

White Pine Driftless Bluff Forest

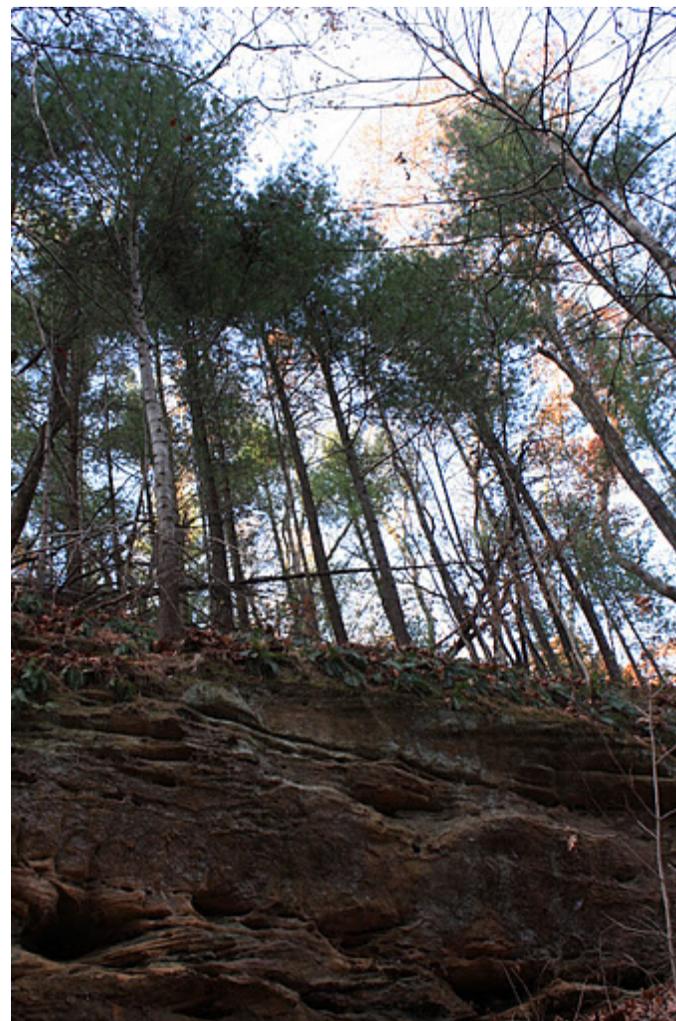
Site Characteristics: This community is a relict, thought to have existed in the Driftless Area since at least the Wisconsin glaciation. This dry-mesic to mesic pine bluff forest occurs on steep sandstone or, rarely, limestone bluffs primarily in the Driftless Area. Stands occur in small patches 0.1-2 ha in size on soils derived of glacial till or outwash plains. The soils are shallow, poorly developed, often acidic and excessively drained. Soils are typically loamy sands, sandy loams, loams, or clay loams with low organic material. Runoff and leaching are severe due to the slope and the porous nature of the bedrock. This community occurs on sloping or level sandstone or, rarely, on quartzite bluffs. The sandstone is either St. Peter or Franconia. McIntosh (1950) studied 22 stands of this type and found them on all aspects except SE. This community is most commonly found on water worn cliffs with an undercutting stream at the cliff base. Considerable light can penetrate to the forest floor even though the trees are close together.

Vegetation Characteristics: This community has a closed to open canopy of conifer or mixed conifer-hardwood trees, with *White Pine* as the dominant species. The composition of the understory is variable but typically contains herbs and shrubs with some prairie species. The shrub layer is absent to well-developed, while the herbaceous layer is moderately to poorly developed. The understory vegetation is sparse where the canopy is closed due to the limited amount of light and duff buildup on the forest floor. Variability in species composition in the shrub and herbaceous layers is high due to the small, isolated nature of stands of this forest type.

Range:

Conservation Status: G2 – Imperiled

Management Considerations: This community is apparently stable throughout most of its range. In some areas, hardwoods more typical of the surrounding forest dominate the understory and may eventually replace the pines in the overstory, although site conditions favor the maintenance of the community in most circumstances. Given the right conditions (lack of fire and no grazing), pines may disperse into



Iowa NRCS Plant Community Description

This community description is a compilation of the Community Association and its over-riding Community Alliance descriptions as provided by NatureServe (www.natureserve.org/explorer). Where necessary, community descriptions were adapted as recommended by Iowa plant community experts.

6/13/2013

adjacent hardwood forest in some instances. There is little chance of exchange of species between occurrences, and the makeup of adjacent communities can have a significant impact on understory composition. Because this community rarely exceeds 2 ha, some species from adjacent communities may easily invade with the identity of these species varying depending on the composition of the nearby communities. This variability is due to at least two factors, both of which have to do with the small and isolated nature of examples of this community. When a population of a species becomes extirpated within one site, it is unlikely to reinvade due to isolation from other occurrences (McIntosh 1950).

