

## Appendix 1.

### Species at risk excluded from the analyses (n = 406).

Scientific Name	English Common Name	Status In British Columbia
<b>POPULATIONS n = 15</b>		
<i>Acipenser transmontanus</i> pop. 1	White Sturgeon (Kootenay River population)	Critically Imperiled (S1)
<i>Acipenser transmontanus</i> pop. 2	White Sturgeon (Columbia River population)	Critically Imperiled (S1)
<i>Acipenser transmontanus</i> pop. 3	White Sturgeon (Nechako River population)	Critically Imperiled (S1)
<i>Acipenser transmontanus</i> pop. 4	White Sturgeon (Lower Fraser River population)	Imperiled (S2)
<i>Acipenser transmontanus</i> pop. 5	White Sturgeon (Upper Fraser River population)	Critically Imperiled (S1)
<i>Acipenser transmontanus</i> pop. 6	White Sturgeon (Middle Fraser River Population)	Critically Imperiled (S1)
<i>Thymallus arcticus</i> pop. 1	Arctic Grayling (Williston Watershed population)	Critically Imperiled (S1)
<i>Lampetra richardsoni</i> pop. 1	Western Brook Lamprey (Morrison Creek population)	Critically Imperiled (S1)
<i>Lota lota</i> pop. 1	Burbot (lower Kootenay population)	Critically Imperiled (S1)
<i>Rangifer tarandus</i> pop. 1	Caribou (southern population)	Critically Imperiled (S1)
<i>Rangifer tarandus</i> pop. 14	Caribou (boreal population)	Vulnerable (S3)
<i>Rangifer tarandus</i> pop. 15	Caribou (northern mountain population)	Vulnerable (S3)
<i>Melanerpes lewis</i> pop. 1	Lewis's Woodpecker (Georgia Depression population)	Presumed Extirpated (SX)
<i>Sturnella neglecta</i> pop. 1	Western Meadowlark (Georgia Depression population)	Presumed Extirpated (SX)
<i>Sialia mexicana</i> pop. 1	Western Bluebird (Georgia Depression population)	Possibly Extirpated (SH)
<b>ACCIDENTAL OR INTRODUCED SPECIES: n = 3</b>		
<i>Coturnicops noveboracensis</i>	Yellow Rail	Critically Imperiled (S1)
<i>Poocetes gramineus affinis</i>	Vesper Sparrow, <i>affinis</i> subspecies	Critically Imperiled (S1)
<i>Phoebastria albatrus</i>	Short-tailed Albatross	Not Applicable (SNA)
<b>NO STATUS SPECIES: n = 1</b>		
<i>Pituophis catenifer</i>	Gopher Snake	Vulnerable (S3)
<b>MARINE SPECIES: n = 18</b>		
<i>Haliotis kamtschatkana</i>	Northern Abalone	Imperiled (S2)
<i>Eschrichtius robustus</i>	Grey Whale	Imperiled (S2)
<i>Phocoena phocoena</i>	Harbour Porpoise	Vulnerable (S3)
<i>Megaptera novaeangliae</i>	Humpback Whale	Critically Imperiled (S1)
<i>Orcinus orca</i> pop. 2	Killer Whale (Northeast Pacific offshore population)	Vulnerable (S3)
<i>Orcinus orca</i> pop. 1	Killer Whale (Northeast Pacific resident population)	Imperiled (S2)
<i>Orcinus orca</i> pop. 3	Killer Whale (West Coast transient population)	Imperiled (S2)
<i>Callorhinus ursinus</i>	Northern Fur Seal	Not Applicable (SNA)
<i>Eumetopias jubatus</i>	Northern Sea Lion	Imperiled (S2)
<i>Enhydra lutris</i>	Sea Otter	Imperiled (S2)
<i>Mesoplodon carlhubbsi</i>	Arch-beaked Whale	Not Applicable (SNA)
<i>Mesoplodon stejnegeri</i>	Bering Sea Beaked Whale	Not Applicable (SNA)
<i>Balaenoptera musculus</i>	Blue Whale	Critically Imperiled (S1)
<i>Balaenoptera physalus</i>	Fin Whale	Critically Imperiled (S1)
<i>Eubalaena glacialis</i>	Northern Right Whale	Possibly Extirpated (SH)
<i>Balaenoptera borealis</i>	Sei Whale	Possibly Extirpated (SH)
<i>Physeter macrocephalus</i>	Sperm Whale	Critically Imperiled (S1)
<i>Dermodochelys coriacea</i>	Leatherback	Critically Imperiled (S1)
<b>NON-VASCULAR PLANT SPECIES: n = 370</b>		
<i>Heterodermia sitchensis</i>	Seaside Centipede	Imperiled (S2)
<i>Hypogymnia heterophylla</i>	Seaside Bone	Critically Imperiled (S1)
<i>Nephroma occultum</i>	Cryptic Paw	Imperiled (S2)

