

PROPOSED RED LIST FOR SASKATCHEWAN LICHENS

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Of the 500⁺ lichens known for Saskatchewan (de Vries 2012), twenty six (26) are a 1st record for the Province to date, and have been given the conservation ranking status of S1. Forty three (43) were previously recorded but remain rare (< 6) and have also been given the conservation ranking status of S1. These lichens form the preliminary basis for the Red List of Saskatchewan Lichens.

Red lists function in evaluating conditions affecting rare lichens in certain areas, and finding ways of protecting these species and their habitat. The list is based on information given in various literature (Thomson 1984, 1997) and (Brodo et al. 2001), herbarium collections, data provided by the Forest Ecosystem Classification Survey (FECS.1999-2005), the Saskatchewan Conservation Data Centre Fungi lists, personal field observations, records, correspondence, and records listed in Goward et al. (1998).

Scientific names are those of Esslinger (2011), followed by substratum, UTM or GPS location, ecozone, collector, collection year, whether the species was recorded or not for the SKCDC fungi lists, ranking status, and comments.* Denotes lichenicolous fungi.

UTM or GPS quotations are usually those of the general collecting area or nearest settlement unless otherwise noted and not always those of the exact lichen location.

The list is periodically updated when new records become known or changes occur in the literature. A list of other rare lichens has not been listed, as these lichens were incompletely documented.

RED LIST OF SASKATCHEWAN LICHENS

Species	Authority	Habitat	Location	Survey Site	Ecoregion	Reference
<i>Abrothallus parmeliarum*</i>	(Sommerf.) Arnold	Parasitic on <i>Usnea subfloridana</i> on Jack Pine	UTM12 644748-6605406	Vicinity of Uranium City	Taiga Shield	FECS 2000
			54.36N, 105.14W	South of East Trout Lake	Boreal Plain	FECS 2000
<i>Arctocetraria nigricascens</i>	(Nyl.) Kärnefelt & Thell,	On soil	UTM12 616620-6555204		Boreal Shield	FECS 2000
<i>Arctoparmelia incurva</i>	(Pers.) Hale	On rock.				FECS 2001
<i>Baeomyces rufus</i>	(Hudson) Rebert	On soil	UTM13 42950-5897590 56.54N, 105.41W			FECS 2000
				Foster lake	Taiga Shield	FECS 2000
<i>Bryoria chaldeiformis</i>	(L.) Brodo & D. Hawksw.	On Black Spruce	UTM12 595420-6624730	Tazin Lake	Taiga Shield	FECS 1999
				Near Stony Rapids	Taiga Shield	Thomson 1984
<i>Bryoria nadvornikiana</i>	(Gyelnik) Brodo & D. Hawksw.	On Black Spruce Bark	UTM12 599820-6622450	Tazin Lake	Taiga Shield	FECS 1999
				Hasbala Lake	Taiga Shield	FECS Unpublished report
<i>Buellia disciformis</i>	(Fr.) Mudd.	On tree bark			Aspen Parkland	Collector unknown Date unknown
					Taiga Shield	Thomson 1997
					Boreal Shield	Brodo et al. 2001
					Boreal Plain	Brodo et al. 2001
<i>Caloplaca cirrochroa!</i>	(Ach.) Th. Fr.	Calcareous rock			Prairie	Looman 1962b

