



## Rusty Cord-moss

Photo: © Marc Jones



**Scientific name**  
*Entosthodon rubiginosus*

**Taxon**  
Mosses

**COSEWIC Status**  
Special Concern

**Canadian range**  
British Columbia, Saskatchewan

### Reason for Designation

The known distribution and abundance of this moss has increased significantly due to field and collection research since the species was first assessed by COSEWIC in 2004, resulting in decreased extinction risk. It is now known from both British Columbia and Saskatchewan, and considerable unexplored potential habitat exists. Small declines have been observed, and potential threats, including, livestock use, climate change, conversion of natural habitat for agricultural use, and alien invasive species, have been identified. The species remains at risk and could become Threatened unless threats are mitigated with demonstrable effectiveness.

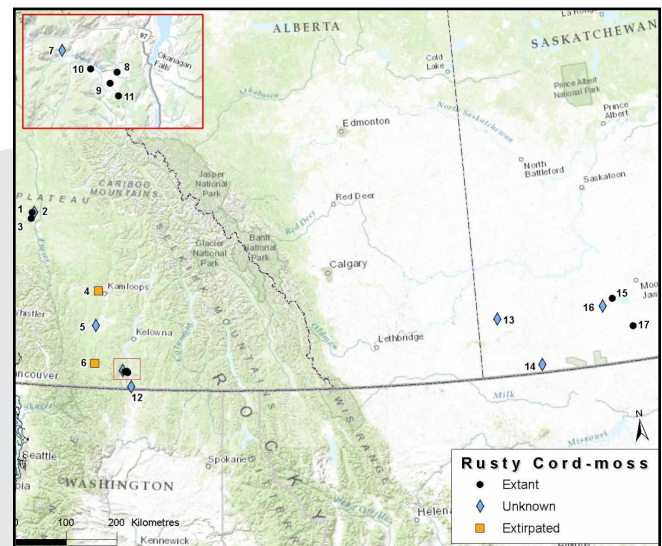
### Wildlife Species Description and Significance

Rusty Cord-moss is a small, pale green to green moss that grows as individual stems or in tiny patches. It grows to 2–3 mm high and is inconspicuous and often hidden among other mosses. Rusty Cord-moss is endemic to North America where it is rare across its total range. The Canadian occurrences

represent the northernmost extent of its range in North America. In addition to its Canadian occurrences, there are seven known occurrences in the United States (one of which is historical). Rusty Cord-moss can be distinguished from the similar *Entosthodon fascicularis* by microscopic characters in the capsule wall.

### Distribution

Rusty Cord-moss is endemic to western North America and is found in arid and semiarid regions of British Columbia, Saskatchewan, Montana, Arizona, New Mexico, Texas, and Washington. In Canada, Rusty Cord-moss has been found at 17 sites, including 12 in the southern interior of British Columbia and five in southwestern Saskatchewan.



Canadian distribution of Rusty Cord-moss. Sites are:

- |                  |                         |
|------------------|-------------------------|
| 1. Roundup Lake; | 10. Park Rill;          |
| 2. Lost Lake;    | 11. Grasslands;         |
| 3. Riske Creek;  | 12. Strawberry Creek;   |
| 4. Cooney Bay;   | 13. Maple Creek;        |
| 5. Quilchena;    | 14. Climax;             |
| 6. Princeton;    | 15. Courval;            |
| 7. Twin Lakes;   | 16. Gravelbourg;        |
| 8. Observatory;  | 17. Lake of the Rivers. |
| 9. White Lake;   |                         |

### Habitat

In Canada, Rusty Cord-moss is restricted to seasonally damp, saline, usually silt- or clay-rich soil at the edges of open ponds, lakes, sloughs, and seepage slopes in relatively dry environments. It grows on bare soil and tolerates some accumulation of litter and vascular

plants. Rusty Cord-moss is most often found within a narrow band around the edges of wetlands where the topography is flat to very slightly sloping. It has not been found in saline sites where tall rushes and sedges dominate. The saline nature of these areas arises from evaporation of water during warmer months over many years, leaving minerals behind.

## Biology

Rusty Cord-moss may be an annual or short-lived perennial (~2 years) that regularly produces sporophytes. Short-range dispersal of spores, spore persistence in the soil, and the spread of vegetative fragments all likely contribute to the persistence of Rusty Cord-moss subpopulations. Rusty Cord-moss has physiological traits that allow it to survive in arid and semi-arid environments, such as prolonged dormancy, curled leaf margins, and leaf hair points.

## Population Sizes and Trends

Rusty Cord-moss is known from 17 sites, 12 of which are in the southern interior of British Columbia and five are in southwestern Saskatchewan. It may be extirpated from two sites in British Columbia. Continuing bryophyte surveys have increased the number of known sites: only four sites were documented at the time of the initial status report in 2004. Most known sites of Rusty Cord-moss are small patches containing fewer than 10 individuals, but two recently discovered sites in British Columbia, Park Rill in the White Lake Basin and Roundup Lake on the Chilcotin Training Area, support larger subpopulations of more than 1000 individuals. Based on resurveys, most subpopulations in the White Lake Basin and Chilcotin appear to be stable. However, many of the sites with small subpopulations were not relocated in 2015, making it difficult to estimate trends in abundance.

## Threats and Limiting Factors

Rusty Cord-moss is limited to seasonally damp, bare soil usually associated with saline lakes, ponds, sloughs, and seeps. Threats include livestock use, changing hydrological regimes associated with climate change, conversion of wetlands to agricultural uses, alien invasive species, off-road vehicular use, and disturbance due to Canada Geese. Heavy livestock use, which can directly and indirectly affect Rusty Cord-moss through trampling and soil disturbance, is a medium-low threat to the species. Most known Rusty Cord-moss sites are accessible

to livestock, and livestock use at some sites is quite high. The effects of changes in wetland hydrology caused by altered temperature and precipitation on Rusty Cord-moss are unknown. Rusty Cord-moss habitats may become drier, more ephemeral, and subject to greater hydrological extremes due to climate change. Conversion of wetlands to agriculture is a negligible threat to Rusty Cord-moss sites in the prairies, although none of the sites documented in Saskatchewan appears to be threatened by this currently. Other threats are likely to have negligible or unknown impacts.

## Protection, Status, and Ranks

Rusty Cord-moss was assessed as Endangered by COSEWIC and is listed as Endangered on Schedule 1 of the *Species at Risk Act*. NatureServe ranks Rusty Cord-moss's global conservation status as G1G3, ranging from Critically Imperilled to Vulnerable (high to moderate risk of extirpation or extinction). In British Columbia, it is Blue-listed (defined as a taxon of special concern that is particularly sensitive or vulnerable to human activities or natural events) and is ranked by the BC Conservation Data Centre as S2S3, ranging from Imperilled to Vulnerable (high to moderate risk of extirpation or extinction). It is considered historical (SH, known only from records over 50 years ago, and it may be rediscovered) by the Montana Natural Heritage Program and is unranked in Arizona, New Mexico and Washington. Occurrences of Rusty Cord-moss on the Chilcotin Training Area and in the White Lake Basin have some protection under current management guidelines in these areas

Source: COSEWIC. 2017. COSEWIC assessment and status report on the Rusty Cord-moss *Entosthodon rubiginosus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 41 pp.

For more information, please visit [www.sararegistry.gc.ca](http://www.sararegistry.gc.ca).

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