<i>Pseudocypbellaria rainierensis</i>	Old growth Specklebelly	Critically Imperiled (S1)
<i>Sclerophora peronella</i>	Frosted Glass-whiskers	Critically Imperiled (S1)
<i>Acaulon muticum</i> var. <i>rufescens</i>		Critically Imperiled (S1)
<i>Aloina bifrons</i>		Imperiled (S2)
<i>Alsia californica</i>		Imperiled (S2)
<i>Amblyodon dealbatus</i>		Imperiled (S2)
<i>Amblystegium fluviatile</i>		Imperiled (S2)
<i>Amblystegium humile</i>		Imperiled (S2)
<i>Amblystegium noterophilum</i>		Imperiled (S2)
<i>Amblystegium tenax</i>		Imperiled (S2)
<i>Amblystegium varium</i>		Critically Imperiled (S1)
<i>Amphidium mougeotii</i>		Imperiled (S2)
<i>Andreaea heinemannii</i>		Critically Imperiled (S1)
<i>Andreaea megistospora</i> ssp. <i>epapillosa</i>		Imperiled (S2)
<i>Andreaea mutabilis</i>		Critically Imperiled (S1)
<i>Andreaea rothii</i>		Imperiled (S2)
<i>Andreaea rupestris</i> var. <i>papillosa</i>		Critically Imperiled (S1)
<i>Andreaea schofieldiana</i>		Critically Imperiled (S1)
<i>Andreaea sinuosa</i>		Critically Imperiled (S1)
<i>Andreaebryum macrosporum</i>		Critically Imperiled (S1)
<i>Anoetangium sendtnerianum</i>		Critically Imperiled (S1)
<i>Anoetangium tenuinerve</i>		Critically Imperiled (S1)
<i>Aongstroemia longipes</i>		Imperiled (S2)
<i>Atrichum haussknechtii</i>		Imperiled (S2)
<i>Atrichum tenellum</i>		Critically Imperiled (S1)
<i>Aulacomnium acuminatum</i>		Critically Imperiled (S1)
<i>Barbula amplexifolia</i>		Critically Imperiled (S1)
<i>Barbula convoluta</i> var. <i>gallinula</i>		Critically Imperiled (S1)
<i>Barbula eustegia</i>		Critically Imperiled (S1)
<i>Bartramia halleriana</i>	Haller's apple moss	Critically Imperiled (S1)
<i>Bartramia stricta</i>	apple moss	Critically Imperiled (S1)
<i>Brachydontium olympicum</i>		Critically Imperiled (S1)
<i>Brachythecium calcareum</i>		Critically Imperiled (S1)
<i>Brachythecium campestre</i>		Critically Imperiled (S1)
<i>Brachythecium groenlandicum</i>		Imperiled (S2)
<i>Brachythecium holzingeri</i>		Critically Imperiled (S1)
<i>Brachythecium populeum</i>		Imperiled (S2)
<i>Brachythecium reflexum</i> var. <i>pacificum</i>		Critically Imperiled (S1)
<i>Brachythecium trachypodium</i>		Critically Imperiled (S1)
<i>Brachythecium velutinum</i> var. <i>venustum</i>		Critically Imperiled (S1)
<i>Brotherella roellii</i>		Vulnerable (S3)
<i>Bryhnia hultenii</i>		Critically Imperiled (S1)
<i>Bryobrittonia longipes</i>		Imperiled (S2)
<i>Bryoerythrophyllum alpigenum</i>		Critically Imperiled (S1)
<i>Bryoerythrophyllum columbianum</i>	Columbian carpet moss	Imperiled (S2)
<i>Bryoerythrophyllum ferruginascens</i>		Critically Imperiled (S1)
<i>Bryum algovicum</i> var. <i>algovicum</i>		Imperiled (S2)
<i>Bryum algovicum</i> var. <i>rutheanum</i>		Critically Imperiled (S1)
<i>Bryum arcticum</i>		Critically Imperiled (S1)
<i>Bryum blindii</i>		Critically Imperiled (S1)
<i>Bryum calobryoides</i>		Critically Imperiled (S1)
<i>Bryum calophyllum</i>		Critically Imperiled (S1)
<i>Bryum canariense</i>		Imperiled (S2)
<i>Bryum capillare</i> var. <i>barbatum</i>		Critically Imperiled (S1)
<i>Bryum capillare</i> var. <i>flaccidum</i>		Critically Imperiled (S1)
<i>Bryum capillare</i> var. <i>torquescens</i>		Imperiled (S2)
<i>Bryum cyclophyllum</i>		Imperiled (S2)

---

<i>Bryum erythroloma</i>	Imperiled (S2)
<i>Bryum gemmiparum</i>	Critically Imperiled (S1)
<i>Bryum muehlenbeckii</i>	Imperiled (S2)
<i>Bryum pseudotriquetrum</i> var. <i>bimum</i>	Critically Imperiled (S1)
<i>Bryum schleicheri</i>	Imperiled (S2)
<i>Bryum stenotrichum</i>	Imperiled (S2)
<i>Bryum tenuisetum</i>	Possibly Extirpated (SH)
<i>Bryum turbinatum</i>	Imperiled (S2)
<i>Bryum uliginosum</i>	Critically Imperiled (S1)
<i>Bryum violaceum</i>	Critically Imperiled (S1)
<i>Callicladium haldanianum</i>	Imperiled (S2)
<i>Calliergon richardsonii</i>	Imperiled (S2)
<i>Calliergon trifarium</i>	Imperiled (S2)
<i>Campylium calcareum</i>	Critically Imperiled (S1)
<i>Campylium hispidulum</i>	Imperiled (S2)
<i>Campylium radicale</i>	Critically Imperiled (S1)
<i>Campylium stellatum</i> var. <i>protensum</i>	Critically Imperiled (S1)
<i>Campylopus flexuosus</i>	Imperiled (S2)
<i>Campylopus japonicus</i>	Critically Imperiled (S1)
<i>Campylopus schimperi</i>	Imperiled (S2)
<i>Ceratodon purpureus</i> var. <i>rotundifolius</i>	Critically Imperiled (S1)
<i>Ceratodon purpureus</i> var. <i>xanthopus</i>	Critically Imperiled (S1)
<i>Cinclidium arcticum</i>	Critically Imperiled (S1)
<i>Cirriphyllum piliferum</i>	Critically Imperiled (S1)
<i>Claopodium pellucinerve</i>	Critically Imperiled (S1)
<i>Cnestrum alpestre</i>	Imperiled (S2)
<i>Cnestrum glaucescens</i>	Critically Imperiled (S1)
<i>Cnestrum schisti</i>	Critically Imperiled (S1)
<i>Coscinodon cribrosus</i>	Critically Imperiled (S1)
<i>Crossidium seriatum</i>	Critically Imperiled (S1)
<i>Crossidium</i> sp. 1	Imperiled (S2)
<i>Crumia latifolia</i>	Imperiled (S2)
<i>Ctenidium schofieldii</i>	Imperiled (S2)
<i>Cynodontium tenellum</i>	Imperiled (S2)
<i>Cyrtomnium hymenophylloides</i>	Imperiled (S2)
<i>Cyrtomnium hymenophyllum</i>	Imperiled (S2)
<i>Daltonia splachnoides</i>	Critically Imperiled (S1)
<i>Desmatodon cernuus</i>	Imperiled (S2)
<i>Desmatodon guepinii</i>	Critically Imperiled (S1)
<i>Desmatodon heimii</i>	Imperiled (S2)
<i>Desmatodon latifolius</i> var. <i>muticus</i>	Imperiled (S2)
<i>Desmatodon leucostoma</i>	Critically Imperiled (S1)
<i>Desmatodon obtusifolius</i>	Imperiled (S2)
<i>Desmatodon randii</i>	Critically Imperiled (S1)
<i>Desmatodon systylius</i>	Critically Imperiled (S1)
<i>Dichelyma falcatum</i>	Imperiled (S2)
<i>Dicranella cerviculata</i>	Imperiled (S2)
<i>Dicranella howei</i>	Critically Imperiled (S1)
<i>Dicranella schreberiana</i> var. <i>robusta</i>	Imperiled (S2)
<i>Dicranella stickinensis</i>	Critically Imperiled (S1)
<i>Dicranodontium subporodictyon</i>	Imperiled (S2)
<i>Dicranoweisia crispula</i> var. <i>contermina</i>	Imperiled (S2)
<i>Dicranum angustum</i>	Critically Imperiled (S1)
<i>Dicranum bonjeanii</i>	Imperiled (S2)
<i>Dicranum fragillifolium</i>	Imperiled (S2)
<i>Dicranum fuscescens</i> var. <i>congestum</i>	Possibly Extirpated (SH)
<i>Dicranum fuscescens</i> var. <i>flexicaule</i>	Critically Imperiled (S1)