! First Record *Lichenicolous

Species	Authority	Habitat	Location	Survey Site	Ecoregion	Reference
<i>Caloplaca epithallina</i> !	Lynge	Parasitic on <i>Cladina</i> sp. on rock	UTM12 640532-6606887	North shore of Lake Athabasca Uranium City	Taiga Shield	FECS 2000
<i>Caloplaca flavorubescens</i> !	(Hudson) J.R. Laundon	Tree bark			Prairie	Sheard, J.W. and M.E. Jonescu. 1970
<i>Caloplaca pollinii</i> !	(A Massal.) Jatta	Aspen bark			Prairie	Sheard, J.W. 2010
<i>Castillaria chalbeia</i>	(Borrer) A. Massal.	On siliceous rock	49.00N, 103.00W	Southeast	Prairie	Looman. 1962b
<i>Cetraria nigricans</i> !	Nyl.	On Jack-pine bark	59.91N, 102.38W	Arctic Butte	Taiga Shield	FECS 1999
<i>Cetrariella commixta</i> !	(Nyl.) A. Thell & Kärnefelt	On soil			Taiga Shield	FECS 1999
<i>Chenotheca bruneola</i> !	(Ach.) Muell. Arg.	On decaying wood	54.73N, 101.95W	Amisk Lake	Boreal Shield	FECS 2000
<i>Chenotheca chrysocephala</i> !	(Ach.) Th. Fr	On bark.	UTM12 616814-6555067 50.98N, 105.17W	South Shore Lake Athabasca Rowan`s Ravine Provincial Park	Boreal Shield. Prairie	FECS 2000 de Vries, B. 2012
<i>Cladonia cyanipes</i> !	(Sommerf.) Nyl.	On soil	57.59N, 104.23W	Pink Lake	Taiga Shield.	FECS 2000
<i>Cladonia macrophylla</i>	(Schaerer) Stenh.	On soil	57.32N, 106.81W	Cree Lake	Boreal Shield	FECS 2001
<i>Cladonia maxima</i>	(Asahina) Ahti	On soil		Tazin Lake	Taiga Shield	FECS 1999

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Species	Authority	Habitat	Location	Survey Site	Ecoregion	Reference
<i>Cladonia robbinsii</i>	A. Evans	On soil	50.60N, 101.68W	Spy Hill, Ellice PFRA Pasture	Prairie	de Vries 2009.
<i>Cladonia scabriuscula</i>	(Delise) Nyl.	On soil				FECS 2001
<i>Cladonia subulata</i>	(L.) F.H. Wigg.	On soil	UTM12 622971-6596911	South Shore Lake Athabasca	Boreal Shield	Previously recorded in Thomson 1984, Brodo et al. 2001
<i>Cladonia turgida</i>	Hoffm.	On soil	58.30N, 102.50W	Arctic Butte	Taiga Shield	FECS 1999
<i>Diploschistes gypsaceus!</i>	(Ach.) Zahlbr.	On non-calcareous rock			Prairie	Looman. 1991
<i>Flavocetraria cuculata</i>	(Bellardi) Kärnefelt & Thell.	On soil	UTM12 614691-6556450	South Shore Lake Athabasca	Boreal Shield	FECS 2000. Previously recorded in Brodo et al. 2001
<i>Glypholecia scabra!</i>	(Pers.) Mull. Arg.	On rock	49.10N, 102.98W	South of Estevan.	Prairie	de Vries, B., 2005
<i>Hypotrachyna sinuosa!</i>	(Sm.) Hale	On bark	50.92N, 105.50W	McKeever Lake	Taiga Shield.	Collector unknown, Date unknown
<i>Lasallia papulosa</i>	(Ach.) Llano	On tree bark	UTM12 600401-6622700	Tazin Lake	Taiga Shield.	FECS. 1999. Previously recorded in Brodo et al. 2001
<i>Lecanora circumborealis</i>	Brodo & Vitik	On bark	53.57N, 103.27W	Tobin Lake	Boreal Plain	FECS 2001
<i>Leptogium saturninum</i>	(Dickson) Nyl.	Deciduous tree bark	58.30N, 102.50W	Arctic Butte	Taiga Shield.	FECS 1999. Previously recorded in Thomson 1984.
<i>Melanelia stygia</i>	(L.) Essl.		59.96N, 106.21W	Selwyn Lake	Taiga Shield	FECS 2001.

