Central Poor Dry Pine Woodland
Dry jack pine woodlands on level, sandy lacustrine and outwash deposits in northcentral Minnesota. Crown fires and surface fires were common historically.

Vegetation Structure & Composition
Description is based on summary of vegetation data from 25 plots (relevés).
- **Ground layer** is characterized by low, broad-leaved evergreen half-shrubs and herbs, which are common and often abundant, especially lowbush blueberry (*Vaccinium angustifolium*), wintergreen (*Gaultheria procumbens*), and bearberry (*Arctostaphylos uva-ursi*). Other ground-layer plants are sparse to patchy (5-50% cover) and consist mainly of dry woodland and shade-intolerant species such as northern bedstraw (*Galium boreale*), Canada mayflower (*Maianthemum canadense*), common strawberry (*Fragaria virginiana*), balsam ragwort (*Senecio pauperculus*), spreading dogbane (*Apocynum androsaemifolium*), pussytoes (*Antennaria spp.*), and sharp-pointed rice grass (*Oryzopsis pungens*).
- **Shrub layer** is sparse to patchy, with sand cherry (*Prunus pumila*) and juneberries (*Amelanchier spp.*) most common.
- **Subcanopy** is usually absent.
- **Canopy** is patchy to interrupted (25-75% cover) and strongly dominated by jack pine, occasionally with some red pine.

Landscape Setting & Soils
- **Outwash plains and sandy glacial lake plains.** Landscape is level. Parent material is gravelly outwash and well-sorted sandy lacustrine sediments. Originally the parent material was calcareous, but free carbonates are typically leached from the upper 60in (150cm). Subsoil horizons that retain snowmelt or rainfall are absent. Soils have very low nutrient levels because of a long history of conifer cover and severe crown fires. Soils are excessively drained. Soil-moisture regime is moderately dry. (Chippewa Plains and Pine Moraines & Outwash Plains in MDL)

Natural History
In the past, fires were very common throughout the range of FDc12. An analysis of Public Land Survey records indicates that the rotation of catastrophic fires was about 120 years, and the rotation of mild surface fires about 30 years. The rotation of all fires combined is estimated to be 25 years. Windthrow was not common, with an estimated rotation exceeding 1,000 years. Based on the historic composition and age structure of these woodlands, FDc12 had two growth stages separated by a long period of transition.
- **0-55 years**—Young woodlands recovering from fire, strongly dominated by jack pine with minor amounts of red pine and quaking aspen.
- **55-115 years**—A long transition period marked by the gradual replacement of jack pine by red pine.
- **>115 years**—Mature woodlands dominated by red pine. Cohorts of red pine and jack pine become established in the understory following surface fires.
**Similar Native Plant Community Classes**

- **FDc23  Central Dry Pine Woodland**
  Both communities are strongly dominated by jack pine and develop on sandy, drought-prone landscapes. FDc23 is present, however, on former prairie sites that have been occupied by jack pine for only about 1,000 years, compared to about 3,000 years for FDc12. As a result, soils in FDc23 contain more organic matter and nutrients, which is reflected in a denser canopy of jack pine and more deciduous species in the subcanopy and sapling layer, particularly bur oak, northern red oak, and quaking aspen.

  - **FDc23**—More likely to have pin cherry (*Prunus pensylvanica*) and abundant American hazelnut (*Corylus americana*) in the shrub layer, and prairie species such as skyblue aster (*Aster oolentangiensis*), Virginia ground cherry (*Physalis virginiana*), oval-leaved milkweed (*Asclepias ovalifolia*), and alumroot (*Heuchera richardsonii*) in the ground layer, along with yarrow (*Achillea millefolium*), Pennsylvania sedge (*Carex pensylvanica*), and mountain rice grass (*Oryzopsis asperifolia*).

- **FDc12  Central Dry Pine Woodland**
  - More likely to have lowbush blueberry and broad-leaved evergreen species such as wintergreen and bearberry, are much more abundant in FDc12.

- **FDn12  Northern Dry-Sand Pine Woodland**
  Both communities develop on sandy outwash and lacustrine plains and can be similar when FDn12 is dominated by jack pine. FDn12, however, is generally present to the north and east of FDc12 in MOP, NSU, and the eastern part of MDL; the communities border one another in the central part of MDL.