---

---

<i>Dicranum majus</i> var. <i>orthophyllum</i>		Critically Imperiled (S1)
<i>Dicranum spadiceum</i>		Imperiled (S2)
<i>Didymodon asperifolius</i>		Critically Imperiled (S1)
<i>Didymodon johansenii</i>		Critically Imperiled (S1)
<i>Didymodon leskeoides</i>		Critically Imperiled (S1)
<i>Didymodon nevadensis</i>		Critically Imperiled (S1)
<i>Didymodon nigrescens</i>		Imperiled (S2)
<i>Didymodon rigidulus</i>		Imperiled (S2)
<i>Didymodon rigidulus</i> var. <i>icmadophilus</i>		Critically Imperiled (S1)
<i>Didymodon rigidulus</i> var. <i>rigidulus</i>		Imperiled (S2)
<i>Didymodon subandreaeoides</i>		Imperiled (S2)
<i>Didymodon vinealis</i> var. <i>brachyphyllus</i>		Imperiled (S2)
<i>Didymodon vinealis</i> var. <i>nicholsonii</i>		Critically Imperiled (S1)
<i>Diphyscium foliosum</i>		Imperiled (S2)
<i>Discelium nudum</i>		Critically Imperiled (S1)
<i>Ditrichum schimperi</i>		Imperiled (S2)
<i>Ditrichum zonatum</i> var. <i>scabrifolium</i>		Imperiled (S2)
<i>Drepanocladus aduncus</i> var. <i>kneiffii</i>		Imperiled (S2)
<i>Drepanocladus aduncus</i> var. <i>polycarpus</i>		Imperiled (S2)
<i>Drepanocladus capillifolius</i>		Imperiled (S2)
<i>Drepanocladus crassicostatus</i>		Imperiled (S2)
<i>Drepanocladus lapponicus</i>		Critically Imperiled (S1)
<i>Drepanocladus pseudostramineus</i>		Imperiled (S2)
<i>Drepanocladus sendtneri</i>		Imperiled (S2)
<i>Drepanocladus trichophyllus</i>		Critically Imperiled (S1)
<i>Drepanocladus tundrae</i>		Critically Imperiled (S1)
<i>Drepanocladus uncinatus</i> var. <i>symmetricus</i>		Imperiled (S2)
<i>Encalypta affinis</i> ssp. <i>affinis</i>		Critically Imperiled (S1)
<i>Encalypta affinis</i> ssp. <i>macounii</i>		Imperiled (S2)
<i>Encalypta alpina</i>		Imperiled (S2)
<i>Encalypta brevicolla</i>		Imperiled (S2)
<i>Encalypta brevipes</i>		Imperiled (S2)
<i>Encalypta intermedia</i>		Imperiled (S2)
<i>Encalypta longicolla</i>		Imperiled (S2)
<i>Encalypta mutica</i>		Imperiled (S2)
<i>Encalypta spathulata</i>		Critically Imperiled (S1)
<i>Entodon concinnus</i>		Critically Imperiled (S1)
<i>Entosthodon fascicularis</i>		Imperiled (S2)
<i>Entosthodon rubiginosus</i>	rusty cord-moss	Critically Imperiled (S1)
<i>Epipterygium tozeri</i>		Imperiled (S2)
<i>Eucladium verticillatum</i>		Imperiled (S2)
<i>Eurhynchium pulchellum</i> var. <i>barnesii</i>		Imperiled (S2)
<i>Eurhynchium riparioides</i>		Imperiled (S2)
<i>Fabronia pusilla</i>	silver hair moss	Critically Imperiled (S1)
<i>Fissidens fontanus</i>		Critically Imperiled (S1)
<i>Fissidens pauperculus</i>	poor pocket moss	Critically Imperiled (S1)
<i>Fissidens ventricosus</i>		Imperiled (S2)
<i>Fontinalis hypnoides</i>		Critically Imperiled (S1)
<i>Fontinalis patula</i>		Critically Imperiled (S1)
<i>Funaria muhlenbergii</i>		Imperiled (S2)
<i>Geheebia gigantea</i>		Imperiled (S2)
<i>Gollania turgens</i>		Critically Imperiled (S1)
<i>Grimmia affinis</i>		Imperiled (S2)
<i>Grimmia anomala</i>		Critically Imperiled (S1)
<i>Grimmia elatior</i>		Imperiled (S2)
<i>Grimmia elongata</i>		Critically Imperiled (S1)
<i>Grimmia holzingeri</i>		Imperiled (S2)