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Species	Authority	Habitat	Location	Survey Site	Ecoregion	Reference
<i>Melanohalea elegantula</i> (<i>Melanelia elegantula</i>)	(Zahlbr.) Blanco et al.	Tree bark	58.30N, 102.50W	Arctic Butte	Taiga Shield	FECS 1999.
<i>Micarea assimilate!</i>	(Nyl.) Coppins	On bark			Taiga Shield	Thomson & Scotter 1961
<i>Microcalicium disseminatum*!</i>	Vainio	On bark		Amisk Lake	Boreal Shield	FECS 2000.
<i>Mycobilimbia tetramera</i>	(DeNot.) Vitik	With mosses on forest floor				FECS 2001. Previously recorded in Brodo et al. 2001.
<i>Mycoblastus alpinus!</i>	(Fr.) Kernst.	On bark			Taiga Shield	FECS 2001
<i>Nephroma arcticum</i>	(L.) Torss.	On soil	59.76N, 103.39W	Bonokoski Lake	Taiga Shield	FECS 1999. Previously recorded in Thomson 1984.
<i>Nephroma bellum</i>	(Sprengel) Tuck.	On soil			Taiga Shield	Thomson & Scotter 1961.
<i>Ochrolechia frigida</i>	(Sw.) Lynge,	On soil.			Taiga Shield.	Thomson & Scotter 1961.
<i>Ochrolechia inaequatula!</i>	(Nyl.) Zahlbr.	On soil.	50.92N, 105.50W	McKeever Lake.	Taiga Shield.	Collector unknown Date unknown
<i>Parmelia omphalodes</i> ssp. <i>omphalodes</i>	(L.) Ach	On bar.		Location unknown	Taiga Shield.	Thomson & Scotter 1961.
<i>Peltigera scabrosa</i>	Th. Fr.	On soil		Stony Rapids.	Boreal Shield.	FECS 1999. Previously recorded in Thomson 1984.
<i>Physcia leptalia</i>	(Ach.) DC.	On bark			Taiga Shield	Jonescu 1970

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Species	Authority	Habitat	Location	Survey Site	Ecoregion	Reference
<i>Porpinia macrocarpa</i>	(DC.) Hertel & A.J. Schwab	On rock				Looman, 1962b
<i>Psora cerebriiformis!</i>	W.A. Wieber	On calcareous soil	50.03N, 106.38W 49.55N, 108.82W 50.50N, 106.63W	Fosterton Eastend Saskatchewan Landing Provincial Park Grassland National Park	Prairie Prairie Prairie	Looman, J. 1964 de Vries, B. 2008 de Vries, B. 2010 Freebury, C. 2009
<i>Psorula rufonigra</i>	(Tuck.) Goth. Schneider	On rock		Location unknown	Taiga Shield	Argus 1964.
<i>Punctelia rudecta!</i>	(Ach.) Krog	On bark	50.33N, 104.66W	Higginson Lake.	Boreal Shield	Collector unknown Date unknown
<i>Punctelia subrudecta</i>	(Nyl.) Krog	On White Birch bark	51.65N, 101.58W	Duck Mountain. Provincial Park. Barrier Ford Road east of Green Water Provincial Park.	Boreal Plain. Prairie	de Vries, B. 2004, 2005, 2011 de Vries, B. 2007
		On Jack-pine bark.	51.42N, 104.25W	North of Hudson Bay in the Porcupine Hills Touchwood Hills Provincial Heritage Park	Boreal Plain Prairie	de Vries, B. 2012

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Species	Authority	Habitat	Location	Survey Site	Ecoregion	Reference
<i>Rhizocarpon concentricum</i>	(Davies) Beltr.	On acidic rock		Extreme southeast grasslands.	Prairie	Looman, J. 1964
<i>Rhizoplaca peltata!</i>	(Ramond) Leuckert	On rock	49.10N, 102.47W	South of Estevan on private land.	Prairie	de Vries, B. 2005
<i>Rinodina austroborealis!</i>	Scheard	On bark		Location unknown	Prairie	Sheard, J. Pers comm.
<i>Rinodina populicola!</i>	H. Magn.	On bark		Location unknown	Prairie	Sheard, J. Pers comm.
<i>Sphaerophorus fragilis</i>	(L.) Pers.	On soil	49.67N, 109.50W	Cypress Hills Interprovincial Park.	Prairie	Looman, J. 1964
<i>Squamarina lentigera!</i>	(Weber) Poelt	On soil		Location unknown	Prairie	Looman, J. 1964
<i>Stereocaulon alpinum</i>	Laurer ex Funck.	On gravelly soil	58.30N, 102.50W	Arctic Butte	Taiga Shield	FECS 1999.
<i>Stereocaulon dactylophyllum</i>	Flörke	On soil		Location unknown	Taiga Shield	Thomson W. & Scotter S. 1961
<i>Tetramelas triphragmioides</i> (<i>Buellia triphragmioides</i>)	(Anzi) A. (Nordin & Tibell)	Aspen bark	49.67N, 109.50W	Cypress Hills Interprovincial Park.	Prairie	Sheard, J.W. 2010
<i>Toninia tristes</i> ssp. <i>asiae-centralis!</i>	(H.Magn.) Timdal	On calcareous soil	49.15N, 105.97W	East of Rock Glen	Prairie	de Vries, B. 2010
<i>Tuckermannopsis ciliaris</i>	(Ach.) Gyelnik	On bark		Location unknown	Boreal Shield	Thomson W. & S. Scotter 1961
<i>Umbilicaria hyperborea</i>	(Ach.) Hoffm.	On rock Rock outcrop	UTM12 646490-664460 Approximately 59.35N, 104.78W	Misaw Lake Northeast of Higginson Lake	Taiga Shield	FECS. 1999. Thomson & Scotter 1961

