

Dry Oak Forest Fact Sheet



MnDNR photo by D. Wovcha

Fig. 6.5 A young dry oak forest of red oak (or red oak-northern pin oak hybrids), bur oak, and white oak in Anoka County. The dense, brushy undergrowth and lack of subcanopy trees are typical of oak forests that have been disturbed by fire, cutting, or grazing. American hazelnut and bracken fern are visible in the foreground. Common blackberry and shoots of Virginia creeper are also common here.

Status: 3

Structure

A deciduous forest community with a relatively short canopy of oaks (50 feet). Forests of recent origin typically have even-aged, multiple-stemmed trees with a fairly dense (80 to 85% cover), even-height canopy; older forests have single-stem trees of different ages, canopy trees with wide, rounded crowns, and natural gaps filled with aspen or birch. Subcanopy sparse or absent; shrub layer often dense; ground layer patchy, with dry forest herbs and numerous shoots of Virginia creeper.

Other characteristics

Occasional northern pin oaks more than 18 inches in diameter in older forests; forest floor shows fine-scale relief from old

tree bases or animal burrows; only a moderate diversity of herbaceous plants (average 16 species per 60 x 60 feet).

Soils and substrate

Occurs on outwash sand, water-deposited alluvial sand and gravel in river valleys, and gravelly sand on moraines.

Historic distribution

On the Anoka sandplain, was probably limited to fire-protected areas such as knolls and margins of large wetland systems; on the St. Croix moraine, was probably on dry crests and slopes near natural firebreaks within areas of dry-mesic forest.

Present distribution

Young forests developed from former oak woodland and oak savanna are common

across the Anoka sandplain, on the Mississippi River terraces, and on the Rosemount outwash plain; older forests are rare and occur on the St. Croix moraine and on the Anoka sandplain.

Existing acreage: 9,260

Number of known locations: 165

Common plant species

—Canopy

- Northern pin oak (*Quercus ellipsoidalis*)
- Bur oak (*Q. macrocarpa*)
- Red oak (*Q. rubra*)
- Quaking aspen (*Populus tremuloides*)

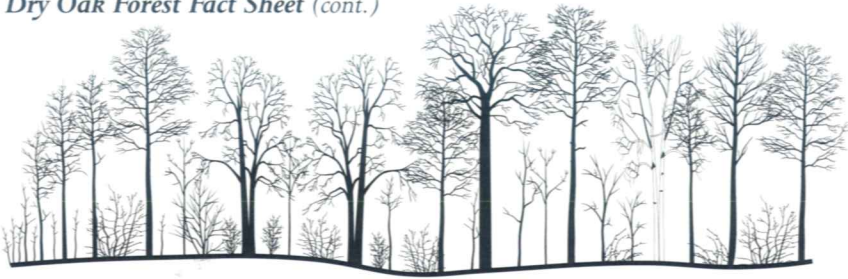
—Subcanopy

- Black cherry (*Prunus serotina*)
- Red maple (*Acer rubrum*)
- Bur oak (*Quercus macrocarpa*)

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From: Minnesota's St. Croix River Valley & Anoka Sandplain, A Guide to Native Habitats. By Wovcha, Delaney, & Nordquist
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Dry Oak Forest Fact Sheet (cont.)



—Shrub layer

- American hazelnut (*Corylus americana*)
- Gray dogwood (*Cornus foemina*)
- Juneberries (*Amelanchier* spp.)
- Chokecherry (*Prunus virginiana*)
- Common blackberry (*Rubus allegheniensis*)
- Red raspberry (*R. strigosus*)

—Ground layer

WOODY SPECIES

- Virginia creeper (*Parthenocissus inserta*)
- Blueberry (*Vaccinium angustifolium*)
- Wild grape (*Vitis riparia*)
- Poison ivy (*Rhus radicans*)