---

<i>Grimmia incurva</i>		Critically Imperiled (S1)
<i>Grimmia mollis</i>		Critically Imperiled (S1)
<i>Grimmia montana</i>		Imperiled (S2)
<i>Grimmia plagiopodia</i>		Critically Imperiled (S1)
<i>Grimmia teretinervis</i>		Critically Imperiled (S1)
<i>Grimmia unicolor</i>		Critically Imperiled (S1)
<i>Herzogiella seligeri</i>		Imperiled (S2)
<i>Heterophyllum haidensis</i>		Imperiled (S2)
<i>Homalothecium arenarium</i>		Imperiled (S2)
<i>Hygrohypnum alpestre</i>		Critically Imperiled (S1)
<i>Hygrohypnum duriusculum</i>		Imperiled (S2)
<i>Hygrohypnum norvegicum</i>		Critically Imperiled (S1)
<i>Hygrohypnum polare</i>		Critically Imperiled (S1)
<i>Hygrohypnum styriacum</i>		Imperiled (S2)
<i>Hymenostylium insigne</i>		Imperiled (S2)
<i>Hypnum cupressiforme var. filiforme</i>		Critically Imperiled (S1)
<i>Hypnum cupressiforme var. lacunosum</i>		Critically Imperiled (S1)
<i>Hypnum holmenii</i>		Critically Imperiled (S1)
<i>Hypnum plicatulum</i>		Imperiled (S2)
<i>Hypnum pratense</i>		Imperiled (S2)
<i>Hypnum procerrimum</i>		Imperiled (S2)
<i>Isopterygiopsis muelleriana</i>		Critically Imperiled (S1)
<i>Leptodontium recurvifolium</i>		Imperiled (S2)
<i>Lescuraea incurvata var. gigantea</i>		Critically Imperiled (S1)
<i>Lescuraea incurvata var. tenuiretis</i>		Critically Imperiled (S1)
<i>Lescuraea julacea</i>		Critically Imperiled (S1)
<i>Lescuraea radicata var. denudata</i>		Critically Imperiled (S1)
<i>Lescuraea radicata var. pallida</i>		Critically Imperiled (S1)
<i>Lescuraea saxicola</i>		Critically Imperiled (S1)
<i>Loeskypnum badium</i>		Imperiled (S2)
<i>Loeskypnum wickesiae</i>		Imperiled (S2)
<i>Meesia longiseta</i>		Imperiled (S2)
<i>Meesia uliginosa var. alpina</i>		Critically Imperiled (S1)
<i>Micromitrium tenerum</i>		Presumed Extirpated (SX)
<i>Mielichhoferia macrocarpa</i>	Porsild's bryum	Critically Imperiled (S1)
<i>Mielichhoferia mielichhoferiana</i>		Critically Imperiled (S1)
<i>Mnium arizonicum</i>		Critically Imperiled (S1)
<i>Myrinia pulvinata</i>		Critically Imperiled (S1)
<i>Myurella sibirica</i>		Critically Imperiled (S1)
<i>Neckera pennata var. pennata</i>		Imperiled (S2)
<i>Oedipodium griffithianum</i>		Critically Imperiled (S1)
<i>Oreas martiana</i>		Critically Imperiled (S1)
<i>Orthothecium intricatum</i>		Imperiled (S2)
<i>Orthothecium strictum</i>		Imperiled (S2)
<i>Orthotrichum affine</i>		Imperiled (S2)
<i>Orthotrichum alpestre</i>		Imperiled (S2)
<i>Orthotrichum cupulatum</i>		Critically Imperiled (S1)
<i>Orthotrichum hallii</i>		Critically Imperiled (S1)
<i>Orthotrichum pallens</i>		Imperiled (S2)
<i>Orthotrichum pylaisii</i>		Critically Imperiled (S1)
<i>Orthotrichum rivulare</i>		Critically Imperiled (S1)
<i>Orthotrichum speciosum var. elegans</i>		Imperiled (S2)
<i>Orthotrichum tenellum</i>		Critically Imperiled (S1)
<i>Phascum vlassovii</i>		Critically Imperiled (S1)
<i>Philonotis fontana var. americana</i>		Imperiled (S2)
<i>Philonotis fontana var. pumila</i>		Imperiled (S2)
<i>Philonotis marchica</i>		Critically Imperiled (S1)

---

<i>Philonotis yezoana</i>		Imperiled (S2)
<i>Physcomitrella patens</i>		Critically Imperiled (S1)
<i>Physcomitrium immersum</i>		Presumed Extirpated (SX)
<i>Physcomitrium pyriforme</i>		Imperiled (S2)
<i>Plagiobryum demissum</i>		Critically Imperiled (S1)
<i>Plagiomnium ciliare</i>		Critically Imperiled (S1)
<i>Plagiothecium nemorale</i>		Critically Imperiled (S1)
<i>Plagiothecium platyphyllum</i>		Critically Imperiled (S1)
<i>Pleuroziopsis ruthenica</i>		Critically Imperiled (S1)
<i>Pohlia andalusica</i>		Critically Imperiled (S1)
<i>Pohlia atropurpurea</i>		Imperiled (S2)
<i>Pohlia bolanderi</i>		Imperiled (S2)
<i>Pohlia bulbifera</i>		Critically Imperiled (S1)
<i>Pohlia camptotrachela</i>		Critically Imperiled (S1)
<i>Pohlia cardotii</i>		Imperiled (S2)
<i>Pohlia columbica</i>		Critically Imperiled (S1)
<i>Pohlia elongata</i>		Imperiled (S2)
<i>Pohlia erecta</i>		Critically Imperiled (S1)
<i>Pohlia filum</i>		Imperiled (S2)
<i>Pohlia lescuriana</i>		Critically Imperiled (S1)
<i>Pohlia longicolla</i>		Critically Imperiled (S1)
<i>Pohlia ludwigii</i>		Imperiled (S2)
<i>Pohlia melanodon</i>		Critically Imperiled (S1)
<i>Pohlia obtusifolia</i>		Imperiled (S2)
<i>Pohlia pacifica</i>		Critically Imperiled (S1)
<i>Pohlia sphagnicola</i>		Imperiled (S2)
<i>Pohlia tundrae</i>		Critically Imperiled (S1)
<i>Pohlia vexans</i>		Imperiled (S2)
<i>Polytrichum alpinum</i> var. <i>septentrionale</i>		Critically Imperiled (S1)
<i>Polytrichum commune</i> var. <i>perigoniale</i>		Possibly Extirpated (SH)
<i>Polytrichum longisetum</i>		Imperiled (S2)
<i>Polytrichum sphaerothecium</i>		Critically Imperiled (S1)
<i>Pottia bryoides</i>		Critically Imperiled (S1)
<i>Pottia nevadensis</i>		Critically Imperiled (S1)
<i>Pottia wilsonii</i>		Critically Imperiled (S1)
<i>Pseudephemerum nitidum</i>		Presumed Extirpated (SX)
<i>Pseudobryum cinclidioides</i>		Critically Imperiled (S1)
<i>Psilopilum cavifolium</i>		Critically Imperiled (S1)
<i>Pterygoneurum kozlovii</i>	alkaline wing-nerved moss	Imperiled (S2)
<i>Pterygoneurum lamellatum</i>		Critically Imperiled (S1)
<i>Ptychomitrium gardneri</i>		Imperiled (S2)
<i>Pylaisiella intricata</i>		Critically Imperiled (S1)
<i>Racomitrium canescens</i> ssp. <i>latifolium</i>		Imperiled (S2)
<i>Racomitrium heterostichum</i> var. <i>affine</i>		Imperiled (S2)
<i>Racomitrium pacificum</i>		Vulnerable (S3)
<i>Racomitrium panschii</i>		Critically Imperiled (S1)
<i>Racomitrium pygmaeum</i>		Critically Imperiled (S1)
<i>Rhabdoweisia crispata</i>		Imperiled (S2)
<i>Rhizomnium gracile</i>		Imperiled (S2)
<i>Rhizomnium punctatum</i>		Critically Imperiled (S1)
<i>Rhodobryum roseum</i>		Critically Imperiled (S1)
<i>Rhynchostegium serrulatum</i>		Critically Imperiled (S1)
<i>Schistidium agassizii</i>		Imperiled (S2)
<i>Schistidium apocarpum</i> ssp. <i>canadense</i>		Critically Imperiled (S1)
<i>Schistidium atrichum</i>		Critically Imperiled (S1)
<i>Schistidium boreale</i>		Imperiled (S2)
<i>Schistidium confertum</i>		Critically Imperiled (S1)