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Species	Authority	Habitat	Location	Survey Site	Ecoregion	Reference
<i>Umbilicaria mammulata</i>	(Ach.) Tuck.	On rock	UTM12 600401-6622700.	Tazin Lake North shore Lake Athabasca, Uranium City.	Taiga Shield Taiga Shield	FECS 1999. Previously recorded in Thomson 1984. FECS 2000
<i>Umbilicaria virginis!</i>	Scheerer	On conglomerate rock	49.67N, 109.50W	West Block Cypress Hills Interprovincial Park.	Prairie	Looman, J. Date unknown
<i>Verrucaria glaucovirens!</i>	Grumann	On rock	49.67N, 109.50W	Cypress Hills Interprovincial Park.	Prairie	Looman, J. 1964
<i>Verrucaria margacea!</i>	(Wahlenb.) Wahlenb.	On rock	49.67N, 109.50W	Cypress Hills Interprovincial Park.	Prairie	Looman, J. 1964
<i>Verrucaria viridula!</i>	(Schrader) Ach.	On rock	49.67N, 109.50W	Cypress Hills Interprovincial Park.	Prairie	Looman, J. 1964
<i>Xanthoparmelia lineola</i>	(E. C. Barry) Hale	On rock			Boreal Shield	FECS 2005
		Also recorded on beach cobbles	59.27N, 109.70W	Beartooth Island (<i>Bearteeth Island</i>)	Taiga Shield	Argus W. 1964
<i>Xanthoparmelia stenophylla</i> (<i>Xanthoparmelia somlöensis</i>)	(Ach.) Ahti & D. Hawksw.	On exposed boulder	54.62N, 102.09W	Amisk Lake	Boreal Shield	FECS 2000
		Also recorded on rock	46.87N, 104.25W	Pink Lake	Boreal Shield	FECS 2000

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Species	Authority	Habitat	Location	Survey Site	Ecoregion	Reference
<i>Xanthoparmelia tasmanica</i>	(Hooker f. & Taylor) Hale	On rock	58.30N, 102.50W	Arctic Butte	Taiga Shield	FECS 1999
		On rock		North shore Lake Athabasca-Uranium City	Taiga Shield	FECS 2000
<i>Xylographa parallela</i>	Ach. (Fr.) Behlen & Desberger	On tree bark	UTM12 617354-6554922			FECS 1999

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COMMENTS

The ranking status of the lichens recorded in this list are mostly based on frequency of submitted specimens by the FECS 1999-2005 and to a lesser extent on that given in various literature, but must be seen as arbitrarily. Most of the rare lichens recorded for Saskatchewan occur on crown lands, but some are found on private properties.

The main cause of habitat loss severely affecting lichens including rare species is logging, seismic explorations, climatic changes which can adversely modify critical lichen habitat. Terrestrial species are endangered by converting native grasslands into agricultural lands, over grazing, cattle trampling and also by climatic changes. Rock lichens are relatively secure, although climatic change could alter their environment, making it hostile for their survival.

Species in Provincial or National Park are apparently secure in their natural habitat. Four very rare southern grassland species are on the brink of extirpation and should be considered candidates for conservation:

Psora cerebriformis is only documented for Fosterton, Eastend, Saskatchewan Landing Provincial Park and the Grassland National Park;

Umbilicaria virginis has only one Saskatchewan record from Cypress Hills Inter-provincial Park;

Glypholecia scabra is currently known from only one location on private land south of Estevan;

Rhizoplaca Peltata is also only known from one location on private land south of Estevan, and;

Toninia tristis ssp. *asiae-centralis* has only been recorded south-east of Rock Glen on open range lands.

Were these species to receive the same attention as, for instance, Sage Grouse, Burrowing Owl or any rare plant species, the plea for urgent protection of these rare lichens would not be a cry in the wilderness. Action is the key to preservation of these rare species.

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