotted saxifrage
<i>Saxifraga occidentalis</i> S. Wats.	Western saxifrage

Scrophulariaceae

<i>Castilleja miniata</i> Dougl. ex Hook.	Scarlet paintbrush
<i>Collinsia parviflora</i> Dougl. ex. Lindl.	Small-flowered blue-eyed Mary
<i>Mimulus guttatus</i> Fisch. ex DC.	Yellow monkey-flower
<i>Pedicularis bracteosa</i> Benth. in Hook.	Bracted lousewort
<i>Penstemon fruticosus</i> (Pursh) Greene	Shrubby penstemon
<i>Penstemon procerus</i> Dougl. ex Graham	Small-flowered penstemon
<i>Rhinanthus minor</i> L.	Yellow rattle
<i>Veronica</i>	

Valerianaceae

<i>Valeriana dioica</i> L.	Marsh valerian
<i>Valeriana sitchensis</i> Bong.	Sitka valerian

Violaceae

<i>Viola adunca</i> J.E. Smith in Rees	Early blue violet
<i>Viola canadensis</i> L.	Canada violet
<i>Viola renifolia</i> A. Gray	Kidney-leaved violet

MONOCOTYLEDONS**Cyperaceae**

<i>Carex aquatilis</i> Wahlenb.	Water sedge
<i>Carex aurea</i> Nutt.	Golden sedge
<i>Carex canescens</i> L.	Grey sedge
<i>Carex capillaris</i> L.	Hairlike sedge
<i>Carex capitata</i> L.	Capitate sedge
<i>Carex concinna</i> R. Br.	Low northern sedge
<i>Carex concinnoides</i> Mack.	Northwestern sedge
<i>Carex disperma</i> Dewey	Soft-leaved sedge
<i>Carex garberi</i> Fern.	Garber's sedge
<i>Carex gynocrates</i> Wormsk. ex Drej.	Yellow bog sedge
<i>Carex lanuginosa</i> Michx.	Woolly sedge
<i>Carex leptalea</i> Wahlenb.	Bristle-stalked sedge
<i>Carex media</i> R. Br. in Richards.	Scandinavian sedge
<i>Carex nigricans</i> C.A. Meyer	Black alpine sedge
<i>Carex pachystachya</i> Cham. ex Steud.	thick-headed sedge
<i>Carex petasata</i> Dewey	Pasture sedge
<i>Carex saxatilis</i> L.	Russet sedge
<i>Carex utriculata</i> Boott in Hook.	Beaked sedge
<i>Carex</i> spp.	unidentified sedges
<i>Eleocharis palustris</i> (L.) Roem. & Schult.	Common spike-rush
<i>Kobresia myosuroides</i> (Vill.) Fiori & Paol.	Bellard's kobresia
<i>Trichophorum cespitosum</i> (L.) Hartm.	Tufted clubrush

Iridaceae

<i>Sisyrinchium montanum</i> Greene	Mountain blue-eyed grass
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Juncaceae

<i>Juncus balticus</i> Willd.	Baltic rush
<i>Juncus tenuis</i> Willd.	Slender rush
<i>Luzula parviflora</i> (Ehrh.) Desv.	Small-flowered woodrush
<i>Luzula spicata</i> (L.) DC.	Spiked woodrush

Liliaceae

<i>Allium cernuum</i> Roth in Roem.	Nodding onion
<i>Smilacina stellata</i> (L.) Desf.	Star-flowered false Solomon's seal
<i>Zygadenus venenosus</i> S. Wats.	Meadow death-camas

Orchidaceae

<i>Amerorchis rotundifolia</i> (Banks ex Pursh) Hult.	Round-leaved orchis
<i>Corallorhiza trifida</i> Chatelain	Yellow coralroot
<i>Goodyera oblongifolia</i> Raf.	Rattlesnake-plantain
<i>Listera cordata</i> (L.) R. Br. in Ait.	Heart-leaved twayblade
<i>Plantanthera dilatata</i> (Pursh) Lindl. ex Beck	White bog orchid
<i>Plantanthera hyperborea</i> (L.) Lindl.	Green-flowered bog orchid
<i>Plantanthera stricta</i> Lindl.	Slender bog orchid
<i>Spiranthes romanzoffiana</i> Cham.	Hooded ladies' tresses