---

---

<i>Schistidium dupretii</i>		Imperiled (S2)
<i>Schistidium frigidum</i>		Imperiled (S2)
<i>Schistidium heterophyllum</i>		Critically Imperiled (S1)
<i>Schistidium lancifolium</i>		Critically Imperiled (S1)
<i>Schistidium pulchrum</i>		Critically Imperiled (S1)
<i>Schistidium pulvinatum</i>		Critically Imperiled (S1)
<i>Schistidium relictum</i>		Critically Imperiled (S1)
<i>Schistidium rivulare ssp. latifolium</i>		Critically Imperiled (S1)
<i>Schistidium robustum</i>		Imperiled (S2)
<i>Schistidium splendens</i>		Critically Imperiled (S1)
<i>Schistidium vancouverense</i>		Imperiled (S2)
<i>Scleropodium touretii var. colpophyllum</i>		Critically Imperiled (S1)
<i>Scorpidium turgescens</i>		Imperiled (S2)
<i>Scouleria marginata</i>	marginated streamside moss	Critically Imperiled (S1)
<i>Seligeria acutifolia</i>		Critically Imperiled (S1)
<i>Seligeria campylopora</i>		Imperiled (S2)
<i>Seligeria careyana</i>		Critically Imperiled (S1)
<i>Seligeria subimmersa</i>		Critically Imperiled (S1)
<i>Seligeria tristichoides</i>		Imperiled (S2)
<i>Sematophyllum micans</i>		Imperiled (S2)
<i>Sphagnum annulatum</i>		Critically Imperiled (S1)
<i>Sphagnum aongstroemii</i>		Critically Imperiled (S1)
<i>Sphagnum balticum</i>		Imperiled (S2)
<i>Sphagnum bartlettianum</i>		Imperiled (S2)
<i>Sphagnum contortum</i>		Imperiled (S2)
<i>Sphagnum jensenii</i>		Critically Imperiled (S1)
<i>Sphagnum junghuhnianum var. pseudomolle</i>		Critically Imperiled (S1)
<i>Sphagnum majus ssp. majus</i>		Critically Imperiled (S1)
<i>Sphagnum majus ssp. norvegicum</i>		Critically Imperiled (S1)
<i>Sphagnum nitidum</i>		Critically Imperiled (S1)
<i>Sphagnum obtusum</i>		Critically Imperiled (S1)
<i>Sphagnum orientale</i>		Critically Imperiled (S1)
<i>Sphagnum platyphyllum</i>		Critically Imperiled (S1)
<i>Sphagnum quinquefarium</i>		Imperiled (S2)
<i>Sphagnum rubiginosum</i>		Critically Imperiled (S1)
<i>Sphagnum schofieldii</i>		Critically Imperiled (S1)
<i>Sphagnum sjorsii</i>		Critically Imperiled (S1)
<i>Sphagnum subobesum</i>		Critically Imperiled (S1)
<i>Sphagnum subsecundum var. andrusii</i>		Critically Imperiled (S1)
<i>Sphagnum subsecundum var. inundatum</i>		Critically Imperiled (S1)
<i>Sphagnum wilfii</i>		Critically Imperiled (S1)
<i>Sphagnum wulfianum</i>		Imperiled (S2)
<i>Splachnum luteum</i>		Imperiled (S2)
<i>Splachnum rubrum</i>		Critically Imperiled (S1)
<i>Splachnum vasculosum</i>		Critically Imperiled (S1)
<i>Stegonia latifolia var. latifolia</i>		Critically Imperiled (S1)
<i>Stegonia latifolia var. pilifera</i>		Critically Imperiled (S1)
<i>Tayloria froelichiana</i>		Critically Imperiled (S1)
<i>Tayloria lingulata</i>		Imperiled (S2)
<i>Tayloria serrata var. serrata</i>		Imperiled (S2)
<i>Tayloria serrata var. tenuis</i>		Imperiled (S2)
<i>Tayloria splachnoides</i>		Critically Imperiled (S1)
<i>Tetraplodon angustatus</i>		Imperiled (S2)
<i>Tetraplodon pallidus</i>		Critically Imperiled (S1)
<i>Tetraplodon urceolatus</i>		Critically Imperiled (S1)
<i>Tetradontium brownianum</i>		Imperiled (S2)
<i>Tetradontium repandum</i>		Critically Imperiled (S1)

