



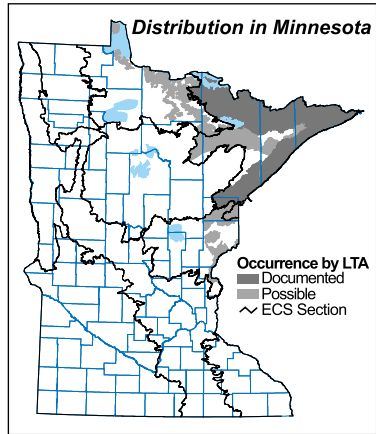
Northern Scrub Talus

Dry to mesic, shrub- or tree-dominated communities on steep talus slopes of all aspects, often below cliffs or rock outcrops, in rugged terrain in northeastern Minnesota.

Vegetation Structure & Composition

Description is based on summary of plant species lists and field notes from approximately 15 talus slopes.

- **Bryophyte and lichen** cover is high. Mosses often form dense carpets on mesic sites, while lichens are abundant on dry sites.
- **Herbaceous plant** cover is sparse to patchy (5-50%), with herbaceous plants most abundant and diverse on mesic sites.
- **Shrub** cover is patchy to continuous (25-100%). Poison ivy (*Toxicodendron rydbergii*), woodbine (*Parthenocissus vitacea*), snowberry (*Symphoricarpos albus*), and climbing bitter-sweet (*Celastrus scandens*) are characteristic on dry sites (see CTn24a below), while mountain maple (*Acer spicatum*) and Canada yew (*Taxus canadensis*) are common on mesic sites.
- **Tree canopy** is short, with sparse to patchy cover (5-50%). Characteristic species include heart-leaved birch, paper birch, mountain ash, and, on mesic sites, white cedar (see CTn24b below).



Landscape Setting & Soils

CTn24 is most common on middle to upper portions of steep talus slopes below cliffs or rock outcrops in rugged, bedrock-controlled terrain in landscapes dominated by Superior and Rainy lobe till deposits. CTn24 is rarely present below cliffs in river gorges or along lakeshores because of removal of talus blocks by flooding or wave action. Common rock types include diabase, basalt, gabbro, diorite, anorthosite, and granite. Size and shape of talus blocks are quite varied, depending on the cleavage properties of the parent bedrock. CTn24 usually develops on the smaller talus typical of the upper parts of most talus slopes, at the immediate base of the parent cliff or rock outcrop. The talus usually averages <12in (30cm) in diameter, although on dry sites the community often extends downslope over larger blocks.

Natural History

Species in talus communities are exposed to greater environmental extremes than species in surrounding terrestrial communities, including more rapid fluctuations in substrate temperature, high desiccation rates because of low substrate moisture-holding capacity and exposure to direct sunlight and strong winds, limited nutrient availability, and stress caused by shifting substrates. Trees and shrubs are rooted beneath the talus while herbaceous plants root in moss mats or pockets of soil. Major rock slides, triggered by fracturing of rock from upslope cliffs and outcrops, are rather uncommon events that disrupt community equilibrium and set back succession. Rock slides often remove trees and shrubs, returning parts of the community to open talus.

Similar Native Plant Community Classes

● CTn12 Northern Open Talus

CTn12 is similar to and often associated with CTn24, typically occurring on larger talus blocks (averaging 12-36in [30-90cm] in diameter) immediately downslope from CTn24. When the two communities are present on the same slope, the line between them, based on woody plant cover, is usually distinct. Some open talus slopes, especially those composed of smaller talus blocks (averag-



ing <12in in diameter), occasionally have scattered small trees. These examples are intermediate between open and scrub talus. They are structurally similar to CTn24 but, based on lichen and moss species, are floristically more similar to CTn12.

▶ **CTn12**—Tree and shrub cover is <5%. Fruticose lichens, such as reindeer lichen (*Cladina* spp.), are abundant.

▶ **CTn24**—Tree and shrub cover is 25-50%. Fruticose lichens are uncommon or absent.

● **FDn43 Northern Mesic Mixed Forest**

FDn43, when dominated by white cedar or by heart-leaved or paper birch, often grades into Mesic Scrub Talus (see CTn24b below), especially on steep, rocky slopes. In general, where talus slopes have >50% tree cover, they are classified as forest rather than scrub talus communities.

● **CTn11 Northern Dry Cliff** and **CTn32 Northern Mesic Cliff**

Cliff communities share a number of species with CTn24, especially in the typical situation where talus slopes are present below cliffs. Cliffs are easily differentiated from talus slopes, however, based on substrate (i.e., solid vertical bedrock vs. sloping talus).

Native Plant Community Types in Class

● **CTn24a Dry Scrub Talus (Northern)**

Dry communities dominated by shrubs and small trees. Poison ivy and woodbine are often abundant. Talus fragments are small to moderate sized (<12in [30cm] average diameter). CTn24a occurs on steep slopes below predominantly southeast- to west-facing cliffs in the North Shore Highlands and Border Lakes subsections in NSU.

● **CTn24b Mesic Scrub Talus (Northern)**

Dry-mesic to mesic communities dominated by shrubs and small, open-grown trees. White cedar, heart-leaved birch, mountain maple, Canada yew, and mountain ash are characteristic. Large white pines are occasionally present. Talus fragments are small to moderate sized (<12in [30cm] average diameter). CTn24b occurs predominantly on steep northwest- to east-facing slopes below cliffs in the North Shore Highlands and Border Lakes subsections in NSU.



photo by M.D. Lee, MN DNR

Bear Lake, Lake County, MN