Poaceae

<i>Agrostis scabra</i> Willd.	Hair bentgrass
<i>Alopecurus aequalis</i> Sobol.	Little meadow-foxtail
<i>Arctagrostis latifolia</i> (R. Br.) Griseb. in Ledeb.	Polargrass
<i>Bromus anomalus</i> Rupr. ex Fourn.	Nodding brome
<i>Bromun carinatus</i> Hook. ex Arn.	California brome
<i>Bromus ciliatus</i> L.	Fringed brome
<i>Bromus inermis</i> Leys.	Smooth brome
<i>Calamagrostis canadensis</i> (Michx.) Beauv.	Bluejoint
<i>Calamagrostis purpurascens</i> R. Br. in	Purple reedgrass

Richards.	
<i>Calamagrostis rubescens</i> Buckl.	Pinegrass
<i>Calamagrostis stricta</i> (Timm) Koel.	Slimstem reedgrass
<i>Cinna latifolia</i> (Trevir. ex Gopp.) Griseb. in Ledeb.	Nodding wood-reed
<i>Danthonia intermedia</i> Vasey	Timber oatgrass
<i>Danthonia spicata</i> (L.) Beauv. ex Roem. & Schult.	Poverty oatgrass
? <i>Deschampsia elongata</i> (Hook.) Munro ex Benth.	Slender hairgrass
<i>Elymus spicatus</i> (Pursh) Gould	Bluebunch wheatgrass
<i>Elymus trachycaulus</i> (Link) Gould in Shinners	Slender wheatgrass
<i>Festuca occidentalis</i> Hook.	Western fescue
<i>Festuca saximontana</i> Rydb.	Rocky Mountain fescue
<i>Glyceria grandis</i> S. Wats. ex A. Gray	Reed mannagrass
<i>Glyceria striata</i> (Lam.) A.S. Hitchc.	Fowl mannagrass
<i>Hierochloa odorata</i> (L.) Beauv.	Common sweetgrass
<i>Hordeum jubatum</i> L.	Foxtail barley
<i>Koeleria macrantha</i> (Ledeb.) J.A. Schultes f.	Junegrass
<i>Oryzopsis asperifolia</i> Michx.	Rough-leaved ricegrass
<i>Phleum alpinum</i> L.	Alpine timothy
<i>Phleum pratense</i> L.	Common timothy
<i>Poa alpina</i> L.	Alpine bluegrass
<i>Poa glauca</i> Vahl	Glaucous bluegrass
<i>Poa cf. palustris</i> L.	Fowl bluegrass
<i>Poa pratensis</i> L.	Kentucky bluegrass
<i>Poa secunda</i> J.S. Presl. in C.B. Presl.	Sandberg's bluegrass
<i>Poa cf. wheeleri</i> Vasey	Wheeler's bluegrass
<i>Schizachne purpurascens</i> (Torr.) Swallen	False melic
<i>Stipa comata</i>	
<i>Stipa nelsonii</i> Scribn.	Columbian needlegrass
<i>Stipa richardsonii</i> Link	Spreading needlegrass
<i>Trisetum spicatum</i> (L.) Richt.	Spike trisetum
Potamogetonaceae	
<i>Potamogeton cf. crispus</i> L.	Curled pondweed

Potamogeton sp.

Sparganiaceae

Sparganium angustifolium Michx. Narrow-leaved bur-reed

BRYOPHYTES and LICHENS

Mosses

Aulacomnium palustre

Brachythecium spp.

Brachythecium albicans

Bryum caespiticium

Bryum spp.

Calliergon sp.

Ceratodon purpureus

Climacium dendroides

Dicranum fuscescens

Dicranum scoparium

Drepanocladus spp.

Encalypta rhaptocarpa

Eurhynchium pulchellum

Grimmia pulvinata

Hypnum sp.

Plagiomnium sp.

Pleurozium schreberi

Pohlia nutans

Polytrichum juniperinum

Polytrichum piliferum

Pterygoneurum ovatum

Racomitrium

Sanionia uncinata

Sphagnum spp.

Sphagnum capillifolium

Sphagnum fuscum

Sphagnum warnstorffii

Tomenthypnum nitens

Syntrichia ruralis

Liverworts (Hepatics)

Conocephalum conicum
Marchantia polymorpha
Barbilophozia hatcheri

Lichens

Diploschistes muscorum
Cetraria nivalis
Stereocaulon sp.
Cladonia cariosa
Cladonia pocillum
Cladonia pyxidata
Cladonia spp.
Coelocaulon
Peltigera rufescens
Peltigera canina
Psora decipiens
Psora montana