---

---

<i>Timmia megapolitana</i>		Imperiled (S2)
<i>Timmia norvegica</i>		Imperiled (S2)
<i>Timmia sibirica</i>		Critically Imperiled (S1)
<i>Tomentypnum falcifolium</i>		Imperiled (S2)
<i>Tortella arctica</i>		Critically Imperiled (S1)
<i>Tortella humilis</i>		Critically Imperiled (S1)
<i>Tortella inclinata</i>		Imperiled (S2)
<i>Tortula amplexa</i>		Imperiled (S2)
<i>Tortula bolanderi</i>		Critically Imperiled (S1)
<i>Tortula laevipila</i> var. <i>laevipila</i>	twisted oak moss	Critically Imperiled (S1)
<i>Tortula laevipila</i> var. <i>meridionalis</i>	twisted oak moss	Critically Imperiled (S1)
<i>Tortula ruralis</i> var. <i>hirsuta</i>		Imperiled (S2)
<i>Tortula scotteri</i>		Critically Imperiled (S1)
<i>Tortula subulata</i>		Imperiled (S2)
<i>Trematodon ambiguus</i>		Imperiled (S2)
<i>Trematodon boasii</i>		Critically Imperiled (S1)
<i>Trematodon montanus</i>		Critically Imperiled (S1)
<i>Trichostomum arcticum</i>		Critically Imperiled (S1)
<i>Trichostomum crispulum</i>		Critically Imperiled (S1)
<i>Tripterocladium leucocladulum</i>		Imperiled (S2)
<i>Ulota curvifolia</i>		Critically Imperiled (S1)
<i>Ulota drummondii</i>		Imperiled (S2)
<i>Weissia brachycarpa</i>		Critically Imperiled (S1)
<i>Wijkia carlottae</i>		Imperiled (S2)
<i>Zygodon gracilis</i>		Critically Imperiled (S1)

---

Note: see Table 1 for a definition of each conservation status rank. NatureServe reports range ranks (e.g., S1S2) when there is uncertainty about the conservation status of a particular species. In this report range ranks were rounded to the higher rank (i.e., S1 in the example) or averaged (S2S4 to S3). The original range rank for each species can be obtained at <http://www.natureserve.org>



## **Appendix 2. Methods of Analysis**

### **A. Species Exclusions**

The following groups were excluded from analysis in this study. A full list of individual species is provided in Appendix 1.

#### **Populations**

Populations of species at risk were not included in the analysis since comprehensive lists for most groups do not exist. Only records indicating a species and subspecies in the Species Level field of the Conservation Data Centre's (CDC) B.C. Species and Ecosystems Explorer<sup>1</sup> were considered.

#### **No status**

Species listed as 'no status' in the B.C. Status field of the Conservation Data Centre's (CDC) B.C. Species and Ecosystems Explorer<sup>2</sup> were excluded from the analysis. 'No status' species were generally the parent species of subspecies that exist in B.C. 'No status' records were excluded so as not to double count species.

#### **Exotic or Introduced Species**

Species considered 'exotic' in the B.C. Status field of the Conservation Data Centre's (CDC) B.C. Species and Ecosystems Explorer<sup>3</sup> were excluded from the analysis. Birds listed as exotic or introduced in Cannings (1998) were also excluded from the analysis. Amphibians considered exotic by E-Fauna B.C. were excluded from the analysis.

#### **Accidentals**

Species listed as 'accidental' in the B.C. Status field of the Conservation Data Centre's (CDC) B.C. Species and Ecosystems Explorer<sup>4</sup> were excluded from the analysis. Birds listed as accidental in Cannings (1998) were also excluded from the analysis.

#### **Marine Species**

Marine species were excluded from the analysis as their protection and recovery under law is not the responsibility of the province, but the federal government instead. These species were generally listed as 'cetacea' in the Order field of the Conservation Data Centre's (CDC) B.C.

---

<sup>1</sup> Available at <http://srmapps.gov.bc.ca/apps/eswp/>

<sup>2</sup> Available at <http://srmapps.gov.bc.ca/apps/eswp/>

<sup>3</sup> Available at <http://srmapps.gov.bc.ca/apps/eswp/>

<sup>4</sup> Available at <http://srmapps.gov.bc.ca/apps/eswp/>

Species and Ecosystems Explorer<sup>5</sup>, while other non-cetacean marine species were simply recognized and removed.

### **Non-vascular Plants**

Non-vascular plants (bryophytes, liverworts and hornworts) were excluded from the analysis since taxonomic classifications are incomplete and/or their conservation status remains largely unknown for most members of the group.

### **Species of Unknown or Mixed Origin**

Vascular plants of unknown origin or mixed native and exotic origin according to Meidinger et al. (2004) were excluded from the analysis.

## **B. Taxonomic Lists Used to Enumerate the Species Richness of Major Wildlife Groups**

### **Terrestrial Mammals**

The complete species and subspecies list for terrestrial mammals in B.C. was obtained from the Royal B.C. Museum mammal index<sup>6</sup> and the Conservation Data Centre (CDC).

### **Vascular Plants**

The complete species, subspecies and variety list for vascular plants in B.C. was obtained from the CDC and the standard provincial list prepared by the B.C. Ministry of Forests and Range: Meidinger, Del; Lee, Tina; Douglas, George W.; Britton, Greg; MacKenzie, Will.; Qian, Hong. 2004. British Columbia plant species codes and selected attributes. Version 5 Database. Research Branch. B.C. Ministry of Forests.<sup>7</sup>

### **Amphibians**

The complete species and subspecies list for amphibians in B.C. was obtained from the CDC and E-Fauna B.C.<sup>8</sup>

### **Birds**

The complete species and subspecies list for birds in B.C. was obtained from the CDC and Cannings, R.J. 1998. The birds of British Columbia: a taxonomic catalogue. B.C. Ministry of Environment, Lands and Parks, Victoria, B.C. 266 pp.

---

<sup>5</sup> Available at <http://srmapps.gov.bc.ca/apps/eswp/>

<sup>6</sup> Available at: [http://www.royalbcmuseum.bc.ca/nh\\_papers/mammals/index.html](http://www.royalbcmuseum.bc.ca/nh_papers/mammals/index.html)

<sup>7</sup> Available at: <http://www.for.gov.bc.ca/hre/becweb/resources/codes-standards/standards-species.html>

<sup>8</sup> Available at: <http://www.geog.ubc.ca/biodiversity/efauna/amphibians.html>

## **Reptiles and Turtles**

The complete species and subspecies list was obtained from the CDC and E-Fauna B.C.<sup>9</sup>

## **Freshwater fish**

Comprehensive taxonomic lists below the species level are unavailable.

## **Freshwater and Terrestrial Molluscs**

Comprehensive taxonomic lists below the species level are unavailable.

## **Dragonflies and Damselflies**

Comprehensive taxonomic lists below the species level are unavailable.

## **Butterflies**

Comprehensive taxonomic lists below the species level are unavailable.