WHITE PINE DRIFTLESS BLUFF FOREST						
SCIENTIFIC NAME	COMMON NAME	STRATA	FUNCTIONAL GROUP	IA CofC	SEEDS/LB	STATE STATUS
<i>Abies balsamea</i>	Balsam fir	Canopy, Associate	TREE	9	59,840.00	SC
<i>Acer rubrum</i>	Red maple	Canopy, Associate	TREE	*	22,720.00	
<i>Acer spicatum</i>	Mountain maple	Shrub Species	TREE	10	22,720.00	SC
<i>Amorpha canescens</i>	Lead plant	Herbaceous Species	SUB-SHRUB, LEGUME	8	256,000.00	
<i>Aralia nudicaulis</i>	Wild sarsaparilla	Herbaceous Species	SUB-SHRUB	8	99,000.00	
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	Herbaceous Species	P-FORB	4	8,000.00	
<i>Betula papyrifera</i>	Paper birch, canoe birch	Canopy, Associate	TREE	6	1,380,800.00	
<i>Chimaphila umbellata</i>	Prince's pine	Shrub Species	SUB-SHRUB	10		T
<i>Coreopsis palmata</i>	Tickseed, prairie coreopsis	Herbaceous Species	P-FORB	7	160,000.00	
<i>Cornus canadensis</i>	Bunchberry, dwarf cornel	Shrub Species	SHRUB	10	69,430.00	T
<i>Corylus cornuta</i>	Beaked hazel	Shrub Species	SHRUB	10	549.00	
<i>Diervilla lonicera</i>	Bush honeysuckle	Shrub Species	SHRUB	10	1,600,000.00	
<i>Dodecatheon meadia</i>	Shooting star	Herbaceous Species	P-FORB	7	960,000.00	
<i>Eurybia macrophylla</i>	Big-leaved aster	Herbaceous Species	P-FORB	10	432,000.00	E
<i>Juniperus virginiana</i>	Red cedar	Sub-Canopy	TREE	1	43,600.00	
<i>Linnaea borealis americana</i>	Twinflower	Shrub Species	SUB-SHRUB	10	453,592.00	T
<i>Maianthemum canadense</i>	Canada mayflower	Herbaceous Species	P-FORB	8	49,411.00	
<i>Mitchella repens</i>	Partridge berry	Shrub Species	SUB-SHRUB	10	111,011.00	T
<i>Ostrya virginiana</i>	Ironwood, hop hornbeam	Canopy, Associate	TREE	5	30,000.00	
<i>Pinus strobus</i>	Eastern white pine	Canopy, Dominant	TREE	10	27,040.00	

Iowa NRCS Plant Community Description

This community description is a compilation of the Community Association and its over-riding Community Alliance descriptions as provided by NatureServe (www.natureserve.org/explorer). Where necessary, community descriptions were adapted as recommended by Iowa plant community experts.

6/13/2013

WHITE PINE DRIFTLESS BLUFF FOREST

SCIENTIFIC NAME	COMMON NAME	STRATA	FUNCTIONAL GROUP	IA CofC	SEEDS/LB	STATE STATUS
<i>Populus tremuloides</i>	Quaking aspen	Canopy, Associate	TREE	2	3,600,000.00	
<i>Prunus pensylvanica</i>	Pin cherry	Shrub Species	SHRUB	5	14,200.00	
<i>Prunus virginiana</i>	Choke cherry	Shrub Species	SHRUB	2	4,971.00	
<i>Quercus alba</i>	White oak	Canopy, Associate	TREE	6	128.00	
<i>Quercus velutina</i>	Black oak	Canopy, Associate	TREE	4	245.00	
<i>Sanguinaria canadensis</i>	Bloodroot	Herbaceous Species	P-FORB	7	112,000.00	
<i>THUJA OCCIDENTALIS</i>	Arbor vitae, eastern white cedar	Canopy, Associate	TREE	*	345,600.00	
<i>Tilia americana</i>	Basswood, American linden	Sub-Canopy	TREE	5	4,765.00	
<i>Vaccinium angustifolium</i>	Low sweet blueberry	Shrub Species	SUB-SHRUB	10	1,972,000.00	T
<i>Vaccinium myrtilloides</i>	Velvet-leaf blueberry	Shrub Species	SUB-SHRUB	10		T
<i>Vaccinium spp.</i>	Blueberry	Shrub Species	SUB-SHRUB			

Iowa NRCS Plant Community Description

This community description is a compilation of the Community Association and it's over-riding Community Alliance descriptions as provided by NatureServe (www.natureserve.org/explorer). Where necessary, community descriptions were adapted as recommended by Iowa plant community experts.

6/13/2013