FORBS

- Hog-peanut (*Amphicarpa bracteata*)
- Canada mayflower (*Maianthemum canadense*)
- Bracken fern (*Pteridium aquilinum*)
- Pointed-leaved tick-trefoil (*Desmodium glutinosum*)
- Big-leaved aster (*Aster macrophyllus*)
- Wild geranium (*Geranium maculatum*)
- Wild sarsaparilla (*Aralia nudicaulis*)
- False Solomon's-seal (*Smilacina racemosa*)
- Pale bellwort (*Uvularia sessilifolia*)
- Northern bedstraw (*Galium boreale*)

GRAMINOIDS

- Pennsylvania sedge (*Carex pensylvanica*)
- Mountain ricegrass (*Oryzopsis asperifolia*)

Characteristic plant species

- Northern pin oak (*Quercus ellipsoidalis*)
- Bracken fern (*Pteridium aquilinum*)
- Woodland sunflower (*Helianthus hirsutus*)
- Sandwort (*Arenaria lateriflora*)

Rare plant species

None

Animals of dry oak forests

Animals found in this community are very similar to those of other oak communities

as well as other deciduous forest types. In older dry oak forests, the hollow trunks and limbs typical of the larger trees are highly attractive to cavity-nesting species such as woodpeckers and tree squirrels. The presence of amphibians in this community depends strongly on the availability of water.

Common animal species

—Breeding birds

- Eastern wood-pewee (*Contopus virens*)
- Great crested flycatcher (*Myiarchus crinitus*)
- Blue jay (*Cyanocitta cristata*)
- Black-capped chickadee (*Parus atricapillus*)
- White-breasted nuthatch (*Sitta carolinensis*)
- Yellow-throated vireo (*Vireo flavifrons*)
- Red-eyed vireo (*V. olivaceus*)
- Ovenbird (*Seiurus aurocapillus*)
- Scarlet tanager (*Piranga olivacea*)

—Mammals

- Eastern chipmunk (*Tamias striatus*)
- Gray squirrel (*Sciurus carolinensis*)
- Southern flying squirrel (*Glaucomys volans*)
- White-footed mouse (*Peromyscus leucopus*)
- White-tailed deer (*Odocoileus virginianus*)

—Amphibians and reptiles

- American toad (*Bufo americanus*)
- Eastern gray treefrog (*Hyla versicolor*)
- Eastern garter snake (*Thamnophis sirtalis*)

Characteristic animal species

None

Rare animal species

- Red-shouldered hawk (*Buteo lineatus*)
- Fox snake (*Elaphe vulpina*)
- Milk snake (*Lampropeltis triangulum*)

Disturbance indicators and threats

Evidence of past cutting, such as lack of single-stemmed oak trees or of oak trees larger than 10 inches in diameter; cut stumps; lack of standing dead trees (snags); lack of woody debris on the ground in various stages of decay (except in stands where fire has consumed dead wood); evidence of grazing, such as poor diversity of subcanopy, shrub layer, or ground layer species; soil compaction, trails, pasture fences; an abundance of prickly ash, common blackberry, or Pennsylvania sedge. Threats include invasion of the nonnative plants common buckthorn and Tartarian honeysuckle; fragmentation by roads, driveways, and development.

Associated natural communities

Oak woodland-brushland, dry oak savanna, mesic oak forest, aspen forest, white pine-hardwood forest, and wet meadow.

Examples

4. Carlos Avery Wildlife Management Area: Twin Lakes, Zodiac Street, and Pool 16
7. Martin-Island-Linwood Lakes Regional Park: Linwood Lake
13. Wild River State Park: Goose Creek Natural Area
14. Wild River State Park: Sunrise Landing East
15. Lyndon Cedarglade Park
16. Spectacle Lake Wildlife Management Area
25. Sherburne National Wildlife Refuge: Mahnomen Trail and Blue Hill Trail
30. Lee and Rose Warner Nature Center
34. Wilder Forest