---

<sup>9</sup> Available at: <http://www.geog.ubc.ca/biodiversity/efauna/reptiles.html>

### Appendix 3.

#### Species at risk endemic to British Columbia (n = 39)

Scientific Name	English Name	Status In British Columbia
<b>BIRDS; n = 6</b>		
<i>Aegolius acadicus brooksi</i>	Northern Saw-whet Owl, <i>brooksi</i> subspecies	Imperiled (S2)
<i>Cyanocitta stelleri carlottae</i>	Steller's Jay, <i>carlottae</i> subspecies	Vulnerable (S3)
<i>Glaucidium gnoma swarthy</i>	Northern Pygmy-Owl, <i>swarthy</i> subspecies	Vulnerable (S3)
<i>Lagopus leucura saxatilis</i>	White-tailed Ptarmigan, <i>saxatilis</i> subspecies	Vulnerable (S3)
<i>Picoides villosus piceoides</i>	Hairy Woodpecker, <i>piceoides</i> subspecies	Vulnerable (S3)
<i>Pinicola enucleator carlottae</i>	Pine Grosbeak, <i>carlottae</i> subspecies	Vulnerable (S3)
<b>BUTTERFLIES; n = 1</b>		
<i>Plebejus saepiolus insulanus</i>	Greenish Blue, <i>insulanus</i> subspecies	Possibly Extirpated (SH)
<b>FRESHWATER FISH; n = 16</b>		
<i>Coregonus</i> sp. 1	Dragon Lake Whitefish	Presumed Extirpated (SX)
<i>Cottus</i> sp. 2	Cultus Pygmy Sculpin	Critically Imperiled (S1)
<i>Gasterosteus aculeatus</i> ssp.	Charlotte Unarmoured Stickleback	Imperiled (S2)
<i>Gasterosteus</i> sp. 1	Giant Black Stickleback	Critically Imperiled (S1)
<i>Gasterosteus</i> sp. 12	Hadley Lake Limnetic Stickleback	Presumed Extirpated (SX)
<i>Gasterosteus</i> sp. 13	Hadley Lake Benthic Stickleback	Presumed Extirpated (SX)
<i>Gasterosteus</i> sp. 16	Vananda Creek Limnetic Stickleback	Critically Imperiled (S1)
<i>Gasterosteus</i> sp. 17	Vananda Creek Benthic Stickleback	Critically Imperiled (S1)
<i>Gasterosteus</i> sp. 18	Misty Lake "Lake" Stickleback	Critically Imperiled (S1)
<i>Gasterosteus</i> sp. 19	Misty Lake "Stream" Stickleback	Critically Imperiled (S1)
<i>Gasterosteus</i> sp. 2	Enos Lake Limnetic Stickleback	Critically Imperiled (S1)
<i>Gasterosteus</i> sp. 3	Enos Lake Benthic Stickleback	Critically Imperiled (S1)
<i>Gasterosteus</i> sp. 4	Paxton Lake Limnetic Stickleback	Critically Imperiled (S1)
<i>Gasterosteus</i> sp. 5	Paxton Lake Benthic Stickleback	Critically Imperiled (S1)
<i>Lampetra macrostoma</i>	Cowichan Lake Lamprey	Critically Imperiled (S1)
<i>Spirinchus</i> sp. 1	Pygmy Longfin Smelt	Critically Imperiled (S1)
<b>FRESHWATER AND TERRESTRIAL MOLLUSCS; n = 1</b>		
<i>Physella wrighti</i>	Hotwater Physa	Critically Imperiled (S1)
<b>TERRESTRIAL MAMMALS; n = 9</b>		
<i>Gulo gulo vancouverensis</i>	Wolverine, <i>vancouverensis</i> subspecies	Possibly Extirpated (SH)
<i>Marmota vancouverensis</i>	Vancouver Island Marmot	Critically Imperiled (S1)
<i>Microtus townsendii cowani</i>	Townsend's Vole, <i>cowani</i> subspecies	Critically Imperiled (S1)
<i>Mustela erminea anguinae</i>	Ermine, <i>anguinae</i> subspecies	Vulnerable (S3)

<i>Mustela erminea haidarum</i>	Ermine, <i>haidarum</i> subspecies	Imperiled (S2)
<i>Neotamias minimus selkirki</i>	Least Chipmunk, <i>selkirki</i> subspecies	Critically Imperiled (S1)
<i>Ochotona princeps septentrionalis</i>	Common Pika, <i>septentrionalis</i> subspecies	Imperiled (S2)
<i>Rangifer tarandus dawsoni</i>	Dawson Caribou	Presumed Extirpated (SX)
<i>Sorex palustris brooksi</i>	American Water Shrew, <i>brooksi</i> subspecies	Imperiled (S2)
<i>Thomomys talpoides segregatus</i>	Northern Pocket Gopher, <i>segregatus</i> subspecies	Imperiled (S2)

#### VASCULAR PLANTS; n = 6

<i>Lloydia serotina</i> var. <i>flava</i>	Alpine lily	Vulnerable (S3)
<i>Trillium ovatum</i> var. <i>hibbersonii</i>	Dwarf trillium	Critically Imperiled (S1)
<i>Enemion savilei</i>	Queen Charlotte false rue-anemone	Vulnerable (S3)
<i>Geum schofieldii</i>	Queen Charlotte avens	Imperiled (S2)
<i>Saxifraga taylori</i>	Taylor's saxifrage	Vulnerable (S3)
<i>Viola biflora</i> ssp. <i>carlottae</i>	Queen Charlotte twinflower violet	Vulnerable (S3)

Note 1: See Table 1 for a definition of each conservation status rank. NatureServe reports range ranks (e.g., S1S2) when there is uncertainty about the conservation status of a particular species. In this report range ranks were rounded to the higher rank (i.e., S1 in the example) or averaged (S2S4 to S3). The original range rank for each species can be obtained at <http://www.natureserve.org>

Note 2: The list of species at risk that are endemic to British Columbia does not include species and subspecies in the following categories: populations, marine species, non-vascular plants, accidentals, exotics or introduced species, and species listed as no status by the B.C. Conservation Data Center. A full list of species excluded in the analysis is given in Appendix 1.

Note 3: Endemic species that are presumed extirpated (SX) or possibly extirpated (SH) in B.C. are extinct globally (i.e., a global status of GX or GH, respectively).