  - **FDn12**—More likely to have mountain rice grass, wild sarsaparilla (*Aralia nudicaulis*), twinflower (*Linnaea borealis*), and bunchberry (*Cornus canadensis*) in the ground layer.

  - **FDc12**—More likely to have prairie species such as hoary puccoon (*Lithospermum canescens*), heart-leaved alexanders (*Zizia aptera*), big bluestem (*Andropogon gerardii*), and wood lily (*Lilium philadelphicum*) in the ground layer, along with northern bedstraw, balsam ragwort (*Senecio pauperculus*), and bearberry.

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**Native Plant Community Types in Class**

- **FDc12a  Jack Pine-(Bearberry) Woodland**

FDc12a is the only community type recognized in this class.
Forbs, Ferns & Fern Allies

Northern bedstraw (Galium boreale) 100
Common strawberry (Fragaria virginiana) 88
Canada mayflower (Maianthemum canadense) 88
Field or Variable pussytoes (Antennaria neglecta or A. neodica) 81
Spreading dogbane (Apocynum androsaemifolium) 77
Balsam or Prairie ragwort (Senecio pauperculus or S. plattensis) 77
Smooth blue aster (Aster laevis) 73
Harebell (Campanula rotundifolia) 69
Hoary puccoon (Lithospermum canescens) 65
Veiny pea (Lathyrus venosus) 62
Lindley's aster (Aster ciliolatus) 54
Cow wheat (Melampyrum lineare) 50
Wood betony (Pedicularis canadensis) 38
Wood anemone (Anemone quinquefolia) 38
Hairy goldenrod (Solidago hispida) 38
Gray goldenrod (Solidago nemoralis) 38
White rattlesnakeroot (Prenanthes alba) 38
Heart-leaved alexanders (Zizia aptera) 35
One-sided pyrola (Pyrola secunda) 31
Two-flowered Cynthia (Krigia biflora) 31
Pale vetchling (Lathyrus ochroleucus) 31
Sand or Dog violet (Viola adunca or V. conspersa) 31
American vetch (Vicia americana) 31
Bracken (Pteridium aquilinum) 27
Gaywings (Polygala paucifolia) 27
Kalm's hawkweed (Hieracium kalmii) 27
Round-leaved pyrola (Pyrola rotundifolia) 23
Fireweed (Epilobium angustifolium) 23
Wood lily (Lilium philadelphicum) 23
Large-leaved aster (Aster macrophyllus) 19
Upright bindweed (Calystegia spithamea) 19
Early goldenrod (Solidago juncea) 19
Sticky hawkweed (Hieracium scabrum) 19

Grasses & Sedges

Sharp-pointed rice grass (Oryzopsis pungens) 77
False melic grass (Schizachne purpurascens) 46
Fringed or Kalm's brome (Bromus ciliatus or B. Kalmii) 46
Big bluestem (Andropogon gerardii) 38
Poverty grass (Danthonia spicata) 35
Pennsylvania sedge (Carex pensylvanica) 27
Yellow panic grass (Panicum xanthophysum) 23
Slender wheatgrass (Elymus trachycaulus) 23
Mountain rice grass (Oryzopsis asperifolia) 15

Low Shrubs

Lowbush blueberry (Vaccinium angustifolium) 96
Wintergreen (Gaultheria procumbens) 92
Bearberry (Arctostaphylos uva-ursi) 88
Pipsissewa (Chimaphila umbellata) 38
Red raspberry (Rubus idaeus) 23
Trailing arbutus (Epigaea repens) 19

Shrubs

Sand cherry (Prunus pumila) 65
Juneberries (Amelanchier spp.) 62
Prickly or Smooth wild rose (Rosa acicularis or R. blanda) 42
Prairie willow (Salix humilis) 38
American hazelnut (Corylus americana) 31
Beaked hazelnut (Corylus cornuta) 31
Chokecherry (Prunus virginiana) 31
Bush honeysuckle (Diervilla lonicera) 27
Snowberry or Wolfberry (Symphoricarpos albus or S. occidentalis) 27

Trees

Canopy

Scary pine ground cover (Nearctica pungens) 77
Red pine 31
Jack pine 27

Subcanopy

Balsam fir 31
Bur oak 27
Northern red oak 27

Shrub layer

White spruce 19
Balsam fir 31

Quaking aspen 15

Central Poor Dry Pine Woodland – Species Frequency & Cover

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