## Appendix 4. British Columbia's Casualty List

### Species no longer found today in British Columbia (extinct, presumed or possibly extirpated); n = 49

Scientific Name	English Common Name	Status in British Columbia
-----------------	---------------------	----------------------------

#### BIRDS; n = 4

<i>Ectopistes migratorius</i>	Passenger Pigeon	Extinct (GX)
<i>Centrocercus urophasianus</i>	Greater Sage-Grouse	Presumed Extirpated (SX)
<i>Coccyzus americanus</i>	Yellow-billed cuckoo	Presumed Extirpated (SX)
<i>Eremophila alpestris strigata</i>	Horned Lark, <i>strigata</i> subspecies	Presumed Extirpated (SX)

#### BUTTERFLIES; n = 3

<i>Euchloe ausonides insulanus</i>	Large Marble, undescribed island subspecies	Presumed Extirpated (SX)
<i>Limenitis archippus</i>	Viceroy	Presumed Extirpated (SX)
<i>Plebejus saepiolus insulanus</i>	Greenish Blue, <i>insulanus</i> subspecies	Possibly Extirpated (SH)

#### FRESHWATER FISH; n = 3

<i>Coregonus</i> sp. 1	Dragon Lake Whitefish	Extinct (GX)
<i>Gasterosteus</i> sp. 12	Hadley Lake Limnetic Stickleback	Extinct (GX)
<i>Gasterosteus</i> sp. 13	Hadley Lake Benthic Stickleback	Extinct (GX)

#### FRESHWATER AND TERRESTRIAL

##### MOLLUSCS; n = 11

<i>Cryptomastix devia</i>	Puget Oregonian	Presumed Extirpated (SX)
<i>Deroceras hesperium</i>	Evening Fieldslug	Possibly Extirpated (SH)
<i>Fisherola nuttalli</i>	Shortface Lanx	Possibly Extirpated (SH)
<i>Flumicola fuscus</i>	Ashy Pebblesnail	Possibly Extirpated (SH)
<i>Fossaria vancouverensis</i>		Possibly Extirpated (SH)
<i>Musculium partumeium</i>	Swamp Fingernailclam	Possibly Extirpated (SH)
<i>Planorbella columbiensis</i>	Caribou Rams-horn	Possibly Extirpated (SH)
<i>Sphaerium occidentale</i>	Herrington Fingernailclam	Possibly Extirpated (SH)
<i>Valvata humeralis</i>	Glossy Valvata	Possibly Extirpated (SH)
<i>Valvata tricarinata</i>	Threeridge Valvata	Possibly Extirpated (SH)
<i>Vertigo elatior</i>	Tapered Vertigo	Possibly Extirpated (SH)

#### REPTILES and TURTLES; n = 3

<i>Actinemys marmorata</i>	Western Pond Turtle	Presumed Extirpated (SX)
<i>Phrynosoma douglasii</i>	Pigmy Short-horned Lizard	Presumed Extirpated (SX)
<i>Pituophis catenifer catenifer</i>	Gopher Snake, <i>catenifer</i> subspecies	Presumed Extirpated (SX)

#### TERRESTRIAL MAMMALS; n = 3

<i>Rangifer tarandus dawsoni</i>	Dawson Caribou	Extinct (GX)
<i>Gulo gulo vancouverensis</i>	Wolverine, <i>vancouverensis</i> subspecies	Possibly Extirpated (SH)

<i>Lepus townsendii</i>	White-tailed Jackrabbit	Possibly Extirpated (SH)
-------------------------	-------------------------	--------------------------

**VASCULAR PLANTS; n = 22**

<i>Downingia elegans</i>	common downingia	Presumed Extirpated (SX)
<i>Epilobium torreyi</i>	brook spike-primrose	Presumed Extirpated (SX)
<i>Lepidium oxycarpum</i>	sharp-pod peppergrass	Presumed Extirpated (SX)
<i>Lupinus oregonus</i> var. <i>kincaidii</i>	Kincaid's lupine	Presumed Extirpated (SX)
<i>Atriplex alaskensis</i>	Alaskan orache	Possibly Extirpated (SH)
<i>Elymus virginicus</i> var. <i>submuticus</i>	beardless wildrye	Possibly Extirpated (SH)
<i>Epilobium pygmaeum</i>	smooth spike-primrose	Possibly Extirpated (SH)
<i>Ericameria bloomeri</i>	rabbitbrush goldenweed	Possibly Extirpated (SH)
<i>Eriogonum pauciflorum</i> var. <i>pauciflorum</i>	few-flowered buckwheat	Possibly Extirpated (SH)
<i>Gilia sinuata</i>	shy gilia	Possibly Extirpated (SH)
<i>Leucanthemum arcticum</i>	arctic daisy	Possibly Extirpated (SH)
<i>Lupinus arbustus</i> ssp. <i>neolaxiflorus</i>	spurred lupine	Possibly Extirpated (SH)
<i>Parrya nudicaulis</i>	northern parrya	Possibly Extirpated (SH)
<i>Piptatherum canadense</i>	Canada Ryegrass	Possibly Extirpated (SH)
<i>Pleuricospora fimbriolata</i>	fringed pinesap	Possibly Extirpated (SH)
<i>Poa laxa</i> ssp. <i>banffiana</i>	Banff bluegrass	Possibly Extirpated (SH)
<i>Poa nervosa</i>	coastal bluegrass	Possibly Extirpated (SH)
<i>Polypodium sibiricum</i>	Siberian polypody	Possibly Extirpated (SH)
<i>Prenanthes racemosa</i> ssp. <i>multiflora</i>	purple rattlesnake-root	Possibly Extirpated (SH)
<i>Ranunculus lobbii</i>	Lobb's water-buttercup	Possibly Extirpated (SH)
<i>Senecio hydrophilus</i>	alkali-marsh butterweed	Possibly Extirpated (SH)
<i>Senecio integerrimus</i> var. <i>ochroleucus</i>	white western groundsel	Possibly Extirpated (SH)

Note 1: See Table 1 for a definition of each conservation status rank. NatureServe reports range ranks (e.g., S1S2) when there is uncertainty about the conservation status of a particular species. In this report range ranks were rounded to the higher rank (i.e., S1 in the example) or averaged (S2S4 to S3). The original range rank for each species can be obtained at <http://www.natureserve.org>

Note 2: The list of extinct and extirpated species does not include species and subspecies in the following categories: populations, marine species, non-vascular plants, accidentals, exotics or introduced species, and species listed as no status by the B.C. Conservation Data Center. A full list of species excluded in the analysis is given in Appendix 1.

Note 3: Extinct species (GX) no longer exist anywhere on the planet. Conversely, species that are presumed extirpated (SX) or possibly extirpated (SH) in B.C. are no longer found in the province, but may be found in other jurisdictions within their global range.